Exhibit N-2

Appendices

Appendix A

IS/NOP & Comment Letters

Appendix B

Air Quality / GHG Study

Appendix C

SB 610 Water Supply Assessment

Appendix D

Traffic Impact Assessment

Appendix D1

Traffic Impact Assessment (Addendum)



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Mitchell Air Quality Consulting

Air Quality and Greenhouse Gas/Energy Analysis Report
Parc West Residential Development
City of Fresno, California

Prepared for:
Crawford & Bowen Planning, Inc.
113 N. Church Avenue
Visalia, CA 93291
559.840.4414
Contact: Travis Crawford,
Principal Environmental Planner

Prepared by:
Mitchell Air Quality Consulting
1164 E. Decatur Avenue
Fresno, CA 93720
559.246.3732
Contact: Dave Mitchell,
Senior Air Quality Scientist

May 21, 2020

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ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
AB	Assembly Bill
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
BAU	Business as Usual
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CEQA	California Environmental Quality Act
CO	carbon monoxide
CO_2	carbon dioxide
District	San Joaquin Valley Air Pollution Control District
DPM	diesel particulate matter
EMFAC	EMission FACtors Model
EPA	United States Environmental Protection Agency
Fresno COG	Fresno Council of Governments
GAMAQI	Guidance for Assessing and Mitigating Air Quality Impacts
GHG Rx	Greenhouse Gas Reduction Exchange
GHG(s)	greenhouse gas(es)
HAP	hazardous air pollutant
HRA	health risk assessment
IPCC	United Nations Intergovernmental Panel on Climate Change
MAQC	Mitchell Air Quality Consulting
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
$MTCO_2e$	metric tons of carbon dioxide equivalent
NO_X	nitrogen oxides
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppb	parts per billion
ppm	parts per million
ROG	reactive organic gases
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_X	sulfur oxides
VOC	volatile organic compounds

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SECTION 1: EXECUTIVE SUMMARY

1.1—Purpose and Methods of Analysis

The following air quality and greenhouse gas (GHG) and energy analyses were prepared to evaluate whether the estimated criteria air pollutants, toxic air contaminants (TACs), and GHG emissions generated from the Parc West Residential Development (project) would cause significant impacts to air resources in the project area. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The methodology follows the Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) prepared by the San Joaquin Valley Air Pollution Control District (SJVAPCD or District) for quantification of emissions and evaluation of potential impacts to air resources (SJVAPCD 2015a), and the SJVAPCD's Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009). An energy analysis was prepared to satisfy the requirements of CEQA Guidelines Appendix F: Energy Conservation.

1.2—Project Description

The project is an 844-unit residential development on 160 acres located on the northwest corner of West Shields Avenue and North Grantland Avenue. The site is within the city limits of Fresno (annexed in 2015) and occupies Assessor's Parcel Numbers 512-02-126 and 512-02-150S. The site is currently planted with relatively young almond trees but was previously vacant for several years. Most of the project site is designated by the City of Fresno General Plan as Medium Density Residential (5.0–12 DU/acre). There is a 10-acre portion of the site at the southeast corner of the lot that is zoned and designated Community Commercial; however, the Applicant is proposing to change this land use from commercial to residential (RS-5) to match the land use designation of the remainder of the 160 acres. The project includes a 1.8-acre park and installation of a trail system that will connect to the City's existing/future trail network in the area. The project will be built out in phases. Two tentative tract maps covering a portion of the project site are considered the first phase of development for analysis purposes.

The project's regional vicinity location is shown in Figure 1; an aerial view of the local vicinity is provided in Figure 2; the conceptual site plan for the entire site is provided in Figure 3; Tentative Tract Map 6212 is provided in Figure 4; and Tentative Tract Map 6276 is provided in Figure 5.

1.3—Summary of Analysis Results

The following is a summary of the analysis results. As shown below, the project would result in less than significant impacts for all air quality and GHG impact criteria analyzed.

Impact AIR-1: The project would not conflict with or obstruct implementation of the applicable air quality plan. **Less than significant impact.**

Impact AIR-2: The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing

emissions, which exceed quantitative thresholds for ozone precursors). **Less than significant impact.**

Impact AIR-3: The project would not expose sensitive receptors to substantial pollutant concentrations. **Less than significant impact.**

Impact AIR-4: The project would not create objectionable odors affecting a substantial number of people. **Less than significant impact.**

Impact GHG-1: The project would not generate direct or indirect greenhouse gas emissions that would result in a significant impact on the environment. **Less than significant impact.**

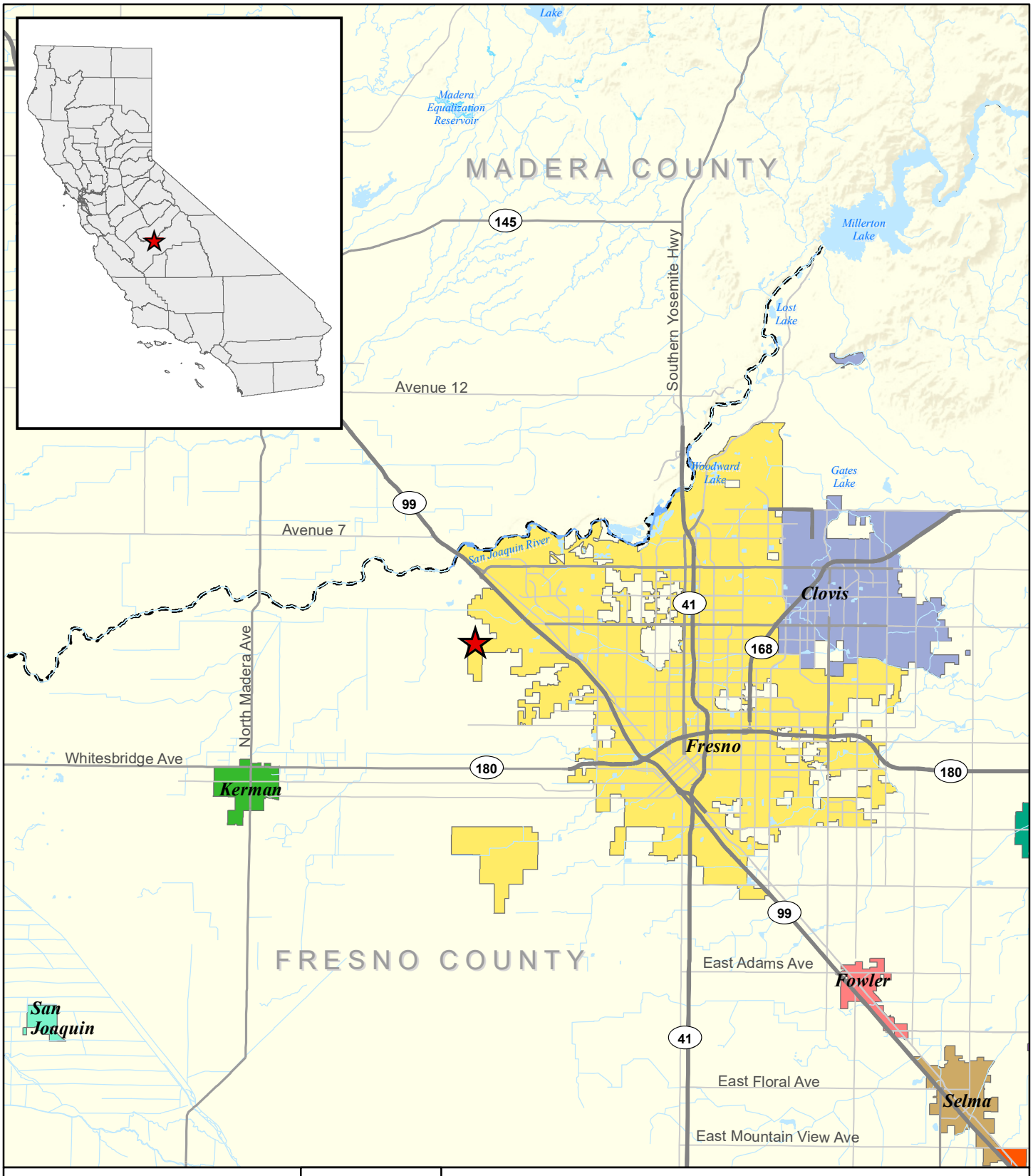
Impact GHG-2: The project would not conflict with any applicable plan, policy or regulation of an agency adopted to reduce the emissions of greenhouse gases. **Less than significant impact**.

Impact ENERGY-1: The project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. **Less than significant impact.**

Impact ENERGY-2: The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **Less than significant impact.**

1.4—Standard Conditions and Mitigation Measures Applied to the Project

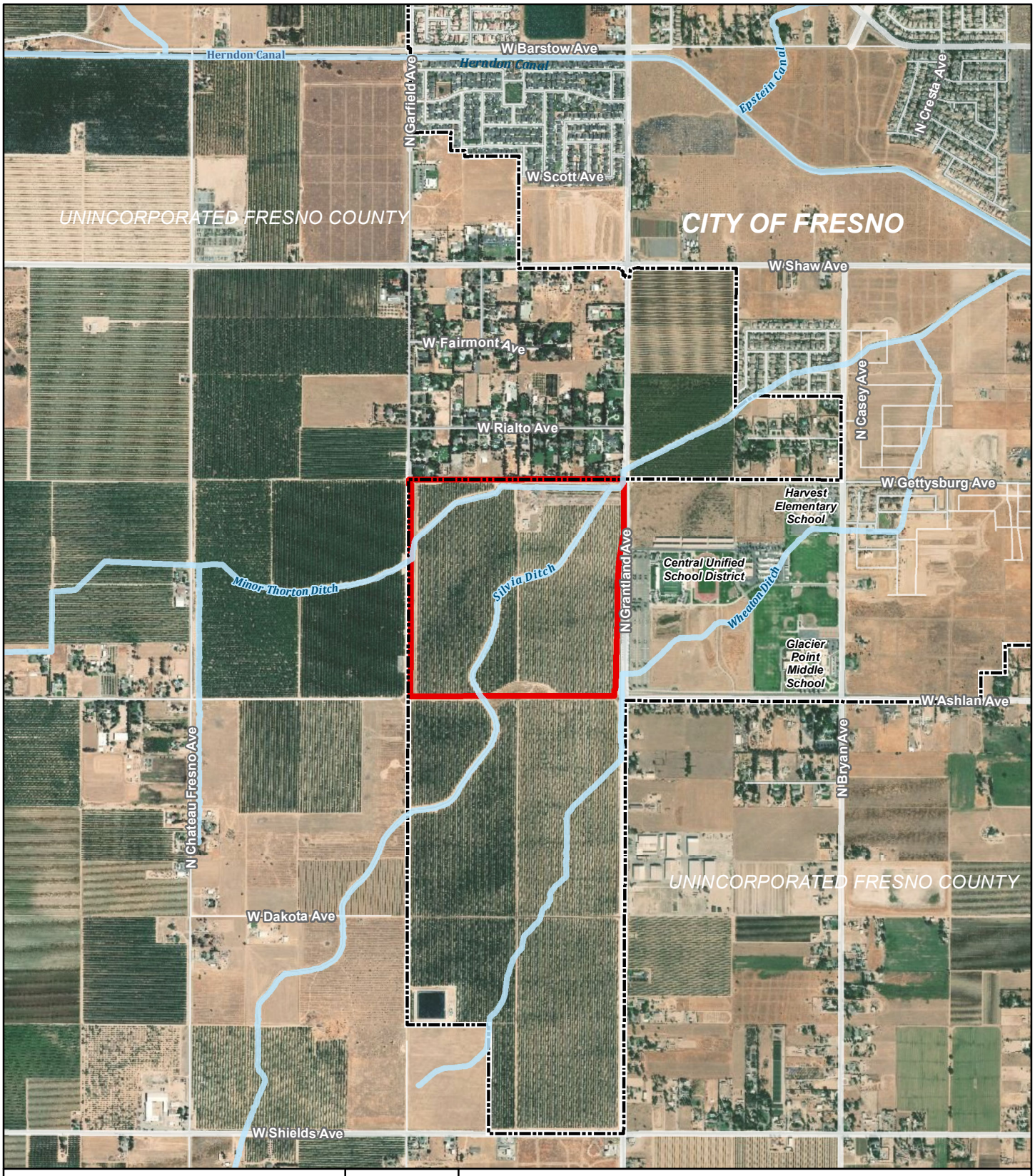
No mitigation measures beyond compliance with mandatory regulations were required to demonstrate that the project would have less than significant for air quality, health risk, and GHG impacts.



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PARC WEST DEVELOPMENT PROJECT

Figure 1. Regional Location Map

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Legend

- Project Boundary
- Fresno City Boundary
- Canal or Ditch

0 500 1,000
Feet

Source: Fresno County GIS; ArcGIS Online World Imagery Map Service. Map date: May 15, 2020.

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PARC WEST DEVELOPMENT PROJECT

Figure 2. Vicinity Map

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0 100 200
Feet

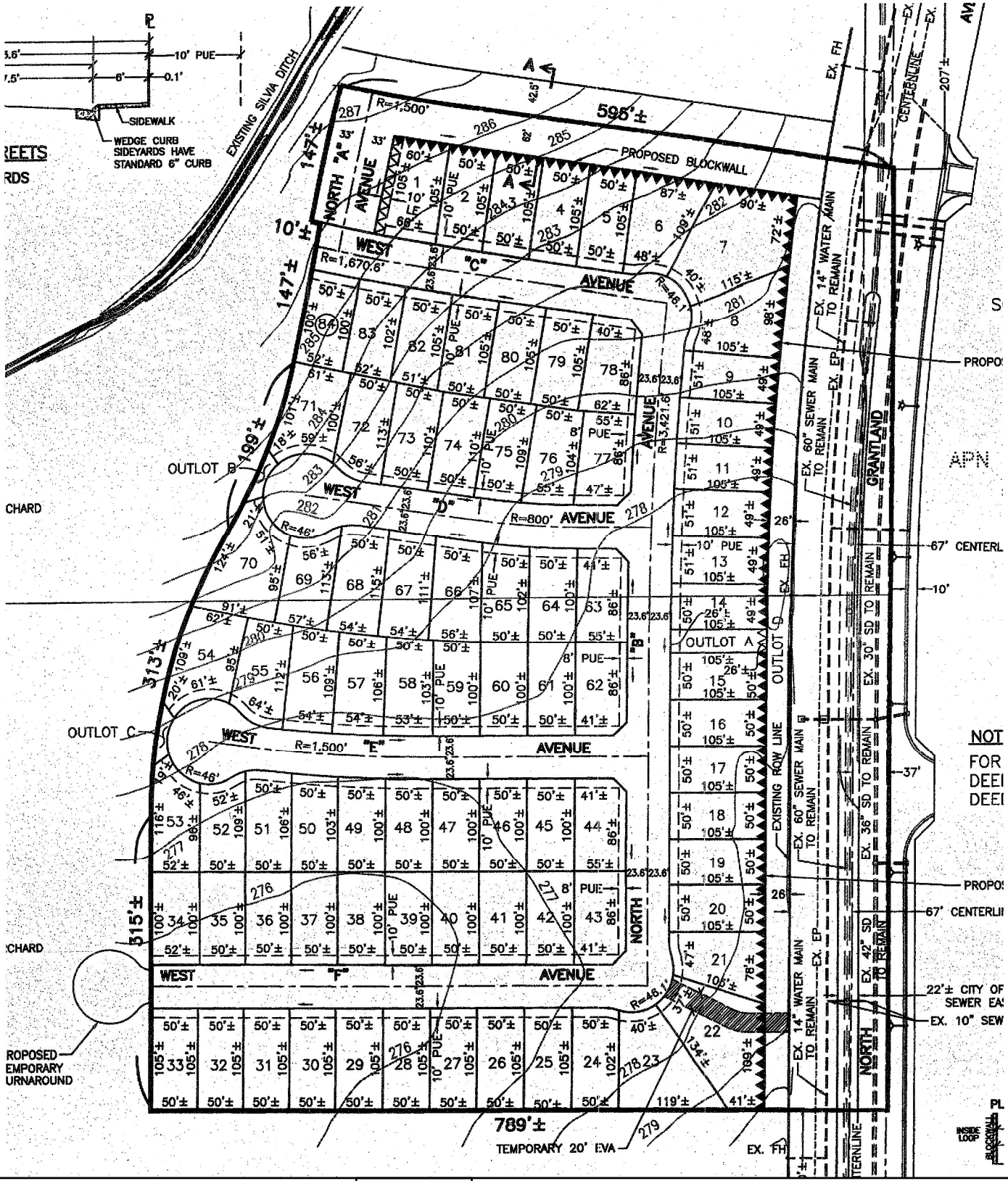
Scale approximate

Source: Crawford & Bowen Planning, Inc.; Fresno County. Map date: May 14, 2020.

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PARC WEST DEVELOPMENT PROJECT

Figure 3. Conceptual Site Plan

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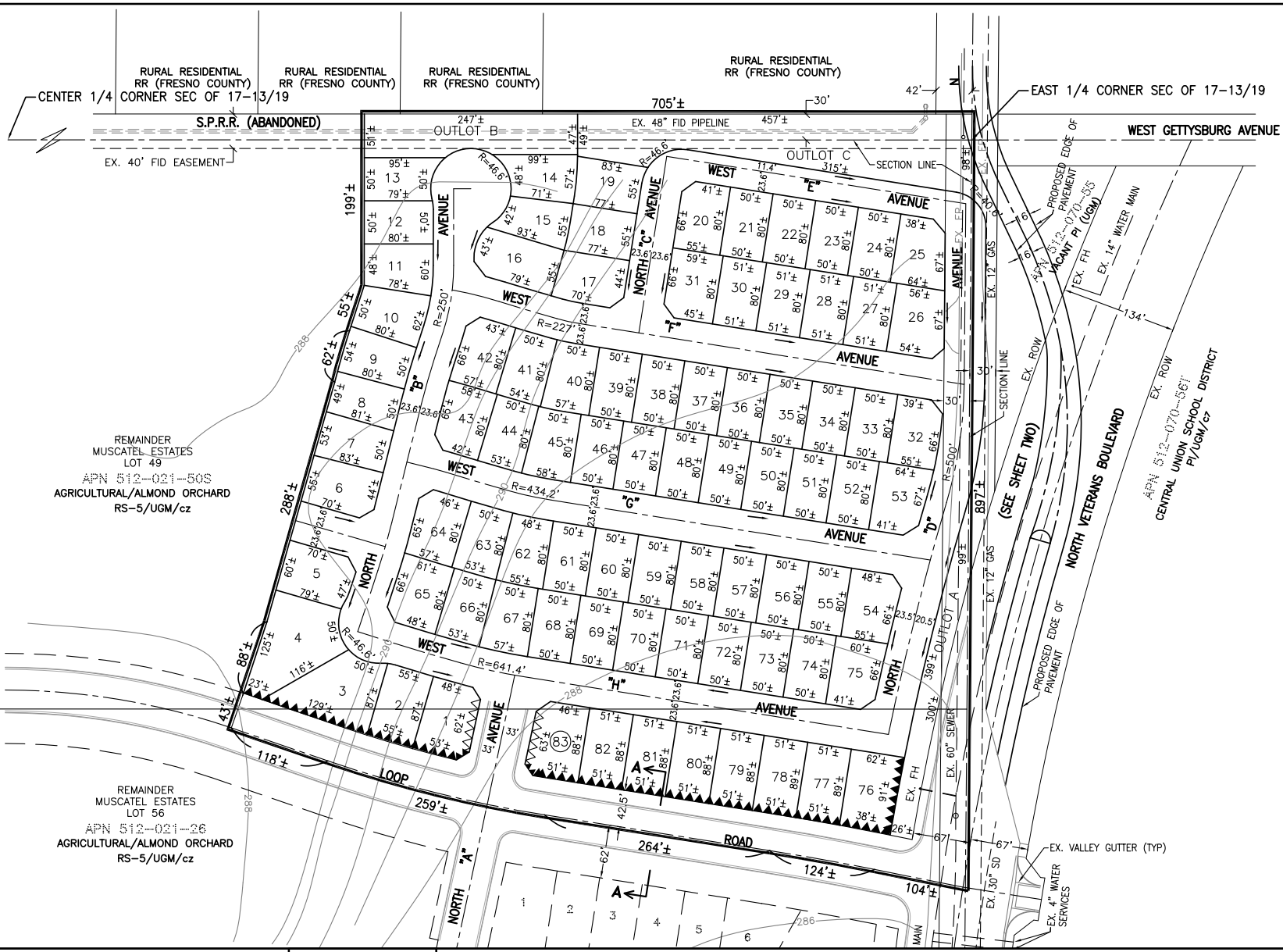
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Figure 4. Tract No. 6212

0 50 100
Feet

Source: Crawford & Bowen Planning, Inc.; Fresno County. Map date: May 14, 2020.

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Source: Crawford & Bowen Planning, Inc.; Fresno County. Map date: May 14, 2020.

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Figure 5. Tract No. 6276

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SECTION 2: AIR QUALITY SETTING

2.1—Environmental Setting

Air quality impacts are both local and regional. Regional and local air quality is impacted by topography, dominant airflows, atmospheric inversions, location, and season. The project is located in the San Joaquin Valley Air Basin (Air Basin), which experiences some of the most challenging environmental conditions for air quality in the nation. The following section describes these conditions as they pertain to the Air Basin. The information in this section is primarily from the SJVAPCD's GAMAQI (SJVAPCD 2015a).

2.1.1 - San Joaquin Valley Air Basin

Topography

The topography of a region is important for air quality because mountains can block airflow that would help disperse pollutants, and can channel air from upwind areas that transports pollutants to downwind areas. The SJVAPCD covers the entirety of the Air Basin. The Air Basin is generally shaped like a bowl. It is open in the north and is surrounded by mountain ranges on all other sides. The Sierra Nevada mountains are along the eastern boundary (8,000 to 14,000 feet in elevation), the Coast Ranges are along the western boundary (3,000 feet in elevation), and the Tehachapi Mountains are along the southern boundary (6,000 to 8,000 feet in elevation).

Climate

The climate is important for air quality because of differences in the atmosphere's ability to trap pollutants close to the ground, which creates adverse air quality; inversely, the atmosphere's ability to rapidly disperse pollutants over a wide area prevents high concentrations from accumulating under different climatic conditions. The Air Basin has an "inland Mediterranean" climate and is characterized by long, hot, dry summers and short, foggy winters. Sunlight can be a catalyst in the formation of some air pollutants (such as ozone); the Air Basin averages over 260 sunny days per year.

Inversion layers are significant in determining pollutant concentrations. Concentration levels can be related to the amount of mixing space below the inversion. Temperature inversions that occur on the summer days are usually encountered 2,000 to 2,500 feet above the valley floor. In winter months, overnight inversions occur 500 to 1,500 feet above the valley floor.

Dominant airflows provide the driving mechanism for transport and dispersion of air pollution. The mountains surrounding the Air Basin form natural horizontal barriers to the dispersion of air contaminants. The wind generally flows south-southeast through the valley, through the Tehachapi Pass and into the Mojave Desert Air Basin portion of Kern County. As the wind moves through the Air Basin, it mixes with the air pollution generated locally, generally transporting air pollutants from the north to the south in the summer and in a reverse flow in the winter.

The winds and unstable air conditions experienced during the passage of winter storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the San Joaquin Valley floor. This creates strong, low-

level temperature inversions and very stable air conditions, which can lead to Tule fog. Wintertime conditions favorable to fog formation are also conditions favorable to high concentrations of $PM_{2.5}$ and PM_{10}.

2.2—Regulatory Setting

Air pollutants are regulated to protect human health and for secondary effects such as visibility and building soiling. The Clean Air Act of 1970 tasks the United States Environmental Protection Agency (EPA) with setting air quality standards. The State of California also sets air quality standards, which are in some cases more stringent than federal standards, in addition to addressing additional pollutants. The following section describes these federal and state standards and the health effects of the regulated pollutants.

2.2.1 - Clean Air Act

Congress established much of the basic structure of the Clean Air Act (CAA) in 1970, and made major revisions in 1977 and 1990. Six common air pollutants (also known as criteria pollutants) are addressed in the CAA: particulate matter, ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. The EPA labels these pollutants as criteria air pollutants because they are regulated by developing human health-based and/or environmentally based criteria (science-based guidelines), which sets permissible levels. The set of limits based on human health are called primary standards. Another set of limits intended to prevent environmental and property damage are called secondary standards (EPA 2014). The federal standards are called National Ambient Air Quality Standards (NAAQS). The air quality standards provide benchmarks for determining whether air quality is healthy at specific locations and whether development activities will cause or contribute to a violation of the standards. The criteria pollutants are:

- Ozone
- Nitrogen dioxide (NO_2)
- Lead
- Particulate matter (PM_{10} and $PM_{2.5}$)
- Carbon monoxide (CO)
- Sulfur dioxide

The federal standards were set to protect public health, including that of sensitive individuals; thus, the EPA is tasked with updating the standards as more medical research is available regarding the health effects of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health (ARB 2016).

2.2.2 - California Clean Air Act

The California Legislature enacted the California Clean Air Act (CCAA) in 1988 to address air quality issues of concern not adequately addressed by the federal CAA at the time. California's air quality problems were and continue to be some of the most severe in the nation, and required additional actions beyond the federal mandates. The California Air Resources Board (ARB) administers California Ambient Air Quality Standards (CAAQS) for the 10 air pollutants designated in the CCAA. The 10 state air pollutants are the six federal standards listed above as well visibility-reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. The EPA authorized California to adopt its own regulations for motor vehicles and other sources that are more stringent than similar federal regulations implementing the CAA. Generally, the planning requirements of the CCAA are less

stringent than the federal CAA; therefore, consistency with the CAA will also demonstrate consistency with the CCAA.

2.2.3 - Toxic Air Contaminants

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. There are no ambient air quality standards for TAC emissions. TACs are regulated in terms of health risks to individuals and populations exposed to the pollutants. The 1990 Clean Air Act Amendments significantly expanded the EPA's authority to regulate hazardous air pollutants (HAP). Section 112 of the Clean Air Act lists 187 hazardous air pollutants to be regulated by source category. Authority to regulate these pollutants was delegated to individual states. ARB and local air districts regulate TACs and HAPs in California.

2.2.4 - Air Pollutant Description and Health Effects

The federal and state ambient air quality standards, relevant effects, properties, and sources of the pollutants are summarized in Table 1.

Table 1: Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Ozone	1 Hour	0.09 ppm	—	Irritate respiratory system; reduce lung function; breathing pattern changes; reduction of breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; some immunological changes; increased mortality risk; vegetation and property damage.	Ozone is a photochemical pollutant as it is not emitted directly into the atmosphere, but is formed by a complex series of chemical reactions between volatile organic compounds (VOC), NO_X, and sunlight. Ozone is a regional pollutant that is generated over a large area and is transported and spread by the wind.	Ozone is a secondary pollutant; thus, it is not emitted directly into the lower level of the atmosphere. The primary sources of ozone precursors (VOC and NO_X) are mobile sources (on-road and off-road vehicle exhaust).
	8 Hour	0.070 ppm	0.070 ppm[f]			
Carbon monoxide (CO)	1 Hour	20 ppm	35 ppm	Ranges depending on exposure: slight headaches; nausea; aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; decreased exercise tolerance in persons with peripheral vascular disease and lung disease; impairment of central nervous system functions; possible increased risk to fetuses; death.	CO is a colorless, odorless, toxic gas. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, replaces oxygen as an attachment to hemoglobin, and reduces available oxygen in the blood.	CO is produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes (metals processing and chemical manufacturing), residential wood burning, and natural sources.
	8 Hour	9.0 ppm	9 ppm			
Nitrogen dioxide[b] (NO_2)	1 Hour	0.18 ppm	0.100 ppm	Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; contribution to atmospheric discoloration; increased visits to hospital for respiratory illnesses.	During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides—NO_X (NO, NO_2, NO_3, N_2O, N_2O_3, N_2O_4, and N_2O_5). NO_X is a precursor to ozone, PM_{10}, and $PM_{2.5}$ formation. NO_X can react with compounds to form nitric acid and related small particles and result in PM-related health effects.	NO_X is produced in motor vehicle internal combustion engines and fossil fuel-fired electric utility and industrial boilers. Nitrogen dioxide (NO_2) forms quickly from NO_X emissions. NO_2 concentrations near major roads can be 30 to 100 percent higher than those at monitoring stations.
	Annual	0.030 ppm	0.053 ppm			

Table 1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Sulfur dioxide[c] (SO_2)	1 Hour	0.25 ppm	0.075 ppm	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient sulfur dioxide levels. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.	Sulfur dioxide is a colorless, pungent gas. At levels greater than 0.5 ppm, the gas has a strong odor, similar to rotten eggs. Sulfur oxides (SO_X) include sulfur dioxide and sulfur trioxide. Sulfuric acid is formed from sulfur dioxide, which can lead to acid deposition and can harm natural resources and materials. Although sulfur dioxide concentrations have been reduced to levels well below state and federal standards, further reductions are desirable because sulfur dioxide is a precursor to sulfate and PM_{10}.	Human-caused sources include fossil-fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of sulfur dioxide. The gas can also be produced in the air by dimethylsulfide and hydrogen sulfide. Sulfur dioxide is removed from the air by dissolution in water, chemical reactions, and transfer to soils and ice caps. The sulfur dioxide levels in the State are well below the maximum standards.
	3 Hour	—	0.5 ppm			
	24 Hour	0.04 ppm	0.14 (for certain areas)			
	Annual	—	0.030 ppm (for certain areas)			
Particulate matter (PM_{10})	24 Hour	50 µg/m^3	150 µg/m^3	• Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravates existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias. • Long-term exposure: reduced lung function; chronic bronchitis; changes in lung morphology; death.	Suspended particulate matter is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM_{10} refers to particulate matter that is between 2.5 and 10 microns in diameter (1 micron is one-millionth of a meter). $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter, about one-thirtieth the size of the average human hair.	Stationary sources include fuel or wood combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal; and recycling. Mobile or transportation-related sources are from vehicle exhaust and road dust. Secondary particles form from reactions in the atmosphere.
	Mean	20 µg/m^3	—			
Particulate matter ($PM_{2.5}$)	24 Hour	—	35 µg/m^3			
	Annual	12 µg/m^3	12.0 µg/m^3			
Visibility-reducing particles	8 Hour	See note below[d]				

Table 1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Sulfates	24 Hour	25 µg/m^3	—	(a) Decrease in ventilatory function; (b) aggravation of asthmatic symptoms; (c) aggravation of cardio-pulmonary disease; (d) vegetation damage; (e) degradation of visibility; (f) property damage.	The sulfate ion is a polyatomic anion with the empirical formula SO_4^{2-}. Sulfates occur in combination with metal and/or hydrogen ions. Many sulfates are soluble in water.	Sulfates are particulates formed through the photochemical oxidation of sulfur dioxide. In California, the main source of sulfur compounds is combustion of gasoline and diesel fuel.
Lead[e]	30-day	1.5 µg/m^3	—	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQ.	Lead is a solid heavy metal that can exist in air pollution as an aerosol particle component. Leaded gasoline was used in motor vehicles until around 1970. Lead concentrations have not exceeded state or federal standards at any monitoring station since 1982.	Lead ore crushing, lead-ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering.
	Quarter	—	1.5 µg/m^3			
	Rolling 3-month average	—	0.15 µg/m^3			
Vinyl chloride[e]	24 Hour	0.01 ppm	—	Short-term exposure to high levels of vinyl chloride in the air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers.	Vinyl chloride, or chloroethene, is a chlorinated hydrocarbon and a colorless gas with a mild, sweet odor. In 1990, ARB identified vinyl chloride as a toxic air contaminant and estimated a cancer unit risk factor.	Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products, including pipes, wire and cable coatings, and packaging materials. It can be formed when plastics containing these substances are left to decompose in solid waste landfills. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites.
Hydrogen sulfide	1 Hour	0.03 ppm	—	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause	Hydrogen sulfide (H_2S) is a flammable, colorless, poisonous gas that smells like rotten eggs.	Manure, storage tanks, ponds, anaerobic lagoons, and land application sites are the primary sources of hydrogen sulfide.

Table 1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
				headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.		Anthropogenic sources include the combustion of sulfur-containing fuels (oil and coal).
Volatile organic compounds (VOC)		There are no state or federal standards for VOCs because they are not classified as criteria pollutants.		Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, the kidneys, and the central nervous system. Many VOCs have been classified as toxic air contaminants.	Reactive organic gases (ROG), or VOCs, are defined as any compound of carbon—excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROG and VOCs, the two terms are often used interchangeably.	Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} and lower visibility.
Diesel particulate matter (DPM)		There are no ambient air quality standards for DPM.		Some short-term (acute) effects of DPM exposure include eye, nose, throat, and lung irritation, coughs, headaches, light-headedness, and nausea. Studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Human studies on the carcinogenicity of DPM demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure.	DPM is a source of $PM_{2.5}$—diesel particles are typically 2.5 microns and smaller. Diesel exhaust is a complex mixture of thousands of particles and gases that is produced when an engine burns diesel fuel. Organic compounds account for 80 percent of the total particulate matter mass, which consists of compounds such as hydrocarbons and their derivatives, and polycyclic aromatic hydrocarbons and their derivatives. Fifteen polycyclic aromatic hydrocarbons are confirmed carcinogens, a number of which are found in diesel exhaust.	Diesel exhaust is a major source of ambient particulate matter pollution in urban environments. Typically, the main source of DPM is from combustion of diesel fuel in diesel-powered engines. Such engines are in on-road vehicles such as diesel trucks, off-road construction vehicles, diesel electrical generators, and various pieces of stationary construction equipment.

Table 1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources

Notes:
ppm = parts per million (concentration) $\mu g/m^3$ = micrograms per cubic meter Annual = Annual Arithmetic Mean 30-day = 30-day average Quarter = Calendar quarter

[a] Federal standard refers to the primary national ambient air quality standard, or the levels of air quality necessary, with an adequate margin of safety to protect the public health. All standards listed are primary standards except for 3 Hour SO_2, which is a secondary standard. A secondary standard is the level of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[b] To attain the 1-hour NO_2 national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb) (0.100 ppm).

[c] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[d] Visibility-reducing particles: In 1989, the ARB converted both the general statewide 10-mile visibility standard 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.

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

[f] The EPA Administrator approved a revised 8-hour ozone standard of 0.07 ppb on October 1, 2015. The new standard went into effect 60 days after publication of the Final Rule in the Federal Register. The Final Rule was published in the Federal Register on October 26, 2015 and became effective on December 28, 2015.

Source of effects, properties, and sources: South Coast Air Quality Management District 2007; California Environmental Protection Agency 2002; California Air Resources Board 2009a; U.S. Environmental Protection Agency 2003, 2009a, 2009b, 2010, 2011, 2012a and 2012b; National Toxicology Program 2011 and 2016.
Source of standards: California Air Resources Board 2013a.

Several pollutants listed in Table 1 are not addressed in this analysis. Analysis of lead, hydrogen sulfide, sulfates, and vinyl chloride are not included in this report because no new sources of these pollutant emissions are anticipated with the project. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed as PM_{10} and $PM_{2.5}$.

Toxic Air Contaminants Health Effects

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. There are no ambient air quality standards for TAC emissions. TACs are regulated in terms of health risks to individuals and populations exposed to the pollutants. The 1990 Clean Air Act Amendments significantly expanded the EPA's authority to regulate hazardous air pollutants. Section 112 of the Clean Air Act lists 187 hazardous air pollutants to be regulated by source category. Authority to regulate these pollutants was delegated to individual states. ARB and local air districts regulate TACs and hazardous air pollutants in California.

Exposures to TACs emissions can have both chronic long-term (over a year or longer) and acute short-term (over a period of hours) health impacts. The TACs of greatest concern are those that cause serious health problems or affect many people. Health problems can include cancer, respiratory irritation, nervous system problems, and birth defects. Some health problems occur very soon after a person inhales a TAC. These immediate effects may be minor, such as watery eyes, or they may be serious, such as life-threatening lung damage. Other health problems may not appear until many months or years after a person's first exposure to the TAC. Cancer is one example of a delayed health problem.

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. The California Almanac of Emissions and Air Quality—2009 Edition (ARB 2009b) presents the relevant concentration and cancer risk data for the ten TACs that pose the most substantial health risk in California based on available data. The ten TACs are acetaldehyde, benzene, 1.3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (DPM).

Some studies indicate that DPM poses the greatest health risk among the TACs listed above. A 10-year research program (ARB 1998) demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. In addition to increased risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause a cough, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

DPM differs from other TACs in that it is not a single substance, but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on: engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, however, no ambient monitoring data are available for DPM because no routine measurement method currently exists. The ARB has made preliminary concentration estimates based on a DPM exposure method. This method uses the ARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of DPM.

Health risks attributable to the top 10 TACs listed above are available from the ARB as part of its California Almanac of Emissions and Air Quality. As shown therein for data collected at the First Street air monitoring station in Fresno, cancer risks attributable to all of the listed TACs above with the exception of DPM have declined about 70 percent from the mid-1990s to 2007. Risks associated with DPM emissions are provided only for the year 2000 and have not been updated in the Almanac. Although more recent editions of the Almanac do not provide estimated risk, they do provide emission inventories for DPM for later years. The 2013 Almanac provides emission inventory trends for DPM from 2000 through 2035. The same Almanac reports that DPM emissions were reduced in the SJVAB from 16 tons per day in 2000 to 11 tons per day in 2010, a 31 percent decrease. DPM emissions in the San Joaquin Valley are projected to decrease to 6 tons per day by 2015, a 62 percent reduction from year 2000 levels. ARB predicts a reduction to three tons per day by 2035, which would be an 81 percent reduction from year 2000 levels. Continued implementation of the ARB's Diesel Risk Reduction Plan is expected to provide continued reductions in DPM through 2020 and beyond through regulations on this source (ARB 2013b).

Asbestos

Asbestos is the name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States. Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest, and abdominal cavity), and asbestosis (a non-cancerous lung disease that causes scarring of the lungs). Exposure to asbestos can occur during demolition or remodeling of buildings that were constructed prior to the 1977 ban on asbestos for use in buildings. Exposure to naturally occurring asbestos can occur during soil-disturbing activities in areas with deposits present. No naturally occurring asbestos is located near the project site.

2.3—Existing Air Quality Conditions

The local air quality can be evaluated by reviewing relevant air pollution concentrations near the project area. Table 2 summarizes 2016 through 2018 published monitoring data, which is the most recent three-year period available. Data was obtained from the closest air monitoring stations with data available. The table displays data from the Fresno-Sierra Sky Park monitoring station (located approximately 3.7 miles northeast of the project site) and from the Fresno-Garland Avenue

monitoring site (located approximately 7.5 miles east of the project site). The data show that during the past few years, the project area has exceeded the standards for ozone (state and national), PM_{10} (state), and $PM_{2.5}$ (national). The data in the table reflect the concentration of the pollutants in the air, measured using air monitoring equipment. This differs from emissions, which are calculations of a pollutant being emitted over a certain period. No recent monitoring data for Fresno County or the San Joaquin Valley Air Basin were available for CO or SO_2. Generally, no monitoring is conducted for pollutants that are no longer likely to exceed ambient air quality standards.

Table 2: Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Item	2016	2017	2018
Ozone[1]	1 Hour	Max 1 Hour (ppm)	**0.108**	**0.128**	**0.100**
		Days > State Standard (0.09 ppm)	6	6	4
Ozone[1]	8 Hour	Max 8 Hour (ppm)	**0.089**	**0.106**	**0.087**
		Days > State Standard (0.07 ppm)	63	50	49
		Days > National Standard (0.070 ppm)	62	47	43
Carbon monoxide (CO)	8 Hour	Max 8 Hour (ppm)	ND	ND	ND
		Days > State Standard (9.0 ppm)	ND	ND	ND
		Days > National Standard (9 ppm)	ND	ND	ND
Nitrogen dioxide (NO_2)[2]	Annual	Annual Average (ppm)	0.010	0.011	0.011
	1 Hour	Max 1 Hour (ppm)	0.0561	0.0573	0.0681
		Days > State Standard (0.18 ppm)	0	0	0
Sulfur dioxide (SO_2)	Annual	Annual Average (ppm)	ND	ND	ND
	24 Hour	Max 24 Hour (ppm)	ND	ND	ND
		Days > State Standard (0.04 ppm)	ND	ND	ND
Inhalable coarse particles (PM_{10})[2]	Annual	Annual Average ($\mu g/m^3$)	**34.8**	**39.6**	**41.0**
	24 hour	24 Hour ($\mu g/m^3$)	**91.9**	**160.1**	**130.4**
		Days > State Standard (50 $\mu g/m^3$)	67.5	97.4	102.7
		Days > National Standard (150 $\mu g/m^3$)	0	1	0
Fine particulate matter ($PM_{2.5}$)[2]	Annual	Annual Average ($\mu g/m^3$)	**13.6**	**14.3**	**16.6**
	24 Hour	24 Hour ($\mu g/m^3$)	**52.7**	**86.0**	**95.7**
		Days > National Standard (35 $\mu g/m^3$)	16.0	31.1	36.0

Notes:
> = exceed ppm = parts per million $\mu g/m^3$ = micrograms per cubic meter
ID = insufficient data ND = no data max = maximum
Bold = exceedance
State Standard = California Ambient Air Quality Standard
National Standard = National Ambient Air Quality Standard
[1] Fresno-Sierra Sky Park Monitoring Station
[2] Fresno-Garland Monitoring Station
Source: California Air Resources Board 2017a.

The health impacts of the various air pollutants of concern can be presented in a number of ways. The clearest of these is comparable with the state and federal ozone standards. If concentrations are below the standard, it is safe to say that no significant health impact would occur to anyone. When concentrations exceed the standard, impacts will vary based on the amount by which the standard is exceeded. The EPA developed the Air Quality Index (AQI) as an easy-to-understand measure of health impacts compared with concentrations in the air. Table 3 provides a description of the health impacts of ozone at different concentrations.

Table 3: Air Quality Index and Health Effects from Ozone

Air Quality Index/ 8-hour Ozone Concentration	Health Effects Description
AQI 51–100—Moderate	**Sensitive Groups:** Children and people with asthma are the groups most at risk.
Concentration 55–70 ppb	**Health Effects Statements:** Unusually sensitive individuals may experience respiratory symptoms.
	Cautionary Statements: Unusually sensitive people should consider limiting prolonged outdoor exertion.
AQI 101–150—Unhealthy for Sensitive Groups	**Sensitive Groups:** Children and people with asthma are the groups most at risk.
Concentration 71–85 ppb	**Health Effects Statements:** Increasing likelihood of respiratory symptoms and breathing discomfort in active children and adults and people with respiratory disease, such as asthma.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
AQI 151–200—Unhealthy	**Sensitive Groups:** Children and people with asthma are the groups most at risk.
Concentration 86–105 ppb	**Health Effects Statements:** Greater likelihood of respiratory symptoms and breathing difficulty in active children and adults and people with respiratory disease, such as asthma; possible respiratory effects in general population.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
AQI 201–300—Very Unhealthy	**Sensitive Groups:** Children and people with asthma are the groups most at risk.
Concentration 106–200 ppb	**Health Effects Statements:** Increasingly severe symptoms and impaired breathing likely in active children and adults and people with respiratory disease, such as asthma; increasing likelihood of respiratory effects in general population.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion.
Source: Air Now 2016.	

The AQI for the 8-hour ozone standard is based on the current NAAQS of 70 parts per billion (ppb). Based on the AQI scale for the 8-hour ozone standard, the project area experienced one day in the last three years that would be categorized as very unhealthy (AQI 201–250), and as many as 113 days that were unhealthy (AQI 151–200) or unhealthy for sensitive groups (AQI 101–150), violating the 70-ppb standard as measured at the Fresno-Sierra Sky Park monitoring station. The highest reading was 107 parts per billion (ppb) in 2017 (AQI 202), compared with the 105-ppb cutoff point for unhealthy (AQI 200). The most days over the standard were 44 days in 2017.

The other nonattainment pollutant of concern is $PM_{2.5}$. An AQI of 100 or lower is considered moderate and would be triggered by a 24-hour average concentration of 12.1 to 35.4 µg/m^3. An AQI of 101 to 105 or 35.5-55.4 µg/m^3 is considered unhealthful for sensitive groups. When concentrations reach this amount, it is considered an exceedance of the federal $PM_{2.5}$ standard. The monitoring station nearest the project exceeded the standard on approximately 83 days in the three-year period spanning from 2016 to 2018. The highest number of exceedances was recorded in 2018 with 36 days over the standard. People with respiratory or heart disease, the elderly, and children are the groups most at risk. Unusually sensitive people should consider reducing prolonged or heavy exertion. The AQI of 151 to 200 is classified as unhealthy for everyone. This AQI classification is triggered when $PM_{2.5}$ concentration ranges from 55.4 to 150.4 µg/m^3. At this concentration, there is increasing likelihood of respiratory symptoms in sensitive individuals, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease, and in the elderly. People with respiratory or heart disease, the elderly, and children should limit prolonged exertion. Everyone else should reduce prolonged or heavy exertion. The highest concentration recorded at the Fresno-Garland monitoring station in the last three years was 95.7 µg/m^3 (AQI 172) in 2018. At this concentration, increased aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly, and increased respiratory effects in general population would occur. People with respiratory or heart disease, the elderly, and children should avoid prolonged exertion; everyone else should limit prolonged exertion when the AQI exceeds this level. The relationship of the AQI to health effects in shown Table 4.

Table 4: Air Quality Index and Health Effects of Particulate Pollution

Air Quality Index/ $PM_{2.5}$ Concentration	Health Effects Description
AQI 51–100—Moderate Concentration 12.1–35.4 µg/m^3	**Sensitive Groups:** Some people who may be unusually sensitive to particle.
	Health Effects Statements: Unusually sensitive people should consider reducing prolonged or heavy exertion.
	Cautionary Statements: Unusually sensitive people: Consider reducing prolonged or heavy exertion. Watch for symptoms such as coughing or shortness of breath. These are signs to take it easier.
AQI 101–150—Unhealthy for Sensitive Groups Concentration 35.5–55.4 µg/m^2	**Sensitive Groups:** Sensitive groups include people with heart or lung disease, older adults, children, and teenagers.
	Health Effects Statements: Increasing likelihood of respiratory symptoms in sensitive individuals, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease, and the elderly.

Table 4 (cont.): Air Quality Index and Health Effects of Particulate Pollution

Air Quality Index/ $PM_{2.5}$ Concentration	Health Effects Description
	If you have heart disease: Symptoms such as palpitations, shortness of breath, or unusual fatigue may indicate a serious problem. If you have any of these, contact your health care provider.
AQI 151–200—Unhealthy	**Sensitive Groups:** Everyone
Concentration 55.5–150.4 µg/m^3	**Health Effects Statements:** Increased aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; increased respiratory effects in general population.
	Cautionary Statements: Sensitive groups: Avoid prolonged or heavy exertion. Consider moving activities indoors or rescheduling. Everyone else: Reduce prolonged or heavy exertion. Take more breaks during outdoor activities.
AQI 201–300—Very Unhealthy	**Sensitive Groups:** Everyone
Concentration 150.5–250.4 µg/m^3	**Health Effects Statements:** Significant aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; significant increase in respiratory effects in general population.
	Cautionary Statements: Sensitive groups: Avoid all physical activity outdoors. Move activities indoors or reschedule to a time when air quality is better. Everyone else: Avoid prolonged or heavy exertion. Consider moving activities indoors or rescheduling to a time when air quality is better.
Source: Air Now 2016.	

2.3.1 - Attainment Status

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated marginal, moderate, serious, severe, or extreme as a function of deviation from standards.

Each standard has a different definition, or "form" of what constitutes attainment, based on specific air quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard.

The current attainment designations for the Air Basin are shown in Table 5. The Air Basin is designated nonattainment for ozone, PM_{10}, and $PM_{2.5}$.

Table 5: San Joaquin Valley Air Basin Attainment Status

Pollutant	State Status	National Status
Ozone—One Hour	Nonattainment/Severe	No Standard
Ozone—Eight Hour	Nonattainment	Nonattainment/Extreme
Carbon monoxide	Attainment/Unclassified	Merced, Madera, and Kings Counties are unclassified; others are in Attainment
Nitrogen dioxide	Attainment	Attainment/Unclassified
Sulfur dioxide	Attainment	Attainment/Unclassified
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Lead	Attainment	No Designation/Classification
Source of State status: California Air Resources Board (ARB 2013c). Source of National status: U.S. Environmental Protection Agency (EPA 2016a). Source of additional status information (SJVAPCD 2017a).		

2.4—Air Quality Plans and Regulations

Air pollutants are regulated at the national, state, and air basin or county level, and each agency has a different level of regulatory responsibility: the EPA regulates at the national level, the ARB at the state level, and the SJVAPCD at the air basin level.

The EPA is responsible for national and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, provides research and guidance for air pollution programs, and sets National Ambient Air Quality Standards—also known as the federal standards described earlier.

A State Implementation Plan (SIP) is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The SIP for the State of California is administered by the ARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. California's SIP incorporates individual federal attainment plans for regional air districts; specifically, an air district prepares their federal attainment plan, which is sent to ARB to be approved and incorporated into the California State Implementation Plan. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms. The ARB then submits the SIP to the EPA for approval. After reviewing submitted SIPs, the EPA proposes to approve or disapprove all or part of each plan. The public has an opportunity to comment on the EPA's proposed action. The EPA considers public input before taking final action on a state's plan. If the EPA approves all or part of a SIP, those control measures are enforceable in federal court. If a state fails to submit an approvable plan or if the EPA disapproves a plan, the EPA is required to develop a federal implementation plan (FIP). The SIP approval process often takes several years. The most recent federally approved attainment plans for the SJVAPCD are the 2007 8-Hour Ozone Attainment Plan and the 2012 $PM_{2.5}$ Plan for the 2006 $PM_{2.5}$ standard.

Areas designated nonattainment must develop air quality plans and regulations to achieve standards by specified dates, depending on the severity of the exceedances. For much of the country, implementation of federal motor vehicle standards and compliance with federal permitting requirements for industrial sources are adequate to attain air quality standards on schedule. For many areas of California, however, additional state and local regulation is required to achieve the standards. Regulations adopted by California are described below.

2.4.1 - California Regulations

Low-Emission Vehicle Program

The ARB first adopted Low-Emission Vehicle (LEV) program standards in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, represent continuing progress in emission reductions. As the State's passenger vehicle fleet continues to grow and more sport utility vehicles and pickup trucks are used as passenger cars rather than work vehicles, the more stringent LEV II standards were adopted to provide reductions necessary for California to meet federally mandated clean air goals outlined in the 1994 State Implementation Plan. In 2012, ARB adopted the LEV III amendments to California's LEV regulations. These amendments, also known as the Advanced Clean Car Program include more stringent emission standards for model years 2017 through 2025 for both criteria pollutants and GHGs for new passenger vehicles (ARB 2012a).

On-Road Heavy-Duty Vehicle Program

The ARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, California Code of Regulations contains California's emission standards for on-road heavy-duty engines and vehicles, as well as test procedures. ARB has also adopted programs to reduce emissions from in-use heavy-duty vehicles including the Heavy-Duty Diesel Vehicle Idling Reduction Program, the Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, and the School Bus Program and others (ARB 2013b).

The regulation applies to nearly all privately and federally owned diesel-fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. The regulation provides a variety of flexibility options tailored to fleets operating low-use vehicles, fleets operating in selected vocations like agricultural and construction, and small fleets of three or fewer trucks (ARB 2015b).

ARB Truck and Bus Regulation

The latest amendments to the Truck and Bus regulation became effective on December 31, 2014. The amended regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet PM filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent.

The regulation applies to nearly all privately and federally owned diesel-fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than

14,000 pounds. The regulation provides a variety of flexibility options tailored to fleets operating low-use vehicles, fleets operating in selected vocations like agricultural and construction, and small fleets of three or fewer trucks (ARB 2015a).

ARB Regulation for In-Use Off-Road Diesel Vehicles

On July 26, 2007, the ARB adopted a regulation to reduce DPM and nitrous oxide (NO_X) emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale. The ARB is enforcing that part of the rule with fines up to $10,000 per day for each vehicle in violation. Performance requirements of the rule are based on a fleet's average NO_X emissions, which can be met by replacing older vehicles with newer, cleaner vehicles or by applying exhaust retrofits. The regulation was amended in 2010 to delay the original timeline of the performance requirements, making the first compliance deadline January 1, 2014 for large fleets (over 5,000 horsepower), 2017 for medium fleets (2,501–5,000 horsepower), and 2019 for small fleets (2,500 horsepower or less).

ARB Regulation for Consumer Products

The ARB Consumer Products Regulation was last amended in January 2015. The ARB regulates the VOC content of a wide variety of consumer products sold and manufactured in California. The purpose of the regulation is to reduce the emission of ozone precursors, TACs, and GHG emissions in products that are used by homes and businesses. The regulated products include but are not limited to solvents, adhesives, air fresheners, soaps, aromatic compounds, windshield cleaners, charcoal lighter, dry cleaning fluids, floor polishes, and general cleaners and degreasers (ARB 2015b)

ARB Airborne Toxic Control Measure for Asbestos

In July 2001, the ARB approved an Air Toxic Control Measure for construction, grading, quarrying, and surface mining operations to minimize emissions of naturally occurring asbestos. The regulation requires application of best management practices to control fugitive dust in areas known to have naturally occurring asbestos and requires notification to the local air district prior to commencement of ground-disturbing activities. The measure establishes specific testing, notification and engineering controls prior to grading, quarrying, or surface mining in construction zones where naturally occurring asbestos is located on projects of any size. There are additional notification and engineering controls at work sites larger than one acre in size. These projects require the submittal of a "Dust Mitigation Plan" and approval by the air district prior to the start of a project.

Construction sometimes requires the demolition of existing buildings where construction occurs. The project includes no demolition. Asbestos is also found in a natural state, known as naturally occurring asbestos. Exposure and disturbance of rock and soil that naturally contain asbestos can result in the release of fibers into the air and consequent exposure to the public. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Sources of asbestos emissions include unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present.

The ARB has an Air Toxic Control Measure for construction, grading, quarrying, and surface mining operations, requiring the implementation of mitigation measures to minimize emissions of asbestos-laden dust. The measure applies to road construction and maintenance, construction and grading operations, and quarries and surface mines when the activity occurs in an area where naturally occurring asbestos is likely to be found. Areas are subject to the regulation if they are identified on maps published by the Department of Conservation as ultramafic rock units or if the Air Pollution Control Officer or owner/operator has knowledge of the presence of ultramafic rock, serpentine, or naturally occurring asbestos on the site. The measure also applies if ultramafic rock, serpentine, or asbestos is discovered during any operation or activity. Review of the Department of Conservation maps indicates that no ultramafic rock has been found near the southeast Fresno area.

Diesel Risk Reduction Plan

The ARB's Diesel Risk Reduction Plan has led to the adoption of new state regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines and vehicles to reduce DPM emissions by about 90 percent overall from year 2000 levels. The projected emission benefits associated with the full implementation of this plan, including federal measures, are reductions in DPM emissions and associated cancer risks of 75 percent by 2010, and 85 percent by 2020 (ARB 2000).

2.4.2 - San Joaquin Valley Air Pollution Control District

The District is responsible for controlling emissions primarily from stationary sources. The District, in coordination with the eight countywide transportation agencies, is also responsible for developing, updating, and implementing air quality attainment plans for the Air Basin. The District also has roles under CEQA.

Ozone Plans

The Air Basin is designated nonattainment of state and federal health-based air quality standards for ozone. To meet Clean Air Act requirements for the one-hour ozone standard, the District adopted an Extreme Ozone Attainment Demonstration Plan in 2004, with an attainment date of 2010. Although the EPA revoked the federal 1-hour ozone standard effective June 15, 2005 and replaced it with an 8-hour standard, the requirement to submit a plan for that standard remained in effect for the San Joaquin Valley.

The planning requirements for the 1-hour plan remain in effect until replaced by a federal 8-hour ozone attainment plan. On March 8, 2010, the EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan, including revisions to the plan, effective April 7, 2010. However, the Air Basin failed to attain the standard in 2010 and was subject to a $29 million Clean Air Act penalty. The penalty is being collected through an additional $12 motor vehicle registration surcharge for each passenger vehicle registered in the Air Basin that will be applied to pollution reduction programs in the region. The District also instituted a more robust ozone episodic program to reduce emissions on days with the potential to exceed the ozone standards. On July 18, 2016, the EPA published in the Federal Register a final action determining that the San Joaquin Valley has attained the 1-hour ozone national ambient air quality standard. This determination is based on the most recent three-year period (2012-2014) of sufficient, quality-assured, and certified data. The penalty fees remain in place pending submittal of a demonstration that the San Joaquin Valley will maintain the 1-hour standard for 10 years (EPA 2016b).

The EPA originally classified the Air Basin as serious nonattainment for the 1997 federal 8-hour ozone standard with an attainment date of 2013. On April 30, 2007, the District's Governing Board adopted the 2007 Ozone Plan, which contained analysis showing a 2013 attainment target to be infeasible. The 2007 Ozone Plan details the plan for achieving attainment on schedule with an "extreme nonattainment" deadline of 2024. At its adoption of the 2007 Ozone Plan, the District also requested a reclassification to extreme nonattainment. ARB approved the plan in June 2007, and the EPA approved the request for reclassification to extreme nonattainment on April 15, 2010.

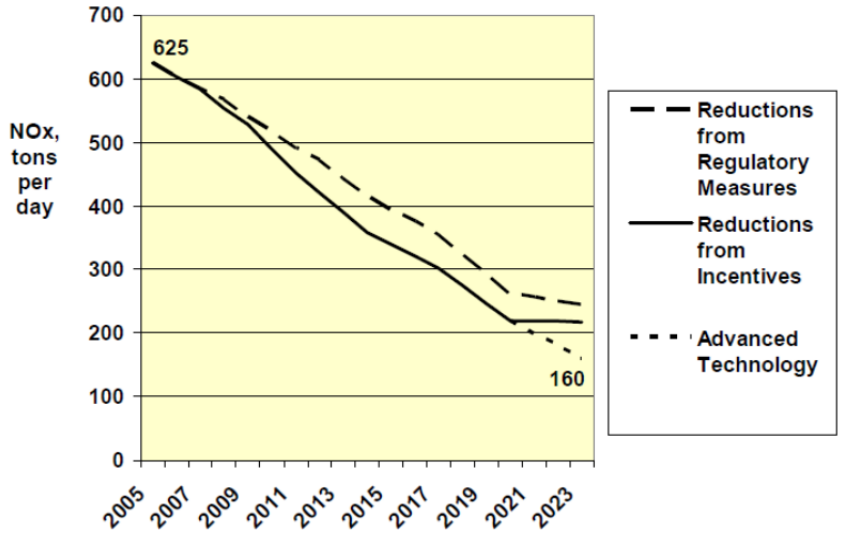
The 2007 Ozone Plan contains measures to reduce ozone and particulate matter precursor emissions to bring the Basin into attainment with the federal 8-hour ozone standard. The 2007 Ozone Plan calls for a 75 percent reduction of NO_X and a 25 percent reduction of reactive organic gases (ROG). Figure 6 displays the anticipated NO_X reductions attributed in the 2007 Ozone Plan (Source: 2007 Ozone Plan). The plan, with innovative measures and a "dual path" strategy, assures expeditious attainment of the federal 8-hour ozone standard for all Air Basin residents. The District Governing Board adopted the 2007 Ozone Plan on April 30, 2007. The ARB approved the plan on June 14, 2007. The 2007 Ozone Plan requires yet to be determined "Advanced Technology" to achieve additional reductions after 2021, in order to attain the standard at all monitoring stations in the Air Basin by 2024 as allowed for areas designated extreme nonattainment by the federal Clean Air Act.

The Air Basin is designated an extreme ozone nonattainment area for the EPA's 2008 8-hour ozone standard of 75 ppb. The District's Governing Board approved the 2016 Plan for the 2008 8-Hour Ozone Standard on June 16, 2016. The ARB approved the attainment demonstration plan for the San Joaquin Valley on July 21, 2016 and transmitted the plan to EPA on August 24, 2016. The comprehensive strategy in this plan will reduce NO_X emissions by over 60 percent between 2012 and 2031, and will bring the San Joaquin Valley into attainment of the EPA's 2008 8-hour ozone standard as expeditiously as practicable, no later than December 31, 2031. The 2016 Ozone Plan predicts attainment of the 2008 standard by 2031 (SJVAPCD 2018a). To ensure that the plan is approvable with the necessary contingencies, the plan includes a "Black Box" that will require implementation of new advanced technologies and controls prior to the 2031 deadline.

The EPA Administrator signed the Final Rule revising the 8-hour ozone standard to 70 ppm on October 1, 2015. The new standard will require the SJVAPCD to prepare a new attainment to achieve the more stringent emission level within 20 years from the effective date of designation (EPA 2018).

State ozone standards do not have an attainment deadline but require implementation of all feasible measures to achieve attainment at the earliest date possible. This is achieved through compliance with the federal deadlines and control measure requirements.

Figure 6: San Joaquin Valley NO_X Emissions Forecast



Particulate Matter Plans

The Air Basin was designated nonattainment of state and federal health-based air quality standards for PM_{10}. The Air Basin is also designated nonattainment of state and federal standards for $PM_{2.5}$.

To meet Clean Air Act requirements for the PM_{10} standard, the District adopted a PM_{10} Attainment Demonstration Plan (Amended 2003 PM_{10} Plan and 2006 PM_{10} Plan), which has an attainment date of 2010. The District adopted the 2007 PM_{10} Maintenance Plan in September 2007 to assure the San Joaquin Valley's continued attainment of the EPA's PM_{10} standard. The EPA designated the valley as an attainment/maintenance area for PM_{10} on September 25, 2008. Although the San Joaquin Valley has exceeded the standard since then, those days were considered exceptional events that are not considered a violation of the standard for attainment purposes.

The 2008 $PM_{2.5}$ Plan builds upon the comprehensive strategy adopted in the 2007 Ozone Plan to bring the Air Basin into attainment of the 1997 national standards for $PM_{2.5}$. The EPA has identified NO_X and SO_2as precursors that must be addressed in air quality plans for the 1997 $PM_{2.5}$ standards. The 2008 $PM_{2.5}$ Plan is a continuation of the District's strategy to improve the air quality in the Air Basin. The EPA issued final approval of the 2008 $PM_{2.5}$ Plan on November 9, 2011, which became effective on January 9, 2012. The EPA approved the emissions inventory, the reasonably available control measures/reasonably available control technology demonstration, reasonable further progress demonstration, attainment demonstration and associated air quality modeling, and the transportation conformity motor vehicle emissions budgets. The EPA also granted California's request to extend the attainment deadline for the San Joaquin Valley to April 5, 2015 and approved commitments to measures and reductions by the District and the ARB. Finally, it disapproved the State Implementation Plan's contingency provisions and issued a protective finding for transportation conformity determinations.

In December 2012, the District adopted the 2012 $PM_{2.5}$ Plan to bring the San Joaquin Valley into attainment of the EPA's 2006 24-hour $PM_{2.5}$ standard of 35 $\mu g/m^3$. The ARB approved the District's 2012 $PM_{2.5}$ Plan for the 2006 standard at a public hearing on January 24, 2013 (SJVAPCD 2012). This

plan seeks to bring the Valley into attainment with the standard by 2019, with the expectation that most areas will achieve attainment before that time.

The 2015 Plan for the 1997 $PM_{2.5}$ Standard approved by the District Governing Board on April 16, 2015—will bring the Valley into attainment of the EPA's 1997 $PM_{2.5}$ standard as expeditiously as practicable, but no later than December 31, 2020. The plan was required to request reclassification to Serious nonattainment and to extend the attainment date from 2018 to 2020 (SJVAPCD 2015b).

The 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard was adopted on September 15, 2016. This plan includes an attainment impracticability demonstration and request for reclassification of the Valley from Moderate nonattainment to Serious nonattainment (SJVAPCD 2017b).

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards on November 15, 2018. This plan provides a combined strategy to address the EPA federal 1997 annual $PM_{2.5}$ standard of 15 µg/m³ and 24-hour $PM_{2.5}$ standard of 65 µg/m³; the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m³; and the 2012 annual $PM_{2.5}$ standard of 12 µg/m³. This plan demonstrates attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable (SJVAPCD 2018b).

SJVAPCD Rules and Regulations

The SJVAPCD rules and regulations that may apply to projects that will occur during buildout of the project include but are not limited to the following:

Rule 4102—Nuisance. The purpose of this rule is to protect the health and safety of the public, and applies to any source operation that emits or may emit air contaminants or other materials. This rule is enforced on a complaint basis.

Rule 4601—Architectural Coatings. The purpose of this rule is to limit Volatile Organic Compounds (VOC) emissions from architectural coatings. Emissions are reduced by limits on VOC content and providing requirements on coatings storage, cleanup, and labeling. Only compliant components are available for purchase in the San Joaquin Valley.

Rule 4641—Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations. The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. If asphalt paving will be used, then the paving operations will be subject to Rule 4641. This regulation is enforced on the asphalt provider

Rule 4901—Wood-Burning Fireplaces and Wood-Burning Heaters. The purposes of this rule are to limit emissions of carbon monoxide and particulate matter from wood-burning fireplaces, wood-burning heaters, and outdoor wood-burning devices, and to establish a public education program to reduce wood-burning emissions. All development that includes wood-burning devices are subject to this rule.

Rule 4902—Residential Water Heaters. In 2009, the District amended Rule 4902 to strengthen the rule by lowering the limit to 10 nanograms per joule (ng/J) for new or replacement water heaters, and to a limit of 14 ng/J for instantaneous water heaters. Retailer compliance dates ranged from 2010 to 2012, depending on the unit type.

Regulation VIII—Fugitive PM_{10} Prohibitions. Rules 8011–8081 are designed to reduce PM_{10} emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and trackout, etc. All development projects that involve soil disturbance are subject to at least one provision of the Regulation VIII series of rules.

Rule 9510—Indirect Source Review. This rule reduces the impact of NO_X and PM_{10} emissions from growth within the Air Basin. The rule places application and emission reduction requirements on development projects meeting applicability criteria in order to reduce emissions through on-site mitigation, off-site District-administered projects, or a combination of the two. This project is subject to Rule 9510 because it would develop more than 50 residential dwelling units.

CEQA

The District has three roles under CEQA:

1. **Lead Agency:** Responsible for preparing environmental analyses for its own projects (adoption of rules, regulations, or plans) or permit projects filed with the District where the District has primary approval authority over the project.
2. **Responsible Agency:** The discretionary authority of a responsible agency is more limited than a lead agency; having responsibility for mitigating or avoiding only the environmental effects of those parts of the project which it decides to approve, carry out, or finance. The District defers to the lead agency for preparation of environmental documents for land use projects that also have discretionary air quality permits, unless no document is prepared by the lead agency and potentially significant impacts related to the permit are possible. The District regularly submits comments on documents prepared by lead agencies to ensure that District concerns are addressed.
3. **Commenting Agency:** The District reviews and comments on air quality analyses prepared by other public agencies (such as the project).

The District also provides guidance and thresholds for CEQA air quality and GHG analyses. The result of this guidance, as well as state regulations to control air pollution, is an overall improvement in the Air Basin. In particular, the District's 2015 GAMAQI states the following:

1. The District's Air Quality Attainment Plans include measures to promote air quality elements in county and city general plans as one of the primary indirect source programs. The general plan is the primary long-range planning document used by cities and counties to direct development. Since air districts have no authority over land use decisions, it is up to cities and counties to ensure that their general plans help achieve air quality goals. Section 65302.1 of the California Government Code requires cities and counties in the San Joaquin Valley to amend appropriate elements of their general plans to include data, analysis, comprehensive goals, policies, and feasible implementation strategies to improve air quality in their next housing element revisions.
2. The Air Quality Guidelines for General Plans (AQGGP), adopted by the District in 1994 and amended in 2005, is a guidance document containing goals and policy examples that cities and counties may want to incorporate into their General Plans to satisfy Section 65302.1.

When adopted in a general plan and implemented, the suggestions in the AQGGP can reduce vehicle trips and miles traveled and improve air quality. The specific suggestions in the AQGGP are voluntary. The District strongly encourages cities and counties to use their land use and transportation planning authority to help achieve air quality goals by adopting the suggested policies and programs.

2.4.3 - Local

The Fresno General Plan was adopted on December 18, 2014 (City of Fresno 2014a). The City's applicable air quality goals and policies from the Air Quality section are listed below.

City of Fresno Air Quality Goals and Policies

The General Plan lists the following policies that are supportive of improved air quality:

- **Objective RC-4.** In cooperation with other jurisdictions and agencies in the San Joaquin Valley Air Basin, take necessary actions to achieve and maintain compliance with State and federal air quality standards for criteria pollutants.
- **RC-4-a Support Regional Efforts.** Support and lead, where appropriate, regional, State and federal programs and actions for the improvement of air quality, especially the SJVAPCD's efforts to monitor and control air pollutants from both stationary and mobile sources and implement Reasonably Available Control Measures in the Ozone Attainment Plan.
- **RC-4-b Conditions of Approval.** Develop and incorporate air quality maintenance requirements, compatible with Air Quality Attainment and Maintenance Plans, as conditions of approval for General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals.
- **RC-4-c Evaluate Impacts with Models**. Continue to require the use of computer models used by SJVAPCD to evaluate the air quality impacts of plans and projects that require such environmental review by the City.
- **RC-4-d Forward Information.** Forward information regarding proposed General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals that require air quality evaluation, and amendments to development regulations to the SJVAPCD for their review of potential air quality and health impacts.
- **RC-4-k Electric Vehicle Charging.** Develop standards to facilitate electric vehicle charging infrastructure in both new and existing public and private buildings, in order to accommodate these vehicles as the technology becomes more widespread.
    1. The idling time of all construction equipment used in the plan area shall not exceed ten minutes when practicable.
    2. The hours of operation of heavy-duty equipment shall be minimized when practicable.
    3. All equipment shall be properly tuned and maintained in accord with manufacturer's specifications when practicable.
    4. When feasible, alternative fueled or electrical construction equipment shall be used at the project site.
    5. The minimum practical engine size for construction equipment shall be used when practicable.
    6. When feasible, electric carts or other smaller equipment shall be used at the project site.
    7. Gasoline-powered equipment shall be equipped with catalytic converters when practicable.

2.4.4 - Existing Sources of Toxic Emissions

No existing sources were identified that exceed ARB recommendations in its Air Quality Land Use Handbook for siting sensitive land uses impact the project.

2.4.5 - ARB Air Quality Land Use Handbook

Table 6 lists the following ARB advisory recommendations that address the issue of siting "sensitive land uses" near specific sources of air pollution (ARB 2005):

- High traffic freeways and roads
- Distribution centers
- Rail yards
- Ports
- Refineries
- Chrome plating facilities
- Dry cleaners
- Large gas dispensing facilities

The analysis examines the area around the site to determine if potential sources of TAC emissions may impact the project, based on the ARB recommended screening distances.

Table 6: Recommendations on Siting New Sensitive Land Uses

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks.
Refineries	Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 300 feet of any dry-cleaning operation. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult with the local air district. Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.

Table 6 (cont.): Recommendations on Siting New Sensitive Land Uses

Source Category	Advisory Recommendations
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.
Note: These recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.	

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SECTION 3: CLIMATE CHANGE SETTING

3.1—Climate Change

Climate change is a change in the average weather of the earth that is measured by alterations in wind patterns, storms, precipitation, and temperature. These changes are assessed using historical records of temperature changes occurring in the past, such as during previous ice ages. Many of the concerns regarding climate change use this data to extrapolate a level of statistical significance, specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fourth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.1 degrees Celsius (°C) to 6.4°C. Regardless of analytical methodology, global average temperatures and sea levels are expected to rise under all scenarios (IPCC 2007a). The report also concluded that "[w]arming of the climate system is unequivocal," and that "[m]ost of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations."

An individual project cannot generate enough GHG emissions to cause a discernible change in global climate. However, the project participates in the potential for global climate change by its incremental contribution of GHGs—and when combined with the cumulative increase of all other sources of GHGs—constitute potential influences on global climate change.

3.1.1 - Consequences of Climate Change in California

In California, climate change may result in consequences such as the following (from CCCC 2006 and Moser et al. 2009):

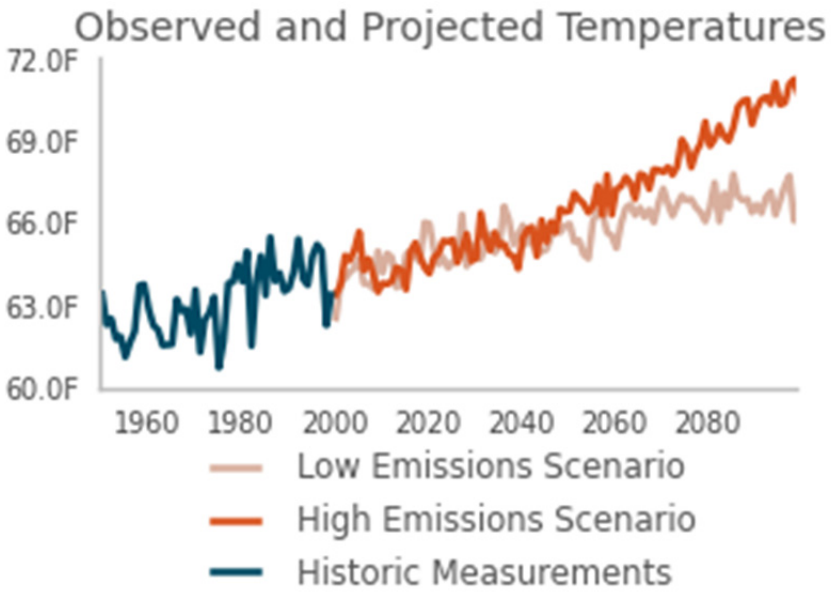
- **A reduction in the quality and supply of water from the Sierra snowpack.** If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower.
- **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.
- **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 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. Elevations 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.
- **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.
- **A decrease in the health and productivity of California's forests.** Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.

Consequences of Climate Change in the Fresno Area

Figure 7 displays a chart of measured historical and projected annual average temperatures in the project area. As shown in the figure, temperatures are expected to rise in the low and high GHG emissions scenarios. The results indicate that temperatures are predicted to increase by 3.7 degrees Fahrenheit (°F) under the low emission scenario and 6.5°F under the high emissions scenario (CalAdapt 2019).

Figure 7: Observed and Projected Temperatures for Climate Change in the Project Area



Source: CalAdapt 2019

Water Supply

The City of Fresno Department of Public Utilities would provide water for the project. The City relies on groundwater and treated surface water for potable water supplies. The availability of surface water and the rate of groundwater recharge could decline if climate change were to result in reduced snowpack in the Sierra Nevada.

Wildfires

The project site is within an urbanizing area with limited fuels that would be subject to a wildfire. Foothill and mountain areas located to the north and east of the Fresno area subject to wildfire. The potential for increased temperatures and drought conditions due to climate change would result in increased risk from wildfire in those areas.

Human Health Effects of GHG Emissions

GHG emissions from development projects would not result in concentrations that would directly impact public health. However, the cumulative effects of GHG emissions on climate change have the potential to cause adverse effects to human health.

In its report, Global Climate Change Impacts in the U.S. (2009), the U.S. Global Change Research Program has analyzed the degree to which impacts on human health are expected to impact the United States.

Potential effects of climate change on public health include:

- Direct Temperature Effects: Climate change may directly affect human health through increases in average temperatures, which are predicted to increase the incidence of heat waves and hot extremes.
- Extreme Events: Climate change may affect the frequency and severity of extreme weather events, such as hurricanes and extreme heat and floods, which can be destructive to human health and well-being.
- Climate-Sensitive Diseases: Climate change may increase the risk of some infectious diseases, particularly those diseases that appear in warm areas and are spread by mosquitoes and other insects, such as malaria, dengue fever, yellow fever, and encephalitis.
- Air Quality: Respiratory disorders may be exacerbated by warming-induced increases in the frequency of smog (ground-level ozone) events and particulate air pollution (EPA 2009a).

Although there could be health effects resulting from changes in the climate and the consequences that can occur, inhalation of GHGs at levels currently in the atmosphere would not result in adverse health effects, with the exception of ozone and aerosols (particulate matter). The potential health effects of ozone and particulate matter are discussed in criteria pollutant analyses. At very high indoor concentrations (not at levels existing outside), carbon dioxide, methane, sulfur hexafluoride, and some chlorofluorocarbons can cause suffocation as the gases can displace oxygen (CDC 2010 and OSHA 2003).

3.2—Greenhouse Gases

Gases that trap heat in the atmosphere are referred to as GHGs. The effect is analogous to the way a greenhouse retains heat. Common GHGs include water vapor, carbon dioxide, methane, NO_X, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Natural processes and human activities emit GHGs. The presence of GHGs in the atmosphere affects the earth's temperature. It is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Climate change is driven by forcings and feedbacks. Radiative forcing is the difference between the incoming energy and outgoing energy in the climate system. Positive forcing tends to warm the surface while negative forcing tends to cool it. Radiative forcing values are typically expressed in watts per square meter. A feedback is a climate process that can strengthen or weaken a forcing. For example, when ice or snow melts, it reveals darker land underneath which absorbs more radiation and causes more warming. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. The global warming potential of a gas is essentially a measurement of the radiative forcing of a GHG compared with the reference gas, CO_2.

Individual GHG compounds have varying global warming potential and atmospheric lifetimes. CO_2, the reference gas for global warming potential, has a global warming potential of one. The global warming potential of a GHG is a measure of how much a given mass of a GHG is estimated to contribute to global warming. To describe how much global warming a given type and amount of GHG may cause, the carbon dioxide equivalent is used. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent reference gas, CO_2. For example, CH_4's warming potential of 25 indicates that CH_4 has 25 times greater warming effect than CO_2 on a molecule-per-molecule basis. A carbon dioxide equivalent is the mass emissions of an individual GHG multiplied by its global warming potential. GHGs defined by Assembly Bill (AB) 32 (see the Climate Change Regulatory Environment section for a description) include CO_2, CH_4, NO_X, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. They are described in Table 7. A seventh GHG, nitrogen trifluoride, was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. The global warming potential amounts are from IPCC Fourth Assessment Report (AR4). The new amounts are incorporated into the CalEEMod 2016.3.2 used in this analysis.

Table 7: Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide (laughing gas) is a colorless GHG. It has a lifetime of 114 years. Its global warming potential is 298.	Microbial processes in soil and water, fuel combustion, and industrial processes.
Methane	Methane is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 25.	Methane is extracted from geological deposits (natural gas fields). Other sources are landfills, fermentation of manure, and decay of organic matter.

Table 7 (cont.): Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Carbon dioxide	Carbon dioxide (CO_2) is an odorless, colorless, natural GHG. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chlorofluorocarbons	These are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). Global warming potentials range from 124 to 14,800.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987.
Perfluorocarbons	Perfluorocarbons have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Global warming potentials range from 7,390 to 12,200.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential of 22,800.	This gas is man-made and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas.
Nitrogen trifluoride	Nitrogen trifluoride (NF_3) was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. It has a high global warming potential of 17,200.	This gas is used in electronics manufacture for semiconductors and liquid crystal displays.
Sources: Compiled from a variety of sources, primarily Intergovernmental Panel on Climate Change 2007a and 2007b.		

The State has begun addressing pollutants referred to as short-lived climate pollutants. Senate Bill (SB) 605, approved by the governor on September 14, 2014 required the ARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants by January 1, 2016. ARB was required to complete an emission inventory of these pollutants, identify research needs, identify existing and potential new control measures that offer co-benefits, and coordinated with other state agencies and districts to develop measures. The Short-Lived Climate Pollutant Strategy was approved by the ARB on March 24, 2017. The strategy calls for reductions of 50 percent from black carbon, 40 percent from methane, and 40 percent from HFCs from the 2030 Business as Usual (BAU) inventory for these pollutants (ARB 2017b).

The short-lived climate pollutants include three main components: black carbon, fluorinated gases, and methane. Fluorinated gases and methane are described in Table 7 and are already included in the California GHG inventory. Black carbon has not been included in past GHG inventories; however, ARB will include it in its comprehensive strategy (ARB 2015c).

Ozone is another short-lived climate pollutant that will be part of the strategy. Ozone affects evaporation rates, cloud formation, and precipitation levels. Ozone is not directly emitted, so its precursor emissions, volatile organic compounds (VOC) and oxides of nitrogen (NO_X) on a regional scale and CH_4 on a hemispheric scale will be subject of the strategy (ARB 2015c).

Black carbon is a component of fine particulate matter. Black carbon is formed by incomplete combustion of fossil fuels, biofuels, and biomass. Sources of black carbon within a jurisdiction may include exhaust from diesel trucks, vehicles, and equipment, as well as smoke from biogenic combustion. Biogenic combustion sources of black carbon include the burning of biofuels used for transportation, the burning of biomass for electricity generation and heating, prescribed burning of agricultural residue, and natural and unnatural wildfires. Black carbon is not a gas but an aerosol—particles or liquid droplets suspended in air. Black carbon only remains in the atmosphere for days to weeks, whereas other GHGs can remain in the atmosphere for years. Black carbon can be deposited on snow, where it absorbs sunlight, reduces sunlight reflectivity, and hastens snowmelt. Direct effects include absorbing incoming and outgoing radiation; indirectly, black carbon can also affect cloud reflectivity, precipitation, and surface dimming (cooling).

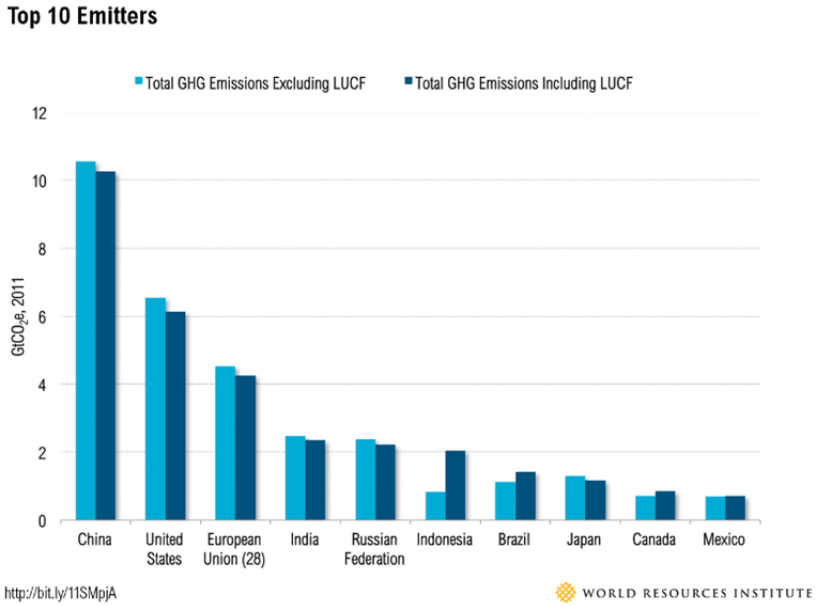
Global warming potentials for black carbon were not defined by the IPCC in its Fourth Assessment Report. The ARB has identified a global warming potential of 3,200 using a 20-year time horizon and 900 using a 100-year time horizon from the IPCC Fifth Assessment. Sources of black carbon are already regulated by ARB, and air district criteria pollutant and toxic regulations that control fine particulate emissions from diesel engines and other combustion sources (ARB 2015d). Additional controls on the sources of black carbon specifically for their GHG impacts beyond those required for toxic and fine particulates are not likely to be needed.

Water vapor is also considered a GHG. Water vapor is an important component of our climate system and is not regulated. Increasing water vapor leads to warmer temperatures, which causes more water vapor to be absorbed into the air. Warming and water absorption increase in a spiraling cycle. Water vapor feedback can also amplify the warming effect of other GHGs, such that the warming brought about by increased carbon dioxide allows more water vapor to enter the atmosphere (NASA 2015b).

3.2.1 - Emissions Inventories

An emissions inventory is a database that lists, by source, the amount of air pollutants discharged into the atmosphere of a geographic area during a given time period. Emissions worldwide were approximately 43,286 million metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2012. As shown in Figure 8, China was the largest GHG emitter with over 10 billion metric tons of CO_2e, and the United States was the second-largest GHG emitter with over 6 billion metric tons of CO_2e (WRI 2014).

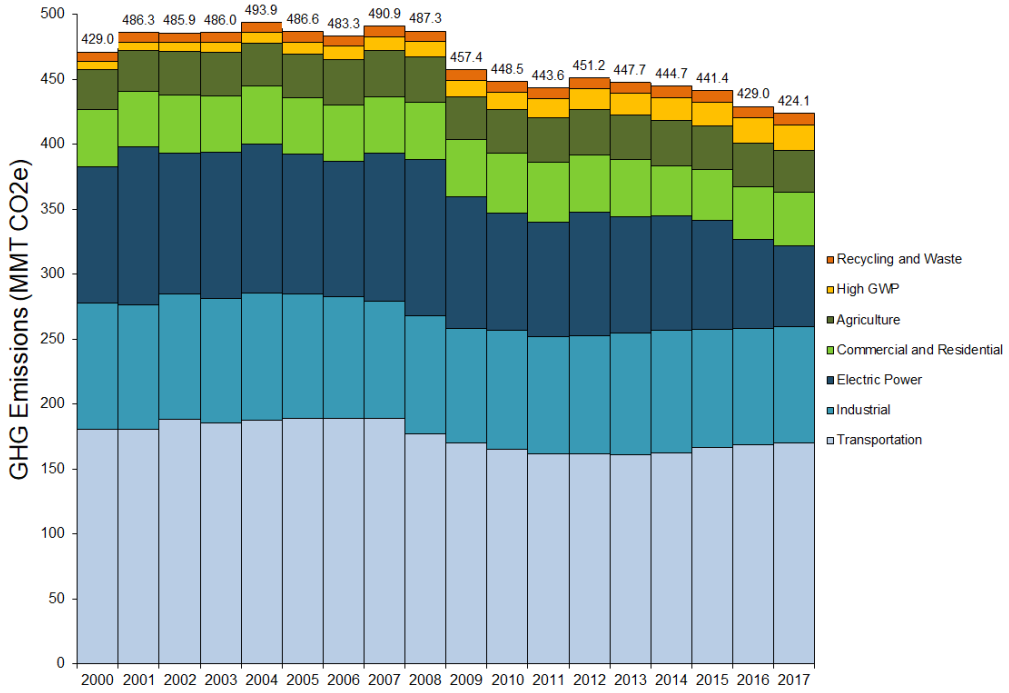
Figure 8: Greenhouse Gas Emissions by Geographic Area



Source: WRI 2014.

Figure 9 shows the contributors of GHG emissions in California between years 2000 and 2017 by Scoping Plan category. The main contributor was transportation. The second highest sector was industrial, which includes sources from refineries, general fuel use, oil and gas extraction, cement plants, and cogeneration heat output. ARB reported that California's GHG emissions inventory was 424.1 $MMTCO_2e$ in 2017 (ARB 2018a).

Figure 9: Greenhouse Gas Emission Trends by Scoping Plan Category in California



Source: ARB 2018a.

3.3—Regulatory Environment

3.3.1 - International

International organizations, such as the ones discussed below, have made substantial efforts to reduce GHGs. Preventing human-induced climate change will require the participation of all nations in solutions to address the issue.

Intergovernmental Panel on Climate Change. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change. The panel was tasked with assessing the scientific, technical, and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nations Framework Convention on Climate Change (Convention). On March 21, 1994, the United States joined a number of countries around the world in signing the Convention. Under the Convention, governments gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

Kyoto Protocol. The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions at average of five percent against 1990 levels over the five-year period from 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2°C above pre-industrial levels, subject to a review in 2015. The UN Climate Change Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings are gradually gaining consensus among participants on individual climate change issues.

On September 23, 2014, more than 100 heads of state and government, along with leaders from the private sector and civil society met at the Climate Summit in New York hosted by the United Nations. At the Summit, heads of government, business, and civil society announced actions in areas that would have the greatest impact on reducing emissions, including: climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

Paris Agreement. Parties to the United Nations Framework Convention on Climate Change (UNFCCC) reached a landmark agreement on December 12, 2015 in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating in a 4-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen those efforts in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts, and undergo international review.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st session of the UNFCCC Conference of the Parties, or COP 21. Together, the Paris Agreement and the accompanying COP decision:

- Reaffirm the goal of limiting global temperature increase well below 2 degrees Celsius, while urging efforts to limit the increase to 1.5 degrees;
- Establish binding commitments by all parties to make "nationally determined contributions" (NDCs), and to pursue domestic measures aimed at achieving them;
- Commit all countries to report regularly on their emissions and "progress made in implementing and achieving" their NDCs, and to undergo international review;
- Commit all countries to submit new NDCs every five years, with the clear expectation that they will "represent a progression" beyond previous ones;
- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too;
- Extend the current goal of mobilizing $100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025;
- Extend a mechanism to address "loss and damage" resulting from climate change, which explicitly will not "involve or provide a basis for any liability or compensation;"
- Require parties engaging in international emissions trading to avoid "double counting;" and
- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country's NDC (C2ES 2015a).

On June 1, 2017, President Trump announced the decision for the United States to withdraw from the Paris Climate Accord (White House 2017). The earliest possible effective withdrawal date by the United States cannot be before November 4, 2020. California remains committed to combating climate change through programs designed to reduce GHGs.

3.3.2 - Federal Regulations

Prior to the last decade, there were no concrete federal regulations of GHGs or major planning for climate change adaptation. Since then, federal activity has increased. The following are actions regarding the federal government, GHGs, and fuel efficiency.

Greenhouse Gas Endangerment. *Massachusetts v. EPA* (Supreme Court Case 05-1120) was argued before the United States Supreme Court on November 29, 2006, in which it was petitioned that the EPA regulate four GHGs, including carbon dioxide, under Section 202(a)(1) of the Clean Air Act. A decision was made on April 2, 2007, in which the Supreme Court found that GHGs are air pollutants covered by the Clean Air Act. The Court held that the Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section "Clean Vehicles" below. After a lengthy legal challenge, the United States Supreme Court declined to review an Appeals Court ruling upholding the EPA Administrator findings (EPA 2009c).

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Safety Administration announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, equivalent to 35.5 miles per gallon; that is, if the automobile industry were to meet this CO_2 level solely through fuel economy improvements. Together, these standards would cut CO_2 emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the National Highway Safety Administration issued final rules on a second-phase joint rulemaking, establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012 (EPA 2012b). The new standards for model years

2017 through 2025 apply to passenger cars, light-duty trucks, and medium duty passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO_2 in model year 2025, which is equivalent to 54.5 miles per gallon if achieved exclusively through fuel economy improvements.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses on September 15, 2011, which became effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that began in the 2014 model year and achieve up to a 20-percent reduction in CO_2 emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10-percent reduction for gasoline vehicles, and a 15-percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10-percent reduction in fuel consumption and CO_2 emissions from the 2014 to 2018 model years.

Mandatory Reporting of Greenhouse Gases. The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the United States, and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to the EPA.

New Source Review. The EPA issued a final rule on May 13, 2010 that establishes thresholds for GHGs, which will define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these Clean Air Act permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the federal code of regulations, the EPA states:

> This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the Clean Air Act, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to greenhouse gas sources, starting with the largest greenhouse gas emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources, but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for greenhouse gas emissions until at least April 30, 2016.

The EPA estimates that facilities responsible for nearly 70 percent of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities.

Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units. As required by a settlement agreement, the EPA proposed new performance standards for emissions of carbon dioxide for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts would be required to meet an output based standard of 1,000 pounds of carbon dioxide per megawatt-hour, based on the performance of widely used natural gas combined cycle technology. President Trump signed the Executive Order on Energy Independence (E.O. 13783), which calls for a review of the Clean Power Plan. On October 16, 2017, the EPA issued the proposed rule Repeal of Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units an Energy Independence (EPA 2017).

Cap-and-Trade. Cap-and-Trade refers to a policy tool where emissions are limited to a certain amount and can be traded, or provides flexibility on how the emitter can comply. There is no federal GHG Cap-and-Trade program currently; however, some states have joined to create initiatives to provide a mechanism for Cap-and-Trade.

The Regional Greenhouse Gas Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps carbon dioxide emissions from power plants, auctions carbon dioxide emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008.

The Western Climate Initiative partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15 percent below 2005 levels by 2020. The partners are California, British Columbia, Manitoba, Ontario, and Quebec. Currently only California and Quebec are participating in the Cap-and-Trade program (C2ES 2015).

3.3.3 - California

Legislative Actions to Reduce GHGs

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation such as the landmark AB 32 California Global Warming Solutions Act of 2006 was specifically enacted to address GHG emissions. Other legislation such as Title 24 and Title 20 energy standards were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

AB 32. The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include carbon dioxide, methane, NO_X, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Since AB 32 was enacted, a seventh

chemical, nitrogen trifluoride, has also been added to the list of GHGs. The ARB is the state agency charged with monitoring and regulating sources of GHGs. AB 32 states the following:

> Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

The ARB approved the 1990 GHG emissions level of 427 $MMTCO_2e$ on December 6, 2007 (ARB 2007). Therefore, to meet the State's target, emissions generated in California in 2020 are required to be equal to or less than 427 $MMTCO_2e$. Emissions in 2020 in a BAU scenario were estimated to be 596 $MMTCO_2e$, which do not account for reductions from AB 32 regulations (ARB 2008a). At that rate, a 28 percent reduction was required to achieve the 427 $MMTCO_2e$ 1990 inventory. In October 2010, ARB prepared an updated 2020 forecast to account for the effects of the 2008 recession and slower forecasted growth. The 2020 inventory without the benefits of adopted regulation is now estimated at 545 $MMTCO_2e$. Therefore, under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels (ARB 2010a).

Progress in Achieving AB 32 Targets and Remaining Reductions Required

The State has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. The progress is evident in updated emission inventories prepared by ARB, which showed that the State inventory dropped below 1990 levels for the first time in 2016 (ARB 2018b). The 2017 Scoping Plan Update includes projections indicating that the State will meet or exceed the 2020 target with adopted regulations (ARB 2017c).

ARB 2008 Scoping Plan. The ARB's Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 to comply with AB 32 (ARB 2008). The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets;

- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. Capped strategies are subject to the proposed Cap-and-Trade program. The Scoping Plan states that the inclusion of these emissions within the Cap-and-Trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. Uncapped strategies that will not be subject to the Cap-and-Trade emissions caps and requirements are provided as a margin of safety by accounting for additional GHG emission reductions (ARB 2008).

Cap-and-Trade Program. The Cap-and-Trade Program is a key element of the Scoping Plan. It sets a statewide limit on sources responsible for 85 percent of California's GHG emissions, and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The program is designed to provide covered entities the flexibility to seek out and implement the lowest cost options to reduce emissions. The program conducted its first auction in November 2012. Compliance obligations began for power plants and large industrial sources in January 2013. Other significant milestones include linkage to Quebec's Cap-and-Trade system in January 2014 and starting the compliance obligation for distributors of transportation fuels, natural gas, and other fuels in January 2015 (ARB 2015d).

The Cap-and-Trade Program provides a firm cap, ensuring that the 2020 statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are guaranteed only on an accumulative basis. As summarized by ARB in the First Update:

> The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative (ARB 2014b).

The Cap-and-Trade Program works with other direct regulatory measures and provides an economic incentive to reduce emissions. If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. Thus, the Cap-and-Trade Program assures that California will meet its 2020 GHG emissions reduction mandate:

> The Cap-and-Trade Program establishes an overall limit on GHG emissions from most of the California economy—the "capped sectors." Within the capped sectors, some of the reductions are being accomplished through direct regulations, such as improved building and appliance efficiency standards, the [Low Carbon Fuel Standard] LCFS, and the 33 percent [Renewables Portfolio Standard] RPS. Whatever additional reductions are needed to bring emissions within the cap is accomplished through price incentives posed by emissions allowance prices. Together, direct regulation and price incentives assure that emissions are brought down cost-effectively to the level of the overall cap. The Cap-and-Trade Regulation provides assurance that California's 2020 limit will be met because the regulation sets a firm limit on 85 percent of California's GHG emissions. In sum, the Cap-and-Trade Program will achieve aggregate, rather than site specific or project-level, GHG emissions reductions. Also, due to the regulatory architecture adopted by ARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State's emissions forecasts and the effectiveness of direct regulatory measures (ARB 2014b).

AB 398. The Governor signed AB 398 on July 25, 2017 to extend the Cap-and-Trade Program to 2030. The legislation includes provisions to ensure that offsets used by sources are limited to 4 percent of their compliance obligation from 2021 through 2025 and 6 percent from 2026 through 2030. AB 398 also prevents Air Districts from adopting or implementing emission reduction rules from stationary sources that are also subject to the Cap-and-Trade Program (CAR 2017).

SB 32. The Governor signed SB 32 on September 8, 2016. SB 32 now gives ARB the statutory responsibility to include the 2030 target previously contained in Executive Order B-30-15 in the 2017 Scoping Plan Update. SB 32 states that "In adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by this division, the state [air resources] board shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030." The 2017 Climate Change Scoping Plan Update addressing the SB 32 targets was adopted on December 14, 2017. The major elements of the framework proposed to achieve the 2030 target are as follows:

1. SB 350
   - Achieve 50 percent Renewables Portfolio Standard (RPS) by 2030.
   - Doubling of energy efficiency savings by 2030.
2. Low Carbon Fuel Standard (LCFS)
   - Increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020).

3. Mobile Source Strategy (Cleaner Technology and Fuels Scenario)
   - Maintaining existing GHG standards for light- and heavy-duty vehicles.
   - Put 4.2 million zero-emission vehicles (ZEVs) on the roads.
   - Increase ZEV buses, delivery and other trucks.
4. Sustainable Freight Action Plan
   - Improve freight system efficiency.
   - Maximize use of near-zero emission vehicles and equipment powered by renewable energy.
   - Deploy over 100,000 zero-emission trucks and equipment by 2030.
5. Short-Lived Climate Pollutant (SLCP) Reduction Strategy
   - Reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030.
   - Reduce emissions of black carbon 50 percent below 2013 levels by 2030.
6. SB 375 Sustainable Communities Strategies
   - Increased stringency of 2035 targets.
7. Post-2020 Cap-and-Trade Program
   - Declining caps, continued linkage with Québec, and linkage to Ontario, Canada.
   - ARB will look for opportunities to strengthen the program to support more air quality co-benefits, including specific program design elements. In Fall 2016, ARB staff described potential future amendments including reducing the offset usage limit, redesigning the allocation strategy to reduce free allocation to support increased technology and energy investment at covered entities and reducing allocation if the covered entity increases criteria or toxics emissions over some baseline.
8. 20 percent reduction in greenhouse gas emissions from the refinery sector.
9. By 2018, develop Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink (ARB 2017c).

SB 375—The Sustainable Communities and Climate Protection Act of 2008. SB 375 was signed into law on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40 percent of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Concerning CEQA, SB 375—as codified in Public Resources Code Section 21159.28—states that CEQA findings determinations for certain projects are not required to reference, describe, or discuss (1) growth-inducing impacts or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network if the project:

1. Is in an area with an approved Sustainable Communities Strategy or an alternative planning strategy that the ARB accepts as achieving the greenhouse gas emission reduction targets;
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies); and
3. Incorporates the mitigation measures required by an applicable prior environmental document.

The ARB has prepared the Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets. The update includes an increase in the 2035 target for Fresno County from 10 percent to 13 percent (ARB 2017c).

AB 1493 Pavley Regulations and Fuel Efficiency Standards. California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the by the U.S. District Court for the District of Columbia in 2011 (ARB 2013d).

The standards were phased in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards resulted in an approximately 22 percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards resulted in about a 30 percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation, rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant (ARB 2013e).

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The rules will reduce pollutants from gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles, and hydrogen fuel cell cars. The regulations will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California (ARB 2017e).

SB 1368—Emission Performance Standards. In 2006, the State Legislature adopted SB 1368, which was subsequently signed into law by the governor. SB 1368 directs the California Public Utilities Commission to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard

because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. The California Public Utilities Commission adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 lbs. CO_2 per megawatt-hour (MWh).

SB 1078—Renewable Electricity Standards. On September 12, 2002, Governor Gray Davis signed SB 1078, requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger also directed the ARB (Executive Order S-21-09) to adopt a regulation by July 31, 2010, requiring the State's load serving entities to meet a 33 percent renewable energy target by 2020 The ARB approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23. In 2011, the state legislature adopted this higher standard in SB X1-2. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas.

SB 350—Clean Energy and Pollution Reduction Act of 2015. The legislature approved and the governor then signed SB 350 on October 7, 2015, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Provisions for a 50 percent reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 25 percent by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electricity transmission markets and improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States (California Leginfo 2015).

SB 100—California Renewables Portfolio Standard Program. The Governor approved SB 100 on September 10, 2018. The legislation revised the Renewable Portfolio Standard goals to achieve the 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. The bill would require that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030 (California Leginfo 2018).

SBX 7-7—The Water Conservation Act of 2009. The legislation directs urban retail water suppliers to set individual 2020 per capita water use targets and begin implementing conservation measures to achieve those goals. Meeting this statewide goal of 20 percent decrease in demand will result in a reduction of almost 2 million acre-feet in urban water use in 2020.

Executive Orders Related to GHG Emissions

California's Executive Branch has taken several actions to reduce GHGs through the use of executive orders. Although not regulatory, they set the tone for the State and guide the actions of state agencies.

Executive Order S-3-05. On June 1, 2005, former California Governor Arnold Schwarzenegger announced through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce greenhouse gas emissions to 2000 levels.
- By 2020, reduce greenhouse gas emissions to 1990 levels.
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Executive Order B-30-15. On April 29, 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order aligns California's GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The executive order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050, and directs the ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of $MMTCO_2e$. The executive order also requires the State's climate adaptation plan to be updated every three years and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this executive order is not legally enforceable against local governments and the private sector. Legislation that would update AB 32 to provide post-2020 targets was signed by the Governor in 2016. SB 32 includes a 2030 mandate matching the requirements of the Executive Order.

Executive Order S-01-07—Low Carbon Fuel Standard. The governor signed Executive Order S 01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the executive order established a Low Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, the ARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by California Energy Commission on December 24, 2007) and was submitted to ARB for consideration as an "early action" item under AB 32. The ARB adopted the Low Carbon Fuel Standard on April 23, 2009.

The Low Carbon Fuel Standard was subject to legal challenge in 2011. Ultimately, ARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. The Office of Administrative Law (OAL) approved the regulation on November 16, 2015 (ARB 2015e).

Executive Order S-13-08. Executive Order S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy (California Natural Resources Agency 2009) was adopted, which is the ". . . first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order B-55-18. Executive Order B-55-18 issued by Governor Brown on September 10, 2018 establishes a new statewide goal to achieve carbon neutrality as soon as possible, but no later than 2045, and achieve and maintain net negative emissions thereafter. The executive order directs ARB to work with relevant state agencies to develop a framework for implementation and accounting that tracks progress toward this goal (Brown 2018).

California Regulations and Building Codes

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

Title 20 Appliance Efficiency Regulations. California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4, Sections 1601–1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. Twenty-three categories of appliances are included in the scope of these regulations including lighting, air conditioning, and most home appliances. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the State and those designed and sold exclusively for use in recreational vehicles or other mobile equipment (CEC 2018a).

Title 24 Energy Efficiency Standards. California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The most current

2016 Building Energy Efficiency Standards went into effect on January 1, 2017 (CEC 2016). The 2019 Building Energy Efficiency Standards are scheduled to go into effect on January 1, 2020 (CEC 2018b).

Title 24 California Green Building Standards Code (California Code of Regulations Title 24, Part 11 code) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect January 1, 2011. The code is updated on a regular basis, with the most recent update consisting of the 2016 California Green Building Code Standards that became effective January 1, 2017. Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they provide a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in order to be certified for occupancy, which is generally enforced by the local building official.

The California Green Building Standards Code (California Code of Regulations Title 24, Part 11 code) requires:

- **Short-term bicycle parking.** If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for five percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- **Long-term bicycle parking.** For buildings with over 10 tenant-occupants, provide secure bicycle parking for five percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (5.106.4.1.2).
- **Designated parking.** Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- **Recycling by Occupants.** Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of nonhazardous materials for recycling. (5.410.1).
- **Construction waste.** A minimum 50-percent diversion of construction and demolition waste from landfills, increasing voluntarily to 65 and 80 percent for new homes and 80-percent for commercial projects. (5.408.1, A5.408.3.1 [nonresidential], A5.408.3.1 [residential]). All (100 percent) of trees, stumps, rocks and associated vegetation and soils resulting from land clearing shall be reused or recycled (5.408.3).
- **Wastewater reduction.** Each building shall reduce the generation of wastewater by one of the following methods:
  1. The installation of water-conserving fixtures or
  2. Using nonpotable water systems (5.303.4).
- **Water use savings.** Twenty percent mandatory reduction in indoor water use with voluntary goal standards for 30, 35, and 40 percent reductions (5.303.2, A5303.2.3 [nonresidential]).

- **Water meters.** Separate water meters for buildings in excess of 50,000 square feet or buildings projected to consume more than 1,000 gallons per day (5.303.1).
- **Irrigation efficiency.** Moisture-sensing irrigation systems for larger landscaped areas (5.304.3).
- **Materials pollution control.** Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard (5.404).
- **Building commissioning.** Mandatory inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies (5.410.2).

Model Water Efficient Landscape Ordinance. The Model Water Efficient Landscape Ordinance (Ordinance) was required by AB 1881 Water Conservation Act. The bill required local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Model Ordinance by January 1, 2010. Reductions in water use of 20 percent consistent with (SBX-7-7) 2020 mandate are expected for the ordinance. Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed DWR to update the ordinance through expedited regulation. The California Water Commission approved the revised ordinance on July 15, 2015, which became effective on December 15, 2015. New development projects that include landscaped areas of 500 square feet or more are subject to the ordinance. The update requires:

- More efficient irrigation systems
- Incentives for graywater usage
- Improvements in on-site stormwater capture
- Limiting the portion of landscapes that can be planted with high water use plants
- Reporting requirements for local agencies.

SB 97 and the CEQA Guidelines Update. Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states: "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a)."

Section 21097 was also added to the Public Resources Code. This provided an exemption until January 1, 2010 for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006—in stating that the failure to analyze adequately the effects of GHGs would not violate CEQA. The Natural Resources Agency completed the approval process and the Amendments became effective on March 18, 2010. The Natural Resources Agency adopted additional amendments related to greenhouse gases in the 2019 CEQA Guidelines Update adopted on December 28, 2018.

The 2010 CEQA Amendments along with the 2018 CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

Section 15064.4(b) of the CEQA Guidelines provides direction for lead agencies for assessing the significance of impacts of GHG emissions:

- The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; or
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

Section 15064.4(c) states that a lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.

The 2018 CEQA Guidelines include the following discussion regarding thresholds of significance.

> (d) Using environmental standards as thresholds of significance promotes consistency in significance determinations and integrates environmental review with other environmental program planning and regulation. Any public agency may adopt or use an environmental standard as a threshold of significance. In adopting or using an environmental standard as a threshold of significance, a public agency shall explain how the particular requirements of that environmental standard reduce project impacts, including cumulative impacts, to a level that is less than significant, and why the environmental standard is relevant to the analysis of the project under consideration. For the purposes of this subdivision, an "environmental standard" is a rule of general application that is adopted by a public agency through a public review process and that is all of the following:

(1) a quantitative, qualitative or performance requirement found in an ordinance, resolution, rule, regulation, order, plan or other environmental requirement;
(2) adopted for the purpose of environmental protection;
(3) addresses the environmental effect caused by the project; and,
(4) applies to the project under review.

In addition, the 2018 amendments revised Appendix G Checklist questions to include a new question specifically on energy conservation.

CEQA emphasizes that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis (see CEQA Guidelines Section 15130(f)).

California Supreme Court GHG Ruling

A November 30, 2015 ruling, the *California Supreme Court in Center for Biological Diversity (CBD) v. California Department of Fish and Wildlife (CDFW)* on the Newhall Ranch project, concluded that whether the project was consistent with meeting statewide emission reduction goals is a legally permissible criterion of significance, but the significance finding for the project was not supported by a reasoned explanation based on substantial evidence. The Court offered potential solutions on pages 25 to 27 of the ruling to address this issue summarized below.

Specifically, the Court advised that:

- **Substantiation of Project Reductions from BAU.** A lead agency may use a BAU comparison based on the Scoping Plan's methodology if it also substantiates the reduction a particular project must achieve to comply with statewide goals. The Court suggested a lead agency could examine the "data behind the Scoping Plan's business-as-usual model" to determine the necessary project-level reductions from new land use development at the proposed location (p. 25).
- **Compliance with Regulatory Programs or Performance Based Standards.** "A lead agency might assess consistency with A.B. 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities. (See Final Statement of Reasons, supra, at p. 64 [greenhouse gas emissions 'may be best analyzed and mitigated at a programmatic level.'].) To the extent a project's design features comply with or exceed the regulations outlined in the Scoping Plan and adopted by the Air Resources Board or other state agencies, a lead agency could appropriately rely on their use as showing compliance with 'performance based standards' adopted to fulfill 'a statewide . . . plan for the reduction or mitigation of greenhouse gas emissions.' (CEQA Guidelines § 15064.4(a)(2), (b)(3); see also id., § 15064(h)(3) [determination that impact is not cumulatively considerable may rest on compliance with previously adopted plans or regulations, including 'plans or regulations for the reduction of greenhouse gas emissions'].)" (p. 26).
- **Compliance with GHG Reduction Plans or Climate Action Plans (CAPs).** A lead agency may utilize "geographically specific GHG emission reduction plans" such as climate action plans or greenhouse gas emission reduction plans to provide a basis for the tiering or streamlining of project-level CEQA analysis (p. 26).

- **Compliance with Local Air District Thresholds.** A lead agency may rely on "existing numerical thresholds of significance for greenhouse gas emissions" adopted by, for example, local air districts (p. 27).

Therefore, consistent with CEQA Guidelines Appendix G, the three factors identified in CEQA Guidelines Section 15064.4 and the recently issued Newhall Ranch opinion, the GHG impacts would be considered significant if the project would:

- Conflict with a compliant GHG Reduction Plan if adopted by the lead agency;
- Exceed the SJVAPCD GHG Reduction Threshold; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs.

3.3.4 - San Joaquin Valley Air Pollution Control District

Climate Change Action Plan

On August 21, 2008, the SJVAPCD Governing Board approved a proposal called the Climate Change Action Plan (CCAP). The CCAP began with a public process bringing together stakeholders, land use agencies, environmental groups, and business groups to conduct public workshops to develop comprehensive policies for CEQA guidelines, a carbon exchange bank, and voluntary GHG emissions mitigation agreements for the Board's consideration. The CCAP contains the following goals and actions:

- Develop GHG significance thresholds to address CEQA projects with GHG emission increases.
- Develop the San Joaquin Valley Carbon Exchange for banking and trading GHG reductions.
- Authorize use of the SJVAPCD's existing inventory reporting system to allow use for GHG reporting required by AB 32 regulations.
- Develop and administer GHG reduction agreements to mitigate proposed emission increases from new projects.
- Support climate protection measures that reduce greenhouse gas emissions as well as toxic and criteria pollutants. Oppose measures that result in a significant increase in toxic or criteria pollutant emissions in already impacted areas.

On December 17, 2009, the SJVAPCD Governing Board adopted "Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA," and the policy "District Policy—Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency." The SJVAPCD concluded that the existing science is inadequate to support quantification of the impacts that project-specific GHG emissions have on global climatic change. The SJVAPCD found the effects of project-specific emissions to be cumulative, and without mitigation, their incremental contribution to global climatic change could be considered cumulatively considerable. The SJVAPCD found that this cumulative impact is best addressed by requiring all projects to reduce their GHG emissions, whether through project design elements or mitigation.

The SJVAPCD's approach is intended to streamline the process of determining if project-specific GHG emissions would have a significant effect. Projects exempt from the requirements of CEQA, and projects complying with an approved plan or mitigation program would be determined to have a less than significant cumulative impact. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources, and must have a certified final CEQA document.

For non-exempt projects, those projects for which there is no applicable approved plan or program, or those projects not complying with an approved plan or program, the lead agency must evaluate the project against performance-based standards and would require the adoption of design elements, known as a Best Performance Standard, to reduce GHG emissions. The Best Performance Standards (BPS) have not yet fully been established, though they must be designed to achieve a 29 percent reduction when compared with the BAU projections identified in ARB's AB 32 Scoping Plan.

BAU represents the emissions that would occur in 2020 if the average baseline emissions during the 2002–2004 period were grown to 2020 levels, without control. Thus, these standards would carry with them pre-quantified emissions reductions, eliminating the need for project-specific quantification. Therefore, projects incorporating BPS would not require specific quantification of GHG emissions, and automatically would be determined to have a less than significant cumulative impact for GHG emissions.

For stationary source permitting projects, BPS means, "The most stringent of the identified alternatives for control of GHG emissions, including type of equipment, design of equipment and operational and maintenance practices, which are achieved-in-practice for the identified service, operation, or emissions unit class." The SJVAPCD has identified BPS for the following sources: boilers; dryers and dehydrators; oil and gas extraction; storage, transportation, and refining operations; cogeneration; gasoline dispensing facilities; volatile organic compound control technology; and steam generators.

For development projects, BPS means, "Any combination of identified GHG emission reduction measures, including project design elements and land use decisions that reduce project-specific GHG emission reductions by at least 29 percent compared with business as usual."

Projects not incorporating BPS would require quantification of GHG emissions and demonstration that BAU GHG emissions have been reduced or mitigated by 29 percent. As stated earlier, ARB's adjusted inventory reduced the amount required by the State to achieve 1990 emission levels from 29 percent to 21.7 percent to account for slower growth experienced since the 2008 recession. According to SJVAPCD guidance, quantification of GHG emissions would be required for all projects for which the lead agency has determined that an environmental impact report is required, regardless of whether the project incorporates BPS. The SJVAPCD has not yet adopted BPS for development projects, so quantification of project emissions is required.

San Joaquin Valley Carbon Exchange

The SJVAPCD initiated work on the San Joaquin Valley Carbon Exchange in November 2008. The purpose of the carbon exchange is to quantify, verify, and track voluntary GHG emissions reductions generated within the San Joaquin Valley. However, the SJVAPCD has pursued an alternative strategy

that incorporates the GHG emissions into its existing Rule 2301—Emission Reduction Credit Offset Banking that formerly only addressed criteria pollutants. The SJVAPCD is also participating with the California Air Pollution Control Officers Association (CAPCOA), of which it is a member, in the CAPCOA Greenhouse Gas Reduction Exchange (GHG Rx). The GHG Rx is operated cooperatively by air districts that have elected to participate. Participating districts have signed a Memorandum of Understanding (MOU) with CAPCOA and agree to post only those credits that meet the Rx standards for quality. The objective is to provide a secure, low-cost, high-quality greenhouse gas exchange for credits created in California. The GHG Rx is intended to help fulfill compliance obligations or mitigation needs of local projects subject to environmental review, reducing the uncertainty of using credits generated in distant locations. The SJVAPCD currently has no credits posted to the GHG Rx website as of this writing (CAPCOA 2018).

Rule 2301

While the Climate Change Action Plan indicated that the GHG emission reduction program would be called the San Joaquin Valley Carbon Exchange, the District incorporated a method to register voluntary GHG emission reductions into its existing Rule 2301—Emission Reduction Credit Banking through amendments of the rule. Amendments to the rule were adopted on January 19, 2012. The purposes of the amendments to the rule include the following:

- Provide an administrative mechanism for sources to bank voluntary GHG emission reductions for later use.
- Provide an administrative mechanism for sources to transfer banked GHG emission reductions to others for any use.
- Define eligibility standards, quantitative procedures, and administrative practices to ensure that banked GHG emission reductions are real, permanent, quantifiable, surplus, and enforceable.

Fresno Council of Governments

Regional Transportation Plan

The Fresno Council of Governments (Fresno COG) is the Regional Transportation Planning Agency (RTPA) for the Fresno County region. The Fresno COG adopted the 2014 Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS) that included the County's first Sustainable Community Strategy to comply with SB 375. The RTP is a planning document prepared in cooperation with the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), the California Department of Transportation (Caltrans), and other stakeholders, including transportation system users. The SCS is intended to show how integrated land use and transportation planning can lead to lower greenhouse gas (GHG) emissions from autos and light trucks. SB 375 includes the following four primary findings related to the RTP/SCS development process:

- SB 375 required the ARB to develop regional GHG emission reduction targets for cars and light trucks for each of the 18 MPOs in California, including Fresno COG. ARB approved targets for the San Joaquin Valley in January 2013. The target for Fresno is a per capita reduction in GHG emissions from passenger vehicle travel of five percent by 2020 and 10 percent by 2035

relative to 2005 levels. The 2018 RTP indicates that the County continues to pursue the 5 percent reduction by 2020 and 10 percent reduction by 2035 (Fresno COG 2018).

- SB 375 required the preparation of an SCS. Fresno COG included a SCS that specifies how the GHG emission reduction target set by ARB will be achieved in the RTP. If the target cannot be met through the SCS, then an Alternative Planning Strategy (APS) shall be prepared by Fresno COG. Chapter 4 of the 2014 RTP includes the SCS for Fresno COG. Chapter 3 of the 2018 RTP includes the updated SCS.
- SB 375 streamlines CEQA requirements for specific residential and mixed-use developments that are consistent with the Fresno County SCS or APS (as determined by ARB) to achieve regional GHG emissions reduction target.

The 2018 RTP/SCS was adopted by Fresno COG on July 26, 2018 and reflects its latest per capita GHG reduction targets of 5 percent by 2020, 10 percent by 2035, and 12 percent by 2042 (Fresno COG 2018).

3.3.5 - Local

The City of Fresno included a Greenhouse Gas Reduction Plan as part of the General Plan Update that includes strategies that would help reduce GHG emissions associated with development projects. The GHG Reduction Plan used the General Plan as the basis for its land use and transportation related policies to reduce GHG emissions.

City of Fresno General Plan

The City of Fresno General Plan includes numerous objectives and policies in the Urban Form, Land Use, Design, Transportation, Park and Open Space, and Resource Conservation Elements. A list of the relevant policies was compiled in the Greenhouse Gas Reduction Plan and is provided in Appendix A. A qualitative policy consistency analysis of relevant General Plan policies is included in the Greenhouse Gas section.

City of Fresno General Plan Master Environmental Impact Report (MEIR)

The General Plan MEIR relies on General Plan goals and policies to mitigate GHG emissions to the extent feasible. The policies are similar to the strategies and actions included in plan. The following policies are applicable to the project:

- **RC-5-a Support State Goal to Reduce Statewide GHG Emissions.** As is consistent with State law, strive to meet AB 32 goal to reduce greenhouse gas emissions to 1990 levels by 2020 and strive to meet a reduction of 80 percent below 1990 levels by 2050 as stated in Executive Order S-03-05. As new statewide GHG reduction targets and dates are set by the State update the City's Greenhouse Gas Reduction Plan to include a comprehensive strategy to achieve consistency with those targets by the dates established.
- **RC-5-c GHG Reduction through Design and Operations.** Increase efforts to incorporate requirements for GHG emission reductions in land use entitlement decisions, facility design, and operational measures subject to City regulation through the following measures and strategies:

  - Promote the expansion of incentive-based programs that involve certification of projects for energy and water efficiency and resiliency. These certification programs and scoring systems may include public agency "Green" and conservation criteria, Energy Star™ certification, CALGreen Tier 1 or Tier 2, Leadership in Energy Efficient Design (LEED™) certification, etc.
  - Promote appropriate energy and water conservation standards and facilitate mixed-use projects, new incentives for infill development, and the incorporation of mass transit, bicycle and pedestrian amenities into public and private projects.
- **RC-5-d SCS and CAP Conformity Analysis.** Ensure that the City includes analysis of a project's conformity to an adopted regional Sustainable Community Strategy or Alternative Planning Strategy (APS), an adopted Climate Action Plan (CAP), and any other applicable City and regional greenhouse gas reduction strategies in affect at the time of project review.
- **RC-5-e Ensure Compliance.** Ensure ongoing compliance with GHG emissions reduction plans and programs by requiring that air quality measures are incorporated into projects' design, conditions of approval, and mitigation measures.
- **RC-5-g Evaluate Impacts with Models.** Continue to use computer models such as those used by SJVAPCD to evaluate greenhouse gas impacts of plans and projects that require such review (City of Fresno 2014c).

Greenhouse Gas Reduction Plan

The General Plan Update includes a Greenhouse Gas Reduction Plan (GHG Plan) that provides the City's primary strategy for reductions greenhouse gas emissions. The intent of the GHG Plan is to achieve compliance with state GHG reduction mandates by focusing on feasible actions the City can take to minimize the adverse impacts of growth and development on climate change. The GHG Plan does not reinvent the wheel; rather, it builds on the General Plan policies and implementation measures. Where needed, the GHG Plan provides more details to clarify and focus action and to ensure implementation (Fresno 2014b).

The GHG Plan shows that the City will achieve a reduction of 26.8 percent from BAU by 2020 through compliance with regulations only, which exceeds the 21.7 percent required to show consistency with AB 32 targets. The local measures contained in the GHG Plan were expected to achieve an additional 3.0 percent reduction from BAU for a total reduction of 29.8 percent from BAU by 2020.

The GHG Plan includes criteria that would allow projects to qualify for permit streamlining provisions and incentives and would receive a less than significant finding for GHG impacts. The checklist is intended as an incentive program and is not feasible for all projects. Projects that meet the Fresno Green Checklist point totals receive the following incentives:

- 25 percent fee reductions of many planning fees (Site Plans, CUPs, EAs, etc.)
- 20 percent minor deviation from development standards, if needed (25% if public art is incorporated into the project)
- Expedited processing through the "Green Team"
- Eligibility for a Fresno Green award and use of the Fresno Green brand for the project

In addition, projects that meet the criteria listed below do not need a quantitative greenhouse gas analysis in some cases. Projects that comply with the four actions listed below would not need to prepare a quantitative GHG analysis to demonstrate consistency with the GHG Plan and to be considered to have less than significant impacts. Projects requiring a General Plan Amendment would require a quantitative analysis of GHG emissions to demonstrate that the project would achieve at least a 21.7 percent GHG emission reduction compared to business as usual (BAU) in 2020 to be considered less than significant.

The GHG Plan includes the following guidance for determining project consistency with the GHG Plan:

1. Review General Plan Policies listed in the GHG Plan to determine applicability to the project.
2. Incorporate design features or mitigation measures into the project as needed to demonstrate consistency.
    a. Street and pedestrian design complies with complete streets concepts.
    b. Review project against Development Code for mandatory design features required for the project.
    c. Consider alternative energy generation (solar) if appropriate for the project and site. (The State is working towards zero net energy development that will require increasing efficiency and self-generation over time).
    d. Review water conservation building and landscape design features for compliance with City water conservation standards.
3. Implement project design features suitable for the development type and location.
    a. Projects within core/center areas and BRT corridors should meet minimum density and design requirements to ensure pedestrian and transit orientation is met.
    b. Maintain and enhance connections to regional bikeways and trail system.
4. Complete the latest version of the Fresno Green Residential or Non-Residential Checklist
    a. Meet the Fresno Green checklist point requirements.
    b. Alternatively, meet the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Programs, or qualify for Build It Green's GreenPoint rating system for residential building.

Many of the points available on the Fresno Green Checklist and the LEED Program apply to measures not related to greenhouse gas emissions or are specific to certain areas of the City such as redevelopment areas. Projects that do not choose to pursue the Fresno Green streamlining benefits may prepare a quantitative analysis to demonstrate that the project achieves emission reductions consistent with the GHG Plan and AB 32 reduction targets (21.7 percent reduction from BAU in 2020). This project has provided a quantitative analysis of project emissions under the BAU scenario and 2020 with emission reductions scenario to demonstrate that the project would achieve the 21.7 percent reduction required to demonstrate consistency with AB 32 reduction targets and the 29 percent reduction from BAU recommended by the SJVAPCD that is based on reductions required in the AB 32 Scoping Plan. In addition, an analysis of 2030 emissions is included to address SB 32 2030 targets and compliance with the Newhall Ranch California Supreme Court ruling.

Waste Diversion

With the passage of SB 1016, the Per Capita Disposal Measurement System, only per capita disposal rates are measured. Targets are based on the per capita disposal rates. The City's disposal rate for 2017 was 4.70 pounds per person per day, which is well below the target of 6.6 pounds per person per day (CalRecycle 2019).

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SECTION 4: MODELING PARAMETERS AND ASSUMPTIONS

4.1—Model Selection and Guidance

Air pollutant emissions can be estimated by using emission factors and a level of activity. Emission factors represent the emission rate of a pollutant given the activity over time; for example, grams of NO_X per horsepower-hour or grams of NO_X per vehicle mile traveled. The ARB has published emission factors for on-road mobile vehicles/trucks in the EMission FACtors Model (EMFAC) mobile source emissions model and emission factors for off-road equipment and vehicles in the OFFROAD emissions model. An air emissions model (or calculator) combines the emission factors and the various levels of activity and outputs the emissions for the various pieces of equipment.

The California Emissions Estimator Model (CalEEMod) version 2016.3.2 was developed by the South Coast Air Quality Management District in cooperation with other air districts throughout the State. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with construction and operation from a variety of land uses.

The modeling follows District guidance where applicable from its GAMAQI. The models used in this analysis are summarized as follows:

- Construction emissions: CalEEMod, version 2016.3.2
- Operational emissions: CalEEMod, version 2016.3.2

4.2—Air Pollutants and GHGs Assessed

4.2.1 - Criteria Pollutants Assessed

The following air pollutants are assessed in this analysis:

- Reactive organic gases (ROG)
- Nitrogen oxides (NO_X)
- Carbon monoxide (CO)
- Sulfur dioxide (SO_2)
- Particulate matter less than 10 microns in diameter (PM_{10})
- Particulate matter less than 2.5 microns in diameter ($PM_{2.5}$)

Note that the project would emit ozone precursors ROG and NO_X. However, the project would not directly emit ozone, since it is formed in the atmosphere during the photochemical reaction of ozone precursors. Other criteria pollutants such as vinyl chloride, hydrogen sulfide, lead, and sulfates were not included because of their low levels of emissions from the project.

As noted previously, the project would emit ultrafine particles. However, there is currently no standard separate from the $PM_{2.5}$ standards for ultrafine particles and there is no accepted methodology to quantify or assess the significance of such particles.

4.2.2 - Greenhouse Gases Assessed

This analysis is restricted to GHGs identified by AB 32, which include: carbon dioxide, methane, NO_X, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The project would generate a variety of GHGs, including several defined by AB 32 such as carbon dioxide, methane, and NO_X.

The project may emit GHGs that are not defined by AB 32. For example, the project may generate aerosols through emissions of DPM from the vehicles and trucks that would access the project site. Aerosols are short-lived particles, as they remain in the atmosphere for about one week. Black carbon is a component of aerosol. Studies have indicated that black carbon has a high global warming potential; however, the Intergovernmental Panel on Climate Change states that it has a low level of scientific certainty (IPCC 2007a).

Water vapor could be emitted from evaporated water used for landscaping, but this is not a significant impact because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks rather than emissions from project-related activities.

The project would emit nitrogen oxides and volatile organic compounds, which are ozone precursors. Ozone is a GHG; however, unlike the other GHGs, ozone in the troposphere is relatively short-lived and can be reduced in the troposphere on a daily basis. Stratospheric ozone can be reduced through reactions with other pollutants.

Certain GHGs defined by AB 32 would not be emitted by the project. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, none of which would be used by the project. Therefore, it is not anticipated that the project would emit perfluorocarbons or sulfur hexafluoride.

4.3—Construction Modeling Assumptions

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from on-site and off-site activities. On-site emissions principally consist of exhaust emissions from the activity levels of heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM_{10}) from disturbed soil. Additionally, paving operations and application of architectural coatings would release VOC emissions. Off-site emissions are caused by motor vehicle exhaust from delivery vehicles, worker traffic, and road dust (PM_{10} and $PM_{2.5}$).

4.3.1 - Project Schedule

The project was assumed to begin construction activities as early as January 1, 2021 with first occupancy in 2021. The project was assumed to be completed in five phases. The first phase would include the development of Tract 6212 and Tract 6276, which contain a total of 167 lots. The remaining are was assumed to be developed in four equal phases over a period of four years with buildout completed in 2026. Actual buildout timing is subject to market conditions. The CalEEMod default schedule was modified for ground-up construction and paving to reflect the developer's estimated buildout schedule. Demolition was assumed to occur in Phase 2. Buildout is expected to be complete in 2025.

4.3.2 - Construction Equipment Emission Factors

The analysis uses CalEEMod default assumptions for the equipment used during construction except for demolition. CalEEMod default construction equipment and equipment activity are based on surveys of construction projects of various sizes conducted for development in Southern California and may overstate equipment use for larger project sites in regions outside of Southern California and should be considered highly conservative. The modeling assumptions can be reviewed in the modeling results included in Appendix A of this report. CalEEMod contains an inventory of construction equipment that incorporates estimates of the number of equipment, age, horsepower, and equipment emission, and control level or tier from which rates of emissions are developed. The CalEEMod default equipment assumptions were used in this analysis for the estimation of emissions from on-site construction equipment. CalEEMod's off-road emission factors and load factors are from the ARB OFFROAD model.

4.3.3 - Demolition

There are two homes and a barn with floor space totaling approximately 12,385 square feet as estimated using the Google Earth measurement tool. The number of demolition days were reduced to 5 to reflect the limited amount of material to be removed.

4.3.4 - Site Preparation

Site preparation involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading. During site preparation, emissions are generated from the use of diesel construction equipment. Fugitive dust is generated during soil-disturbing activities and truck loading and unloading. Default modeling assumptions were used for site preparation.

4.3.5 - Grading

During grading activities, fugitive dust can be generated from the movement of dirt on the project site. CalEEMod estimates dust from dozers moving dirt around, dust from graders or scrapers leveling the land, and loading or unloading dirt into haul trucks. Each activity is calculated differently in CalEEMod, based on the number of acres traversed by the grading equipment.

Only some pieces of equipment generate fugitive dust in CalEEMod. The CalEEMod manual identifies various equipment and the acreage disturbed in an 8-hour day:

- Crawler tractors, graders, and rubber-tired dozers: 0.5 acre per 8-hour day
- Scrapers: 1 acre per 8-hour day

Therefore, the following acres are the total quantities disturbed per day, per phase, according to the acreage disturbed quantities listed above:

- Site preparation = 1.03 acres per day
- Grading = 2.06 acres per day

Default assumptions for equipment and days of grading were used in the modeling.

4.3.6 - Building Construction, Paving, and Architectural Coatings

The analysis uses the default modeling assumptions from CalEEMod for construction equipment during building construction, paving, and application of architectural coatings. As previously discussed, the equipment hours for the building construction phases were adjusted to retain the CalEEMod default-generated horsepower hours. The coatings used for the project are required to comply with the SJVAPCD Rule 4601—Architectural Coatings. The rule required flat paints to meet a standard of 50 grams per liter (g/l) and gloss paints 100 g/l by 2012 for an average rate of 65 g/l. Most of the coatings used for residential painting are flat paints.

4.3.7 - Construction Off-site Trips

Worker trips are accounted for during the construction phases, based on 1.25 trips per piece of equipment (the CalEEMod default). The CalEEMod default worker trip length of 10.8 miles was retained. The CalEEMod default vehicle fleet (LD Mix) was used for employee trips.

Vendor trips for the building construction phase are calculated from a study performed by the Sacramento Metropolitan Air Quality Management District (SMAQMD) based on land use and size. The CalEEMod defaults for vendor trips, trip length, and vehicle fleet (Heavy Duty Truck Vehicle Fleet Mix) were used.

4.4—Operation

Operational emissions are those emissions that occur when the project is occupied by the future residents. The major sources are summarized below.

4.4.1 - Motor Vehicles

Motor vehicle emissions refer to exhaust and road dust emissions from the automobiles that would travel to and from the project residences.

Project trip generation rates were obtained from the *Institute of Transportation Engineers Trip Generation Manual, 10th Edition* for single-family dwelling units.

A pass-by trip accounts for vehicles already on the roadway network that stop at the project site as they pass-by; the pass-by trips are existing vehicle trips in the community. CalEEMod default rates of three percent pass-by trips were used in this analysis.

The vehicle fleet mix is defined as the mix of motor vehicle classes active during the operation of the project. Emission factors are assigned to the expected vehicle mix as a function of vehicle class, speed, and fuel use (gasoline and diesel-powered vehicles). The CalEEMod default vehicle fleet mix overstates the percentage of heavy-duty trucks for residential development projects; therefore, the SJVAPCD-approved Residential Fleet Mix was used for the analysis.

4.4.2 - Architectural Coatings (Painting)

Paints release VOC emissions during application and drying. The buildings in the project would be repainted on occasion. The project is required to comply with the SJVAPCD Rule 4601—Architectural Coatings. The rule required flat paints to meet a standard of 50 grams per liter (g/l) and gloss paints

100 g/l by 2012 for an average rate of 65 g/l. Most of the coatings used for residential painting are flat paints.

4.4.3 - Consumer Products

Consumer products are various solvents used in non-industrial applications, which emit VOCs during their product use. “Consumer Product” means a chemically formulated product used by household and institutional consumers, including but not limited to: detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. It does not include other paint products, furniture coatings, or architectural coatings (ARB 2011). The default emission factor developed for CalEEMod was used.

4.4.4 - Landscape Equipment

CalEEMod estimated the landscaping equipment using the default assumptions in the model.

4.4.5 - Electricity

Electricity used by the project (for lighting, etc.) would result in emissions from the power plants that would generate electricity distributed on the electrical power grid. Electricity emissions estimates are only used in the GHG analysis. CalEEMod was used to estimate these emissions from the project.

Electricity Emission Factor

The default CalEEMod emission factors for Pacific Gas & Electric (from the CEC’s year 2006 data) are as follows:

- Carbon dioxide: 641.35 pounds per megawatt hour (lbs/MWh)
- Methane: 0.029 lb/MWh
- Nitrous oxide: 0.006 lb/MWh

It is assumed that the Renewable Electricity Standards would have taken effect by 2020. The Renewable Electricity Standard requires that electricity providers include a minimum of 33 percent renewable energy in their portfolios by the year 2020. Pacific Gas & Electric provides estimates of its emission factor per megawatt hour of electricity delivered to its customers. The Pacific Gas and Electric Company (PG&E) emissions factor for 2020 for CO_2 is provided below. No projections have been made by PG&E for later years, so the rate is assumed to remain constant through 2030. The rates for methane and nitrous oxide are based on compliance with the Renewable Portfolio Standard.

- Carbon dioxide: 290 lbs/MWh
- Methane: 0.022 lb/MWh
- Nitrous oxide: 0.005 lb/MWh

4.4.6 - Electricity Consumption

CalEEMod has three categories for electricity consumption: electricity that is impacted by Title 24 regulations, non-Title 24 electricity, and lighting. The Title 24 uses are defined as the major building

envelope systems covered by California's Building Code Title 24 Part 6, such as space heating, space cooling, water heating, and ventilation. Lighting is separate since it can be both part and not part of Title 24. Since lighting is not considered as part of the building envelope energy budget, CalEEMod does not consider lighting to have any further association with Title 24 references in the program. Non-Title 24 includes everything else such as appliances and electronics. Total electricity consumption in CalEEMod is divided into the three categories. The percentage for each category is determined by using percentages derived from the CalEEMod default electricity intensity factors. The percentages are then applied to the electricity consumption to result in the values used in the analysis.

4.4.7 - Natural Gas

The project would generate emissions from the combustion of natural gas for water heaters, heat, etc. CalEEMod has two categories for natural gas consumption: Title 24 and non-Title 24. CalEEMod defaults were used.

4.4.8 - Water and Wastewater

GHG emissions are emitted from the use of electricity to pump water to the project and to treat wastewater. CalEEMod defaults were used.

4.4.9 - Refrigerants

During operation, air conditioners and refrigeration systems may leak refrigerants (hydrofluorocarbons). Hydrofluorocarbons are typically used for refrigerants, which are long-lived GHGs. Residential uses of refrigerants are minor; therefore, they were not estimated.

4.4.10 - Solid Waste

GHG emissions would be generated from the decomposition of solid waste generated by the project. CalEEMod was used to estimate the GHG emissions from this source. The CalEEMod default for the mix of landfill types is as follows:

- Landfill no gas capture: 6%
- Landfill capture gas flare: 94%
- Landfill capture gas energy recovery: 0%

4.4.11 - Vegetation

There is currently limited carbon sequestration occurring on-site from existing vegetation. The project would plant trees and integrate landscaping into the project design, which would provide carbon sequestration. However, the number of trees to be planted is unknown and data are insufficient to accurately determine the impact that existing plants have on carbon sequestration. For this analysis, it was assumed that the loss and addition of carbon sequestration that are due to the project would be balanced; therefore, emissions due to carbon sequestration were not included.

SECTION 5: AIR QUALITY IMPACT ANALYSIS

This section calculates the expected emissions from construction and operation of the project as a necessary requisite for assessing the regulatory significance of project emissions on a regional and localized level.

5.1—CEQA Guidelines

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on air quality, the type, level, and impact of emissions generated by the project must be evaluated.

The following air quality significance thresholds are contained in Appendix G of the CEQA Guidelines effective December 28, 2018. A significant impact would occur if the project would:

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

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard;

c) Expose sensitive receptors to substantial pollutant concentrations; or

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

While the final determination of whether a project is significant is within the purview of the lead agency pursuant to Section 15064(b) of the CEQA Guidelines, the District recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the lead agency finds that the project has the potential to exceed these air pollution thresholds, the project should be considered to have significant air quality impacts. The applicable District thresholds and methodologies are contained under each impact statement below.

5.2—Impact Analysis

5.2.1 - Consistency with Air Quality Plan

Impact AIR-1: The project would not conflict with or obstruct implementation of the applicable air quality plan.

Impact Analysis

The CEQA Guidelines indicate that a significant impact would occur if the project would conflict with or obstruct implementation of the applicable air quality plan. The GAMAQI indicates that projects that do not exceed SJVAPCD regional criteria pollutant emissions quantitative thresholds would not conflict with or obstruct the applicable air quality plan (AQP). An additional criterion regarding the project's implementation of control measures was assessed to provide further evidence of the

project's consistency with current AQPs. This document proposes the following criteria for determining project consistency with the current AQPs:

1. Will the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQPs? This measure is determined by comparison to the regional and localized thresholds identified by the District for Regional and Local Air Pollutants.
2. Will the project comply with applicable control measures in the AQPs? The primary control measures applicable to development projects is Regulation VIII—Fugitive PM_{10} Prohibitions and Rule 9510 Indirect Source Review.

Contribution to Air Quality Violations

A measure for determining if the project is consistent with the air quality plans is if the project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the air quality plans. Regional air quality impacts and attainment of standards are the result of the cumulative impacts of all emission sources within the air basin. Individual projects are generally not large enough to contribute measurably to an existing violation of air quality standards. Therefore, the cumulative impact of the project is based on its cumulative contribution. Because of the region's nonattainment status for ozone, $PM_{2.5}$, and PM_{10}—if project-generated emissions of either of the ozone precursor pollutants (ROG and NO_X), PM_{10}, or $PM_{2.5}$ would exceed the District's significance thresholds—then the project would be considered to contribute to violations of the applicable standards and conflict with the attainment plans.

As discussed in Impact AIR-2 below, emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ associated with the construction and operation of the project would not exceed the District's significance thresholds. As shown in Impact AIR-2, the project would not result in CO hotspots that would violate CO standards. Therefore, the project would not contribute to air quality violations.

Compliance with Applicable Control Measures

The AQP contains a number of control measures, which are enforceable requirements through the adoption of rules and regulations. A description of rules and regulations that apply to this project is provided below.

SJVAPCD Rule 9510—Indirect Source Review (ISR) is a control measure in the 2006 PM_{10} Plan that requires NO_X and PM_{10} emission reductions from development projects in the San Joaquin Valley. The NO_X emission reductions help reduce the secondary formation of PM_{10} in the atmosphere (primarily ammonium nitrate and ammonium sulfate) and also reduce the formation of ozone. Reductions in directly emitted PM_{10} reduce particles such as dust, soot, and aerosols. Rule 9510 is also a control measure in the 2016 Plan for the 2008 8-Hour Ozone Standard. Developers of projects subject to Rule 9510 must reduce emissions occurring during construction and operational phases through on-site measures, or pay off-site mitigation fees. The project is required to comply with Rule 9510.

Regulation VIII—Fugitive PM_{10} **Prohibitions** is a control measure that is one main strategies from the 2006 PM_{10} for reducing the PM_{10} emissions that are part of fugitive dust. Projects over 10 acres are required to file a Dust Control Plan (DCP) containing dust control practices sufficient to comply with Regulation VIII. The project is required to prepare a DCP to comply with Regulation VIII.

Other control measures that apply to the project are Rule 4641—Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operation that requires reductions in VOC emissions during paving and Rule 4601—Architectural Coatings that limits the VOC content of all types of paints and coatings sold in the San Joaquin Valley. These measures apply at the point of sale of the asphalt and the coatings, so project compliance is ensured without additional mitigation measures.

The project would comply with all applicable SJVAPCD rules and regulations. Therefore, the project complies with this criterion and would not conflict with or obstruct implementation of the applicable air quality attainment plan.

Conclusion

The project's emissions are less than significant for all criteria pollutants and would not result in inconsistency with the AQP for this criterion. The project complies with applicable control measures of the AQP. Therefore, the project is consistent with the AQP, and the impact would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

5.2.2 - Cumulative Criteria Pollutant Impacts

Impact AIR-2: **The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.**

Impact Analysis

To result in a less than significant impact, the following criteria must be true:

1. Regional analysis: emissions of nonattainment pollutants must be below the District's regional significance thresholds. This is an approach recommended by the District in its GAMAQI.
2. Summary of projections: the project must be consistent with current air quality attainment plans including control measures and regulations. This is an approach consistent with Section 15130(b) of the CEQA Guidelines.

3. Cumulative health impacts: the project must result in less than significant cumulative health effects from the nonattainment pollutants. This approach correlates the significance of the regional analysis with health effects, consistent with the court decision, *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1219-20.

Regional Emissions

Air pollutant emissions have both regional and localized effects. This analysis assesses the regional effects of the project's criteria pollutant emissions in comparison to SJVAPCD thresholds of significance for short-term construction activities and long-term operation of the project. Localized emissions from project construction and operation are assessed under Impact AIR-3—Sensitive Receptors using concentration-based thresholds that determine if the project would result in a localized exceedance of any ambient air quality standards or would make a cumulatively considerable contribution to an existing exceedance.

The primary pollutants of concern during project construction and operation are ROG, NO_X, PM_{10}, and $PM_{2.5}$. The SJVAPCD GAMAQI adopted in 2015 contains thresholds for CO, NO_X, ROG, SO_X, PM_{10}, and $PM_{2.5}$.

Ozone is a secondary pollutant that can be formed miles from the source of emissions, through reactions of ROG and NO_X emissions in the presence of sunlight. Therefore, ROG and NO_X are termed ozone precursors. The Air Basin often exceeds the state and national ozone standards. Therefore, if the project emits a substantial quantity of ozone precursors, the project may contribute to an exceedance of the ozone standard. The Air Basin also exceeds air quality standards for PM_{10}, and $PM_{2.5}$; therefore, substantial project emissions may contribute to an exceedance for these pollutants. The District's annual emission significance thresholds used for the project define the substantial contribution for both operational and construction emissions as follows:

- 100 tons per year CO
- 10 tons per year NO_X
- 10 tons per year ROG
- 27 tons per year SO_X
- 15 tons per year PM_{10}
- 15 tons per year $PM_{2.5}$

The project does not contain sources that would produce substantial quantities of SO_2 emissions during construction and operation. Modeling conducted for the project show that SO_2 emissions are well below the SJVAPCD GAMAQI thresholds, as shown in the modeling results contained in Appendix A. No further analysis of SO_2 is required.

Construction Emissions

Construction emissions were modeled using the CalEEMod version 2016.3.2. The results of the modeling are presented in Table 8. The highest emissions that would occur in any year of construction activity were compared with the significance threshold. The emissions reflect compliance with SJVAPCD regulations that apply to construction activities. For assumptions in estimating the emissions, please refer to Section 4, Modeling Parameters and Assumptions. As shown in Table 8, the emissions are below the significance thresholds in each construction year. Therefore, the emissions are less than significant on a project basis.

Table 8: Construction Air Pollutant Emissions Summary

Year	Emissions (tons per year)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Phase 1 2021	**0.57**	**5.36**	**4.66**	**0.50**	**0.35**
Phase 1 2022	1.27	0.41	0.50	0.03	0.02
Phase 2 2022	0.61	5.65	5.42	0.51	0.35
Total for 2022	**1.87**	**6.06**	**5.92**	**0.53**	**0.37**
Phase 2 2023	1.29	0.44	0.57	0.03	0.02
Phase 3 2023	0.56	5.19	5.42	0.47	0.32
Total for 2023	**1.85**	**5.63**	**5.99**	**0.50**	**0.34**
Phase 3 2024	1.27	0.31	0.45	0.02	0.02
Phase 4 2024	0.54	4.92	5.43	0.45	0.30
Total for 2024	**1.81**	**5.23**	**5.88**	**0.47**	**0.31**
Phase 4 2025	1.27	0.25	0.40	0.02	0.01
Phase 5 2025	0.25	2.26	2.49	0.32	0.18
Total for 2025	**1.51**	**2.51**	**2.89**	**0.34**	**0.19**
Phase 5 2026	1.26	0.13	0.22	0.01	0.01
Grand Total for All Years of Construction	**8.87**	**24.92**	**25.55**	**2.35**	**1.58**
Highest Construction Emissions in Any Year	***1.87***	***6.06***	***5.99***	***0.53***	***0.37***
Significance threshold (tons/year)	10	10	100	15	15
Exceed threshold—significant impact?	No	No	No	No	No

Notes:
PM_{10} and $PM_{2.5}$ emissions are from the mitigated output to reflect compliance with Regulation VIII—Fugitive PM_{10} Prohibitions.
ROG = reactive organic gases NO_X = nitrogen oxides PM_{10} and $PM_{2.5}$ = particulate matter
Calculations use unrounded numbers.
Source: CalEEMod output (Appendix A).

Operational Emissions

Operational emissions occur over the lifetime of the project and are from two main sources: area sources and motor vehicles, or mobile sources. First occupancy expected in early 2021. Project buildout is assumed to occur in 2026 in five equal phases. The SJVAPCD considers construction and operational emissions separately when making significance determinations. For assumptions in estimating the emissions, please refer to Section 4, Modeling Parameters and Assumptions. The emissions modeling results for project operation are summarized in Table 9.

As shown in Table 9, the emissions are below the SJVAPCD significance thresholds prior to application of mitigation measures. The project emissions include credit for compliance with regulations and project design features that would reduce project emissions. Project emissions would result in a less than significant impact.

Table 9: Operational Air Pollutant Emissions

Phase and Year	Emissions (tons per year)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Phase 1 2021	2.06	2.18	7.25	1.68	0.48
Phase 2 2022	1.87	2.04	6.77	1.68	0.48
Phase 3 2023	1.83	1.74	6.32	1.68	0.48
Phase 4 2024	1.80	1.65	5.95	1.68	0.48
Phase 5 2025	1.95	1.59	5.66	1.69	0.48
Total Project Emissions	**9.50**	**9.20**	**31.94**	**8.40**	**2.39**
Significance threshold	10	10	100	15	15
Exceed threshold—significant impact?	No	No	No	No	No

Notes:
ROG = reactive organic gases NO_X = nitrogen oxides PM_{10} and $PM_{2.5}$ = particulate matter
Area source emissions include emissions from natural gas, landscape, and painting.
Source: CalEEMod output (Appendix A).

Step 2: Plan Approach

Section 15130(b) of the CEQA Guidelines states the following:

> The following elements are necessary to an adequate discussion of significant cumulative impacts: 1) Either: (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.

In accordance with CEQA Guidelines 15130(b), this analysis of cumulative impacts is based on a summary of projections analysis. The District attainment plans are based on a summary of projections that accounts for projected growth throughout the Air Basin, and the controls needed to achieve ambient air quality standards. This analysis considers the current CEQA Guidelines, which includes the amendments approved by the Natural Resources Agency, effective on December 28, 2018. The Air Basin is in nonattainment or maintenance status for ozone and particulate matter (PM_{10} and $PM_{2.5}$), which means that concentrations of those pollutants currently exceed the ambient air quality standards for those pollutants, or that the standards have recently been attained in the case of pollutants with maintenance status. When concentrations of ozone, PM_{10}, or $PM_{2.5}$ exceed the ambient air quality standard, then those sensitive to air pollution (such as children, the elderly, and the infirm) could experience health effects such as: decrease of pulmonary function and localized lung edema in humans and animals; increased mortality risk; and risk to public health, implied by altered connective tissue metabolism, altered pulmonary morphology in animals after long-term exposures, and pulmonary function decrements in chronically exposed humans. See

Section 2.3—Existing Air Quality Conditions for additional correlation of the health impacts with the existing pollutant concentrations experienced in the Fresno area.

Under the CEQA Guidelines, cumulative impacts may be analyzed using other plans that evaluate relevant cumulative effects. The geographic scope for cumulative criteria pollution from air quality impacts is the Air Basin, because that is the area in which the air pollutants generated by the sources within the Air Basin circulate and are often trapped. The SJVAPCD is required to prepare and maintain air quality attainment plans and a State Implementation Plan to document the strategies and measures to be undertaken to reach attainment of ambient air quality standards. While the SJVAPCD does not have authority over land use decisions, it is recognized that changes in land use and circulation planning would help the Air Basin achieve clean air mandates. The District evaluated emissions from land uses and transportation in the entire Air Basin when it developed its attainment plans. Emission inventories used to predict attainment of NAAQS must be based on the latest planning assumptions for mobile sources.

In accordance with CEQA Guidelines Section 15064, subdivision (h)(3), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously approved plan or mitigation program.

The history and development of the SJVAPCD's current Ozone Attainment Plan is described in Section 2.4, Air Quality Plans. The 2007 8-Hour Ozone Plan contains measures to achieve reductions in emissions of ozone precursors, and sets plans towards attainment of ambient ozone standards by 2023. The 2012 $PM_{2.5}$ Plan and the 2015 $PM_{2.5}$ Plan for the 1997 $PM_{2.5}$ Standard require fewer NO_X reductions to attain the $PM_{2.5}$ standard than the Ozone Plan, so the Ozone Plan is considered the applicable plan for reductions of the ozone precursors NO_X and ROG. The 2012 $PM_{2.5}$ Plan requires reductions in directly emitted $PM_{2.5}$ from combustion sources, such as diesel engines and fireplaces, and from fugitive dust to attain the ambient standard and is the applicable plan for $PM_{2.5}$ emissions. $PM_{2.5}$ is also formed in secondary reactions in the atmosphere involving NO_X and ammonia to form nitrate particles. Reductions in NO_X required for ozone attainment are also sufficient for $PM_{2.5}$ attainment. As discussed in Impact AIR-1, the project is consistent with all applicable control measures in the air quality attainment plans. The project would comply with any District rules and regulations that may pertain to implementation of the AQPs. Therefore, impacts would be less than significant with regard to compliance with applicable rules and regulations.

This project does not exceed SJVAPCD thresholds and will reduce its cumulative impact through compliance with Rule 9510; therefore, the project is considered less than significant for this criterion.

Project Health Impacts

In the 5th District Court of Appeal case *Sierra Club v. County of Fresno (Friant Ranch, L.P.)*, the Court found the project EIR deficient because it did not identify specific health-related effects resulting from the estimated amount of pollutants generated by the project. The ruling stated that the EIR should give a "sense of the nature and magnitude of the 'health and safety problems' caused by a project's air pollution. The EIR should translate the emission numbers into adverse impacts or to understand why such translation is not possible at this time (and what limited translation is, in fact, possible)."

The standard measure of the severity of impact is the concentration of pollutant in the atmosphere compared to the ambient air quality standard for the pollutant for a specified period of time. The severity of the impact increases with the concentration and the amount of time that people are exposed to the pollutant. The change in health impacts with concentration is described in Table 3 and Table 4 using the EPA's Air Quality Index. The pollutants of concern in the Friant Ranch ruling were regional criteria pollutants ozone, and PM_{10}. It is important to note that the potential for localized impacts can be addressed through dispersion modeling. The SJVAPCD includes screening criteria that if exceeded would require dispersion modeling to determine if project emissions would result in a significant health impact. For this project, no significant localized health impacts would occur. Regional pollutants require more complex modeling as described below.

Ozone concentrations are estimated using regional photochemical models because ozone formation is subject to temperature, inversion strength, sunlight, emissions transport over long distances, dispersion, and the regional nature of the precursor emissions. The emissions from individual projects are too small to produce a measurable change in ozone concentrations—it is the cumulative contribution of emissions from existing and new development that is accounted for in the photochemical model. Ozone concentrations vary widely throughout the day and year even with the same amount of daily emissions. The SJVAPCD indicated in an Amicus Brief on Friant Ranch that running the photochemical model with just Friant Ranch emissions (109.5 tons/year NO_X) is not likely to yield valid information given the relative scale involved. A copy of the SJVAPCD brief is included in Appendix B. The NO_X inventory for the San Joaquin Valley is 224 tons per day in 2019 or 81,760 tons per year. Friant Ranch would result in 0.13 percent increase in NO_X emissions. A project emitting at the SJVAPCD CEQA threshold of 10 tons per year would result in a 0.01 percent increase in NO_X emissions. Most project emissions are generated by motor vehicle travel distributed on regional roadways miles from the project site, and these emissions are not conducive to project-level concentration-based modeling.

Emissions throughout the San Joaquin Valley are projected to markedly decline in the coming decade. The SJVAPCD 2016 Ozone Plan predicts NO_X emissions will decline to 103 tons per day by 2029 or 54 percent from 2019 levels through implementation of control measures included in the plan. This means that ozone health impacts to residents of the San Joaquin Valley will be lower than currently experienced and most areas of the San Joaquin Valley will have attained ozone air quality standards. The plan accounts for growth in population at rates projected by the State of California for the San Joaquin Valley, so only cumulative projects that would exceed regional growth projections would potentially delay attainment and prolong the time and the number of people would experience health impacts. It is unlikely that anyone would experience greater impacts from regional emissions than currently occur. The federal transportation conformity regulation provides a means of ensuring growth in emissions does not exceed emission budgets for each County. Regional Transportation Plans and Regional Transportation Improvement Plans must provide a conformity analysis based on the latest planning assumptions that demonstrates that budgets will be not be exceeded. If budgets are exceeded, the San Joaquin Valley may be subject to Clean Air Act sanctions until the deficiency is addressed.

Particulate emission impacts can be localized and regional. Particulates can be directly emitted and can be formed in the atmosphere with chemical reactions. Small directly emitted particles such as diesel emissions and other combustion emissions can remain in the atmosphere for a long time and

can be transported over long distances. Large particles such as fugitive dust tend to be deposited a short distance from where emitted but can also travel long distances during periods of high winds. Particulates can be washed out of the atmosphere by rain and deposited on surfaces. Secondary particulates formed in the atmosphere such as ammonium nitrate require NO_X and ammonia, and they require low inversion levels and certain ranges of temperature and humidity to result in substantial concentrations. These complications make modeling project particulate emissions to determine concentration feasible only for directly emitted particles at receptor locations close to the project site. Regional particulate concentrations are modeled using a gridded inventory (emissions in tons/day are placed a 4-kilometer, three-dimensional grid to spatially allocate the emissions geographically and vertically in the atmosphere) and an atmospheric chemistry component to simulate the chemical reactions. The model uses relative reduction factors to determine the amount of reductions of each PM component will be needed to attain the air quality standards on the days with the conditions most favorable to high particulate concentrations. A small project would not produce sufficient emissions to determine a project's individual contribution to the particulate concentration.

Step 3: Cumulative Health Impacts

The Air Basin is in nonattainment for ozone, PM_{10} (State only), and $PM_{2.5}$, which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect public health, including the health of sensitive individuals (such as children, the elderly, and the infirm). Therefore, when the concentration of those pollutants exceeds the standard, it is likely that some sensitive individuals in the population would experience health effects that were described in Table 1. However, the health effects are a factor of the dose-response curve. Concentration of the pollutant in the air (dose), the length of time exposed, and the response of the individual are factors involved in the severity and nature of health impacts. If a significant health impact results from project emissions, it does not mean that 100 percent of the population would experience health effects. Table 2, Table 3, and Table 4 relate the pollutant concentration experienced by residents using air quality data for the nearest air monitoring station to the health impacts ascribed to those concentrations by the EPA Air Quality Index. This provides a more detailed look at the actual impacts currently experienced by area residents.

Since the Basin is nonattainment for ozone, PM_{10}, and $PM_{2.5}$, it is considered to have an existing significant cumulative health impact without the project. When this occurs, the analysis considers whether the project's contribution to the existing violation of air quality standards is cumulatively considerable. The SJVAPCD regional thresholds for NO_X, VOC, PM_{10}, or $PM_{2.5}$ are applied as cumulative contribution thresholds. Projects that exceed the regional thresholds would have a cumulatively considerable health impact. As shown in Table 8 and Table 9, the regional analysis of construction and operational emissions indicates that the project would not exceed the District's significance thresholds and the project is consistent with the applicable Air Quality Plan.

The SJVAPCD Air Quality Attainment Plans predict that nonattainment pollutant emissions will continue to decline each year as regulations adopted to reduce these emissions are implemented, accounting for growth projected for the region. Therefore, the cumulative health impact will also decline even with the project's emission contribution.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

5.2.3 - Sensitive Receptors

Impact AIR-3: The project would not expose sensitive receptors to substantial pollutant concentrations.

Impact Analysis

Sensitive Receptors

Those who are sensitive to air pollution include children, the elderly, and persons with pre-existing respiratory or cardiovascular illness. The District considers a sensitive receptor a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools. The closest off-site sensitive receptors are existing residences located adjacent to the project site to the north, east, south, and west. As a residential land use development project, proposed residences included as part of the project would be considered sensitive receptors once occupied.

Off-site Sensitive Receptors

Impacts to receptors located outside the project boundaries would occur primarily during project construction. Construction emissions commencing with the year 2020 and continue until project buildout. Construction activities are expected to occur over several years as the subdivision is gradually built out; however, most emissions are expected to occur during the initial site preparation and grading activities and to a lesser extent during ground up construction. For criteria pollutants, impacts to receptors located outside of the project are based on emissions during the highest emissions during any construction year. As shown in Table 10 and Table 11, emissions generated from construction and operation of the project are less than SJVAPCD screening criteria. Therefore, this impact would be less than significant.

On-site Sensitive Receptors

The project is not a significant source of TAC emissions. Construction activities produce short-term emissions that would not contribute substantially to cancer risk, which is estimated on a 70-year exposure period.

Construction: ROG

ROG is emitted during the application of architectural coatings (painting). The amount emitted is dependent on the amount of ROG (or VOC) in the paint. ROG emissions are typically an indoor air

quality health hazard concern rather than an outdoor air quality health hazard concern. Therefore, exposure to ROG during architectural coatings is a less than significant health impact.

There are three types of asphalt that are typically used in paving: asphalt cements, cutback asphalts, and emulsified asphalts. However, SJVAPCD Rule 4641 prohibits the use of the following types of asphalt: rapid cure cutback asphalt; medium cure cutback asphalt; slow cure asphalt that contains more than one-half (0.5) percent of organic compounds that evaporate at 500 degrees Fahrenheit (°F) or lower; and emulsified asphalt containing organic compounds, in excess of 3 percent by volume, that evaporate at 500°F or lower. An exception to this is medium cure asphalt when the National Weather Service official forecast of the high temperature for the 24-hour period following application is below 50°F.

The acute (short-term) health effects from worker direct exposure to asphalt fumes include irritation of the eyes, nose, and throat. Other effects include respiratory tract symptoms and pulmonary function changes. The studies were based on occupational exposure of fumes. Residents are not in the immediate vicinity of the fumes; therefore, they would not be subjected to concentrations high enough to evoke a negative response. In addition, the restrictions that are placed on asphalt in the San Joaquin Valley reduce ROG emissions from asphalt and exposure. The impact to nearby sensitive receptors from ROG during construction would be less than significant.

Localized Pollutant Screening Analysis

Emissions occurring at or near the project have the potential to create a localized impact, also referred to as an air pollutant hotspot. Localized emissions are considered significant if, when combined with background emissions, they would result in exceedance of any health-based air quality standard. The impact from localized pollutants is based on the impact to the nearest sensitive receptor.

The SJVAPCD's GAMAQI includes screening thresholds for identifying projects that need detailed analysis for localized impacts. Projects with on-site emission increases from construction activities or operational activities that exceed the 100 pounds per day screening level of any criteria pollutant after compliance with Rule 9510 and implementation of all enforceable mitigation measures would require preparation of an ambient air quality analysis. The criteria pollutants of concern for localized impact in the SJVAB are PM_{10}, $PM_{2.5}$, NO_X, and CO. There is no localized emission standard for ROG and most types of ROG are not toxic and have no health-based standard; however, ROG was included for informational purposes only.

The highest daily emissions occur during project grading activities except for ROG emissions, which are highest during application of architectural coatings. The results of the construction screening analysis are presented in Table 10. The project would be constructed incrementally with Tract 6212 and Tract 6276 constructed first. The sequence and location of development after those tracts are constructed have not been determined; therefore, localized impacts from NO_2 and PM on completed residences would be speculative.

Table 10: Maximum Daily Air Pollutant Emissions during Construction

Maximum Daily Emissions by Year	Emissions (pounds per day)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Phase 1 2021	**4.42**	**45.45**	**38.33**	**10.32**	**6.39**
Phase 1 2022	70.12	35.77	37.70	2.39	1.83
Phase 2 2022	5.17	46.35	47.87	9.89	5.99
Total for 2022	**75.29**	**82.12**	**85.58**	**12.28**	**7.82**
Phase 2 2023	70.94	42.45	47.34	2.60	2.03
Phase 3 2023	4.76	42.45	47.34	9.54	5.67
Total for 2023	**75.69**	**84.90**	**94.68**	**12.15**	**7.71**
Phase 3 2024	70.92	39.76	46.98	2.36	1.80
Phase 4 2024	4.45	39.76	46.98	9.51	5.64
Total for 2024	**75.37**	**79.51**	**93.97**	**11.87**	**7.44**
Phase 4 2025	70.91	36.98	46.63	2.12	1.58
Phase 5 2025	2.97	27.97	26.75	9.37	5.51
Total for 2025	**73.88**	**64.95**	**73.38**	**11.48**	**7.09**
Phase 5 2026	**71.33**	**14.01**	**17.46**	**1.15**	**0.67**
Highest Emissions in Any Year	**75.69**	**84.90**	**94.68**	**12.15**	**7.71**
Screening Thresholds	100	100	100	100	100
Exceeds Threshold (Yes or No)	No	No	No	No	No

Notes:
NO_X = nitrogen oxides CO = carbon monoxide PM_{10} and $PM_{2.5}$ = particulate matter
N/A = Not applicable
Emissions shown are from the summer model output. There is no ambient air quality standard for ROG.
Source: CalEEMod output (Appendix A).

Maximum Daily Operational Emissions

An analysis of maximum daily emissions during operation was conducted to determine if emissions would exceed 100 pounds per day for any pollutant of concern. The maximum daily operational emissions would occur at project buildout. The project was modeled for 2025, which is the estimated year of first occupancy of the last project phase. Operational emissions include emissions generated on-site by area sources such as natural gas combustion and landscape maintenance, and off-site by motor vehicles accessing the project. Most motor vehicle emissions would occur distant from the site and would not contribute to a violation of ambient air quality standards; therefore, only emissions from vehicles operating within one half mile of the site were included in the assessment. The results of the screening analysis are presented in Table 11.

Table 11: Maximum Daily Air Pollutant Emissions during Operations

Maximum Daily Emissions per Source Category	Emissions (pounds per day)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Area	8.72	1.71	14.67	0.20	0.20
Energy	0.12	1.05	0.45	0.09	0.09
Mobile	0.20	0.49	1.86	0.66	0.18
Total	**9.05**	**3.26**	**16.98**	**0.94**	**0.47**
Screening threshold	100	100	100	100	100
Exceed screening threshold?	No	No	No	No	No

Notes:
NO_X = nitrogen oxides CO = carbon monoxide PM_{10} and $PM_{2.5}$ = particulate matter
N/A = Not applicable
Emissions shown are from the summer model output. There is no ambient air quality standard for ROG.
Source: CalEEMod output (Appendix A).

The project would not exceed SJVAPCD screening thresholds for localized operational criteria pollutant impacts; therefore, the project's localized criteria pollutant impacts would be less than significant.

Operation: ROG

During operation, ROG would be emitted primarily from motor vehicles. Direct exposure to ROG from project motor vehicles would not result in health effects, because the ROG would be distributed across miles and miles of roadway and in the air. The concentrations would not be great enough to result in direct health effects.

Operation: PM_{10}, $PM_{2.5}$, CO, NO_2

As shown in Table 11, localized emissions of PM_{10}, $PM_{2.5}$, CO, and NO_2 would not exceed the SJVAPCD screening thresholds at full project buildout. Residential development is an insignificant source of these pollutants, except for projects that allow woodburning devices that emit PM_{10}, $PM_{2.5}$ in wood smoke. The project will include only natural gas-fueled fireplaces and inserts that are insignificant sources of $PM_{2.5}$ and PM_{10}. Therefore, the project would not expose sensitive receptors to substantial criteria air pollutant concentrations during operation.

Carbon Monoxide Hot Spot Analysis

Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles. The SJVAPCD provides screening criteria to determine when to quantify local CO concentrations based on impacts to the level of service (LOS) of intersections in the project vicinity.

Construction of the project would result in minor increases in traffic for the surrounding road network during the duration of construction. Motor vehicles accessing the site when it becomes operational would result in a minor increase in daily trips that would not substantially reduce the LOS on roads serving the site. The highest background 8-hour average CO concentration during the

latest year it was monitored is 2.06 ppm, which is 78 percent lower than the CAAQS of 9.0 ppm or the NAAQS of 9 ppm.

A sensitivity analysis using the CALINE4 CO Hotspot model was run for the General Plan MEIR to determine the volume of trips that would be required to exceed the most stringent CO standard. At triple the predicted peak for General Plan buildout of 36,000 peak-hour trips, the hourly concentration was 7.5 ppm and an 8-hour concentration of 6.0 ppm. Based on this analysis, it is extremely unlikely that a CO hotspot will occur in the Plan Area. CO emissions are predicted to continue to decline as old vehicles are retired and cleaner new motor vehicles take their place.

Therefore, no CO hotspot modeling is required for new projects during General Plan Buildout unless intersection volumes exceed 36,000 peak-hour trips, which is not projected to occur with the project.

Construction: Toxic Air Contaminants

Project construction would involve the use of diesel-fueled vehicles and equipment that emit DPM, which is considered a TAC. The SJVAPCD's latest threshold of significance for TAC emissions is an increase in cancer risk for the maximally exposed individual of 20 in a million (formerly 10 in a million). The SJVAPCD's 2015 GAMAQI does not currently recommend analysis of TAC emissions from project construction activities, but instead focuses on projects with operational emissions that would expose sensitive receptors over a typical lifetime of 70 years. Residential projects produce limited amounts of TAC emissions during operation and thus have not been subject to project TAC analysis. Most emissions from construction activities occur during the grading and site preparation phases that occur over the first three months of construction and do not overlap with project operations. Limited amounts of diesel equipment are used during ground-up construction of individual houses that occurs during the majority of the construction schedule when some units may be occupied. Construction equipment fleet operators are subject to ARB's In Use Offroad Equipment Fleet Regulation, which requires the use of increasing amounts of lower-emitting equipment that will help to ensure that risk would not exceed SJVAPCD thresholds.

Construction phase risks would be considered acute health risks as opposed to cancer risks, which are long-term. OEHHA has yet to define acute risk factors for diesel particulates that would allow the calculation of a hazards risk index; thus, evaluation of this impact would be speculative and no further discussion is necessary.

Operation: Toxic Air Contaminants

The ARB Air Quality and Land Use Handbook contains recommendations that will "help keep California's children and other vulnerable populations out of harm's way with respect to nearby sources of air pollution" (ARB 2005), including recommendations for distances between sensitive receptors and certain land uses. In the *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal.4th 369 (2015) (Case No. S213478) the California Supreme Court held that "agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents. But when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment—and not the environment's impact on the project—that

compels an evaluation of how future residents or users could be affected by exacerbated conditions." Although the Court ruled that impacts from the existing environment on projects are not required to be addressed under CEQA, land uses such as gasoline stations, dry cleaners, distribution centers, and auto body shops can expose residents to high levels of TAC emissions if they are close to the project site. Information regarding the location of existing TAC sources is provided for disclosure purposes only and not as a measure of the project's significance under CEQA.

Consistency with these recommendations is assessed as follows:

- Heavily traveled roads. ARB recommends avoiding new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. Epidemiological studies indicate that the distance from the roadway and truck traffic densities were key factors in the correlation of health effects, particularly in children. The project is located on the west side of North Grantland Avenue north of West Ashlan and south of West Shaw Avenue. The traffic volumes on the road segments nearest the project are available for North Grantland south of West Shaw Avenue and West Shaw east of North Grantland Avenue for 2011. The traffic volume of North Grantland Avenue was 3,170 trips per day. The traffic volume on West Shaw Avenue was 8,880 trips per day. No roads serving the project would exceed this criterion (Fresno COG 2013).
- Distribution centers. ARB also recommends avoiding siting new sensitive land uses within 1,000 feet of a distribution center. The project is not located within 1,000 feet of a distribution center.
- Fueling stations. ARB recommends avoiding new sensitive land uses within 300 feet of a large fueling station (a facility with a throughput of 3.6 million gallons per year or greater). ARB recommends a 50-foot separation is recommended for typical gas dispensing facilities. The nearest gas station is located at 4395 W. Ashlan Avenue, approximately 2.6 miles east of the project site.
- Dry cleaning operations. ARB recommends avoiding siting new sensitive land uses within 300 feet of any dry-cleaning operation that uses perchloroethylene. For operations with two or more machines, ARB recommends a buffer of 500 feet. For operations with three or more machines, ARB recommends consultation with the local air district. The nearest dry-cleaning operation is approximately 4.6 miles northeast of the project site at 3071 W. Shaw Avenue.
- Auto body shops. Auto body shops have the potential to emit TACs related to painting. The nearest auto body shop is located at 4605 N. Blythe Avenue approximately 3.3 miles northeast of the project site, which is beyond the distance that would result in a measurable impact.

Valley Fever

Valley fever, or coccidioidomycosis, is an infection caused by inhalation of the spores of the fungus, *Coccidioides immitis* (*C. immitis*). The spores live in soil and can live for an extended time in harsh environmental conditions. Activities or conditions that increase the amount of fugitive dust contribute to greater exposure, and they include dust storms, grading, and recreational off-road activities.

The San Joaquin Valley is considered an endemic area for Valley fever. By geographic region, hospitalizations for Valley fever in the San Joaquin Valley increased from 230 (6.9 per 100,000

population) in 2000 to 701 (17.7 per 100,000 population) in 2007. Within the region, Kern County reported the highest hospitalization rates, increasing from 121 (18.2 per 100,000 population) in 2000 to 285 (34.9 per 100,000 population) in 2007, and peaking in 2005 at 353 hospitalizations (45.8 per 100,000 population). The Centers for Disease Control and Prevention indicates that 752 of the 8,657 persons (8.7 percent) hospitalized in California between 2000 and 2007 for Valley fever died (CDC 2009). California experienced 7,466 new cases of Valley fever in 2017. A total of 275 Valley fever cases were reported in Fresno County in 2017 for a rate of 82.4 per 100,000 people (CDPH 2018).

The distribution of *C. immitis* within endemic areas is not uniform and growth sites are commonly small (a few tens of meters) and widely scattered. Known sites appear to have some ecological factors in common suggesting that certain physical, chemical, and biological conditions are more favorable for *C. immitis* growth. Avoidance, when possible, of sites favorable for the occurrence of *C. immitis* is a prudent risk management strategy. Listed below are ecologic factors and sites favorable for the occurrence of *C. immitis*:

1) Rodent burrows (often a favorable site for *C. immitis*, perhaps because temperatures are more moderate and humidity higher than on the ground surface)
2) Old (prehistoric) Indian campsites near fire pits
3) Areas with sparse vegetation and alkaline soils
4) Areas with high salinity soils
5) Areas adjacent to arroyos (where residual moisture may be available)
6) Packrat middens
7) Upper 30 centimeters of the soil horizon, especially in virgin undisturbed soils
8) Sandy, well-aerated soil with relatively high water-holding capacities

Sites within endemic areas less favorable for the occurrence of *C. immitis* include:

1) Cultivated fields
2) Heavily vegetated areas (e.g. grassy lawns)
3) Higher elevations (above 7,000 feet)
4) Areas where commercial fertilizers (e.g. ammonium sulfate) have been applied
5) Areas that are continually wet
6) Paved (asphalt or concrete) or oiled areas
7) Soils containing abundant microorganisms
8) Heavily urbanized areas where there is little undisturbed virgin soil (USGS 2000).

The project site is situated in a city growth area. The project includes urbanization of a site that was formerly used for agricultural purposes. Therefore, implementation of the project would have a low probability of the site having *C. immitis* growth sites and exposure to the spores from disturbed soil.

Construction activities would generate fugitive dust that could contain *C. immitis* spores. The project will minimize the generation of fugitive dust during construction activities by complying with the District's Regulation VIII. Therefore, this regulation, combined with the relatively low probability of the presence of *C. immitis* spores, would reduce Valley fever impacts to less than significant.

During operations, dust emissions are anticipated to be negligible, because most of the project area would be occupied by buildings, pavement, and landscaped areas. This condition would preclude the possibility of the project from providing habitat suitable for *C. immitis* spores and for generating fugitive dust that may contribute to Valley fever exposure. Impacts would be less than significant.

Naturally Occurring Asbestos

According to a map of areas where naturally occurring asbestos in California are likely to occur (U.S. Geological Survey 2011), there are no such areas in the project area. Therefore, development of the project is not anticipated to expose receptors to naturally occurring asbestos. Impacts would be less than significant.

In summary, the project would not exceed SJVAPCD localized emission daily screening levels for any criteria pollutant. The project is not a significant source of TAC emissions during construction or operation. The project is not in an area with suitable habitat for Valley fever spores and is not in area known to have naturally occurring asbestos. Therefore, the project would not result in significant impacts to sensitive receptors.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

5.2.4 - Objectionable Odors

Impact AIR-4: The project would not create objectionable odors affecting a substantial number of people.

Impact Analysis

Thresholds of Significance

Odor impacts on residential areas and other sensitive receptors, such as hospitals, day-care centers, schools, etc. warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas.

Two situations create a potential for odor impact. The first occurs when a new odor source is located near an existing sensitive receptor. The second occurs when a new sensitive receptor locates near an existing source of odor. According to the *CBIA v. BAAQMD* ruling, impacts of existing sources of odors on the project are not subject to CEQA review. Therefore, the analysis to determine if the project would locate new sensitive receptors near an existing source of odor is provided for information

only. The District has determined the common land use types that are known to produce odors in the Air Basin. These types are shown in Table 12.

Table 12: Screening Levels for Potential Odor Sources

Odor Generator	Screening Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g., auto body shop)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile
Source: SJVAPCD 2015a.	

According to the SJVAPCD GAMAQI, analysis of potential odor impacts should be conducted for the following two situations:

- **Generators:** projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate, and
- **Receivers:** residential or other sensitive receptor projects or other projects built for the intent of attracting people located near existing odor sources.

Project Analysis

Project as a Generator

Land uses that are typically identified as sources of objectionable odors include landfills, transfer stations, sewage treatment plants, wastewater pump stations, composting facilities, feed lots, coffee roasters, asphalt batch plants, and rendering plants. The project would not engage in any of these activities. Therefore, the project would not be considered a generator of objectionable odors during operations.

During construction, the various diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and would not likely be noticeable for extended periods of time beyond the project's site boundaries. The potential for diesel odor impacts would therefore be less than significant.

Project as a Receiver

With the *CBIA v. BAAQMD* ruling, analysis of odor impacts on receivers is not required for CEQA compliance. Therefore, the following analysis is provided for information only.

As a residential development, the project has the potential to place sensitive receptors near existing odor sources. There are no major odor-generating sources (as listed in Table 12) within screening distance of the site. Therefore, the uses in the vicinity of the project would not cause substantial odor impacts to the project.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

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SECTION 6: GREENHOUSE GAS IMPACT ANALYSIS

6.1—CEQA Guidelines

CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on GHGs, the type, level, and impact of emissions generated by the project must be evaluated.

The following GHG significance thresholds are contained in Appendix G of the CEQA Guidelines, which were amendments adopted into the Guidelines on March 18, 2010, pursuant to SB 97 and most recently amended December 28, 2019. A significant impact would occur if the project would:

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

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

6.2—Impact Analysis

6.2.1 - Greenhouse Gas Inventory

Impact GHG-1: The project would generate direct and indirect greenhouse gas emissions; however, these emissions would not result in a significant impact on the environment.

Impact Analysis

Threshold of Significance

Section 15064.4(b) of the CEQA Guidelines' 2018 amendments for GHG emissions states that a lead agency may take into account the following three considerations in assessing the significance of impacts from GHG emissions.

- **Consideration #1**: The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2**: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration #3**: The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term

climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

The City of Fresno adopted a Greenhouse Gas Reduction Plan in 2014 that includes procedures for certain qualified projects to demonstrate consistency with plan and use the streamlining provisions allowed under CEQA. In addition to the plan consistency analysis, a quantitative analysis that shows that reductions from BAU emissions would exceed 21.7 percent in 2020 was prepared to show consistency with State reduction targets. The SJVAPCD's *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* provides guidance for preparing a BAU analysis (SJVAPCD 2009b). Under the SJVAPCD guidance, projects meeting one of the following would have a less than significant impact on climate change:

- Exempt from CEQA;
- Complies with an approved GHG emission reduction plan or GHG mitigation program;
- Project achieves 29 percent GHG reductions by using approved Best Performance Standards; and
- Project achieves AB 32 targeted 29 percent GHG reductions compared with "business as usual."

The 29 percent GHG reduction level is based on the target established by ARB's AB 32 Scoping Plan, approved in 2008. The GHG reduction level for the State to reach 1990 emission levels by 2020 was reduced to 21.7 percent from BAU in 2020 in the 2014 First Update to the Scoping Plan to account for slower than projected growth after the 2008 recession (ARB 2014). In addition, the State has reported that the 2016 greenhouse gas inventory was below the 2020 target for the first time (ARB 2018b). Furthermore, the 2017 Scoping Plan states that California is on track to achieve the 2020 target (ARB 2017c). First occupancy at the project site is expected to occur in 2021, which is the year after the AB 32 target year. Full buildout of the project is expected to take up to five years depending on market conditions. Until a new threshold or BPS are identified for projects constructed after-2020, significance is based on making continued progress toward the SB 32 2030 goal.

A quantitative analysis was prepared for this project to determine the extent to which it may increase or reduce greenhouse gas emissions as compared to the existing environmental setting to fulfill Consideration 1.

Consideration 2 requires the identification of BPS that are determined to meet the 29 percent reduction from BAU. The SJVAPCD intended to develop a list of BPS for development projects that were pre-determined to achieve a 29 percent reduction from BAU, but has not completed the list. However, since the SJVAPCD guidance was adopted in 2009, regulations on sources of GHG emissions applicable to development projects have been implemented that will achieve in excess of a 29 percent reduction from BAU for most projects. A BAU analysis is provided to demonstrate that the project would exceed the current 21.7 percent reduction and the previous SJVAPCD 29 percent reduction threshold.

The analysis also addresses consistency with the SB 32 targets and the 2017 Scoping Plan Update with an assessment of the project's reduction from BAU based on emissions in 2030 compared with the 21.7 percent reduction and with a consistency analysis. This approach provides estimates of

project emissions in the new 2030 milestone year with the existing threshold to address Considerations 1 and 2 above.

The ARB adopted the 2017 Scoping Plan Update on December 14, 2017. The plan provides the State's strategy to achieve the SB 32 2030 target of a 40 percent reduction in emissions compared to 1990 levels. The plan includes existing and new measures that when implemented are expected to achieve the SB 32 2030 target. The 2017 Scoping Plan achieves substantial reductions beyond 2020 through continued implementation of existing regulations. Other regulations will be adopted to implement recently enacted legislation including SB 350, which requires an increase in renewable energy from 33 percent to 50 percent and doubling the efficiency of existing buildings by 2030. The Legislature extended the Cap-and-Trade Program through 2030. Cap-and-Trade provides a mechanism to make up shortfalls in other strategies if they occur (ARB 2017c). In addition, the strategy relies on reductions achieved in implementing the ARB Short-Lived Climate Pollutant (SLCP) Reduction Strategy to reduce pollutants not previously controlled for climate change such as black carbon, CH_4, and hydrofluorocarbons (ARB 2017b).

Newhall Ranch

On November 30, 2015, the California Supreme Court issued its decision in *Newhall Ranch,* invalidating the GHG analysis for a large master planned residential development in Los Angeles County consisting of over 20,000 residential dwelling units and other uses. In particular, the Court upheld: (1) use of the statewide emissions reduction goal in AB 32 as a significance criterion (pp. 15–19), (2) use of the Scoping Plan's BAU model "as a comparative tool for evaluating efficiency and conservation efforts" of the Project (pp. 18–19), and (3) a comparison of the project's expected emissions to a BAU model rather than a baseline of pre-project conditions (pp. 15–19). The Court invalidated the GHG analysis on the grounds that the "administrative record discloses no substantial evidence that the Newhall Ranch's project-level reduction of 31 percent in comparison to [BAU] is consistent with achieving AB 32's statewide goal of a 29 percent reduction from [BAU]." The Court indicated that a lead agency may use a BAU comparison based on the Scoping Plan's methodology if it also substantiates the reduction a particular project must achieve to comply with statewide goals. The Court suggested a lead agency could examine the "data behind the Scoping Plan's business-as-usual model" to determine the necessary project-level reductions from new land use development at the proposed location (p. 25). A lead agency "might assess consistency with A.B. 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities."

The substantial evidence needed to support a project BAU threshold can be derived from data used to develop the Scoping Plan inventory and control strategy, and from analysis conducted by the ARB to track progress in achieving the AB 32 2020 target. The critical factor in determining the appropriate project threshold is whether the State requires additional reductions beyond those achieved by existing regulations in order to achieve its target. If no additional reductions are required from individual projects, no nexus exists to require a project to mitigate its emissions. In that case, the percentage reductions achieved by projects through compliance with regulations is the amount needed to reach the AB 32 target.

The State's regulatory program implementing the 2008 Scoping Plan is now fully mature. All regulations envisioned in the Scoping Plan have been adopted by the responsible agencies and the effectiveness of those regulations have been estimated by the agencies during the adoption process

and then are tracked to verify their effectiveness after implementation. The combined effect of this successful effort is that the State now projects that it will meet the 2020 target and achieve continued progress toward meeting post-2020 targets. Governor Brown, in the introduction to Executive Order B-30-15, states "California is on track to meet or exceed the current target of reducing greenhouse gas emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32)."

The Supreme Court was concerned that new development may need to do more than existing development to reduce GHGs to demonstrate that it is doing its fair share of reductions. As will be shown below, new development does do more than existing development and, because of the nature of the sources of GHG emissions related to development, existing development is equally responsible for reducing emissions from the most important sources of emissions. It is important to note that most of the State's regulatory program applies to both new and existing development.

The Scoping Plan reduction from BAU accounts for growth projected in the State and assumes that existing development would continue to emit GHGs at the same rate that occurred in the base year (2002-2004 average). The California Department of Finance (DOF) Report E-5 predicts that population growth in California from 2005 to 2020 will be 13.2 percent. This means that development that existed in 2005 will produce nearly 87 percent of the State's emissions in 2020. Conversely, new development is only responsible for about 13 percent of the emissions generated during this timeframe. If measures to reduce emissions from existing development were not available, new development could not provide sufficient reductions to reach the 2020 target even if their emissions were reduced to net zero. This continues to apply to the 2030 target. The DOF forecasts California's population will grow by 8.1 percent between 2020 and 2030, so existing development will be responsible for 92 percent of the emissions that occur in 2030.

The State's regulatory program is able to target both new and existing development because the two most important strategies—motor vehicle fuel efficiency and emissions from electricity generation—obtain reductions equally from existing and new sources. This is because all vehicle operators use cleaner low carbon fuels and buy vehicles subject to the fuel efficiency regulations, and all building owners or operators purchase cleaner energy from the grid that is produced by increasing percentages of renewable fuels. This includes regulations on mobile sources such as: The Pavley standards that apply to all vehicles purchased in California, the Low Carbon Fuel Standard (LCFS) that applies to all fuel used in California, and the Renewable Portfolio Standard and Renewable Energy Standard that apply to utilities providing electricity to all California homes and businesses. The reduction strategy where new development is required to do more than existing development is building energy efficiency and energy use related to water conservation regulations. For example, new projects are subject to Title 24 Energy Efficiency standards and CALGreen Code and Model Water Efficient Landscape Ordinance (MWELO) water conservation requirements. Residential buildings constructed to the 2013 Title 24 standards use 25 percent less energy than buildings complying with the 2008 standards. The version of Title 24 effective January 1, 2017 improves energy efficiency in residential buildings by 28 percent compared to the 2013 Title 24 standards and 46 percent compared with 2008 Title 24 standards. New buildings and landscapes are much more energy efficient and water efficient than the development that has been built over the past decades and will require much less energy. The 2019 Title 24 standards which become effective in January 2020 makes progress toward achieving net zero energy use through requirements for on-site

renewable generation for most projects. The project buildings would be constructed after 2020 and would be required to comply with 2019 Title 24 standards.

As described above, the State requires an average reduction from all sources of the emission inventory of 21.7 percent to achieve the 2020 target. The Scoping Plan strategy will achieve greater than average reductions from energy and mobile source sectors that are the primary sources related to development projects, and lower than average reductions from other sources such as agriculture. The amount of reduction estimated by the ARB for each sector was based on technical feasibility and cost effectiveness. Review of the 2008 Scoping Plan inventory and strategy shows that the reduction from all development related sources is approximately 29 percent from BAU in order to make up for the below average sectors and achieve the required 21.7 percent average reduction. Achieving the SB 32 2030 target will require an approximate 40 percent reduction from 2020 levels assuming the State achieves the AB 32 target. The 2017 Scoping Plan Update identifies a range of reduction amounts expected from each emission sector, but an amount needed for development's fair share of reductions have not been determined.

As suggested by the Court, a project BAU analysis was prepared for this project that assesses "consistency with AB 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities." The analysis shows the extent to which the project complies with adopted regulations and the additional amount that will be achieved through project design features. At this point in time, no additional reductions are required from new development beyond regulations for the State to achieve its 2020 target. The recently adopted 2030 target will require a reduction from 431 $MTCO_2e$ to 260 $MTCO_2e$ or 40 percent from 1990 levels. After accounting for projected growth of approximately 0.8 percent per year an average decrease of 5.2 percent per year from the State GHG inventory will be required to achieve the target. The 2017 Scoping Plan Update includes a strategy for achieving the needed reductions, but does not identify an amount required specifically from new development. However, all GHG emission sources within development projects are subject to GHG regulations.

Therefore, this analysis demonstrates consistency with the existing 2020 target and shows progress toward achieving the 2030 target. The quantitative analysis prepared for the project provides the reduction from BAU in the 2030 target year to show the progress anticipated prior to applying reductions from new strategies contained in the 2017 Scoping Plan Update. The new reduction strategies from the plan are designed to close the gap between existing commitments and those needed to achieve the 2030 target, but many of the strategies must go through a regulatory process to be implemented. Therefore, the amount of reductions needed from new development beyond regulations, if any, is uncertain.

The analysis prepared for the project also includes qualitative assessments of compliance with 2008 Scoping Plan, the 2017 Scoping Plan Update, and City of Fresno General Plan to support GHG significance findings under Impact GHG-2.

To determine significance, the analysis first quantifies project-related GHG emissions under a BAU scenario, and then compares these emissions with emissions that would occur when all project-related design features are accounted for, and when compliance with applicable regulatory measures is assumed. The standard and methodology is explained in further detail below.

Impact Analysis

Construction

Total GHG emissions generated during all phases of construction were combined and are presented in Table 13. The SJVAPCD does not recommend assessing the significance of construction-related emissions. However, other jurisdictions, such as the SCAQMD and the SMAQMD, have concluded that construction emissions should be included since they may remain in the atmosphere for years after construction is complete. In order to account for the construction emissions, amortizations of the total emissions generated during construction were based on the life of the development (residential—30 years) and added to the operational emissions.

Table 13: Construction Greenhouse Gas Emissions

Phase/Year	$MTCO_2e$ per year
Phase 1 2021	741.72
Phase 1 2022	73.74
Phase 2 2022	879.52
Phase 2 2023	84.40
Phase 3 2023	888.95
Phase 3 2024	65.61
Phase 4 2024	894.52
Phase 4 2025	58.04
Phase 5 2025	468.77
Phase 5 2026	32.91
Total	**4,188.17**
Amortized over 30 years	**139.61**

Notes:
Calculation totals use unrounded numbers from CalEEMod output.
$MTCO_2e$ = metric tons of carbon dioxide equivalents
Source: CalEEMod output (Appendix A).

Operation

Operational or long-term emissions occur over the life of the project. Sources of emissions may include motor vehicles and trucks, energy usage, water usage, waste generation, and area sources, such as landscaping activities and residential wood burning.

Business As Usual Operational Emissions

Operational emissions under the BAU scenario were modeled using CalEEMod 2016.3.2. Modeling assumptions for the year 2005 were used to represent 2025 and 2030 BAU conditions (without the benefit of regulations adopted to reduce GHG emissions). The SJVAPCD guidance recommends using emissions in 2002–2004 in the baseline scenario to represent conditions—as if regulations had not been adopted—to allow the effect of projected growth on achieving reduction targets to be clearly defined. CalEEMod defaults were used for project energy usage, water usage, waste generation, and area sources (architectural coating, consumer products, and landscaping). The vehicle fleet mix was

revised to reflect the residential fleet mix approved by SJVAPCD for 2025, which is when first occupancy of the final phase of development is expected to occur. Full assumptions and CalEEMod model outputs are provided in Appendix A.

2025 and 2030 Operational Emissions

Operational emissions were modeled for the years 2025 and 2030 using CalEEMod. CalEEMod assumes compliance with some, but not all, applicable rules and regulations regarding energy efficiency, vehicle fuel efficiency, renewable energy usage, and other GHG reduction policies, as described in the CalEEMod User's Guide (SCAQMD 2017). The reductions obtained from each regulation and the source of the reduction amount used in the analysis are described below.

Emissions Accounting for Applicable Regulations

The following regulations are incorporated into the CalEEMod emission factors:

- Pavley I and Pavley II (LEV III) motor vehicle emission standards
- ARB Medium and Heavy-Duty Vehicle Regulation
- 2005, 2008, 2013, and 2016 Title 24 Energy Efficiency Standards

The following regulations have not been incorporated into the CalEEMod emission factors and require alternative methods to account for emission reductions provided by the regulations:

- Renewable Portfolio Standards (RPS)
- Low Carbon Fuel Standard (LCFS)
- Green Building Code Standards (indoor water use)
- California Model Water Efficient Landscape Ordinance (Outdoor Water)

Pavley II/LEV III standards have been incorporated in the latest version of CalEEMod. ARB estimates a 3 percent reduction in 2020 and a 19 percent reduction from the vehicle categories subject to the regulation by 2030 (ARB 2010b and ARB 2013d).

The ARB GHG Regulation for Medium and Heavy-Duty Engines and Vehicles applies to trucks that will be accessing the project site. The benefits of the regulation were incorporated into CalEEMod 2016.3.2. The ARB estimates that this regulation will reduce GHG emissions from the affected vehicles by 7.2 percent (ARB 2013f).

The Low Carbon Fuel Standard (LCFS) is estimated to achieve a 10 percent reduction in emissions by 2020 and an 18 percent reduction by 2030 (ARB 2010). CalEEMod does not include credit for the LCFS.

Title 24 reductions for 2013 and 2016 updates were added to CalEEMod 2016.3.2. The California Energy Commission (CEC) estimates that 2013 Title 24 standards would result in an increase in energy efficiency of 25 percent in residential buildings compared to 2008 Title 24 (CEC 2014a). An additional 28 percent reduction from the 2008 standards have been claimed for compliance with 2016 Title 24. This results in a combined reduction of 46 percent (CEC 2015). Compliance with 2019 Title 24 is expected to reduce residential energy use by 7 percent beyond 2016 Title 24 prior to accounting for the installation of solar panels (CEC 2018). 2019 Title 24 requires new residential development include solar panels to generate electricity. The project is expected to include solar panels on each residential unit in quantities that meet or exceed Title 24 requirements.

RPS is not accounted for in CalEEMod 2016.3.2. Reductions from RPS are addressed by revising the electricity emission intensity factor in CalEEMod to account for the utility RPS rate forecast for 2020 (CPUC 2016). PG&E provides emission factors for the electricity it provides to customers and projections for its energy portfolio for 2020 that is used to estimate project emissions. No data to reflect compliance in 2030 was included in the PG&E projections. The utilities will be required by SB 350 to increase the use of renewable energy sources to 50 percent, but details on individual utility compliance have not been determined.

Energy savings from water conservation resulting from the Green Building Code Standards for indoor water use and California Model Water Efficient Landscape Ordinance for outdoor water use are not included in CalEEMod. The Water Conservation Act of 2009 mandates a 20 percent reduction in urban water use that is implemented with these regulations (CDWR 2013). Benefits of the water conservation regulations are applied in the CalEEMod mitigation component.

Reductions in emissions from solid waste are based on the City achieving the CalRecycle 75 Percent Initiative by 2020 compared with a 50 percent baseline for 2005. Reductions are taken using the CalEEMod mitigation component.

Regulations applicable to project sources and the percent reduction anticipated from each source are shown in Table 14. The percentage reductions are only applied to the specific sources subject to the regulations. For example, the Pavley LEV Standards apply only to light duty cars and trucks.

Table 14: Reductions from Greenhouse Gas Regulations

Regulation	Project Applicability	Reduction Source	Percent Reduction in 2020 and 2030
Pavley Low Emission Vehicle Standards	Light-duty cars and trucks accessing the site are subject to the regulation.	CalEEMod defaults (Pavley I)	25.1[1]
		Adjusted GHG emission factor (Pavley II/LEV III) in CalEEMod.	3% 2020 19.5% 2030[2]
Truck and Bus Regulation	Heavy-duty trucks accessing the site for deliveries and services are subject to the regulation.	Adjusted GHG emission factors for the regulation in CalEEMod	7.2%[3]
Low Carbon Fuel Standard (LCFS)	Vehicles accessing the site will use fuel subject to the LCFS	CalEEMod defaults	10% 2020 20% 2030[1]
Title 24 Energy Efficiency Standards	Project buildings will be constructed to meet the latest version of Title 24 (currently 2016). Reduction applies only to energy consumption subject to the regulation.	CalEEMod defaults	35%[4,5]
Green Building Code Standards	The project will include water conservation features required by the standard	CalEEMod mitigation component	20%[6]
Water Efficient Land Use Ordinance	The project landscaping will comply with the regulation	CalEEMod mitigation component	20%[7]

Table 14 (cont.): Reductions from Greenhouse Gas Regulations

Regulation	Project Applicability	Reduction Source	Percent Reduction in 2020 and 2030
Renewable Portfolio Standard (RPS)	Electricity purchased for use at the project site is subject to the 33 percent RPS mandate	CalEEMod adjusted energy intensity factors with PG&E emission factors that show the company will exceed the 33 percent mandate.	54.5%[8]
Solid waste	The solid waste service provider will need to provide programs to increase diversion and recycling to meet the 75 percent mandate.	CalEEMod mitigation component	25%[9]

Notes:
Regulations are described in Section 2.3 Regulatory Environment. The source of the percentage reductions from each measure are from the following sources:

1 Pavley 1 + Low Carbon Fuel Standard Postprocessor Version 1.0 User's Guide (ARB 2010b)
2 ARB Staff Report for LEV III Amendments (ARB 2013e)
3 ARB Staff Report for GHG Regulations for Medium and Heavy-Duty Engines and Vehicles (ARB 2013f)
4 California Energy Commission News Release: New Title 24 Standards Will Cut Residential Energy Use by 25 Percent, Save Water, and Reduce Greenhouse Gas Emissions (CEC 2014b)
5 California Energy Commission Adoption Hearing Presentation: 2016 Buildings Energy Efficiency Standards (CEC 2015)
6 2013 California Green Building Standards Code Section 5.303.2
7 California Water Plan Update 2013 (CDWR 2013)
8 Based on CalEEMod default PG&E rate for 2005 and PG&E projected emission factor for 2020
9 CalRecycle 75 Percent Initiative: Defining the Future (2016b)

In addition to rules and regulations, the project would incorporate design features and would obtain benefits from its location and infrastructure that would reduce project VMT compared with default values. The project would construct pedestrian infrastructure connecting to adjacent land uses. In addition, the project would provide electrical outlets for landscaping equipment that would be used in accordance with statewide usage rates for this type of equipment. The project is located approximately 10 miles from existing development in Downtown Fresno, providing shorter-than-average trip lengths to important destinations.

Note that CalEEMod nominally treats these design elements and conditions as "mitigation measures," despite their inclusion in the project description. Therefore, reported operational emissions are considered to represent unmitigated project conditions. Full assumptions and model outputs are provided in Appendix A and results of this analysis for 2025 are presented in Table 15. A second analysis for 2030 is presented in Table 16.

Table 15: Project Operational Greenhouse Gases 2025

Source	Emissions ($MTCO_2e$ per year)		
	Business as Usual	2025 (with Regulation and Design Features)	Percent Reduction
Area	1,100.88	378.28	65.64%
Energy	3,344.00	2,085.37	37.6%
Mobile	10,372.18	6,428.71	38.0%
Waste	437.04	327.78	25.0%
Water	197.19	104.28	47.1%
Amortized Construction Emissions	139.61	139.61	0.0%
Total	15,590.89	9,464.03	39.3%
Reduction from BAU		**6,126.86**	—
Percent Reduction		**39.3%**	—
Significance Threshold		**21.7%**	—
Are emissions significant?		**No**	

Notes:
$MTCO_2e$ = metric tons of carbon dioxide equivalents
The project achieves the SJVAPCD 29 percent reduction from BAU threshold and the 21.7 percent required to show consistency with AB 32 targets.
Source: CalEEMod output (Appendix A).

As shown in Table 16, the project operations in 2025 would achieve a reduction from BAU of 39.3 percent which exceeds the 21.7 percent reduction required by the State to achieve the 2020 target by 17.6 percent and the SJVAPCD 29.0 percent target by 9.6 percent. No new threshold has been adopted by the City of Fresno for the 2030 target, so in the interim the project must make continued progress toward the 2030 goal.

The ARB originally identified a reduction of 29 percent from BAU as needed to achieve AB 32 targets. The 2008 recession and slower growth in the years since 2008 have reduced the growth forecasted for 2020, and the amount needed to be reduced to achieve 1990 levels as required by AB 32. The California Department of Finance (DOF) population forecast for 2020 to 2030 predicts growth in the State of 8.1 percent by the 2030 target year or 0.8 percent per year (DOF 2017).

The project includes design features that would result in reductions in energy use and support walking and bicycling. Measures that are part of the project design do not require additional mitigation measures to ensure they are accomplished.

The 39.3 percent reduction from BAU is 17.6 percent beyond the average reduction required by the State from all sources to achieve the AB 32 2020 target and therefore addresses the concern expressed in Newhall Ranch that projects should likely do more than the average to ensure they are providing a fair share of emission reductions.

Since the project buildout would occur after 2020, additional analysis summarized in Table 16 was prepared to show consistency with SB 32 2030 target.

Table 16: Project Operational Greenhouse Gases 2030

Source	Emissions ($MTCO_2e$ per year)		
	Business as Usual	2030 (with Regulation and Design Features)	Percent Reduction
Area	1,100.88	378.28	65.64%
Energy	3,344.00	2,085.37	37.6%
Mobile	10,372.18	5,023.12	51.6%
Waste	437.04	327.78	25.0%
Water	197.19	104.28	47.1%
Amortized Construction Emissions	139.61	139.61	0.0%
Total	15,590.89	8,058.44	48.3%
	Reduction from BAU	**7,532.46**	—
	Percent Reduction	**48.3%**	—
	Significance Threshold	**21.7%**	—
	Are emissions significant?	**No**	

Notes:
$MTCO_2e$ = metric tons of carbon dioxide equivalents
The project achieves the SJVAPCD 29 percent reduction from BAU threshold and the 21.7 percent required to show consistency with AB 32 targets. No new target has been set for 2030.
Source: CalEEMod output (Appendix A).

As shown in Table 16, the project would exceed the 21.7 percent reduction required by the State to achieve the 2020 target by 26.6 percent and the SJVAPCD 29.0 percent target by 19.3 percent.

The analysis presented above does not include new strategies proposed in the 2017 Scoping Plan Update. The update was adopted in December 2017. The update provides alternatives in terms of their likelihood of implementation and ranges of reduction from the strategies. Measures already authorized by legislation are highly likely to be implemented, while measures requiring new legislation are less likely to go forward. The State is highly likely to incorporate zero net energy buildings in future updates to Title 24 and now requires solar panels in most residential development. A new round of motor vehicle fuel efficiency standards beyond 2025 when LEV III standards are at their maximum reduction level is highly likely. Changing heavy-duty trucks and off-road equipment to alternative fuels face greater technological hurdles and are less likely to provide dramatic reductions by 2030.

The 2030 emission limit is 260 $MMTCO_2e$. The ARB estimates that the 2030 BAU (reference) Inventory will be 392 $MMTCO_2e$—a reduction of 132 $MMCO_2e$, including existing policies and programs but not including known commitments that are already underway. The 2017 Scoping Plan Update includes the estimated GHG emissions by sector compared with 1990 levels that is presented in Table 17. The

proposed plan would achieve the bulk of the reductions from Electric Power, Industrial fuel combustion, and Transportation. Cap-and-Trade would provide between 10 and 20 percent of the required reductions depending on the amounts achieved by the other reduction measures.

Table 17: 2017 Scoping Plan Update Estimated Change in GHG Emissions by Sector

Scoping Plan Sector	Emissions ($MMTCO_2e$ per year)		
	1990	2030 Proposed Plan Ranges	Percent Change form 1990
Agriculture	26	24–25	-4 to -8
Residential and Commercial	44	38–40	-9 to -14
Electric Power	108	42–62	-43 to -61
High GWP	3	8–11	167 to 267
Industrial	98	77–87	-11 to -21
Recycling and Waste	7	8–9	14 to 29
Transportation (including TCU)	152	103–111	-27 to -32
Net Sink	-7	TBD	TBD
Subtotal	**431**	**300–345**	**-20 to -30**
Cap-and-Trade Program	N/A	40–85	N/A
Total	**431**	**260**	**-40**
Source: ARB 2017 Scoping Plan Update (ARB 2017c).			

Although 2017 Scoping Plan Update focuses on state agency actions necessary to achieve the 2030 GHG limit, the ARB considers local governments essential partners in achieving California's goals to reduce GHG emissions. The 2030 target will require an increase in the rate of emission reductions compared to what was needed to achieve the 2020 limit, and this will require action and collaboration at all levels, including local government action to complement and support State-level actions. For individual projects, the 2017 Scoping Plan Update suggests that all new land use development implement all feasible measures to reduce GHG emissions. The Scoping Plan does not define all feasible measures or attribute an amount of reductions required from new development beyond compliance with regulations. When requiring mitigation of a project's fair share of a cumulative impact, the Lead Agency must show the nexus between the project contribution and its fair share of mitigation to reduce the impact to less than cumulatively considerable. A threshold based on local support and collaboration with State actions as described in the 2017 Scoping Plan Update does not lend itself to a quantitative determination of fair share. Requiring developers and future residents of the development to fully mitigate emissions without accounting for compliance with regulations would result in double mitigation, first by the developer and then by the residents purchasing electricity, fuel, and vehicles compliant with regulations in effect at the time of purchase and beyond that would violate constitutional nexus requirements.

In conclusion, the project would achieve reductions of 17.6 percent beyond the ARB 2020 21.7 percent target and 9.6 percent beyond the SJVAPCD 29 percent reduction from BAU requirements

from adopted regulations and on-site design features. No new threshold has been adopted by the City for the SB 32 2030 target; however, the reductions from BAU by 2030 are 26.6 percent beyond the 21.7 percent required for the 2020 target. Based on this progress and the strong likelihood that the measures included in the 2017 Scoping Plan Update will be implemented, it is reasonable to conclude that the project is consistent with the 2017 Scoping Plan and will contribute a reasonable fair-share contribution to achieving the 2030 target. The fair share may very well be achieved through compliance with increasingly stringent State regulations that apply to new development, such as Title 24 and CALGreen; regulations on energy production, fuels, and motor vehicles that apply to both new and existing development; and voluntary actions to improve energy efficiency in existing development. In addition, compliance with the VMT targets adopted to comply with SB 375 and implemented through the RTP/SCS may be considered to adequately address GHG emissions from passenger cars and light-duty trucks. As shown in Table 17, the State strategy relies on the Cap-and-Trade Program to make up any shortfalls that may occur from the other regulatory strategies. The costs of Cap-and-Trade emission reductions will ultimately be passed on to the consumers of fuels, electricity, and products produced by regulated industries, which include future residents of development projects and other purchasers of products and services. Therefore, the impact in terms of Considerations #1 and #2 would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

6.2.2 - Greenhouse Gas Reduction Plans

Impact GHG-2: The project would not conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of greenhouse gases.

Impact Analysis

The following analysis assesses the project's compliance with Consideration #3 regarding consistency with adopted plans to reduce GHG emissions. The City of Fresno adopted its GHG Reduction Plan as part of the General Plan Update in 2014. The project's consistency with applicable GHG policies from the GHG Reduction Plan policies is assessed below.

The project is also assessed for its consistency with ARB's adopted Scoping Plans. This would be achieved with an assessment of the project's compliance with Scoping Plan measures contained in the 2008 Scoping Plan and the 2017 Scoping Plan Update.

City of Fresno GHG Plan

The GHG Plan includes procedures to use when assessing the impacts of project's requiring a general plan amendment. The following requirements apply.

1. Review General Plan policies listed in the GHG Reduction Plan to identify those that apply to the project and prepare a consistency analysis for compliance with the applicable policies.
2. Ensure project is consistent with the City's Development Code as it relates to complete streets and design standards for multi-family projects
3. Prepare a GHG technical study to quantify project emissions and emission reductions through compliance with regulations and project design features.

Table 18 provides a consistency analysis with applicable GHG policies from the GHG Reduction Plan. The project is consistent with all applicable policies.

Table 18: Consistency with Fresno Greenhouse Gas Reduction Plan

Climate Action Plan Policy	Project Consistency
Policy RC-2-a Link Land Use to Transportation. Promote mixed-use, higher density infill development in multi-modal corridors. Support land use patterns that make more efficient use of the transportation system and plan future transportation investments in areas of higher-intensity development. Discourage investment in infrastructure that would not meet these criteria**.**	**Consistent**. The project will provide higher-density, compact development at an undeveloped site, making more efficient use of the existing infrastructure.
Objective UF-12 Locate roughly one-half of future residential development in infill areas—defined as being within the City on December 21, 2012—including the Downtown core area and surrounding neighborhoods, mixed-use centers and transit-oriented development along major BRT corridors, and other non-corridor infill areas, and vacant land.	**Consistent**. Although not currently within the City, the project is residential development within the City of Fresno planning area. The project site is within 1.8 miles of the Central High School East campus and 0.5 mile of the Glacier Point Middle School campus and the Harvest Elementary School. The project is also within 3 miles of existing regional commercial development on West Shaw Avenue and North Brawley Avenue. The project would not preclude the City from achieving this objective.
Policy LU-2-b Infill Development for Affordable Housing. Consider a priority infill incentive program for residential infill development of existing vacant lots and underutilized sites within the City as a strategy to help to meet the affordable housing needs of the community.	**Not Applicable.** The project is residential development on an underutilized site; however, the project would provide market-based housing. Although not classified as "affordable housing," development of the project would provide housing that helps the City meet the needs of the community.
Policy LU-5-f High Density Residential Uses. Promote high-density residential uses to support Activity Centers and BRT corridors, affordable housing and walkable access to transit stops**.**	**Not Applicable.** The project is not within a designated Activity Center or BRT corridor.
Policy UF-14-a Design Guidelines for Walkability. Use design guidelines and standards for a walkable and pedestrian-scaled environment with a network of streets and connections for pedestrians and bicyclists, as well as transit and autos.	**Consistent.** The project will comply with the City Development Code, which requires appropriate pedestrian infrastructure in new development projects. The project connects to the existing street network that includes sidewalks.

Table 18 (cont.): Consistency with Fresno Greenhouse Gas Reduction Plan

Climate Action Plan Policy	Project Consistency
Objective MT-9 Provide public transit opportunities to the maximum number and diversity of people practicable in balance with providing service that is high in quality, convenient, frequent, reliable, and financially feasible.	**Not Applicable.** The project is not on an existing FAX transit line; however, the project provides increased development density that could help support future transit in the area.
Policy MT-6-a Link Residences to Destinations. Design a pedestrian and bicycle path network that links residential areas with Activity Centers, such as parks and recreational facilities, educational institutions, employment centers, cultural sites, and other focal points of the city environment.	**Consistent.** The project will provide pedestrian infrastructure connecting to neighboring uses. A 1.8-acre neighborhood park is planned on the site. Future bikeways or bike lanes will be constructed that connect project residences to neighboring uses such the Central High School East campus, the Glacier Point Middle School, and the Harvest Elementary School.
Objective RC-8 Reduce the consumption of non-renewable energy resources by requiring and encouraging conservation measures and the use of alternative energy sources**.**	**Consistent.** The project will comply with Title 24 Energy Efficiency Standards and CalGreen Code requirements for solar ready roofs, electric vehicle charging, and water conservation. The 2019 Title 24 Standards went into effect on January 1, 2020. Proposed buildings that would receive building permits after January 1, 2020 would be subject to the 2019 Title 24 Standards. One of the notable changes in the 2019 Title 24 Standards includes the solar photovoltaic systems requirement for new low-rise residential homes.
Policy RC-8-a Existing Standards and Programs. Continue existing beneficial energy conservation programs, including adhering to the California Energy Code in new construction and major renovations.	**Consistent.** The project will comply with all applicable energy standards such as Title 24 Building Energy Standards and home appliance purchased for the homes will comply with Title 20 Appliance Standards.
Policy RC-8-b Energy Reduction Targets. Strive to reduce per capita residential electricity use to 1,800 kWh per year and nonresidential electricity use to 2,700 kWh per year per capita by developing and implementing incentives, design and operation standards, promoting alternative energy sources, and cost-effective savings.	**Consistent.** The project will comply with the Title 24 energy standards in effect at the time building permits are processed for approval. With the new solar panel requirements, homes are expected to meet or exceed this target.
Source: City of Fresno Greenhouse Gas Reduction Plan 2014.	

AB 32 Scoping Plan

The California State Legislature adopted AB 32 in 2006. AB 32 focuses on reducing GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) to 1990 levels by the year 2020. Pursuant to the requirements in AB 32, the ARB adopted the Climate Change Scoping Plan (Scoping Plan) in 2008, which outlines actions recommended to obtain that goal. The Scoping Plan calls for an “ambitious but achievable” reduction in California’s GHG emissions, cutting approximately 30 percent from BAU emission levels projected for 2020, or about 10 percent from 2008 levels. On a per-capita basis, that means reducing annual emissions of 14 tons

of carbon dioxide for every man, woman, and child in California down to about 10 tons per person by 2020. As stated earlier, the ARB has updated its emission inventory forecasts and now estimates a reduction of 21.7 percent is required from BAU in 2020 to achieve AB 32 targets.

The Scoping Plan contains a variety of strategies to reduce the State's emissions. As shown in Table 19, the project is consistent with most of the strategies, while others are not applicable to the project. As discussed earlier, the 2017 Scoping Plan Update strategies primarily rely on increasing the stringency of existing regulations with which the project would continue to comply, support through the project's design, and implementation of the General Plan goals and policies.

Table 19: Project Consistency with AB 32 Scoping Plan

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
Transportation	California Cap-and-Trade Program Linked to Western Climate Initiative	Regulation for the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanism October 20, 2015 (CCR 95800)	**Consistent.** The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers. However, the regulation indirectly affects people who use the products and services produced by these industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period.
	California Light-Duty Vehicle Greenhouse Gas Standards	Pavley I 2005 Regulations to Control GHG Emissions from Motor Vehicles	**Consistent**. This measure applies to all new vehicles starting with model year 2012. The project would not conflict with its implementation as it would apply to all new passenger vehicles purchased in California. Passenger vehicles, model year 2012 and later, associated with construction and operation of the project would be required to comply with the Pavley emissions standards.
		2012 LEV III Amendments to the California Greenhouse Gas and Criteria Pollutant Exhaust and Evaporative Emission Standards	
	Low Carbon Fuel Standard.	2009 readopted in 2015. Regulations to Achieve Greenhouse Gas Emission Reductions Subarticle 7. Low Carbon Fuel Standard CCR 95480	**Consistent.** This measure applies to transportation fuels utilized by vehicles in California. The project would not conflict with implementation of this measure. Motor vehicles associated with construction and operation of the project would utilize low carbon transportation fuels as required under this measure.

Table 19 (cont.): Project Consistency with AB 32 Scoping Plan

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
	Regional Transportation-Related Greenhouse Gas Targets.	SB 375. Cal. Public Resources Code §§ 21155, 21155.1, 21155.2, 21159.28	**Consistent**. The project will provide residential development in the region that is consistent with the increased development densities promoted in the 2018 Regional Transportation Plan/Sustainable Communities Strategy (SCS). The project is not within an SCS priority area and so is not subject to requirements applicable to those areas.
	Goods Movement	Goods Movement Action Plan January 2007.	**Not applicable**. The project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation.
	Medium/Heavy-Duty Vehicles	2010 Amendments to the Truck and Bus Regulation, the Drayage Truck Regulation and the Tractor-Trailer Greenhouse Gas Regulation	**Consistent**. This measure applies to medium- and heavy-duty vehicles that operate in the State. The project would not conflict with implementation of this measure. Medium- and heavy-duty vehicles associated with construction and operation of the project would be required to comply with the requirements of this regulation.
	High Speed Rail	Funded under SB 862	**Not applicable**. This is a statewide measure that cannot be implemented by a project applicant or lead agency.
Electricity and Natural Gas	Energy Efficiency	Title 20 Appliance Efficiency Regulation	**Consistent.** The project would not conflict with implementation of this measure. The project will comply with the latest energy efficiency standards and incorporate applicable energy efficiency features designed to reduce project energy consumption.
		Title 24 Part 6 Energy Efficiency Standards for Residential and Non-Residential Building	
		Title 24 Part 11 California Green Building Code Standards	
	Renewable Portfolio Standard/Renewable Electricity Standard.	2010 Regulation to Implement the Renewable Electricity Standard (33% 2020)	**Consistent**. PG&E obtained 33 percent of its power supply from renewable sources such as solar and geothermal in 2017, and about 70 percent of the electricity it delivers is carbon-free, including nuclear and large hydroelectric facilities. The owners of residences within the project would purchase power that consists of a greater percentage of renewable sources and could install renewable solar power systems that will assist the utility in achieving exceeding the renewable mandate.
		SB 350 Clean Energy and Pollution Reduction Act of 2015 (50% 2030)	

Table 19 (cont.): Project Consistency with AB 32 Scoping Plan

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
	Million Solar Roofs Program	Tax incentive program	**Consistent.** This measure is intended to increase solar throughout California by means of a variety of electricity providers and existing solar programs. Projects within the plan area will be able to take advantage of incentives that are in place at the time of construction. The project includes installation of solar panels.
Water	Water	Title 24 Part 11 California Green Building Code Standards	**Consistent.** The project will comply with the California Green Building Standards Code, which requires a 20 percent reduction in indoor water use. The project will also comply with the MWELO as required by the City's development code and water ordinance.
		SBX 7-7—The Water Conservation Act of 2009	
		Model Water Efficient Landscape Ordinance	
Green Buildings	Green Building Strategy	Title 24 Part 11 California Green Building Code Standards	**Consistent.** The State will increase the use of green building practices. The project would implement required green building strategies through existing regulation that requires the project to comply with various CALGreen requirements. The project includes sustainability design features that support the Green Building Strategy.
Industry	Industrial Emissions	2010 ARB Mandatory Reporting Regulation	**Not applicable.** The project is not an industrial land use.
Recycling and Waste Management	Recycling and Waste	Title 24 Part 11 California Green Building Code Standards	**Consistent.** The project would not conflict with implementation of these measures. The project is required to achieve the recycling mandates via compliance with the CALGreen code. The project would utilize City of Fresno recycling services.
		AB 341 Statewide 75 Percent Diversion Goal	
Forests	Sustainable Forests	Cap-and-Trade Offset Projects	**Not applicable.** The project site is in an area designated for urban uses. No forested lands exist on-site.

Table 19 (cont.): Project Consistency with AB 32 Scoping Plan

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
High Global Warming Potential	High Global Warming Potential Gases	ARB Refrigerant Management Program CCR 95380	**Not applicable**. The regulations are applicable to refrigerants used by large air conditioning systems and large commercial and industrial refrigerators and cold storage system. Homes do not use large systems subject to the refrigerant management regulations adopted by ARB.
Agriculture	Agriculture	Cap-and-Trade Offset Projects for Livestock and Rice Cultivation	**Not applicable**. The project site is proposed for urban development. No grazing, feedlot, or other agricultural activities that generate manure occur currently exist on-site or are proposed to be implemented by the project.
Source of ARB Scoping Plan Reduction Measures: California Air Resources Board 2008.			

In summary, the project incorporates a number of features that would minimize GHG emissions. These features are consistent with project-level strategies identified by the ARB's Scoping Plan and the City of Fresno GHG Reduction Plan. As demonstrated in the impact analysis above, the project would achieve a 39.3 percent reduction from the BAU inventory by 2025 and 48.3 percent from the BAU inventory by 2030; therefore, the project would not significantly hinder or delay the State's ability to meet the reduction targets contained in AB 32 or SB 32 or conflict with implementation of the Scoping Plan. The project promotes the goals of the Scoping Plan through implementation of design measures that reduce energy consumption, water consumption, and reduction in VMT. Therefore, the project does not conflict with any plans to reduce GHG emissions. The impact would be less than significant.

Consistency with California's Post-2020 Targets

The State's executive branch adopted several Executive Orders related to GHG emissions. Executive Orders S-3-05 and B-30-15 are two examples. Executive Order S-3-05 sets goals to reduce emissions to 1990 levels by 2020 and 80 percent below 1990 levels by 2050. The goal of Executive Order S-3-05 to reduce GHG emissions to 1990 levels by 2020 was codified by AB 32. The project, as analyzed above, is consistent with AB 32. Therefore, the project does not conflict with this component of Executive Order S-3-05. Executive Order B-30-15 establishes an interim goal to reduce GHG emissions to 40 percent below 1990 levels by 2030.

The 2030 goal was codified under SB 32 and is now addressed by the 2017 Scoping Plan Update. The new plan provides a strategy that is capable of reaching the SB 32 target if the measures included in the plan are implemented and achieve reductions within the ranges expected. Under the Scoping Plan Update, local government plays a supporting role through its land use authority and control over local transportation infrastructure. The Plan Update includes reductions from implementation of SB 375 that applies to VMT from passenger vehicles. Fresno County targets for SB 375 are a 5 percent reduction by 2020 and a 10 percent reduction by 2035. SB 375 is implemented with the Fresno COG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The RTP/SCS envisions an increase in development density that would encourage fewer and shorter trips and more trips by transit, walking, and bicycling in amounts sufficient to achieve the SB 375 targets.

Now that the 2017 Scoping Plan has been adopted, new methodologies and threshold approaches are required to determine the fair-share contributions City development projects would need to make to achieve the 2030 target. In the meantime, however, the discussion under "Consistency with SB 32" below addresses the consistency of the proposed project with SB 32, which provides the statutory underpinning of the 2017 Scoping Plan. The SB 32 target requires GHG emissions to be reduced from 1990 levels. No consensus has been reached around the State on a new quantitative target for new development based on consistency with the SB 32 targets.

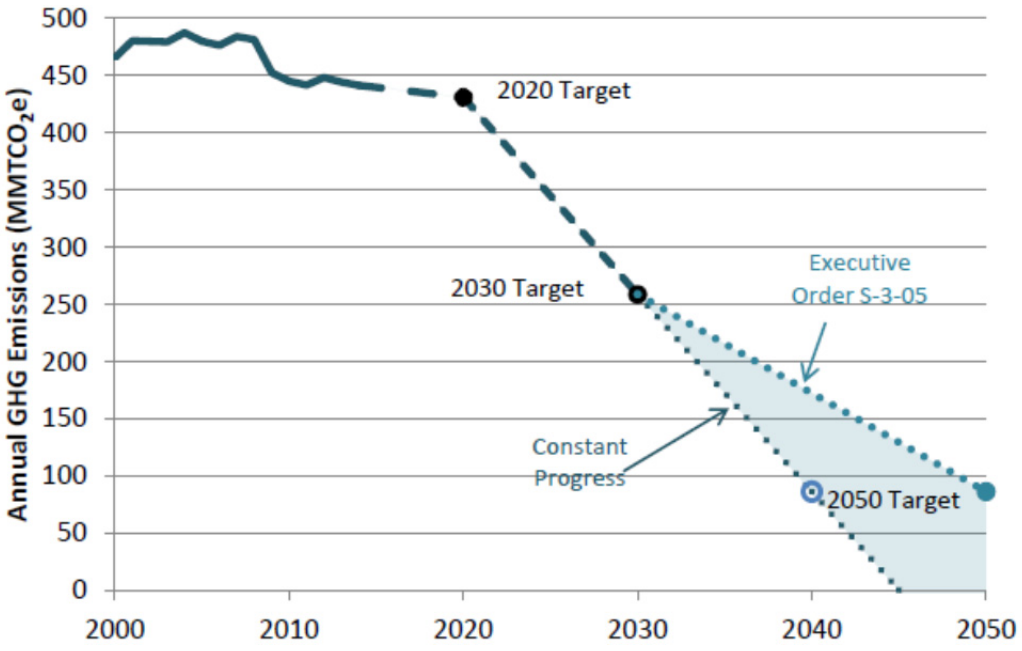
The Executive Order S-3-05 2050 target has not been codified by legislation. Studies have shown that, in order to meet the 2050 target, aggressive pursuit of technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. Because of the technological shifts required and the unknown parameters of the regulatory framework in 2050, quantitatively analyzing the project's impacts further relative to the 2050 goal is speculative for purposes of CEQA (ARB 2014b).

The ARB recognized that AB 32 established an emissions reduction trajectory that will allow California to achieve the more stringent 2050 target: "These [greenhouse gas emission reduction] measures also put the State on a path to meet the long-term 2050 goal of reducing California's GHG emissions to 80 percent below 1990 levels. This trajectory is consistent with the reductions that are needed globally to stabilize the climate." In addition, ARB's First Update "lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050," and many of the emission reduction strategies recommended by ARB would serve to reduce the proposed project's post-2020 emissions level to the extent applicable by law:

- **Energy Sector:** Continued improvements in California's appliance and building energy efficiency programs and initiatives, such as the State's zero net energy building goals, would serve to reduce the proposed project's emissions level. Additionally, further additions to California's renewable resource portfolio would favorably influence the project's emissions level.
- **Transportation Sector:** Anticipated deployment of improved vehicle efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the project's emissions level.
- **Water Sector:** The project's emissions level will be reduced as a result of further desired enhancements to water conservation technologies.
- **Waste Management Sector:** Plans to further improve recycling, reuse and reduction of solid waste will beneficially reduce the project's emissions level.

For the reasons described above, the project's post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets. The trajectory required to achieve the post-2020 targets is shown in Figure 10.

Figure 10: California's Path to Achieving the 2050 Target



Source: ARB 2017 Scoping Plan Update (ARB 2017c)

In his January 2015 inaugural address, Governor Brown expressed a commitment to achieve "three ambitious goals" that he would like to see accomplished by 2030 to reduce the State's GHG emissions:

- Increasing the State's Renewable Portfolio Standard from 33 percent in 2020 to 50 percent in 2030;
- Cutting the petroleum use in cars and trucks in half; and
- Doubling the efficiency of existing buildings and making heating fuels cleaner.

These expressions of executive branch policy may be manifested in adopted legislative or regulatory action through the state agencies and departments responsible for achieving the State's environmental policy objectives, particularly those relating to global climate change (Brown 2015). Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies could allow the State to meet the 2050 target (Energy and Economics 2015).

Given the proportional contribution of mobile source-related GHG emissions to the State's inventory, recent studies also show that relatively new trends—such as the increasing importance of web-based shopping, the emergence of different driving patterns by the "millennial" generation, and the increasing effect of web-based applications on transportation choices—are beginning to substantially influence transportation choices and the energy used by transportation modes. These factors have changed the direction of transportation trends in recent years and will require the creation of new models to effectively analyze future transportation patterns and the corresponding effect on GHG emissions. For the reasons described above, the proposed project's post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets.

Consistency with SB 32

The 2017 Climate Change Scoping Plan Update (2017 Scoping Plan) includes the strategy that the State intends to pursue to achieve the 2030 targets of Executive Order S-3-05 and SB 32. The 2017 Scoping Plan includes the following summary of its overall strategy for reaching the 2030 target:

- SB 350
  - Achieve 50 percent Renewables Portfolio Standard (RPS) by 2030.
  - Doubling of energy efficiency savings by 2030.
- Low Carbon Fuel Standard (LCFS)
  - Increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020).
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario)
  - Maintaining existing GHG standards for light- and heavy-duty vehicles.
  - Put 4.2 million zero-emission vehicles (ZEVs) on the roads.
  - Increase ZEV buses, delivery and other trucks.

- Sustainable Freight Action Plan
  - Improve freight system efficiency.
  - Maximize use of near-zero emission vehicles and equipment powered by renewable energy.
  - Deploy over 100,000 zero-emission trucks and equipment by 2030.
- Short-Lived Climate Pollutant (SLCP) Reduction Strategy
  - Reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030.
  - Reduce emissions of black carbon 50 percent below 2013 levels by 2030.
- SB 375 Sustainable Communities Strategies
  - Increased stringency of 2035 targets.
- Post-2020 Cap-and-Trade Program
  - Declining caps, continued linkage with Québec, and linkage to Ontario, Canada.
  - ARB will look for opportunities to strengthen the program to support more air quality co-benefits, including specific program design elements. In Fall 2016, ARB staff described potential future amendments including reducing the offset usage limit, redesigning the allocation strategy to reduce free allocation to support increased technology and energy investment at covered entities and reducing allocation if the covered entity increases criteria or toxics emissions over some baseline.
- By 2018, develop Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Table 20 provides an analysis of the project's consistency with the 2017 Scoping Plan Update measures.

Table 20: Consistency with SB 32 2017 Scoping Plan Update

Scoping Plan Measure	Project Consistency
SB 350 50% Renewable Mandate. Utilities subject to the legislation will be required to increase their renewable energy mix from 33% in 2020 to 50% in 2030.	**Consistent**: The project will purchase electricity from a utility subject to the SB 350 Renewable Mandate.
SB 350 Double Building Energy Efficiency by 2030. This is equivalent to a 20 percent reduction from 2014 building energy usage compared to current projected 2030 levels	**Not Applicable**. This measure applies to existing buildings. New structures are required to comply with Title 24 Energy Efficiency Standards that are expected to increase in stringency until residential housing achieves zero net energy.
Low Carbon Fuel Standard. This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030.	**Consistent**. Vehicles accessing the project site will use fuel containing lower carbon content as the fuel standard is implemented.
Mobile Source Strategy (Cleaner Technology and Fuels Scenario) Vehicle manufacturers will be required to meet existing regulations mandated by the LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million ZEVs on the road by 2030 and increasing numbers of ZEV trucks and buses.	**Consistent**. Project residents can be expected to purchase increasing numbers of more fuel efficient and zero emission cars and trucks each year. The 2016 CALGreen Code requires electrical service in new single-family housing to be EV charger-ready. Home deliveries will be made by increasing numbers of ZEV delivery trucks.

Table 20 (cont.): Consistency with SB 32 2017 Scoping Plan Update

Scoping Plan Measure	Project Consistency
Sustainable Freight Action Plan The plan's target is to improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030. This would be achieved by deploying over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.	**Not Applicable**. The measure applies to owners and operators of trucks and freight operations. However, home deliveries are expected to be made by increasing number of ZEV delivery trucks.
Short-Lived Climate Pollutant (SLCP) Reduction Strategy. The strategy requires the reduction of SLCPs by 40 percent from 2013 levels by 2030 and the reduction of black carbon by 50 percent from 2013 levels by 2030.	**Consistent**. The project will include only natural gas hearths that produce very little black carbon compared to woodburning fireplaces and heaters.
SB 375 Sustainable Communities Strategies. Requires Regional Transportation Plans to include a sustainable communities strategy for reduction of per capita vehicle miles traveled. The targets for Fresno County are	**Consistent**. The project will provide residential development in the region that is consistent with the Regional Transportation Plan/Sustainable Communities Strategy (SCS) strategy to increase development densities to reduce VMT. The project is not within an SCS priority area and so is not subject to requirements applicable to those areas.
Post-2020 Cap-and-Trade Program. The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers.	**Consistent.** The post-2020 Cap-and-Trade Program indirectly affects people who use the products and services produced by the regulated industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the program's first compliance period.
Natural and Working Lands Action Plan. The ARB is working in coordination with several other agencies at the federal, state, and local levels, stakeholders, and with the public, to develop measures as outlined in the Scoping Plan Update and the governor's Executive Order B-30-15 to reduce GHG emissions and to cultivate net carbon sequestration potential for California's natural and working land.	**Not Applicable**. The project is residential development and will not be considered natural or working lands.
Source: ARB 2017 Scoping Plan Update.	

Regarding goals for 2050 under Executive Order S-3-05, at this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been developed; nevertheless, it can be anticipated that operation of the project would comply with whatever measures are enacted that state lawmakers decide would lead to an 80 percent reduction below 1990 levels by 2050. In its 2008 Scoping Plan, ARB acknowledged that the "measures needed to meet the 2050 are too far in the future to define in detail." In the First Scoping Plan Update; however, ARB generally described the type of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; large scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately." The 2017 Scoping Plan provides an intermediate target that is intended to achieve reasonable progress toward the 2050 target.

Accordingly, taking into account the proposed project's emissions, project design features, and the progress being made by the State towards reducing emissions in key sectors such as transportation, industry, and electricity, the project would be consistent with State GHG Plans and would further the State's goals of reducing GHG emissions to 1990 levels by 2020, 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050, and does not obstruct their attainment.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

SECTION 7: ENERGY

7.1—CEQA Guidelines

CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy. Appendix F of the CEQA Guidelines applies to the direct and indirect impact analysis, as well as the cumulative impact analysis.

7.2—Impact Analysis

7.2.1 - Energy

Impact ENERGY-1: The project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.

Impact Analysis

Threshold of Significance

Appendix F does not prescribe a threshold for the determination of significance. Rather, Appendix F focuses on reducing and minimizing inefficient, wasteful, and unnecessary consumption of energy. Therefore, for the purposes of this EIR, a significant impact to energy would result if the project would:

1. Result in the wasteful and inefficient use of nonrenewable resources during its construction.
2. Result in the wasteful and inefficient use of nonrenewable resources during long-term operation.
3. Be inconsistent with Adopted Plans and Policies.

Construction Energy Consumption

Project construction is assumed to be completed over five years. Construction activities would consume energy through the operation of heavy off-road equipment, trucks, and worker traffic. Construction equipment fuel consumption for each of was based on equipment lists generated using CalEEMod default values. The fuel consumption of off-road equipment calculated in this analysis is based on an SCAQMD estimated fuel consumption rate of 0.05 gallon per horsepower-hour and the horsepower, usage hours, and load factors from CalEEMod model runs prepared for the project's air quality analysis.

Based on the anticipated construction schedule and hours of use, construction equipment would result in the consumption of approximately 1,044,003 gallons of diesel fuel over the entire construction period.

Worker, vendor, and haul trips would result in approximately 786,618 VMT over the entire construction period. A countywide average fuel consumption of 30.7 miles per gallon (mpg) for

employee vehicles and 8.3 mpg for vendor trucks were obtained from EMFAC 2017. The results indicate that construction trips would consume approximately 27,070 gallons of motor vehicle fuel.

Although the proposed project would result in the consumption of an estimated 1,044,003 gallons of diesel and 27,070 gallons of motor vehicle fuels during construction, the project is expected to achieve energy efficiencies typical for residential projects in California. Construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency, combined with local, state, and federal regulations limiting engine idling times and require recycling of construction debris, would further reduce the amount of transportation fuel demand during project construction. Considering these reductions in transportation fuel use, the proposed project would not result in the wasteful and inefficient use of energy resources during construction and impacts would be less than significant. Detailed modeling results are provided in Appendix A. Construction energy use is summarized in Table 21.

Table 21: Construction Energy Consumption

Activity	Variable	Consumption Rate	Consumption Amount
Construction Equipment Diesel Fuel Use	hp-hr of equipment use per project Hours of Use	0.05 gal/hp-hr 199,600 hours	1,104,003 gallons (diesel)
Construction Employee VMT	VMT/Project	VMT = 770,094 mpg = 30.7	25,076 gallons (gasoline)
Construction Vendor Truck VMT	VMT/Project	VMT = 16,524 mpg = 8.29	1,993 gallons (diesel)
Notes: mpg = miles per gallon VMT = vehicle miles traveled hp-hr = horsepower per hour Source of data for construction and VMT: CalEEMod 2016.3.2 Source of Fresno County mpg for 2025: EMFAC 2017. Modeling results are provided in Appendix A.			

Operation Energy Consumption

Long-term energy consumption associated with the project includes electricity and natural gas consumption by residents, energy required for water supply, treatment, distribution, and wastewater treatment, and motor vehicle travel.

Electricity and Natural Gas Consumption

During operations the proposed project would consume natural gas for space heating, water heating, and cooking associated with the land uses on the project site. The natural gas consumption was estimated using the CalEEMod default values and results. The results of the analysis indicate that the project would consume approximately 20,741,900 thousand British thermal units (kBTU) per year of natural gas per year during operation.

In addition to the consumption of natural gas, the proposed project would use electricity for lighting, appliances, and other uses associated with the project. Electricity use during operations was estimated using CalEEMod default values. The results of the modeling indicate that the project would use approximately 7,335,230 kilowatt-hours (kWh) of electricity per year. Title 24 (2019)

requires the installation of solar panels in residential developments. Variations in the amount installed can be due to local conditions and project design. In addition, some projects may use community solar instead of rooftop solar installations. Although the energy estimates assume no solar will be installed, most electricity used by the residential portions of the project is expected to be generated by zero emission renewable sources.

As described above, the proposed project would result in a long-term increase in demand for electricity from PG&E. However, the project would be designed to meet the most recent Title 24 standards. Title 24 specifically establishes energy efficiency standards for residential and non-residential buildings constructed in the State of California in order to reduce energy demand and consumption. Title 24 is updated periodically to incorporate and consider new energy efficiency technologies and methodologies. Therefore, impacts from the wasteful or inefficient use of electricity or natural gas during operation of the project would be less than significant.

Water Treatment, Conveyance, and Distribution

Water used for indoor and outdoor purposes requires electricity for water treatment, conveyance, and distribution. The project's water demand was calculated from default values for the residential development using CalEEMod. Based on this methodology, the proposed project is estimated to use approximately 1,650 million gallons of indoor water per year as well as 278 million gallons of outdoor water per year. This would result in the use of approximately 6,748,120 kWh of electricity per year.

Although the proposed project would result in electricity use from the treatment, conveyance, and distribution of water to the project site, the project would also require all water fixtures to be compliant with the 2013 California Green Building Standards Code and the MWELO, which would reduce the amount of water used by the project and require compliance with regulations relating to drought conditions. Therefore, the project would not result in the wasteful or inefficient use of electricity for water treatment, conveyance, and distribution and impacts would be less than significant.

Wastewater Service

The project would be served by the Fresno-Clovis Regional Wastewater Reclamation Facility. Project wastewater generation was estimated using CalEEMod default assumptions for indoor water use required by the project land uses. Project indoor water use of 43.9 million gallons per day would result in the use of 238,041 kWh of electricity per year. Compliance with the 2013 California Green Building Standards Code, would reduce the wastewater generated by the project. Energy used for treating project wastewater will increasingly be generated by renewable energy sources to comply with RPS standards that apply to the energy utility serving the project area.

Wastewater service would require an extension of sewer lines to the treatment plant. The energy added for the extension and use of these facilities combined with the project's estimated electricity and natural gas consumption would not result in substantial new energy generation or transmission infrastructure due to the location and capacity of existing energy infrastructure near the project site. Additionally, the project would be constructed over about 5 years, allowing for gradual expansion of facilities. Therefore, the project would not result in the wasteful or inefficient use of electricity for wastewater treatment, and impacts would be less than significant.

Fuel Consumption

During operation of the proposed project, vehicle trips would be generated by the project. The project was modeled with CalEEMod using ITE 10th Edition vehicle trip generation rates and default trip lengths. The results show that the vehicle trips generated would result in approximately 21,848,048 VMT per year. Based on a countywide average fuel consumption of 27.1 mpg from EMFAC 2017 for all vehicle classifications for 2025, the proposed project would result in the consumption of an estimated 734,388 gallons per year of transportation fuel.

Various federal and state regulations including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program would serve to reduce the project's transportation fuel consumption progressively into the future. In addition, the project will include bike lanes, and trails that will increase trips by walking and bicycling. Therefore, the project would be designed to avoid the wasteful and inefficient use of transportation fuel during operations and impacts would be less than significant.

State and federal regulatory requirements addressing fuel efficiency are expected to increase fuel efficiency over time as older, less fuel-efficient vehicles are retired. The efficiency standards and light/heavy vehicle efficiency/hybridization programs, contribute to increased fuel efficiency and therefore would reduce vehicle fuel energy consumption rates over time. The annual vehicular energy consumption calculated for the proposed project was based on 2025 average rates for Fresno County. While the project would increase the consumption of gasoline and diesel proportionately with projected population growth, the increase would be accommodated within the projected growth as part of the energy projections for the state and the region and would not require the construction of new regional energy production facilities. Therefore, energy impacts related to fuel consumption/efficiency during project operations would be less than significant.

Impact Summary

As described above, the project would result in less than significant impacts on the wasteful, inefficient, or unnecessary use of energy due to project design features that will comply with the City's design guidelines and regulations that apply to the project such as Title 24 Building Energy Efficiency Standards and the California Green Building Standards Code that apply to commercial and residential buildings. The installation of solar panels required by 2019 Title 24 standards is expected to offset most electricity used by project residences. Furthermore, various federal and state regulations including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program would serve to reduce the transportation fuel demand by the project.

With the adherence to the increasingly stringent building and vehicle efficiency standards as well as implementation of the project's design features that would reduce energy consumption, the proposed project would not contribute to a cumulative impact to the wasteful or inefficient use of energy. As such, the project would not result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. A summary of the project's estimated operational energy consumption is provided in Table 22.

Table 22: Operational Energy Consumption

Activity	Variable	Consumption Rate	Consumption Amount
Residential Electricity	844 Dwelling Unit	5,053 kWh/unit/year	7.34 MWh/year
Residential Natural Gas		17,726 kBTU/unit/year	20,741,900 kBTU/year
Water Supply, Treatment, and Conveyance and Wastewater Treatment	Water Use (Mgal)	71.7 Mgal/yr	335,110 kWh/year
Transportation	VMT/year mpg all Fuels	VMT/year = 21,848,042 miles mpg = 29.8	734,388 gallons/year Transportation Fuels

Notes:
MPG = miles per gallon Mgal = million gallons VMT = vehicle miles traveled
kW = kilowatts kWh = kilowatt-hours MWh = megawatt-hours MMBTU = million British thermal units
Source of data for energy use and VMT: CalEEMod 2016.3.2.
Source of Fresno County MPG for 2025: EMFAC 2017.
Modeling results are provided in Appendix A.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

7.2.2 - Renewable Energy or Energy Efficiency Plans

Impact ENERGY-2: The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Impact Analysis

The City of Fresno has adopted local plans that promote renewable energy and energy efficiency. Fresno Green—The City of Fresno's Strategy for Achieving Sustainability—was adopted in 2007 (Fresno Green). One strategy of Fresno Green is for Fresno to become a leader in renewable energy use and creation of related innovative technology and new business enterprises. This would be accomplished by the following strategies:

- Increase the use of renewable energy to meet 50 percent of the City's annual electrical consumption of kWh.
- Reduce the City's peak electrical load by 10 percent through energy efficiency, shifting the timing of energy demands, and conservation measures.

Fresno Green was the City's first effort to improve sustainability. The City of Fresno General Plan Update and GHG Reduction Plan build on this initial effort.

The City of Fresno General Plan includes goals and strategies related to energy efficiency. The following policies are applicable to the project:

- **RC-5-a Support State Goal to Reduce Statewide GHG Emissions.** As is consistent with State law, strive to meet AB 32 goal to reduce greenhouse gas emissions to 1990 levels by 2020 and strive to meet a reduction of 80 percent below 1990 levels by 2050 as stated in Executive Order S-03-05. As new statewide GHG reduction targets and dates are set by the State update the City's Greenhouse Gas Reduction Plan to include a comprehensive strategy to achieve consistency with those targets by the dates established.
- **RC-5-c GHG Reduction through Design and Operations.** Increase efforts to incorporate requirements for GHG emission reductions in land use entitlement decisions, facility design, and operational measures subject to City regulation through the following measures and strategies:
  - Promote the expansion of incentive-based programs that involve certification of projects for energy and water efficiency and resiliency. These certification programs and scoring systems may include public agency "Green" and conservation criteria, Energy Star™ certification, CALGreen Tier 1 or Tier 2, Leadership in Energy Efficient Design (LEED™) certification, etc.
  - Promote appropriate energy and water conservation standards and facilitate mixed-use projects, new incentives for infill development, and the incorporation of mass transit, bicycle and pedestrian amenities into public and private projects.

The General Plan Update includes a Greenhouse Gas Reduction Plan (GHG Plan) that provides the City's primary strategy for reducing GHG emissions. Strategies to reduce GHG emissions often rely on increases in renewable energy use and increases in energy efficiency. A discussion of the project's consistency with the GHG Plan is provided in Section 6.6.2. The project analysis found the project to be consistent with the City of Fresno General Plan and GHG Plan; therefore, the project would not conflict with or obstruct the local plan for renewable energy or energy efficiency.

The project was reviewed for consistency with State of California energy plans. The ARB 2008 Scoping Plan required by AB 32 and the ARB 2017 Scoping Plan provide the State's strategy for achieving legislated GHG reduction targets. Although the primary purpose of the Scoping Plans is to reduce GHG emissions, the strategies to achieve the GHG reduction targets rely on the use of increasing amounts of renewable fuels under the LCFS and RPS, and energy efficiency with updates to Title 24 and the CalGreen Code. The 2019 California Energy Efficiency Action Plan addresses issues pertaining to energy efficiency in California's buildings, industrial, and agricultural sectors. Buildings constructed to implement the project will meet the latest efficiency standards. Vehicles and equipment will meet the latest fuel efficiency standards and use fuels subject to the LCFS (CEC 2019).

The project is consistent with applicable plans and policies and would not result in wasteful or inefficient use of nonrenewable energy sources; therefore, impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact

Mitigation Measures

No mitigation measures are required

Level of Significance After Mitigation

Less than significant impact

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Appendix A: Modeling Assumptions and Results

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Appendix A: Modeling Assumptions

Parc West Modeling Assumptions

		Ph 1			
Units	844	167	Park	Remaining Acres	Acres/Ph 2-5
Park (Acres)	1.819				
Acres (Gross)	160	31.77	1.819	126.411	31.60275
Acres (Net)					
Density (units/acre)					

	Units	Ground Up Construction Start	First Occupancy	Acres
Tract 6212	84	1/1/2021	2021	17.30
Tract 6276	83	1/1/21	2021	14.47
Phase 1 Total	**167**			**31.77**
Phase 2	169	1/1/22	**2022**	31.60
Phase 3	169	1/1/23	2023	31.60
Phase 4	169	1/1/24	2024	31.60
Phase 5	170	1/1/25	2025	31.60
Grand Total	**844**			**158.18**

Demolition	**Square Feet**
House 1	5,960
House 2	3,273
Barn	3,152
Total	**12,385**

Measured using Google Earth

PG&E Emission Factor for 2020	**MTCO2/MWh**
2020	290

PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers November 2015

		Miles
Dry Cleaner	Sterling Cleaners, 3071 W. Shaw	4.6
Gas Station	Chevron, 4395 W. Ashlan	2.6
Auto Body Shop	Caliber Collision 4605 N. Blythe	3.3

Distance to Downtown Fresno	10

Parc West Construction Assumptions

Default Schedule Phase 1

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparation	Site Preparation	2021/01/01	2021/01/28	5	20
2	Grading	Grading	2021/01/29	2021/04/01	5	45
3	Building Construction	Building Construction	2021/04/02	2023/03/02	5	500
4	Paving	Paving	2023/03/03	2023/04/20	5	35
5	Architectural Coating	Architectural Coating	2023/04/21	2023/06/08	5	35

Project Schedule

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparation	Site Preparation	2021/01/01	2021/01/28	5	20
2	Grading	Grading	2021/01/29	2021/04/01	5	45
3	Building Construction	Building Construction	2021/04/02	2022/01/13	5	205
4	Paving	Paving	2022/01/14	2022/02/10	5	20
5	Architectural Coating	Architectural Coating	2022/02/11	2022/03/31	5	35

Default Construction Equipment List

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days Used	Hours/Phase	Horsepower	Load Factor	Fuel Use (gal)
Site Preparation	Rubber Tired Dozers	3	8	20	480	247	0.4	5,928
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	640	97	0.37	3,104
Grading	Excavators	2	8	45	720	158	0.38	5,688
Grading	Graders	1	8	45	360	187	0.41	3,366
Grading	Rubber Tired Dozers	1	8	45	360	247	0.4	4,446
Grading	Scrapers	2	8	45	720	367	0.48	13,212
Grading	Tractors/Loaders/Backhoes	2	8	45	720	97	0.37	3,492
Building Construction	Cranes	1	7	500	3500	231	0.29	40,425
Building Construction	Forklifts	3	8	500	12000	89	0.2	53,400
Building Construction	Generator Sets	1	8	500	4000	84	0.74	16,800
Building Construction	Tractors/Loaders/Backhoes	3	7	500	10500	97	0.37	50,925
Building Construction	Welders	1	8	500	4000	46	0.45	9,200
Paving	Pavers	2	8	35	560	130	0.42	3,640
Paving	Paving Equipment	2	8	35	560	132	0.36	3,696
Paving	Rollers	2	8	35	560	80	0.38	2,240
Architectural Coating	Air Compressors	1	6	35	210	78	0.48	819
								220,381
Fuel Use Factor (SCAQMD		0.05	gal/bhp-hr		**39890**			

Phase 1 Revised Construction Assumptions

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days from Defaults	Work Days from Schedule	Adjusted Equipment Numbers	Revised Hours/Phase
Site Preparation	Rubber Tired Dozers	3	8	20	20	3	480
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	20	4	640
Grading	Excavators	2	8	45	45	2	720
Grading	Graders	1	8	45	45	1	360
Grading	Rubber Tired Dozers	1	8	45	45	1	360
Grading	Scrapers	2	8	45	45	2	720
Grading	Tractors/Loaders/Backhoes	2	8	45	45	2	720
Building Construction	Cranes	1	7	500	205	2	3500
Building Construction	Forklifts	3	8	500	205	7	12000
Building Construction	Generator Sets	1	8	500	205	2	4000
Building Construction	Tractors/Loaders/Backhoes	3	7	500	205	7	10500
Building Construction	Welders	1	8	500	205	2	4000
Paving	Pavers	2	8	35	20	4	560
Paving	Paving Equipment	2	8	35	20	4	560
Paving	Rollers	2	8	35	20	4	560
Architectural Coating	Air Compressors	1	6	35	35	1	210
							39890

Building construction equipment increased to retain default hours with shorter schedule
Paving days reduced to reflect time required for similar projects with equipment amounts retained.

Default Schedule Phase 2

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Demolition	Demolition	2022/01/01	2022/01/07	5	5
2	Site Preparation	Site Preparation	2022/01/08	2022/02/04	5	20
3	Grading	Grading	2022/02/05	2022/04/08	5	45
4	Building Construction	Building Construction	2022/04/09	2024/03/08	5	500
5	Paving	Paving	2024/03/09	2024/04/26	5	35
6	Architectural Coating	Architectural Coating	2024/04/27	2024/06/14	5	35

Project Schedule

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Demolition	Demolition	2022/01/01	2022/01/07	5	5
2	Site Preparation	Site Preparation	2022/01/08	2022/02/04	5	20
3	Grading	Grading	2022/02/05	2022/04/08	5	45
4	Building Construction	Building Construction	2022/04/09	2023/01/13	5	200
5	Paving	Paving	2023/01/14	2023/02/10	5	20
6	Architectural Coating	Architectural Coating	2023/02/11	2023/03/31	5	35

Default Construction Equipment List

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days Used	Hours/Phase	Horsepower	Load Factor	Fuel Use (gal)
Demolition	Concrete/Industrial Saws	1	8	5	40	81	0.73	162
Demolition	Excavators	3	8	5	120	158	0.38	948
Demolition	Rubber Tired Dozers	2	8	5	80	247	0.4	988
Site Preparation	Rubber Tired Dozers	3	8	20	480	247	0.4	5,928
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	640	97	0.37	3,104
Grading	Excavators	2	8	45	720	158	0.38	5,688
Grading	Graders	1	8	45	360	187	0.41	3,366
Grading	Rubber Tired Dozers	1	8	45	360	247	0.4	4,446
Grading	Scrapers	2	8	45	720	367	0.48	13,212
Grading	Tractors/Loaders/Backhoes	2	8	45	720	97	0.37	3,492
Building Construction	Cranes	1	7	500	3500	231	0.29	40,425
Building Construction	Forklifts	3	8	500	12000	89	0.2	53,400
Building Construction	Generator Sets	1	8	500	4000	84	0.74	16,800
Building Construction	Tractors/Loaders/Backhoes	3	7	500	10500	97	0.37	50,925
Building Construction	Welders	1	8	500	4000	46	0.45	9,200
Paving	Pavers	2	8	35	560	130	0.42	3,640
Paving	Paving Equipment	2	8	35	560	132	0.36	3,696
Paving	Rollers	2	8	35	560	80	0.38	2,240
Architectural Coating	Air Compressors	1	6	35	210	78	0.48	819
					40130			**222,479**

Phase 2 Revised Construction Assumptions

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days from Defaults	Work Days from Schedule	Adjusted Equipment Numbers	Revised Hours/Phase
Demolition	Concrete/Industrial Saws	1	8	5	5	1	40
Demolition	Excavators	3	8	5	5	1	40
Demolition	Rubber Tired Dozers	2	8	5	5	1	40
Site Preparation	Rubber Tired Dozers	3	8	20	20	3	480
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	20	4	640
Grading	Excavators	2	8	45	45	2	720
Grading	Graders	1	8	45	45	1	360
Grading	Rubber Tired Dozers	1	8	45	45	1	360
Grading	Scrapers	2	8	45	45	2	720
Grading	Tractors/Loaders/Backhoes	2	8	45	45	2	720
Building Construction	Cranes	1	7	500	200	3	3500
Building Construction	Forklifts	3	8	500	200	8	12000
Building Construction	Generator Sets	1	8	500	200	3	4000
Building Construction	Tractors/Loaders/Backhoes	3	7	500	200	8	10500
Building Construction	Welders	1	8	500	200	3	4000
Paving	Pavers	2	8	35	20	4	560
Paving	Paving Equipment	2	8	35	20	4	560
Paving	Rollers	2	8	35	20	4	560
Architectural Coating	Air Compressors	1	6	35	35	1	210
							40010

Demolition days reduced to reflect limited number of structures to be removed
Building construction equipment increased to retain default hours with shorter schedule
Paving days reduced to reflect time required for similar projects with equipment amounts retained.

Default Schedule Phase 3

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparation	Site Preparation	2023/01/01	2023/01/27	5	20
2	Grading	Grading	2023/01/28	2023/03/31	5	45
3	Building Construction	Building Construction	2023/04/01	2025/02/28	5	500
4	Paving	Paving	2025/03/01	2025/04/18	5	35
5	Architectural Coating	Architectural Coating	2025/04/19	2025/06/06	5	35

Project Schedule

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparation	Site Preparation	2023/01/01	2023/01/27	5	20
2	Grading	Grading	2023/01/28	2023/03/31	5	45
3	Building Construction	Building Construction	2023/04/01	2024/01/05	5	200
4	Paving	Paving	2024/01/06	2024/02/02	5	20
5	Architectural Coating	Architectural Coating	2024/02/03	2024/03/22	5	35

Default Construction Equipment List

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days Used	Hours/Phase	Horsepower	Load Factor	Fuel Use (gal)
Site Preparation	Rubber Tired Dozers	3	8	20	480	247	0.4	5,928
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	640	97	0.37	3,104
Grading	Excavators	2	8	45	720	158	0.38	5,688
Grading	Graders	1	8	45	360	187	0.41	3,366
Grading	Rubber Tired Dozers	1	8	45	360	247	0.4	4,446
Grading	Scrapers	2	8	45	720	367	0.48	13,212
Grading	Tractors/Loaders/Backhoes	2	8	45	720	97	0.37	3,492
Building Construction	Cranes	1	7	500	3500	231	0.29	40,425
Building Construction	Forklifts	3	8	500	12000	89	0.2	53,400
Building Construction	Generator Sets	1	8	500	4000	84	0.74	16,800
Building Construction	Tractors/Loaders/Backhoes	3	7	500	10500	97	0.37	50,925
Building Construction	Welders	1	8	500	4000	46	0.45	9,200
Paving	Pavers	2	8	35	560	130	0.42	3,640
Paving	Paving Equipment	2	8	35	560	132	0.36	3,696
Paving	Rollers	2	8	35	560	80	0.38	2,240
Architectural Coating	Air Compressors	1	6	35	210	78	0.48	819
					39890			220,381

Phase 3 Revised Construction Assumptions

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days from Defaults	Work Days from Schedule	Adjusted Equipment Numbers	Revised Hours/Phase
Site Preparation	Rubber Tired Dozers	3	8	20	20	3	480
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	20	4	640
Grading	Excavators	2	8	45	45	2	720
Grading	Graders	1	8	45	45	1	360
Grading	Rubber Tired Dozers	1	8	45	45	1	360
Grading	Scrapers	2	8	45	45	2	720
Grading	Tractors/Loaders/Backhoes	2	8	45	45	2	720
Building Construction	Cranes	1	7	500	200	3	3500
Building Construction	Forklifts	3	8	500	200	8	12000
Building Construction	Generator Sets	1	8	500	200	3	4000
Building Construction	Tractors/Loaders/Backhoes	3	7	500	200	8	10500
Building Construction	Welders	1	8	500	200	3	4000
Paving	Pavers	2	8	35	20	4	560
Paving	Paving Equipment	2	8	35	20	4	560
Paving	Rollers	2	8	35	20	4	560
Architectural Coating	Air Compressors	1	6	35	35	1	210
							39890

Building construction equipment increased to retain default hours with shorter schedule
Paving days reduced to reflect time required for similar projects with equipment amounts retained.

Default Schedule Phase 4

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparation	Site Preparation	2024/01/01	2024/01/26	5	20
2	Grading	Grading	2024/01/27	2024/03/29	5	45
3	Building Construction	Building Construction	2024/03/30	2026/02/27	5	500
4	Paving	Paving	2026/02/28	2026/04/17	5	35
5	Architectural Coating	Architectural Coating	2026/04/18	2026/06/05	5	35

Project Schedule

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparation	Site Preparation	2024/01/01	2024/01/12	5	10
2	Grading	Grading	2024/01/13	2024/02/23	5	30
3	Building Construction	Building Construction	2024/02/24	2024/11/19	5	192
4	Paving	Paving	2024/11/20	2024/12/03	5	10
5	Architectural Coating	Architectural Coating	2024/12/04	2024/12/31	5	20

Default Construction Equipment List

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days Used	Hours/Phase	Horsepower	Load Factor	Fuel Use (gal)
Site Preparation	Rubber Tired Dozers	3	8	20	480	247	0.4	5,928
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	640	97	0.37	3,104
Grading	Excavators	2	8	45	720	158	0.38	5,688
Grading	Graders	1	8	45	360	187	0.41	3,366
Grading	Rubber Tired Dozers	1	8	45	360	247	0.4	4,446
Grading	Scrapers	2	8	45	720	367	0.48	13,212
Grading	Tractors/Loaders/Backhoes	2	8	45	720	97	0.37	3,492
Building Construction	Cranes	1	7	500	3500	231	0.29	40,425
Building Construction	Forklifts	3	8	500	12000	89	0.2	53,400
Building Construction	Generator Sets	1	8	500	4000	84	0.74	16,800
Building Construction	Tractors/Loaders/Backhoes	3	7	500	10500	97	0.37	50,925
Building Construction	Welders	1	8	500	4000	46	0.45	9,200
Paving	Pavers	2	8	35	560	130	0.42	3,640
Paving	Paving Equipment	2	8	35	560	132	0.36	3,696
Paving	Rollers	2	8	35	560	80	0.38	2,240
Architectural Coating	Air Compressors	1	6	35	210	78	0.48	819
					39890			220,381

Phase 4 Revised Construction Assumptions

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days from Defaults	Work Days from Schedule	Adjusted Equipment Numbers	Revised Hours/Phase
Site Preparation	Rubber Tired Dozers	3	8	20	20	3	480
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	20	4	640
Grading	Excavators	2	8	45	45	2	720
Grading	Graders	1	8	45	45	1	360
Grading	Rubber Tired Dozers	1	8	45	45	1	360
Grading	Scrapers	2	8	45	45	2	720
Grading	Tractors/Loaders/Backhoes	2	8	45	45	2	720
Building Construction	Cranes	1	7	500	200	3	3500
Building Construction	Forklifts	3	8	500	200	8	12000
Building Construction	Generator Sets	1	8	500	200	3	4000
Building Construction	Tractors/Loaders/Backhoes	3	7	500	200	8	10500
Building Construction	Welders	1	8	500	200	3	4000
Paving	Pavers	2	8	35	20	4	560
Paving	Paving Equipment	2	8	35	20	4	560
Paving	Rollers	2	8	35	20	4	560
Architectural Coating	Air Compressors	1	6	35	35	1	210
							39890

Building construction equipment increased to retain default hours with shorter schedule
Paving days reduced to reflect time required for similar projects with equipment amounts retained.

Default Schedule Phase 5

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparation	Site Preparation	2025/01/01	2025/01/28	5	20
2	Grading	Grading	2025/01/29	2025/04/01	5	45
3	Building Construction	Building Construction	2025/04/02	2027/03/02	5	500
4	Paving	Paving	2027/03/03	2027/04/20	5	35
5	Architectural Coating	Architectural Coating	2027/04/21	2027/06/08	5	35

Project Schedule

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparation	Site Preparation	2025/01/01	2025/01/14	5	10
2	Grading	Grading	2025/01/15	2025/02/25	5	30
3	Building Construction	Building Construction	2025/02/26	2025/11/19	5	191
4	Paving	Paving	2025/11/20	2025/12/03	5	10
5	Architectural Coating	Architectural Coating	2025/12/04	2025/12/31	5	20

Default Construction Equipment List

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days Used	Hours/Phase	Horsepower	Load Factor	Fuel Use (gal)
Site Preparation	Rubber Tired Dozers	3	8	20	480	247	0.4	5,928
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	640	97	0.37	3,104
Grading	Excavators	2	8	45	720	158	0.38	5,688
Grading	Graders	1	8	45	360	187	0.41	3,366
Grading	Rubber Tired Dozers	1	8	45	360	247	0.4	4,446
Grading	Scrapers	2	8	45	720	367	0.48	13,212
Grading	Tractors/Loaders/Backhoes	2	8	45	720	97	0.37	3,492
Building Construction	Cranes	1	7	500	3500	231	0.29	40,425
Building Construction	Forklifts	3	8	500	12000	89	0.2	53,400
Building Construction	Generator Sets	1	8	500	4000	84	0.74	16,800
Building Construction	Tractors/Loaders/Backhoes	3	7	500	10500	97	0.37	50,925
Building Construction	Welders	1	8	500	4000	46	0.45	9,200
Paving	Pavers	2	8	35	560	130	0.42	3,640
Paving	Paving Equipment	2	8	35	560	132	0.36	3,696
Paving	Rollers	2	8	35	560	80	0.38	2,240
Architectural Coating	Air Compressors	1	6	35	210	78	0.48	819
					39890			220,381

Phase 5 Revised Construction Assumptions

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days from Defaults	Work Days from Schedule	Adjusted Equipment Numbers	Revised Hours/Phase
Site Preparation	Rubber Tired Dozers	3	8	20	20	3	480
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	20	4	640
Grading	Excavators	2	8	45	45	2	720
Grading	Graders	1	8	45	45	1	360
Grading	Rubber Tired Dozers	1	8	45	45	1	360
Grading	Scrapers	2	8	45	45	2	720
Grading	Tractors/Loaders/Backhoes	2	8	45	45	2	720
Building Construction	Cranes	1	7	500	200	3	3500
Building Construction	Forklifts	3	8	500	200	8	12000
Building Construction	Generator Sets	1	8	500	200	3	4000
Building Construction	Tractors/Loaders/Backhoes	3	7	500	200	8	10500
Building Construction	Welders	1	8	500	200	3	4000
Paving	Pavers	2	8	35	20	4	560
Paving	Paving Equipment	2	8	35	20	4	560
Paving	Rollers	2	8	35	20	4	560
Architectural Coating	Air Compressors	1	6	35	35	1	210
							39890

Building construction equipment increased to retain default hours with shorter schedule
Paving days reduced to reflect time required for similar projects with equipment amounts retained.

Appendix A: Energy Analysis Assumptions and Calculations

Energy Analysis

Construction

Fuel Use	Gallons	Hours
Phase 1	220,381	39,890
Phase 2	222,479	40,130
Phase 3	220,381	39,890
Phase 4	220,381	39,890
Phase 5	220,381	39,890
Total	**1,104,003**	**199,690**

Construction VMT Fuel Use

Phase 1	Days/Phase	Worker Trips/day	Worker Trips/Phase	Vendor Trips/day	Vendor Trips/Phase	Hauling Trips/day	Hauling Trips/Phase	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Site Preparation	20	18	360	0	0	0	0	10.8	7.3	20
Grading	45	20	900	0	0	0	0			
Building Construction	205	60	12300	18	306	0	0			
Paving	20	15	300	0	0	0	0			
Architecture	35	12	420	0	0	0	0			
Totals		**125**	**14280**	**18**	**306**	**0**	**0**			
								Total		
VMT/Year			154,224		3,305		0	**157,529**		

Phase 2	Days/Phase	Worker Trips/day	Worker Trips/Phase	Vendor Trips/day	Vendor Trips/Phase	Hauling Trips/day	Hauling Trips/Phase	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Demolition	5	15	75	0	0	0	0	10.8	7.3	20
Site Preparation	20	18	360	0	0	0	0			
Grading	45	20	900	0	0	0	0			
Building Construction	205	61	12505	18	306	0	0			
Paving	20	15	300	0	0	0	0			
Architecture	35	12	420	0	0	0	0			
Totals		**126**	**14485**	**18**	**306**	**0**	**0**			
								Total		
VMT/Year			156,438		3,305		0	**159,743**		

Phase 3	Days/Phase	Worker Trips/day	Worker Trips/Phase	Vendor Trips/day	Vendor Trips/Phase	Hauling Trips/day	Hauling Trips/Phase	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Site Preparation	20	18	360	0	0	0	0	10.8	7.3	20
Grading	45	20	900	0	0	0	0			
Building Construction	200	61	12200	18	306	0	0			
Paving	20	15	300	0	0	0	0			
Architecture	35	12	420	0	0	0	0			
Totals		**126**	**14180**	**18**	**306**	**0**	**0**			
								Total		
VMT/Year			153,144		3,305		0	**156,449**		

Phase 4	Days/Phase	Worker Trips/day	Worker Trips/Phase	Vendor Trips/day	Vendor Trips/Phase	Hauling Trips/day	Hauling Trips/Phase	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Site Preparation	20	18	360	0	0	0	0	10.8	7.3	20
Grading	45	20	900	0	0	0	0			
Building Construction	200	61	12200	18	306	0	0			
Paving	20	15	300	0	0	0	0			
Architecture	35	12	420	0	0	0	0			
Totals		**126**	**14180**	**18**	**306**	**0**	**0**			
								Total		
VMT/Year			153,144		3,305		0	**156,449**		

Phase 5	Days/Phase	Worker Trips/day	Worker Trips/Phase	Vendor Trips/day	Vendor Trips/Phase	Hauling Trips/day	Hauling Trips/Phase	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Site Preparation	20	18	360	0	0	0	0	10.8	7.3	20
Grading	45	20	900	0	0	0	0			
Building Construction	200	61	12200	18	306	0	0			
Paving	20	15	300	0	0	0	0			
Architecture	35	12	420	0	0	0	0			
Totals		**126**	**14180**	**18**	**306**	**0**	**0**			
								Total		
VMT/Year			153,144		3,305		0	**156,449**		

Total VMT All Phases	Worker	Vendor	Total
Phase 1	154,224	3,305	157,529
Phase 2	156,438	3,305	159,743
Phase 3	153,144	3,305	156,449
Phase 4	153,144	3,305	156,449
Phase 5	153,144	3,305	156,449
Total	**770,094**	**16,524**	**786,618**

Vender Truck MPG	8.29	
Vender Fuel Use (gal)	1,993	All Fuels
Worker Vehicles MPG	30.7	
Worker Fuel Use (gal)	25,076.3	All Fuels
Total	27,069.6	

Operational VMT	**VMT/Year**	
Buildout 2025	21,848,042	
Residential MPG	29.75	
Fuel Use	734,388	All Fuels

Electricity Usage

	kWh/yr
Electricity Use	7,335,230

Water Usage

	Mgal/yr	**Intensity Factor Supply (kWhr/Mgal)**	**Intensity Factor Treat (kWhr/Mgal)**	**Intensity Factor Distribute (kWhr/Mgal)**	**Intensity Factor WW Treatment (kWhr/Mgal)**	**Total Intensity (kWhr/Mgal)**	**Electricity Usage kWh/Yr.**
Indoor Water Usage	43.992	2,117	111	1,272	1,911	5,411	238,041
Outdoor Water Usage	27.7341	2,117	111	1,272		3,500	97,069
	71.7261						**335,110**

	kBTU/yr
Natural Gas Usage	20,741,900

EMFAC2017 (v1.0.2) Emissions Inventory

Region Type: County
Region: FRESNO
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption. Note 'day' in the unit is operation day.

Region	alendar Ye	hicle Categ	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption
FRESNO	2025	All Other B	Aggregated	Aggregated	DSL	189	11,330	1,586	1.14
FRESNO	2025	LDA	Aggregated	Aggregated	GAS	402,342	14,870,530	1,893,082	433.61
FRESNO	2025	LDA	Aggregated	Aggregated	DSL	3,827	151,390	18,314	2.70
FRESNO	2025	LDA	Aggregated	Aggregated	ELEC	11,574	493,328	57,214	0.00
FRESNO	2025	LDT1	Aggregated	Aggregated	GAS	42,206	1,442,553	191,841	49.75
FRESNO	2025	LDT1	Aggregated	Aggregated	DSL	20	303	64	0.01
FRESNO	2025	LDT1	Aggregated	Aggregated	ELEC	480	21,699	2,417	0.00
FRESNO	2025	LDT2	Aggregated	Aggregated	GAS	137,851	4,825,387	635,369	176.87
FRESNO	2025	LDT2	Aggregated	Aggregated	DSL	859	34,717	4,182	0.83
FRESNO	2025	LDT2	Aggregated	Aggregated	ELEC	2,008	61,699	10,062	0.00
FRESNO	2025	LHD1	Aggregated	Aggregated	GAS	9,788	320,660	145,830	37.06
FRESNO	2025	LHD1	Aggregated	Aggregated	DSL	10,240	335,868	128,810	18.11
FRESNO	2025	LHD2	Aggregated	Aggregated	GAS	1,674	52,534	24,947	7.02
FRESNO	2025	LHD2	Aggregated	Aggregated	DSL	3,658	120,967	46,008	7.31
FRESNO	2025	MCY	Aggregated	Aggregated	GAS	18,838	142,269	37,677	3.76
FRESNO	2025	MDV	Aggregated	Aggregated	GAS	117,788	3,718,220	529,815	171.73
FRESNO	2025	MDV	Aggregated	Aggregated	DSL	2,683	100,085	12,740	3.33
FRESNO	2025	MDV	Aggregated	Aggregated	ELEC	1,268	39,871	6,401	0.00
FRESNO	2025	MH	Aggregated	Aggregated	GAS	1,557	13,885	156	2.76
FRESNO	2025	MH	Aggregated	Aggregated	DSL	739	6,180	74	0.61
FRESNO	2025	Motor Coa	Aggregated	Aggregated	DSL	63	8,323	916	1.24
FRESNO	2025	OBUS	Aggregated	Aggregated	GAS	311	14,751	6,213	3.00
FRESNO	2025	PTO	Aggregated	Aggregated	DSL	0	15,963	0	2.97
FRESNO	2025	SBUS	Aggregated	Aggregated	GAS	95	5,086	380	0.52
FRESNO	2025	SBUS	Aggregated	Aggregated	DSL	1,077	33,451	12,427	4.11

FRESNO	2025	T6 Ag	Aggregated	Aggregated	DSL	65	623	285	0.07
FRESNO	2025	T6 CAIRP h	Aggregated	Aggregated	DSL	168	31,496	2,458	2.56
FRESNO	2025	T6 CAIRP sr	Aggregated	Aggregated	DSL	89	4,392	1,296	0.39
FRESNO	2025	T6 instate c	Aggregated	Aggregated	DSL	627	39,847	2,834	4.57
FRESNO	2025	T6 instate c	Aggregated	Aggregated	DSL	2,403	128,717	10,863	14.57
FRESNO	2025	T6 instate h	Aggregated	Aggregated	DSL	1,983	237,289	22,879	22.14
FRESNO	2025	T6 instate s	Aggregated	Aggregated	DSL	4,567	231,250	52,707	22.21
FRESNO	2025	T6 OOS hea	Aggregated	Aggregated	DSL	96	18,030	1,407	1.47
FRESNO	2025	T6 OOS sm	Aggregated	Aggregated	DSL	52	2,573	762	0.23
FRESNO	2025	T6 Public	Aggregated	Aggregated	DSL	459	6,943	1,393	0.94
FRESNO	2025	T6 utility	Aggregated	Aggregated	DSL	115	1,916	1,324	0.20
FRESNO	2025	T6TS	Aggregated	Aggregated	GAS	918	53,049	18,359	10.50
FRESNO	2025	T7 Ag	Aggregated	Aggregated	DSL	73	760	322	0.13
FRESNO	2025	T7 CAIRP	Aggregated	Aggregated	DSL	2,749	504,699	40,130	69.15
FRESNO	2025	T7 CAIRP cc	Aggregated	Aggregated	DSL	157	28,622	708	4.56
FRESNO	2025	T7 NNOOS	Aggregated	Aggregated	DSL	3,232	615,235	47,183	79.26
FRESNO	2025	T7 NOOS	Aggregated	Aggregated	DSL	1,095	198,301	15,986	27.89
FRESNO	2025	T7 other pc	Aggregated	Aggregated	DSL	55	9,878	421	1.55
FRESNO	2025	T7 POAK	Aggregated	Aggregated	DSL	303	40,436	2,303	6.62
FRESNO	2025	T7 POLA	Aggregated	Aggregated	DSL	292	41,019	2,216	6.80
FRESNO	2025	T7 Public	Aggregated	Aggregated	DSL	920	18,619	2,792	3.14
FRESNO	2025	T7 Single	Aggregated	Aggregated	DSL	1,148	80,392	13,242	11.72
FRESNO	2025	T7 single cc	Aggregated	Aggregated	DSL	1,015	71,007	4,588	12.13
FRESNO	2025	T7 SWCV	Aggregated	Aggregated	DSL	399	16,261	1,554	6.33
FRESNO	2025	T7 SWCV	Aggregated	Aggregated	NG	62	2,524	241	1.06
FRESNO	2025	T7 tractor	Aggregated	Aggregated	DSL	5,798	742,228	73,632	92.09
FRESNO	2025	T7 tractor c	Aggregated	Aggregated	DSL	863	58,574	3,902	10.09
FRESNO	2025	T7 utility	Aggregated	Aggregated	DSL	37	747	423	0.12
FRESNO	2025	T7IS	Aggregated	Aggregated	GAS	3	503	68	0.12
FRESNO	2025	UBUS	Aggregated	Aggregated	GAS	83	7,145	331	1.53
FRESNO	2025	UBUS	Aggregated	Aggregated	DSL	25	2,668	100	0.35
FRESNO	2025	UBUS	Aggregated	Aggregated	NG	122	13,685	490	3.13
							30,050,476		1,346
									1,346,059
Overall Fuel Economy All Fuels						MPG	22.32		

Truck Only Fleet Average Fuel Economy

FRESNO	2025	LHD1	Aggregated	Aggregated	GAS	9,788	320,660	145,830	37.06
FRESNO	2025	LHD1	Aggregated	Aggregated	DSL	10,240	335,868	128,810	18.11
FRESNO	2025	LHD2	Aggregated	Aggregated	GAS	1,674	52,534	24,947	7.02
FRESNO	2025	LHD2	Aggregated	Aggregated	DSL	3,658	120,967	46,008	7.31
FRESNO	2025	T6 Ag	Aggregated	Aggregated	DSL	65	623	285	0.07
FRESNO	2025	T6 CAIRP h	Aggregated	Aggregated	DSL	168	31,496	2,458	2.56
FRESNO	2025	T6 CAIRP sr	Aggregated	Aggregated	DSL	89	4,392	1,296	0.39
FRESNO	2025	T6 instate c	Aggregated	Aggregated	DSL	627	39,847	2,834	4.57
FRESNO	2025	T6 instate c	Aggregated	Aggregated	DSL	2,403	128,717	10,863	14.57
FRESNO	2025	T6 instate h	Aggregated	Aggregated	DSL	1,983	237,289	22,879	22.14
FRESNO	2025	T6 instate s	Aggregated	Aggregated	DSL	4,567	231,250	52,707	22.21
FRESNO	2025	T6 OOS hea	Aggregated	Aggregated	DSL	96	18,030	1,407	1.47
FRESNO	2025	T6 OOS sm	Aggregated	Aggregated	DSL	52	2,573	762	0.23
FRESNO	2025	T6 Public	Aggregated	Aggregated	DSL	459	6,943	1,393	0.94
FRESNO	2025	T6 utility	Aggregated	Aggregated	DSL	115	1,916	1,324	0.20
FRESNO	2025	T6TS	Aggregated	Aggregated	GAS	918	53,049	18,359	10.50
FRESNO	2025	T7 Ag	Aggregated	Aggregated	DSL	73	760	322	0.13
FRESNO	2025	T7 CAIRP	Aggregated	Aggregated	DSL	2,749	504,699	40,130	69.15
FRESNO	2025	T7 CAIRP cc	Aggregated	Aggregated	DSL	157	28,622	708	4.56
FRESNO	2025	T7 NNOOS	Aggregated	Aggregated	DSL	3,232	615,235	47,183	79.26
FRESNO	2025	T7 NOOS	Aggregated	Aggregated	DSL	1,095	198,301	15,986	27.89
FRESNO	2025	T7 other pc	Aggregated	Aggregated	DSL	55	9,878	421	1.55
FRESNO	2025	T7 POAK	Aggregated	Aggregated	DSL	303	40,436	2,303	6.62
FRESNO	2025	T7 POLA	Aggregated	Aggregated	DSL	292	41,019	2,216	6.80
FRESNO	2025	T7 Public	Aggregated	Aggregated	DSL	920	18,619	2,792	3.14
FRESNO	2025	T7 Single	Aggregated	Aggregated	DSL	1,148	80,392	13,242	11.72
FRESNO	2025	T7 single cc	Aggregated	Aggregated	DSL	1,015	71,007	4,588	12.13
FRESNO	2025	T7 SWCV	Aggregated	Aggregated	DSL	399	16,261	1,554	6.33
FRESNO	2025	T7 SWCV	Aggregated	Aggregated	NG	62	2,524	241	1.06
FRESNO	2025	T7 tractor	Aggregated	Aggregated	DSL	5,798	742,228	73,632	92.09
FRESNO	2025	T7 tractor c	Aggregated	Aggregated	DSL	863	58,574	3,902	10.09
FRESNO	2025	T7 utility	Aggregated	Aggregated	DSL	37	747	423	0.12
FRESNO	2025	T7IS	Aggregated	Aggregated	GAS	3	503	68	0.12

FRESNO	2025	UBUS	Aggregated	Aggregated	GAS	83	7,145	331	1.53
FRESNO	2025	UBUS	Aggregated	Aggregated	DSL	25	2,668	100	0.35
FRESNO	2025	UBUS	Aggregated	Aggregated	NG	122	13,685	490	3.13
							4,039,456		487.11
Truck Fleet Fuel Efficiency						MPG	8.29		487,109

Passenger Car and Light Truck Fleet Efficiency

FRESNO	2025	LDA	Aggregated	Aggregated	GAS	402,342	14,870,530	1,893,082	433.61
FRESNO	2025	LDA	Aggregated	Aggregated	DSL	3,827	151,390	18,314	2.70
FRESNO	2025	LDA	Aggregated	Aggregated	ELEC	11,574	493,328	57,214	0.00
FRESNO	2025	LDT1	Aggregated	Aggregated	GAS	42,206	1,442,553	191,841	49.75
FRESNO	2025	LDT1	Aggregated	Aggregated	DSL	20	303	64	0.01
FRESNO	2025	LDT1	Aggregated	Aggregated	ELEC	480	21,699	2,417	0.00
FRESNO	2025	LDT2	Aggregated	Aggregated	GAS	137,851	4,825,387	635,369	176.87
FRESNO	2025	LDT2	Aggregated	Aggregated	DSL	859	34,717	4,182	0.83
FRESNO	2025	LDT2	Aggregated	Aggregated	ELEC	2,008	61,699	10,062	0.00
FRESNO	2025	MDV	Aggregated	Aggregated	GAS	117,788	3,718,220	529,815	171.73
FRESNO	2025	MDV	Aggregated	Aggregated	DSL	2,683	100,085	12,740	3.33
FRESNO	2025	MDV	Aggregated	Aggregated	ELEC	1,268	39,871	6,401	0.00
							25,759,782		838.83
									838,834
Passenger Car and Light Truck Fleet Efficiency						MPG	30.71		

Residential Fleet Mix Average Fuel Efficiency

FleetMixLa	LDA	LDT1	LDT2	MDV	Fraction	LHD1	LHD2	MHD	HHD	Fraction
Single Fami	0.5244	0.212	0.1677	0.0563	0.9604	0.0008	0.0009	0.0076	0.0212	0.0305
MPG					30.71					8.29
Weighted Average		29.75			29.49					0.25

Appendix A: Emissions Summary

Emission Summary

			Tons per Year				
Construction Emissions (Unmitigated Annual)	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**	**PM2.5 Ex**
Phase 1 2021	**0.57**	**5.36**	**4.66**	**0.01**	**0.50**	**0.35**	**0.25**
Phase 1 2022	1.27	0.41	0.50	0.00	0.03	0.02	0.02
Phase 2 2022	0.61	5.65	5.42	0.01	0.51	0.35	0.25
	1.87	**6.06**	**5.92**	**0.01**	**0.53**	**0.37**	**0.27**
Phase 2 2023	1.29	0.44	0.57	0.00	0.03	0.02	0.02
Phase 3 2023	0.56	5.19	5.42	0.01	0.47	0.32	0.22
	1.85	**5.63**	**5.99**	**0.01**	**0.50**	**0.34**	**0.24**
Phase 3 2024	1.27	0.31	0.45	0.00	0.02	0.02	0.01
Phase 4 2024	0.54	4.92	5.43	0.01	0.45	0.30	0.20
	1.81	**5.23**	**5.88**	**0.01**	**0.47**	**0.31**	**0.21**
Phase 4 2025	1.27	0.25	0.40	0.00	0.02	0.01	0.01
Phase 5 2025	0.25	2.26	2.49	0.01	0.32	0.18	0.08
	1.51	**2.51**	**2.89**	**0.01**	**0.34**	**0.19**	**0.09**
Phase 5 2026	**1.26**	**0.13**	**0.22**	**0.00**	**0.01**	**0.01**	**0.01**
Total	**8.87**	**24.92**	**25.55**	**0.05**	**2.35**	**1.58**	**1.08**
Highest Emissions Any Year	**1.87**	**6.06**	**5.99**	**0.01**	**0.53**	**0.37**	

			Tons Per Year			
Operational Emissions (Unmitigated)	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Phase 1 2021	3.17	2.42	17.54	0.05	3.41	2.14
Phase 2 2022	2.52	2.21	12.85	0.04	2.73	1.46
Phase 3 2023	2.48	1.89	12.38	0.04	2.72	1.46
Phase 4 2024	2.45	1.80	12.00	0.04	2.72	1.46
Phase 5 2025	2.43	1.73	11.70	0.04	2.73	1.46
Total All Phases	**13.06**	**10.04**	**66.46**	**0.21**	**14.32**	**7.98**

			Tons Per Year			
Operational Emissions (Mitigated)	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Phase 1 2021	2.06	2.18	7.25	0.02	1.68	0.48
Phase 2 2022	1.87	2.04	6.77	0.02	1.68	0.48
Phase 3 2023	1.83	1.74	6.32	0.02	1.68	0.48
Phase 4 2024	1.80	1.65	5.95	0.02	1.68	0.48
Phase 5 2025	1.95	1.59	5.66	0.02	1.69	0.48
Total All Phases	**9.50**	**9.20**	**31.94**	**0.09**	**8.40**	**2.39**

With onsite design features and natural gas fireplaces

Operations			**Pounds per Day**			
Maximum Daily Emissions (Max Daily Per Phase)	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Phase 1 2021	12.69	13.45	52.91	0.13	10.09	2.96
Phase 2 2022	11.51	12.44	49.04	0.12	9.83	2.89
Phase 3 2023	11.22	10.79	46.27	0.12	9.81	2.88
Phase 4 2024	11.00	10.30	43.99	0.11	9.80	2.87
Phase 5 2025	11.77	9.97	42.21	0.11	9.85	2.89
	58.20	**56.95**	**234.42**	**0.59**	**49.38**	**14.49**

Operations			**Pounds per Day**			
Maximum Daily Emissions (Max Daily Entire Project)	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	8.72	1.71	14.67	0.01	0.20	0.20
Energy	0.12	1.05	0.45	0.01	0.09	0.09
Mobile	2.92	7.20	27.09	0.09	9.57	2.60
Total	**11.77**	**9.97**	**42.21**	**0.11**	**9.85**	**2.89**
Onsite Mobile Emissions within 0.5 mile	0.20	0.49	1.86	0.01	0.66	0.18
Total Onsite Emissions	**9.05**	**3.26**	**16.98**	**0.02**	**0.94**	**0.47**

Mobile reduced by multiplying emissions by 0.5/7.3 mile trip length from CalEEMod

Daily Construction Emissions

	Pounds per Day					
	ROG	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Phase 1 2021	**4.42**	45.45	**38.33**	**0.07**	**10.32**	**6.39**
Phase 1 2022	**70.12**	**35.77**	**37.70**	**0.07**	**2.39**	**1.83**
Phase 2 2022	5.17	46.35	47.87	0.09	9.89	5.99
Total for 2022	**75.29**	**82.12**	**85.58**	**0.15**	**12.28**	**7.82**
Phase 2 2023	70.94	42.45	47.34	0.09	2.60	2.03
Phase 3 2023	4.76	42.45	47.34	0.09	9.54	5.67
Total for 2023	**75.69**	**84.90**	**94.68**	**0.17**	**12.15**	**7.71**
Phase 3 2024	70.92	39.76	46.98	0.09	2.36	1.80
Phase 4 2024	4.45	39.76	46.98	0.09	9.51	5.64
Total for 2024	**75.37**	**79.51**	**93.97**	**0.17**	**11.87**	**7.44**
Phase 4 2025	70.91	36.98	46.63	0.09	2.12	1.58
Phase 5 2025	2.97	27.97	26.75	0.06	9.37	5.51
Total for 2025	**73.88**	**64.95**	**73.38**	**0.15**	**11.48**	**7.09**
Phase 5 2026	**71.33**	**14.01**	**17.46**	**0.04**	**1.15**	**0.67**
Highest Phase Emissions	**75.69**	**84.90**	**94.68**	**0.17**	**12.15**	**7.71**

Construction GHG Emissions

Year	**Tons/Year CO2e**
Phase 1 2021	741.72
Phase 1 2022	73.74
Phase 2 2022	879.52
Phase 2 2023	84.40
Phase 3 2023	888.95
Phase 3 2024	65.61
Phase 4 2024	894.52
Phase 4 2025	58.04
Phase 5 2025	468.77
Phase 5 2026	32.91
Total	**4,188.17**
Amortized over 30 years	139.61

Total at Buildout Operational GHG Mitigated from Residential Phases

	BAU MTCO2e per Year	2025 MTCO2e/ year	Reduction Fraction	
Area	1,100.88	378.28	65.64%	
Energy	3,344.00	2,085.37	37.6%	
Mobile	10,372.18	6,428.71	38.0%	
Waste	437.04	327.78	25.0%	
Water	197.19	104.28	47.1%	
Total	15,451.29	**9,324.42**	**39.7%**	
Construction	139.61	**139.61**	0.0%	
Total with Amortized Construction	15,590.89	9,464.03	**39.3%**	**39.3%**
Reduction from BAU		**6,126.86**	**21.7%**	29.7%
			17.6%	9.6%
Mobile from CalEEMod		7,143.01		
LCFS in 2020 reduction 10% not in CalEEMod		0.9		
Mobile with LCFS		6,428.71		

Operational GHG Emissions in 2030 Target Year

	BAU MTCO2e per Year	2030 MTCO2e/ year	Reduction Fraction	
Area	1,100.88	378.28	65.64%	
Energy	3,344.00	2,085.37	37.6%	
Mobile	10,372.18	5,023.12	51.6%	
Waste	437.04	327.78	25.0%	
Water	197.19	104.28	47.1%	
Total	15,451.29	**7,918.83**	**48.7%**	
Construction	139.61	139.61	0.0%	
Total with Amortized Construction	**15,590.89**	**8,058.44**	**48.3%**	**48.3%**
Reduction from BAU		**7,532.46**	**21.7%**	29%
			26.61%	**19.31%**
Mobile from CalEEMod		6278.9		
LCFS in 2030 reduction 20% not in CalEEMod		0.8		
Mobile with LCFS		5,023.12		

Appendix A: CalEEMod Output

CalEEMod Output

Phase 1 Construction and Operations (Annual)

Parc West Phase 1 (Tract 6212 and 6276)

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	167.00	Dwelling Unit	31.77	300,600.00	478

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Parc West Phase 1 (Tract 6212 and 6276) - Fresno County, Annual

Project Characteristics - PG&E Energy Intensity

Land Use - Site plan acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2021

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblConstructionPhase	NumDays	500.00	205.00
tblConstructionPhase	NumDays	35.00	20.00
tblFleetMix	HHD	0.12	0.02
tblFleetMix	LDA	0.49	0.54
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17

tblFleetMix	LHD1	0.02	1.4000e-003
tblFleetMix	LHD2	4.7320e-003	9.0000e-004
tblFleetMix	MCY	5.1540e-003	2.6000e-003
tblFleetMix	MDV	0.12	0.05
tblFleetMix	MH	6.2900e-004	1.6000e-003
tblFleetMix	MHD	0.03	9.0000e-003
tblFleetMix	OBUS	2.3660e-003	0.00
tblFleetMix	SBUS	1.0970e-003	9.0000e-004
tblFleetMix	UBUS	1.5900e-003	4.4000e-003
tblLandUse	LotAcreage	54.22	31.77
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	7.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	7.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	30.00	15.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblWoodstoves	NumberCatalytic	31.77	54.22
tblWoodstoves	NumberNoncatalytic	31.77	54.22

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.5658	5.3582	4.6577	8.4500e-003	0.4396	0.2717	0.7112	0.1974	0.2537	0.4512	0.0000	737.2526	737.2526	0.1786	0.0000	741.7173
2022	1.2673	0.4090	0.5004	8.4000e-004	5.5700e-003	0.0208	0.0264	1.4900e-003	0.0194	0.0209	0.0000	73.2608	73.2608	0.0191	0.0000	73.7391
Maximum	**1.2673**	**5.3582**	**4.6577**	**8.4500e-003**	**0.4396**	**0.2717**	**0.7112**	**0.1974**	**0.2537**	**0.4512**	**0.0000**	**737.2526**	**737.2526**	**0.1786**	**0.0000**	**741.7173**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.5658	5.3582	4.6577	8.4500e-003	0.2329	0.2717	0.5045	0.0983	0.2537	0.3520	0.0000	737.2518	737.2518	0.1786	0.0000	741.7165
2022	1.2673	0.4090	0.5004	8.4000e-004	5.5700e-003	0.0208	0.0264	1.4900e-003	0.0194	0.0209	0.0000	73.2607	73.2607	0.0191	0.0000	73.7390
Maximum	**1.2673**	**5.3582**	**4.6577**	**8.4500e-003**	**0.2329**	**0.2717**	**0.5045**	**0.0983**	**0.2537**	**0.3520**	**0.0000**	**737.2518**	**737.2518**	**0.1786**	**0.0000**	**741.7165**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**46.44**	**0.00**	**28.02**	**49.83**	**0.00**	**21.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2021**	**3-31-2021**	1.5684	1.5684
2	**4-1-2021**	**6-30-2021**	1.4408	1.4408
3	**7-1-2021**	**9-30-2021**	1.4543	1.4543
4	**10-1-2021**	**12-31-2021**	1.4551	1.4551
5	**1-1-2022**	**3-31-2022**	1.6823	1.6823
		Highest	1.6823	1.6823

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.6061	0.2405	11.3041	0.0332		1.6489	1.6489		1.6489	1.6489	219.1964	74.3711	293.5676	1.0281	1.3300e-003	319.6640
Energy	0.0235	0.2012	0.0856	1.2800e-003		0.0163	0.0163		0.0163	0.0163	0.0000	425.4514	425.4514	0.0211	7.5900e-003	428.2395
Mobile	0.5415	1.9795	6.1485	0.0187	1.7317	0.0168	1.7485	0.4636	0.0157	0.4793	0.0000	1,714.2571	1,714.2571	0.1187	0.0000	1,717.2241
Waste						0.0000	0.0000		0.0000	0.0000	34.9307	0.0000	34.9307	2.0643	0.0000	86.5393
Water						0.0000	0.0000		0.0000	0.0000	3.4520	10.9027	14.3547	0.3555	8.5600e-003	25.7927
Total	**3.1711**	**2.4212**	**17.5383**	**0.0532**	**1.7317**	**1.6820**	**3.4137**	**0.4636**	**1.6809**	**2.1445**	**257.5791**	**2,224.9824**	**2,482.5614**	**3.5876**	**0.0175**	**2,577.4596**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5011	0.0768	1.2693	4.6000e-004		0.0119	0.0119		0.0119	0.0119	0.0000	74.3711	74.3711	3.3500e-003	1.3300e-003	74.8501
Energy	0.0221	0.1891	0.0805	1.2100e-003		0.0153	0.0153		0.0153	0.0153	0.0000	409.9324	409.9324	0.0207	7.3100e-003	412.6263
Mobile	0.5339	1.9188	5.9012	0.0178	1.6405	0.0160	1.6566	0.4392	0.0150	0.4542	0.0000	1,629.7572	1,629.7572	0.1147	0.0000	1,632.6245
Waste						0.0000	0.0000		0.0000	0.0000	26.1980	0.0000	26.1980	1.5483	0.0000	64.9045
Water						0.0000	0.0000		0.0000	0.0000	2.7616	8.7222	11.4837	0.2844	6.8500e-003	20.6341
Total	**2.0571**	**2.1848**	**7.2509**	**0.0194**	**1.6405**	**0.0432**	**1.6837**	**0.4392**	**0.0422**	**0.4814**	**28.9596**	**2,122.7829**	**2,151.7425**	**1.9714**	**0.0155**	**2,205.6395**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**35.13**	**9.77**	**58.66**	**63.46**	**5.27**	**97.43**	**50.68**	**5.27**	**97.49**	**77.55**	**88.76**	**4.59**	**13.33**	**45.05**	**11.38**	**14.43**

3.0 Construction Detail

Construction Phase

Parc West Phase 1 (Tract 6212 and 6276) - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/28/2021	5	20	
2	Grading	Grading	1/29/2021	4/1/2021	5	45	
3	Building Construction	Building Construction	4/2/2021	1/13/2022	5	205	
4	Paving	Paving	1/14/2022	2/10/2022	5	20	
5	Architectural Coating	Architectural Coating	2/11/2022	3/31/2022	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 608,715; Residential Outdoor: 202,905; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	2	7.00	231	0.29
Building Construction	Forklifts	7	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	7	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	20	60.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7061
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7061**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	4.4000e-004	4.5400e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2028	1.2028	3.0000e-005	0.0000	1.2036
Total	**7.2000e-004**	**4.4000e-004**	**4.5400e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2028**	**1.2028**	**3.0000e-005**	**0.0000**	**1.2036**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0813	0.0000	0.0813	0.0447	0.0000	0.0447	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7060
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.0813**	**0.0204**	**0.1017**	**0.0447**	**0.0188**	**0.0635**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7060**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	4.4000e-004	4.5400e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2028	1.2028	3.0000e-005	0.0000	1.2036
Total	**7.2000e-004**	**4.4000e-004**	**4.5400e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2028**	**1.2028**	**3.0000e-005**	**0.0000**	**1.2036**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1952	0.0000	0.1952	0.0809	0.0000	0.0809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0943	1.0440	0.6948	1.4000e-003		0.0447	0.0447		0.0411	0.0411	0.0000	122.6137	122.6137	0.0397	0.0000	123.6051
Total	**0.0943**	**1.0440**	**0.6948**	**1.4000e-003**	**0.1952**	**0.0447**	**0.2398**	**0.0809**	**0.0411**	**0.1220**	**0.0000**	**122.6137**	**122.6137**	**0.0397**	**0.0000**	**123.6051**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7900e-003	1.1000e-003	0.0114	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	3.0070	3.0070	7.0000e-005	0.0000	3.0089
Total	**1.7900e-003**	**1.1000e-003**	**0.0114**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**3.0070**	**3.0070**	**7.0000e-005**	**0.0000**	**3.0089**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0878	0.0000	0.0878	0.0364	0.0000	0.0364	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0943	1.0440	0.6948	1.4000e-003		0.0447	0.0447		0.0411	0.0411	0.0000	122.6136	122.6136	0.0397	0.0000	123.6050
Total	**0.0943**	**1.0440**	**0.6948**	**1.4000e-003**	**0.0878**	**0.0447**	**0.1325**	**0.0364**	**0.0411**	**0.0775**	**0.0000**	**122.6136**	**122.6136**	**0.0397**	**0.0000**	**123.6050**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7900e-003	1.1000e-003	0.0114	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	3.0070	3.0070	7.0000e-005	0.0000	3.0089
Total	**1.7900e-003**	**1.1000e-003**	**0.0114**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**3.0070**	**3.0070**	**7.0000e-005**	**0.0000**	**3.0089**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4013	3.6948	3.5570	5.6900e-003		0.2057	0.2057		0.1930	0.1930	0.0000	490.5770	490.5770	0.1214	0.0000	493.6109
Total	**0.4013**	**3.6948**	**3.5570**	**5.6900e-003**		**0.2057**	**0.2057**		**0.1930**	**0.1930**	**0.0000**	**490.5770**	**490.5770**	**0.1214**	**0.0000**	**493.6109**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3300e-003	0.1986	0.0303	5.0000e-004	0.0117	5.3000e-004	0.0122	3.3800e-003	5.1000e-004	3.8900e-003	0.0000	47.1246	47.1246	5.6900e-003	0.0000	47.2667
Worker	0.0235	0.0143	0.1483	4.3000e-004	0.0470	2.9000e-004	0.0473	0.0125	2.7000e-004	0.0128	0.0000	39.2918	39.2918	9.7000e-004	0.0000	39.3160
Total	**0.0288**	**0.2129**	**0.1785**	**9.3000e-004**	**0.0587**	**8.2000e-004**	**0.0595**	**0.0159**	**7.8000e-004**	**0.0167**	**0.0000**	**86.4163**	**86.4163**	**6.6600e-003**	**0.0000**	**86.5828**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4013	3.6948	3.5570	5.6900e-003		0.2057	0.2057		0.1930	0.1930	0.0000	490.5764	490.5764	0.1214	0.0000	493.6104
Total	**0.4013**	**3.6948**	**3.5570**	**5.6900e-003**		**0.2057**	**0.2057**		**0.1930**	**0.1930**	**0.0000**	**490.5764**	**490.5764**	**0.1214**	**0.0000**	**493.6104**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3300e-003	0.1986	0.0303	5.0000e-004	0.0117	5.3000e-004	0.0122	3.3800e-003	5.1000e-004	3.8900e-003	0.0000	47.1246	47.1246	5.6900e-003	0.0000	47.2667
Worker	0.0235	0.0143	0.1483	4.3000e-004	0.0470	2.9000e-004	0.0473	0.0125	2.7000e-004	0.0128	0.0000	39.2918	39.2918	9.7000e-004	0.0000	39.3160
Total	**0.0288**	**0.2129**	**0.1785**	**9.3000e-004**	**0.0587**	**8.2000e-004**	**0.0595**	**0.0159**	**7.8000e-004**	**0.0167**	**0.0000**	**86.4163**	**86.4163**	**6.6600e-003**	**0.0000**	**86.5828**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0165	0.1519	0.1613	2.6000e-004		7.9500e-003	7.9500e-003		7.4700e-003	7.4700e-003	0.0000	22.5356	22.5356	5.5400e-003	0.0000	22.6741
Total	**0.0165**	**0.1519**	**0.1613**	**2.6000e-004**		**7.9500e-003**	**7.9500e-003**		**7.4700e-003**	**7.4700e-003**	**0.0000**	**22.5356**	**22.5356**	**5.5400e-003**	**0.0000**	**22.6741**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3000e-004	8.6400e-003	1.2900e-003	2.0000e-005	5.4000e-004	2.0000e-005	5.6000e-004	1.6000e-004	2.0000e-005	1.8000e-004	0.0000	2.1432	2.1432	2.5000e-004	0.0000	2.1496
Worker	1.0000e-003	5.9000e-004	6.2100e-003	2.0000e-005	2.1600e-003	1.0000e-005	2.1700e-003	5.7000e-004	1.0000e-005	5.9000e-004	0.0000	1.7394	1.7394	4.0000e-005	0.0000	1.7404
Total	**1.2300e-003**	**9.2300e-003**	**7.5000e-003**	**4.0000e-005**	**2.7000e-003**	**3.0000e-005**	**2.7300e-003**	**7.3000e-004**	**3.0000e-005**	**7.7000e-004**	**0.0000**	**3.8826**	**3.8826**	**2.9000e-004**	**0.0000**	**3.8900**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0165	0.1519	0.1613	2.6000e-004		7.9500e-003	7.9500e-003		7.4700e-003	7.4700e-003	0.0000	22.5356	22.5356	5.5400e-003	0.0000	22.6741
Total	**0.0165**	**0.1519**	**0.1613**	**2.6000e-004**		**7.9500e-003**	**7.9500e-003**		**7.4700e-003**	**7.4700e-003**	**0.0000**	**22.5356**	**22.5356**	**5.5400e-003**	**0.0000**	**22.6741**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3000e-004	8.6400e-003	1.2900e-003	2.0000e-005	5.4000e-004	2.0000e-005	5.6000e-004	1.6000e-004	2.0000e-005	1.8000e-004	0.0000	2.1432	2.1432	2.5000e-004	0.0000	2.1496
Worker	1.0000e-003	5.9000e-004	6.2100e-003	2.0000e-005	2.1600e-003	1.0000e-005	2.1700e-003	5.7000e-004	1.0000e-005	5.9000e-004	0.0000	1.7394	1.7394	4.0000e-005	0.0000	1.7404
Total	**1.2300e-003**	**9.2300e-003**	**7.5000e-003**	**4.0000e-005**	**2.7000e-003**	**3.0000e-005**	**2.7300e-003**	**7.3000e-004**	**3.0000e-005**	**7.7000e-004**	**0.0000**	**3.8826**	**3.8826**	**2.9000e-004**	**0.0000**	**3.8900**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0221	0.2225	0.2916	4.6000e-004		0.0114	0.0114		0.0105	0.0105	0.0000	40.0551	40.0551	0.0130	0.0000	40.3790
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0221**	**0.2225**	**0.2916**	**4.6000e-004**		**0.0114**	**0.0114**		**0.0105**	**0.0105**	**0.0000**	**40.0551**	**40.0551**	**0.0130**	**0.0000**	**40.3790**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e-004	3.3000e-004	3.4500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9663	0.9663	2.0000e-005	0.0000	0.9669
Total	**5.6000e-004**	**3.3000e-004**	**3.4500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9663**	**0.9663**	**2.0000e-005**	**0.0000**	**0.9669**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0221	0.2225	0.2916	4.6000e-004		0.0114	0.0114		0.0105	0.0105	0.0000	40.0551	40.0551	0.0130	0.0000	40.3789
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0221**	**0.2225**	**0.2916**	**4.6000e-004**		**0.0114**	**0.0114**		**0.0105**	**0.0105**	**0.0000**	**40.0551**	**40.0551**	**0.0130**	**0.0000**	**40.3789**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e-004	3.3000e-004	3.4500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9663	0.9663	2.0000e-005	0.0000	0.9669
Total	**5.6000e-004**	**3.3000e-004**	**3.4500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9663**	**0.9663**	**2.0000e-005**	**0.0000**	**0.9669**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2226					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5800e-003	0.0247	0.0317	5.0000e-005		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	4.4682	4.4682	2.9000e-004	0.0000	4.4755
Total	**1.2262**	**0.0247**	**0.0317**	**5.0000e-005**		**1.4300e-003**	**1.4300e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**4.4682**	**4.4682**	**2.9000e-004**	**0.0000**	**4.4755**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.8000e-004	4.6000e-004	4.8300e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3529	1.3529	3.0000e-005	0.0000	1.3536
Total	**7.8000e-004**	**4.6000e-004**	**4.8300e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3529**	**1.3529**	**3.0000e-005**	**0.0000**	**1.3536**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2226					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5800e-003	0.0247	0.0317	5.0000e-005		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	4.4682	4.4682	2.9000e-004	0.0000	4.4755
Total	**1.2262**	**0.0247**	**0.0317**	**5.0000e-005**		**1.4300e-003**	**1.4300e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**4.4682**	**4.4682**	**2.9000e-004**	**0.0000**	**4.4755**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.8000e-004	4.6000e-004	4.8300e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3529	1.3529	3.0000e-005	0.0000	1.3536
Total	**7.8000e-004**	**4.6000e-004**	**4.8300e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3529**	**1.3529**	**3.0000e-005**	**0.0000**	**1.3536**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5339	1.9188	5.9012	0.0178	1.6405	0.0160	1.6566	0.4392	0.0150	0.4542	0.0000	1,629.7572	1,629.7572	0.1147	0.0000	1,632.6245
Unmitigated	0.5415	1.9795	6.1485	0.0187	1.7317	0.0168	1.7485	0.4636	0.0157	0.4793	0.0000	1,714.2571	1,714.2571	0.1187	0.0000	1,717.2241

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,589.84	1,654.97	1439.54	4,615,230	4,372,162
Total	1,589.84	1,654.97	1,439.54	4,615,230	4,372,162

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.537300	0.200000	0.167100	0.054200	0.001400	0.000900	0.009000	0.020600	0.000000	0.004400	0.002600	0.000900	0.001600

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	190.9199	190.9199	0.0165	3.2900e-003	192.3123
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	192.4514	192.4514	0.0166	3.3200e-003	193.8549
NaturalGas Mitigated	0.0221	0.1891	0.0805	1.2100e-003		0.0153	0.0153		0.0153	0.0153	0.0000	219.0125	219.0125	4.2000e-003	4.0200e-003	220.3140
NaturalGas Unmitigated	0.0235	0.2012	0.0856	1.2800e-003		0.0163	0.0163		0.0163	0.0163	0.0000	233.0000	233.0000	4.4700e-003	4.2700e-003	234.3846

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.36626e+006	0.0235	0.2012	0.0856	1.2800e-003		0.0163	0.0163		0.0163	0.0163	0.0000	233.0000	233.0000	4.4700e-003	4.2700e-003	234.3846
Total		**0.0235**	**0.2012**	**0.0856**	**1.2800e-003**		**0.0163**	**0.0163**		**0.0163**	**0.0163**	**0.0000**	**233.0000**	**233.0000**	**4.4700e-003**	**4.2700e-003**	**234.3846**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.10414e+006	0.0221	0.1891	0.0805	1.2100e-003		0.0153	0.0153		0.0153	0.0153	0.0000	219.0125	219.0125	4.2000e-003	4.0200e-003	220.3140
Total		**0.0221**	**0.1891**	**0.0805**	**1.2100e-003**		**0.0153**	**0.0153**		**0.0153**	**0.0153**	**0.0000**	**219.0125**	**219.0125**	**4.2000e-003**	**4.0200e-003**	**220.3140**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.46304e+006	192.4514	0.0166	3.3200e-003	193.8549
Total		**192.4514**	**0.0166**	**3.3200e-003**	**193.8549**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.4514e+006	190.9199	0.0165	3.2900e-003	192.3123
Total		**190.9199**	**0.0165**	**3.2900e-003**	**192.3123**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5011	0.0768	1.2693	4.6000e-004		0.0119	0.0119		0.0119	0.0119	0.0000	74.3711	74.3711	3.3500e-003	1.3300e-003	74.8501
Unmitigated	2.6061	0.2405	11.3041	0.0332		1.6489	1.6489		1.6489	1.6489	219.1964	74.3711	293.5676	1.0281	1.3300e-003	319.6640

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2821					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1740					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.1123	0.2262	10.0615	0.0331		1.6421	1.6421		1.6421	1.6421	219.1964	72.3456	291.5421	1.0261	1.3300e-003	317.5895
Landscaping	0.0377	0.0143	1.2427	7.0000e-005		6.8500e-003	6.8500e-003		6.8500e-003	6.8500e-003	0.0000	2.0255	2.0255	1.9600e-003	0.0000	2.0746
Total	**2.6061**	**0.2405**	**11.3042**	**0.0332**		**1.6489**	**1.6489**		**1.6489**	**1.6489**	**219.1964**	**74.3712**	**293.5676**	**1.0281**	**1.3300e-003**	**319.6640**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2821					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1740					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.3100e-003	0.0625	0.0266	4.0000e-004		5.0500e-003	5.0500e-003		5.0500e-003	5.0500e-003	0.0000	72.3456	72.3456	1.3900e-003	1.3300e-003	72.7756
Landscaping	0.0377	0.0143	1.2427	7.0000e-005		6.8500e-003	6.8500e-003		6.8500e-003	6.8500e-003	0.0000	2.0255	2.0255	1.9600e-003	0.0000	2.0746
Total	**1.5011**	**0.0768**	**1.2693**	**4.7000e-004**		**0.0119**	**0.0119**		**0.0119**	**0.0119**	**0.0000**	**74.3712**	**74.3712**	**3.3500e-003**	**1.3300e-003**	**74.8501**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.4837	0.2844	6.8500e-003	20.6341
Unmitigated	14.3547	0.3555	8.5600e-003	25.7927

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	10.8807 / 6.85959	14.3547	0.3555	8.5600e-003	25.7927
Total		**14.3547**	**0.3555**	**8.5600e-003**	**25.7927**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	8.70458 / 5.48767	11.4837	0.2844	6.8500e-003	20.6341
Total		**11.4837**	**0.2844**	**6.8500e-003**	**20.6341**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	26.1980	1.5483	0.0000	64.9045
Unmitigated	34.9307	2.0643	0.0000	86.5393

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	172.08	34.9307	2.0643	0.0000	86.5393
Total		**34.9307**	**2.0643**	**0.0000**	**86.5393**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	129.06	26.1980	1.5483	0.0000	64.9045
Total		**26.1980**	**1.5483**	**0.0000**	**64.9045**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 2 Construction and Operations (Annual)

Parc West Phase 2 Const and Ops 2022

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	169.00	Dwelling Unit	31.60	304,200.00	483

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Phase 2 Acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2022

Woodstoves -

Demolition - Remove 2 houses and a barn

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Removing 3 structures

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65

Parc West Phase 2 Const and Ops 2022 - Fresno County, Annual

tblAreaCoating	Area_EF_Residential_Interior	150	65
tblConstructionPhase	NumDays	30.00	5.00
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	35.00	20.00
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.49	0.53
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	1.3000e-003
tblFleetMix	LHD2	4.5020e-003	9.0000e-004
tblFleetMix	MCY	5.0620e-003	2.5000e-003
tblFleetMix	MDV	0.12	0.05
tblFleetMix	MH	5.9400e-004	1.8000e-003
tblFleetMix	MHD	0.03	9.0000e-003
tblFleetMix	OBUS	2.3630e-003	0.00
tblFleetMix	SBUS	1.0830e-003	7.0000e-004
tblFleetMix	UBUS	1.5190e-003	4.4000e-003
tblLandUse	LotAcreage	54.87	31.60
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	8.00	15.00
tblTripsAndVMT	WorkerTripNumber	30.00	15.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.6075	5.6522	5.4213	0.0101	0.4454	0.2718	0.7172	0.1983	0.2549	0.4532	0.0000	874.3972	874.3972	0.2048	0.0000	879.5163
2023	1.2861	0.4397	0.5667	9.6000e-004	5.9100e-003	0.0214	0.0273	1.5900e-003	0.0200	0.0216	0.0000	83.8709	83.8709	0.0212	0.0000	84.4000
Maximum	**1.2861**	**5.6522**	**5.4213**	**0.0101**	**0.4454**	**0.2718**	**0.7172**	**0.1983**	**0.2549**	**0.4532**	**0.0000**	**874.3972**	**874.3972**	**0.2048**	**0.0000**	**879.5163**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.6075	5.6522	5.4213	0.0101	0.2353	0.2718	0.5071	0.0987	0.2549	0.3535	0.0000	874.3963	874.3963	0.2048	0.0000	879.5154
2023	1.2861	0.4397	0.5667	9.6000e-004	5.9100e-003	0.0214	0.0273	1.5900e-003	0.0200	0.0216	0.0000	83.8708	83.8708	0.0212	0.0000	84.3999
Maximum	**1.2861**	**5.6522**	**5.4213**	**0.0101**	**0.2353**	**0.2718**	**0.5071**	**0.0987**	**0.2549**	**0.3535**	**0.0000**	**874.3963**	**874.3963**	**0.2048**	**0.0000**	**879.5154**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**46.54**	**0.00**	**28.22**	**49.84**	**0.00**	**20.99**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2022	3-31-2022	1.2443	1.2443
2	4-1-2022	6-30-2022	1.6488	1.6488
3	7-1-2022	9-30-2022	1.6927	1.6927
4	10-1-2022	12-31-2022	1.6933	1.6933
5	1-1-2023	3-31-2023	1.7092	1.7092
		Highest	1.7092	1.7092

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.0011	0.1731	7.1315	0.0196		0.9661	0.9661		0.9661	0.9661	127.7500	75.2618	203.0119	0.6006	1.3400e-003	218.4265
Energy	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	430.5466	430.5466	0.0213	7.6800e-003	433.3682
Mobile	0.4996	1.8291	5.6294	0.0181	1.7296	0.0158	1.7454	0.4629	0.0148	0.4777	0.0000	1,662.5360	1,662.5360	0.1117	0.0000	1,665.3287
Waste						0.0000	0.0000		0.0000	0.0000	35.2961	0.0000	35.2961	2.0859	0.0000	87.4445
Water						0.0000	0.0000		0.0000	0.0000	3.4933	11.0333	14.5266	0.3598	8.6600e-003	26.1016
Total	**2.5245**	**2.2058**	**12.8476**	**0.0389**	**1.7296**	**0.9984**	**2.7280**	**0.4629**	**0.9973**	**1.4603**	**166.5394**	**2,179.3777**	**2,345.9171**	**3.1793**	**0.0177**	**2,430.6694**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3571	0.0777	1.2831	4.7000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	75.2618	75.2618	3.3800e-003	1.3400e-003	75.7463
Energy	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	414.8418	414.8418	0.0209	7.3900e-003	417.5679
Mobile	0.4926	1.7747	5.4021	0.0172	1.6385	0.0151	1.6536	0.4385	0.0141	0.4526	0.0000	1,580.6693	1,580.6693	0.1080	0.0000	1,583.3693
Waste						0.0000	0.0000		0.0000	0.0000	26.4721	0.0000	26.4721	1.5645	0.0000	65.5834
Water						0.0000	0.0000		0.0000	0.0000	2.7946	8.8266	11.6213	0.2878	6.9300e-003	20.8812
Total	**1.8721**	**2.0438**	**6.7666**	**0.0189**	**1.6385**	**0.0426**	**1.6811**	**0.4385**	**0.0416**	**0.4801**	**29.2667**	**2,079.5996**	**2,108.8662**	**1.9845**	**0.0157**	**2,163.1482**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**25.84**	**7.35**	**47.33**	**51.49**	**5.27**	**95.74**	**38.38**	**5.27**	**95.83**	**67.12**	**82.43**	**4.58**	**10.10**	**37.58**	**11.43**	**11.01**

3.0 Construction Detail

Construction Phase

Parc West Phase 2 Const and Ops 2022 - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2022	1/7/2022	5	5	
2	Site Preparation	Site Preparation	1/8/2022	2/4/2022	5	20	
3	Grading	Grading	2/5/2022	4/8/2022	5	45	
4	Building Construction	Building Construction	4/9/2022	1/13/2023	5	200	
5	Paving	Paving	1/14/2023	2/10/2023	5	20	
6	Architectural Coating	Architectural Coating	2/11/2023	3/31/2023	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 616,005; Residential Outdoor: 205,335; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 2 Const and Ops 2022 - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	3	7.00	231	0.29
Building Construction	Forklifts	8	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	8	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	3	15.00	0.00	56.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	25	61.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.1000e-003	0.0000	6.1000e-003	9.2000e-004	0.0000	9.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4900e-003	0.0334	0.0263	5.0000e-005		1.6300e-003	1.6300e-003		1.5300e-003	1.5300e-003	0.0000	4.3538	4.3538	1.0500e-003	0.0000	4.3800
Total	**3.4900e-003**	**0.0334**	**0.0263**	**5.0000e-005**	**6.1000e-003**	**1.6300e-003**	**7.7300e-003**	**9.2000e-004**	**1.5300e-003**	**2.4500e-003**	**0.0000**	**4.3538**	**4.3538**	**1.0500e-003**	**0.0000**	**4.3800**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-004	6.6000e-003	9.8000e-004	2.0000e-005	4.8000e-004	2.0000e-005	5.0000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	2.0792	2.0792	1.8000e-004	0.0000	2.0837
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	8.0000e-005	8.6000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2416	0.2416	1.0000e-005	0.0000	0.2417
Total	**3.4000e-004**	**6.6800e-003**	**1.8400e-003**	**2.0000e-005**	**7.8000e-004**	**2.0000e-005**	**8.0000e-004**	**2.1000e-004**	**2.0000e-005**	**2.3000e-004**	**0.0000**	**2.3208**	**2.3208**	**1.9000e-004**	**0.0000**	**2.3254**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7400e-003	0.0000	2.7400e-003	4.2000e-004	0.0000	4.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4900e-003	0.0334	0.0263	5.0000e-005		1.6300e-003	1.6300e-003		1.5300e-003	1.5300e-003	0.0000	4.3538	4.3538	1.0500e-003	0.0000	4.3800
Total	**3.4900e-003**	**0.0334**	**0.0263**	**5.0000e-005**	**2.7400e-003**	**1.6300e-003**	**4.3700e-003**	**4.2000e-004**	**1.5300e-003**	**1.9500e-003**	**0.0000**	**4.3538**	**4.3538**	**1.0500e-003**	**0.0000**	**4.3800**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-004	6.6000e-003	9.8000e-004	2.0000e-005	4.8000e-004	2.0000e-005	5.0000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	2.0792	2.0792	1.8000e-004	0.0000	2.0837
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	8.0000e-005	8.6000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2416	0.2416	1.0000e-005	0.0000	0.2417
Total	**3.4000e-004**	**6.6800e-003**	**1.8400e-003**	**2.0000e-005**	**7.8000e-004**	**2.0000e-005**	**8.0000e-004**	**2.1000e-004**	**2.0000e-005**	**2.3000e-004**	**0.0000**	**2.3208**	**2.3208**	**1.9000e-004**	**0.0000**	**2.3254**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3308	0.1970	3.8000e-004		0.0161	0.0161		0.0148	0.0148	0.0000	33.4394	33.4394	0.0108	0.0000	33.7098
Total	**0.0317**	**0.3308**	**0.1970**	**3.8000e-004**	**0.1807**	**0.0161**	**0.1968**	**0.0993**	**0.0148**	**0.1142**	**0.0000**	**33.4394**	**33.4394**	**0.0108**	**0.0000**	**33.7098**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	3.9000e-004	4.1400e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1596	1.1596	3.0000e-005	0.0000	1.1603
Total	**6.7000e-004**	**3.9000e-004**	**4.1400e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1596**	**1.1596**	**3.0000e-005**	**0.0000**	**1.1603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0813	0.0000	0.0813	0.0447	0.0000	0.0447	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3308	0.1970	3.8000e-004		0.0161	0.0161		0.0148	0.0148	0.0000	33.4394	33.4394	0.0108	0.0000	33.7097
Total	**0.0317**	**0.3308**	**0.1970**	**3.8000e-004**	**0.0813**	**0.0161**	**0.0974**	**0.0447**	**0.0148**	**0.0595**	**0.0000**	**33.4394**	**33.4394**	**0.0108**	**0.0000**	**33.7097**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	3.9000e-004	4.1400e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1596	1.1596	3.0000e-005	0.0000	1.1603
Total	**6.7000e-004**	**3.9000e-004**	**4.1400e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1596**	**1.1596**	**3.0000e-005**	**0.0000**	**1.1603**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1952	0.0000	0.1952	0.0809	0.0000	0.0809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0816	0.8740	0.6534	1.4000e-003		0.0368	0.0368		0.0338	0.0338	0.0000	122.7029	122.7029	0.0397	0.0000	123.6950
Total	**0.0816**	**0.8740**	**0.6534**	**1.4000e-003**	**0.1952**	**0.0368**	**0.2319**	**0.0809**	**0.0338**	**0.1148**	**0.0000**	**122.7029**	**122.7029**	**0.0397**	**0.0000**	**123.6950**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6700e-003	9.8000e-004	0.0104	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.8990	2.8990	7.0000e-005	0.0000	2.9007
Total	**1.6700e-003**	**9.8000e-004**	**0.0104**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**2.8990**	**2.8990**	**7.0000e-005**	**0.0000**	**2.9007**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0878	0.0000	0.0878	0.0364	0.0000	0.0364	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0816	0.8740	0.6534	1.4000e-003		0.0368	0.0368		0.0338	0.0338	0.0000	122.7027	122.7027	0.0397	0.0000	123.6948
Total	**0.0816**	**0.8740**	**0.6534**	**1.4000e-003**	**0.0878**	**0.0368**	**0.1246**	**0.0364**	**0.0338**	**0.0703**	**0.0000**	**122.7027**	**122.7027**	**0.0397**	**0.0000**	**123.6948**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6700e-003	9.8000e-004	0.0104	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.8990	2.8990	7.0000e-005	0.0000	2.9007
Total	**1.6700e-003**	**9.8000e-004**	**0.0104**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**2.8990**	**2.8990**	**7.0000e-005**	**0.0000**	**2.9007**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4618	4.2110	4.3679	7.2700e-003		0.2164	0.2164		0.2039	0.2039	0.0000	624.9429	624.9429	0.1467	0.0000	628.6115
Total	**0.4618**	**4.2110**	**4.3679**	**7.2700e-003**		**0.2164**	**0.2164**		**0.2039**	**0.2039**	**0.0000**	**624.9429**	**624.9429**	**0.1467**	**0.0000**	**628.6115**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8100e-003	0.1824	0.0272	4.8000e-004	0.0113	4.4000e-004	0.0118	3.2700e-003	4.3000e-004	3.7000e-003	0.0000	45.2459	45.2459	5.3500e-003	0.0000	45.3796
Worker	0.0215	0.0126	0.1332	4.1000e-004	0.0463	2.8000e-004	0.0466	0.0123	2.6000e-004	0.0126	0.0000	37.3328	37.3328	8.5000e-004	0.0000	37.3541
Total	**0.0263**	**0.1950**	**0.1604**	**8.9000e-004**	**0.0577**	**7.2000e-004**	**0.0584**	**0.0156**	**6.9000e-004**	**0.0163**	**0.0000**	**82.5787**	**82.5787**	**6.2000e-003**	**0.0000**	**82.7337**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4618	4.2110	4.3679	7.2700e-003		0.2164	0.2164		0.2039	0.2039	0.0000	624.9422	624.9422	0.1467	0.0000	628.6108
Total	**0.4618**	**4.2110**	**4.3679**	**7.2700e-003**		**0.2164**	**0.2164**		**0.2039**	**0.2039**	**0.0000**	**624.9422**	**624.9422**	**0.1467**	**0.0000**	**628.6108**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8100e-003	0.1824	0.0272	4.8000e-004	0.0113	4.4000e-004	0.0118	3.2700e-003	4.3000e-004	3.7000e-003	0.0000	45.2459	45.2459	5.3500e-003	0.0000	45.3796
Worker	0.0215	0.0126	0.1332	4.1000e-004	0.0463	2.8000e-004	0.0466	0.0123	2.6000e-004	0.0126	0.0000	37.3328	37.3328	8.5000e-004	0.0000	37.3541
Total	**0.0263**	**0.1950**	**0.1604**	**8.9000e-004**	**0.0577**	**7.2000e-004**	**0.0584**	**0.0156**	**6.9000e-004**	**0.0163**	**0.0000**	**82.5787**	**82.5787**	**6.2000e-003**	**0.0000**	**82.7337**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0224	0.2043	0.2282	3.8000e-004		9.8700e-003	9.8700e-003		9.3000e-003	9.3000e-003	0.0000	32.9023	32.9023	7.6700e-003	0.0000	33.0940
Total	**0.0224**	**0.2043**	**0.2282**	**3.8000e-004**		**9.8700e-003**	**9.8700e-003**		**9.3000e-003**	**9.3000e-003**	**0.0000**	**32.9023**	**32.9023**	**7.6700e-003**	**0.0000**	**33.0940**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7000e-004	7.5000e-003	1.1600e-003	2.0000e-005	6.0000e-004	1.0000e-005	6.0000e-004	1.7000e-004	1.0000e-005	1.8000e-004	0.0000	2.3232	2.3232	1.9000e-004	0.0000	2.3279
Worker	1.0500e-003	5.9000e-004	6.4000e-003	2.0000e-005	2.4400e-003	1.0000e-005	2.4500e-003	6.5000e-004	1.0000e-005	6.6000e-004	0.0000	1.8912	1.8912	4.0000e-005	0.0000	1.8922
Total	**1.2200e-003**	**8.0900e-003**	**7.5600e-003**	**4.0000e-005**	**3.0400e-003**	**2.0000e-005**	**3.0500e-003**	**8.2000e-004**	**2.0000e-005**	**8.4000e-004**	**0.0000**	**4.2144**	**4.2144**	**2.3000e-004**	**0.0000**	**4.2202**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0224	0.2043	0.2282	3.8000e-004		9.8700e-003	9.8700e-003		9.3000e-003	9.3000e-003	0.0000	32.9023	32.9023	7.6700e-003	0.0000	33.0940
Total	**0.0224**	**0.2043**	**0.2282**	**3.8000e-004**		**9.8700e-003**	**9.8700e-003**		**9.3000e-003**	**9.3000e-003**	**0.0000**	**32.9023**	**32.9023**	**7.6700e-003**	**0.0000**	**33.0940**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7000e-004	7.5000e-003	1.1600e-003	2.0000e-005	6.0000e-004	1.0000e-005	6.0000e-004	1.7000e-004	1.0000e-005	1.8000e-004	0.0000	2.3232	2.3232	1.9000e-004	0.0000	2.3279
Worker	1.0500e-003	5.9000e-004	6.4000e-003	2.0000e-005	2.4400e-003	1.0000e-005	2.4500e-003	6.5000e-004	1.0000e-005	6.6000e-004	0.0000	1.8912	1.8912	4.0000e-005	0.0000	1.8922
Total	**1.2200e-003**	**8.0900e-003**	**7.5600e-003**	**4.0000e-005**	**3.0400e-003**	**2.0000e-005**	**3.0500e-003**	**8.2000e-004**	**2.0000e-005**	**8.4000e-004**	**0.0000**	**4.2144**	**4.2144**	**2.3000e-004**	**0.0000**	**4.2202**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0207	0.2038	0.2917	4.6000e-004		0.0102	0.0102		9.3900e-003	9.3900e-003	0.0000	40.0537	40.0537	0.0130	0.0000	40.3776
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0207**	**0.2038**	**0.2917**	**4.6000e-004**		**0.0102**	**0.0102**		**9.3900e-003**	**9.3900e-003**	**0.0000**	**40.0537**	**40.0537**	**0.0130**	**0.0000**	**40.3776**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	2.9000e-004	3.1500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9301	0.9301	2.0000e-005	0.0000	0.9306
Total	**5.2000e-004**	**2.9000e-004**	**3.1500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9301**	**0.9301**	**2.0000e-005**	**0.0000**	**0.9306**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0207	0.2038	0.2917	4.6000e-004		0.0102	0.0102		9.3900e-003	9.3900e-003	0.0000	40.0537	40.0537	0.0130	0.0000	40.3775
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0207**	**0.2038**	**0.2917**	**4.6000e-004**		**0.0102**	**0.0102**		**9.3900e-003**	**9.3900e-003**	**0.0000**	**40.0537**	**40.0537**	**0.0130**	**0.0000**	**40.3775**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	2.9000e-004	3.1500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9301	0.9301	2.0000e-005	0.0000	0.9306
Total	**5.2000e-004**	**2.9000e-004**	**3.1500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9301**	**0.9301**	**2.0000e-005**	**0.0000**	**0.9306**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2373					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3500e-003	0.0228	0.0317	5.0000e-005		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.0000	4.4682	4.4682	2.7000e-004	0.0000	4.4749
Total	**1.2406**	**0.0228**	**0.0317**	**5.0000e-005**		**1.2400e-003**	**1.2400e-003**		**1.2400e-003**	**1.2400e-003**	**0.0000**	**4.4682**	**4.4682**	**2.7000e-004**	**0.0000**	**4.4749**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	4.1000e-004	4.4100e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3021	1.3021	3.0000e-005	0.0000	1.3028
Total	**7.2000e-004**	**4.1000e-004**	**4.4100e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3021**	**1.3021**	**3.0000e-005**	**0.0000**	**1.3028**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2373					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3500e-003	0.0228	0.0317	5.0000e-005		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.0000	4.4682	4.4682	2.7000e-004	0.0000	4.4749
Total	**1.2406**	**0.0228**	**0.0317**	**5.0000e-005**		**1.2400e-003**	**1.2400e-003**		**1.2400e-003**	**1.2400e-003**	**0.0000**	**4.4682**	**4.4682**	**2.7000e-004**	**0.0000**	**4.4749**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	4.1000e-004	4.4100e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3021	1.3021	3.0000e-005	0.0000	1.3028
Total	**7.2000e-004**	**4.1000e-004**	**4.4100e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3021**	**1.3021**	**3.0000e-005**	**0.0000**	**1.3028**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4926	1.7747	5.4021	0.0172	1.6385	0.0151	1.6536	0.4385	0.0141	0.4526	0.0000	1,580.6693	1,580.6693	0.1080	0.0000	1,583.3693
Unmitigated	0.4996	1.8291	5.6294	0.0181	1.7296	0.0158	1.7454	0.4629	0.0148	0.4777	0.0000	1,662.5360	1,662.5360	0.1117	0.0000	1,665.3287

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,595.36	1,612.26	1444.95	4,611,177	4,368,321
Total	1,595.36	1,612.26	1,444.95	4,611,177	4,368,321

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.534300	0.203000	0.167300	0.054500	0.001300	0.000900	0.009000	0.020700	0.000000	0.004400	0.002500	0.000700	0.001800

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	193.2064	193.2064	0.0167	3.3300e-003	194.6154
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	194.7562	194.7562	0.0168	3.3600e-003	196.1766
NaturalGas Mitigated	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	221.6354	221.6354	4.2500e-003	4.0600e-003	222.9525
NaturalGas Unmitigated	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.7904	235.7904	4.5200e-003	4.3200e-003	237.1916

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.41855e+006	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.7904	235.7904	4.5200e-003	4.3200e-003	237.1916
Total		**0.0238**	**0.2036**	**0.0866**	**1.3000e-003**		**0.0165**	**0.0165**		**0.0165**	**0.0165**	**0.0000**	**235.7904**	**235.7904**	**4.5200e-003**	**4.3200e-003**	**237.1916**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.15329e+006	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	221.6354	221.6354	4.2500e-003	4.0600e-003	222.9525
Total		**0.0224**	**0.1914**	**0.0814**	**1.2200e-003**		**0.0155**	**0.0155**		**0.0155**	**0.0155**	**0.0000**	**221.6354**	**221.6354**	**4.2500e-003**	**4.0600e-003**	**222.9525**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.48057e+006	194.7562	0.0168	3.3600e-003	196.1766
Total		**194.7562**	**0.0168**	**3.3600e-003**	**196.1766**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.46878e+006	193.2064	0.0167	3.3300e-003	194.6154
Total		**193.2064**	**0.0167**	**3.3300e-003**	**194.6154**

6.0 Area Detail

6.1 Mitigation Measures Area

Parc West Phase 2 Const and Ops 2022 - Fresno County, Annual

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3571	0.0777	1.2831	4.7000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	75.2618	75.2618	3.3800e-003	1.3400e-003	75.7463
Unmitigated	2.0011	0.1731	7.1315	0.0196		0.9661	0.9661		0.9661	0.9661	127.7500	75.2618	203.0119	0.6006	1.3400e-003	218.4265

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1237					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1881					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.6514	0.1586	5.8753	0.0195		0.9592	0.9592		0.9592	0.9592	127.7500	73.2121	200.9621	0.5986	1.3400e-003	216.3273
Landscaping	0.0379	0.0145	1.2562	7.0000e-005		6.9400e-003	6.9400e-003		6.9400e-003	6.9400e-003	0.0000	2.0498	2.0498	1.9800e-003	0.0000	2.0992
Total	**2.0011**	**0.1731**	**7.1315**	**0.0196**		**0.9661**	**0.9661**		**0.9661**	**0.9661**	**127.7500**	**75.2618**	**203.0119**	**0.6006**	**1.3400e-003**	**218.4265**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1237					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1881					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.4000e-003	0.0632	0.0269	4.0000e-004		5.1100e-003	5.1100e-003		5.1100e-003	5.1100e-003	0.0000	73.2121	73.2121	1.4000e-003	1.3400e-003	73.6471
Landscaping	0.0379	0.0145	1.2562	7.0000e-005		6.9400e-003	6.9400e-003		6.9400e-003	6.9400e-003	0.0000	2.0498	2.0498	1.9800e-003	0.0000	2.0992
Total	**1.3571**	**0.0777**	**1.2831**	**4.7000e-004**		**0.0121**	**0.0121**		**0.0121**	**0.0121**	**0.0000**	**75.2618**	**75.2618**	**3.3800e-003**	**1.3400e-003**	**75.7463**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.6213	0.2878	6.9300e-003	20.8812
Unmitigated	14.5266	0.3598	8.6600e-003	26.1016

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	11.011 / 6.94174	14.5266	0.3598	8.6600e-003	26.1016
Total		**14.5266**	**0.3598**	**8.6600e-003**	**26.1016**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	8.80882 / 5.55339	11.6213	0.2878	6.9300e-003	20.8812
Total		**11.6213**	**0.2878**	**6.9300e-003**	**20.8812**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	26.4721	1.5645	0.0000	65.5834
Unmitigated	35.2961	2.0859	0.0000	87.4445

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	173.88	35.2961	2.0859	0.0000	87.4445
Total		**35.2961**	**2.0859**	**0.0000**	**87.4445**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	130.41	26.4721	1.5645	0.0000	65.5834
Total		**26.4721**	**1.5645**	**0.0000**	**65.5834**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 3 Construction and Operations (Annual)

Parc West Phase 3 Const and Ops 2023

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	169.00	Dwelling Unit	31.60	304,200.00	483

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Phase 2 Acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Removing 3 structures

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment -

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves -

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2023

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65

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tblAreaCoating	Area_EF_Residential_Interior	150	65
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	35.00	20.00
tblConstructionPhase	PhaseEndDate	2/28/2025	1/5/2024
tblConstructionPhase	PhaseEndDate	4/18/2025	2/2/2024
tblConstructionPhase	PhaseEndDate	6/6/2025	3/22/2024
tblConstructionPhase	PhaseStartDate	3/1/2025	1/6/2024
tblConstructionPhase	PhaseStartDate	4/19/2025	2/3/2024
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.50	0.53
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	1.1000e-003
tblFleetMix	LHD2	4.2870e-003	9.0000e-004
tblFleetMix	MCY	4.9660e-003	2.5000e-003
tblFleetMix	MDV	0.11	0.06
tblFleetMix	MH	5.6200e-004	1.9000e-003
tblFleetMix	MHD	0.03	8.5000e-003
tblFleetMix	OBUS	2.3600e-003	0.00
tblFleetMix	SBUS	1.0700e-003	4.0000e-004
tblFleetMix	UBUS	1.4600e-003	4.3000e-003
tblLandUse	LotAcreage	54.87	31.60
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	30.00	15.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.5645	5.1939	5.4237	0.0102	0.4400	0.2376	0.6776	0.1976	0.2229	0.4204	0.0000	883.8371	883.8371	0.2046	0.0000	888.9518
2024	1.2724	0.3119	0.4482	7.5000e-004	4.4000e-003	0.0148	0.0192	1.1800e-003	0.0138	0.0150	0.0000	65.1818	65.1818	0.0172	0.0000	65.6111
Maximum	**1.2724**	**5.1939**	**5.4237**	**0.0102**	**0.4400**	**0.2376**	**0.6776**	**0.1976**	**0.2229**	**0.4204**	**0.0000**	**883.8371**	**883.8371**	**0.2046**	**0.0000**	**888.9518**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.5645	5.1939	5.4237	0.0102	0.2333	0.2376	0.4709	0.0984	0.2229	0.3213	0.0000	883.8362	883.8362	0.2046	0.0000	888.9509
2024	1.2724	0.3119	0.4482	7.5000e-004	4.4000e-003	0.0148	0.0192	1.1800e-003	0.0138	0.0150	0.0000	65.1817	65.1817	0.0172	0.0000	65.6110
Maximum	**1.2724**	**5.1939**	**5.4237**	**0.0102**	**0.2333**	**0.2376**	**0.4709**	**0.0984**	**0.2229**	**0.3213**	**0.0000**	**883.8362**	**883.8362**	**0.2046**	**0.0000**	**888.9509**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**46.51**	**0.00**	**29.66**	**49.87**	**0.00**	**22.77**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2023	3-31-2023	1.1460	1.1460
2	4-1-2023	6-30-2023	1.5342	1.5342
3	7-1-2023	9-30-2023	1.5511	1.5511
4	10-1-2023	12-31-2023	1.5514	1.5514
5	1-1-2024	3-31-2024	1.5529	1.5529
		Highest	1.5529	1.5529

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.0010	0.1731	7.1305	0.0196		0.9661	0.9661		0.9661	0.9661	127.7500	75.2618	203.0119	0.6006	1.3400e-003	218.4263
Energy	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	430.5466	430.5466	0.0213	7.6800e-003	433.3682
Mobile	0.4567	1.5145	5.1626	0.0175	1.7281	0.0136	1.7417	0.4623	0.0127	0.4749	0.0000	1,611.2223	1,611.2223	0.0947	0.0000	1,613.5889
Waste						0.0000	0.0000		0.0000	0.0000	35.2961	0.0000	35.2961	2.0859	0.0000	87.4445
Water						0.0000	0.0000		0.0000	0.0000	3.4933	11.0333	14.5266	0.3598	8.6600e-003	26.1016
Total	**2.4815**	**1.8912**	**12.3797**	**0.0384**	**1.7281**	**0.9962**	**2.7243**	**0.4623**	**0.9952**	**1.4575**	**166.5394**	**2,128.0640**	**2,294.6034**	**3.1622**	**0.0177**	**2,378.9294**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3570	0.0777	1.2820	4.7000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	75.2618	75.2618	3.3700e-003	1.3400e-003	75.7462
Energy	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	414.8418	414.8418	0.0209	7.3900e-003	417.5679
Mobile	0.4505	1.4721	4.9527	0.0167	1.6371	0.0130	1.6501	0.4379	0.0121	0.4500	0.0000	1,532.0551	1,532.0551	0.0913	0.0000	1,534.3367
Waste						0.0000	0.0000		0.0000	0.0000	26.4721	0.0000	26.4721	1.5645	0.0000	65.5834
Water						0.0000	0.0000		0.0000	0.0000	2.7946	8.8266	11.6213	0.2878	6.9300e-003	20.8812
Total	**1.8299**	**1.7411**	**6.3162**	**0.0184**	**1.6371**	**0.0405**	**1.6776**	**0.4379**	**0.0396**	**0.4775**	**29.2667**	**2,030.9853**	**2,060.2520**	**1.9678**	**0.0157**	**2,114.1154**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**26.26**	**7.93**	**48.98**	**52.18**	**5.27**	**95.94**	**38.42**	**5.27**	**96.02**	**67.24**	**82.43**	**4.56**	**10.21**	**37.77**	**11.43**	**11.13**

3.0 Construction Detail

Construction Phase

Parc West Phase 3 Const and Ops 2023 - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2023	1/27/2023	5	20	
2	Grading	Grading	1/28/2023	3/31/2023	5	45	
3	Building Construction	Building Construction	4/1/2023	1/5/2024	5	200	
4	Paving	Paving	1/6/2024	2/2/2024	5	20	
5	Architectural Coating	Architectural Coating	2/3/2024	3/22/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 616,005; Residential Outdoor: 205,335; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 3 Const and Ops 2023 - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	3	7.00	231	0.29
Building Construction	Forklifts	8	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	8	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	25	61.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0266	0.2752	0.1824	3.8000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	33.4507	33.4507	0.0108	0.0000	33.7212
Total	**0.0266**	**0.2752**	**0.1824**	**3.8000e-004**	**0.1807**	**0.0127**	**0.1933**	**0.0993**	**0.0117**	**0.1110**	**0.0000**	**33.4507**	**33.4507**	**0.0108**	**0.0000**	**33.7212**

3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	3.5000e-004	3.7800e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1161	1.1161	2.0000e-005	0.0000	1.1167
Total	**6.2000e-004**	**3.5000e-004**	**3.7800e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1161**	**1.1161**	**2.0000e-005**	**0.0000**	**1.1167**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0813	0.0000	0.0813	0.0447	0.0000	0.0447	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0266	0.2752	0.1824	3.8000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	33.4507	33.4507	0.0108	0.0000	33.7211
Total	**0.0266**	**0.2752**	**0.1824**	**3.8000e-004**	**0.0813**	**0.0127**	**0.0940**	**0.0447**	**0.0117**	**0.0563**	**0.0000**	**33.4507**	**33.4507**	**0.0108**	**0.0000**	**33.7211**

3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	3.5000e-004	3.7800e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1161	1.1161	2.0000e-005	0.0000	1.1167
Total	**6.2000e-004**	**3.5000e-004**	**3.7800e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1161**	**1.1161**	**2.0000e-005**	**0.0000**	**1.1167**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1952	0.0000	0.1952	0.0809	0.0000	0.0809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0747	0.7766	0.6312	1.4000e-003		0.0321	0.0321		0.0295	0.0295	0.0000	122.7042	122.7042	0.0397	0.0000	123.6964
Total	**0.0747**	**0.7766**	**0.6312**	**1.4000e-003**	**0.1952**	**0.0321**	**0.2272**	**0.0809**	**0.0295**	**0.1104**	**0.0000**	**122.7042**	**122.7042**	**0.0397**	**0.0000**	**123.6964**

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5500e-003	8.8000e-004	9.4500e-003	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.7903	2.7903	6.0000e-005	0.0000	2.7918
Total	**1.5500e-003**	**8.8000e-004**	**9.4500e-003**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**2.7903**	**2.7903**	**6.0000e-005**	**0.0000**	**2.7918**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0878	0.0000	0.0878	0.0364	0.0000	0.0364	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0747	0.7766	0.6312	1.4000e-003		0.0321	0.0321		0.0295	0.0295	0.0000	122.7041	122.7041	0.0397	0.0000	123.6962
Total	**0.0747**	**0.7766**	**0.6312**	**1.4000e-003**	**0.0878**	**0.0321**	**0.1199**	**0.0364**	**0.0295**	**0.0659**	**0.0000**	**122.7041**	**122.7041**	**0.0397**	**0.0000**	**123.6962**

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5500e-003	8.8000e-004	9.4500e-003	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.7903	2.7903	6.0000e-005	0.0000	2.7918
Total	**1.5500e-003**	**8.8000e-004**	**9.4500e-003**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**2.7903**	**2.7903**	**6.0000e-005**	**0.0000**	**2.7918**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4371	3.9830	4.4494	7.4700e-003		0.1924	0.1924		0.1813	0.1813	0.0000	641.5952	641.5952	0.1495	0.0000	645.3329
Total	**0.4371**	**3.9830**	**4.4494**	**7.4700e-003**		**0.1924**	**0.1924**		**0.1813**	**0.1813**	**0.0000**	**641.5952**	**641.5952**	**0.1495**	**0.0000**	**645.3329**

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3800e-003	0.1463	0.0226	4.8000e-004	0.0116	1.4000e-004	0.0118	3.3600e-003	1.3000e-004	3.4900e-003	0.0000	45.3021	45.3021	3.7100e-003	0.0000	45.3949
Worker	0.0205	0.0116	0.1248	4.1000e-004	0.0476	2.8000e-004	0.0478	0.0126	2.6000e-004	0.0129	0.0000	36.8785	36.8785	7.8000e-004	0.0000	36.8980
Total	**0.0239**	**0.1578**	**0.1475**	**8.9000e-004**	**0.0592**	**4.2000e-004**	**0.0596**	**0.0160**	**3.9000e-004**	**0.0164**	**0.0000**	**82.1806**	**82.1806**	**4.4900e-003**	**0.0000**	**82.2929**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4371	3.9830	4.4494	7.4700e-003		0.1924	0.1924		0.1813	0.1813	0.0000	641.5944	641.5944	0.1495	0.0000	645.3322
Total	**0.4371**	**3.9830**	**4.4494**	**7.4700e-003**		**0.1924**	**0.1924**		**0.1813**	**0.1813**	**0.0000**	**641.5944**	**641.5944**	**0.1495**	**0.0000**	**645.3322**

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3800e-003	0.1463	0.0226	4.8000e-004	0.0116	1.4000e-004	0.0118	3.3600e-003	1.3000e-004	3.4900e-003	0.0000	45.3021	45.3021	3.7100e-003	0.0000	45.3949
Worker	0.0205	0.0116	0.1248	4.1000e-004	0.0476	2.8000e-004	0.0478	0.0126	2.6000e-004	0.0129	0.0000	36.8785	36.8785	7.8000e-004	0.0000	36.8980
Total	**0.0239**	**0.1578**	**0.1475**	**8.9000e-004**	**0.0592**	**4.2000e-004**	**0.0596**	**0.0160**	**3.9000e-004**	**0.0164**	**0.0000**	**82.1806**	**82.1806**	**4.4900e-003**	**0.0000**	**82.2929**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0105	0.0955	0.1135	1.9000e-004		4.3300e-003	4.3300e-003		4.0800e-003	4.0800e-003	0.0000	16.4541	16.4541	3.8100e-003	0.0000	16.5494
Total	**0.0105**	**0.0955**	**0.1135**	**1.9000e-004**		**4.3300e-003**	**4.3300e-003**		**4.0800e-003**	**4.0800e-003**	**0.0000**	**16.4541**	**16.4541**	**3.8100e-003**	**0.0000**	**16.5494**

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	3.7200e-003	5.5000e-004	1.0000e-005	3.0000e-004	0.0000	3.0000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	1.1528	1.1528	1.0000e-004	0.0000	1.1552
Worker	4.9000e-004	2.7000e-004	2.9400e-003	1.0000e-005	1.2200e-003	1.0000e-005	1.2300e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9087	0.9087	2.0000e-005	0.0000	0.9091
Total	**5.7000e-004**	**3.9900e-003**	**3.4900e-003**	**2.0000e-005**	**1.5200e-003**	**1.0000e-005**	**1.5300e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**2.0614**	**2.0614**	**1.2000e-004**	**0.0000**	**2.0643**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0105	0.0955	0.1135	1.9000e-004		4.3300e-003	4.3300e-003		4.0800e-003	4.0800e-003	0.0000	16.4541	16.4541	3.8100e-003	0.0000	16.5493
Total	**0.0105**	**0.0955**	**0.1135**	**1.9000e-004**		**4.3300e-003**	**4.3300e-003**		**4.0800e-003**	**4.0800e-003**	**0.0000**	**16.4541**	**16.4541**	**3.8100e-003**	**0.0000**	**16.5493**

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	3.7200e-003	5.5000e-004	1.0000e-005	3.0000e-004	0.0000	3.0000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	1.1528	1.1528	1.0000e-004	0.0000	1.1552
Worker	4.9000e-004	2.7000e-004	2.9400e-003	1.0000e-005	1.2200e-003	1.0000e-005	1.2300e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9087	0.9087	2.0000e-005	0.0000	0.9091
Total	**5.7000e-004**	**3.9900e-003**	**3.4900e-003**	**2.0000e-005**	**1.5200e-003**	**1.0000e-005**	**1.5300e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**2.0614**	**2.0614**	**1.2000e-004**	**0.0000**	**2.0643**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0198	0.1905	0.2925	4.6000e-004		9.3700e-003	9.3700e-003		8.6200e-003	8.6200e-003	0.0000	40.0531	40.0531	0.0130	0.0000	40.3769
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0198**	**0.1905**	**0.2925**	**4.6000e-004**		**9.3700e-003**	**9.3700e-003**		**8.6200e-003**	**8.6200e-003**	**0.0000**	**40.0531**	**40.0531**	**0.0130**	**0.0000**	**40.3769**

3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	2.6000e-004	2.9000e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.8938	0.8938	2.0000e-005	0.0000	0.8942
Total	**4.8000e-004**	**2.6000e-004**	**2.9000e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.8938**	**0.8938**	**2.0000e-005**	**0.0000**	**0.8942**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0198	0.1905	0.2925	4.6000e-004		9.3700e-003	9.3700e-003		8.6200e-003	8.6200e-003	0.0000	40.0530	40.0530	0.0130	0.0000	40.3769
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0198**	**0.1905**	**0.2925**	**4.6000e-004**		**9.3700e-003**	**9.3700e-003**		**8.6200e-003**	**8.6200e-003**	**0.0000**	**40.0530**	**40.0530**	**0.0130**	**0.0000**	**40.3769**

3.5 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	2.6000e-004	2.9000e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.8938	0.8938	2.0000e-005	0.0000	0.8942
Total	**4.8000e-004**	**2.6000e-004**	**2.9000e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.8938**	**0.8938**	**2.0000e-005**	**0.0000**	**0.8942**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2373					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**1.2404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	3.7000e-004	4.0500e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.2513	1.2513	2.0000e-005	0.0000	1.2519
Total	**6.8000e-004**	**3.7000e-004**	**4.0500e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.2513**	**1.2513**	**2.0000e-005**	**0.0000**	**1.2519**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2373					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**1.2404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	3.7000e-004	4.0500e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.2513	1.2513	2.0000e-005	0.0000	1.2519
Total	**6.8000e-004**	**3.7000e-004**	**4.0500e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.2513**	**1.2513**	**2.0000e-005**	**0.0000**	**1.2519**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4505	1.4721	4.9527	0.0167	1.6371	0.0130	1.6501	0.4379	0.0121	0.4500	0.0000	1,532.0551	1,532.0551	0.0913	0.0000	1,534.3367
Unmitigated	0.4567	1.5145	5.1626	0.0175	1.7281	0.0136	1.7417	0.4623	0.0127	0.4749	0.0000	1,611.2223	1,611.2223	0.0947	0.0000	1,613.5889

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,595.36	1,612.26	1444.95	4,611,177	4,368,321
Total	1,595.36	1,612.26	1,444.95	4,611,177	4,368,321

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.530500	0.205800	0.167300	0.055000	0.001100	0.000900	0.008500	0.021800	0.000000	0.004300	0.002500	0.000400	0.001900

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	193.2064	193.2064	0.0167	3.3300e-003	194.6154
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	194.7562	194.7562	0.0168	3.3600e-003	196.1766
NaturalGas Mitigated	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	221.6354	221.6354	4.2500e-003	4.0600e-003	222.9525
NaturalGas Unmitigated	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.7904	235.7904	4.5200e-003	4.3200e-003	237.1916

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.41855e+006	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.7904	235.7904	4.5200e-003	4.3200e-003	237.1916
Total		**0.0238**	**0.2036**	**0.0866**	**1.3000e-003**		**0.0165**	**0.0165**		**0.0165**	**0.0165**	**0.0000**	**235.7904**	**235.7904**	**4.5200e-003**	**4.3200e-003**	**237.1916**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.15329e+006	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	221.6354	221.6354	4.2500e-003	4.0600e-003	222.9525
Total		**0.0224**	**0.1914**	**0.0814**	**1.2200e-003**		**0.0155**	**0.0155**		**0.0155**	**0.0155**	**0.0000**	**221.6354**	**221.6354**	**4.2500e-003**	**4.0600e-003**	**222.9525**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.48057e+006	194.7562	0.0168	3.3600e-003	196.1766
Total		**194.7562**	**0.0168**	**3.3600e-003**	**196.1766**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.46878e+006	193.2064	0.0167	3.3300e-003	194.6154
Total		**193.2064**	**0.0167**	**3.3300e-003**	**194.6154**

6.0 Area Detail

6.1 Mitigation Measures Area

Parc West Phase 3 Const and Ops 2023 - Fresno County, Annual

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3570	0.0777	1.2820	4.7000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	75.2618	75.2618	3.3700e-003	1.3400e-003	75.7462
Unmitigated	2.0010	0.1731	7.1305	0.0196		0.9661	0.9661		0.9661	0.9661	127.7500	75.2618	203.0119	0.6006	1.3400e-003	218.4263

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1237					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1881					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.6514	0.1586	5.8753	0.0195		0.9592	0.9592		0.9592	0.9592	127.7500	73.2121	200.9621	0.5986	1.3400e-003	216.3273
Landscaping	0.0378	0.0145	1.2551	7.0000e-005		6.9500e-003	6.9500e-003		6.9500e-003	6.9500e-003	0.0000	2.0498	2.0498	1.9700e-003	0.0000	2.0990
Total	**2.0010**	**0.1731**	**7.1305**	**0.0196**		**0.9661**	**0.9661**		**0.9661**	**0.9661**	**127.7500**	**75.2618**	**203.0119**	**0.6006**	**1.3400e-003**	**218.4263**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1237					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1881					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.4000e-003	0.0632	0.0269	4.0000e-004		5.1100e-003	5.1100e-003		5.1100e-003	5.1100e-003	0.0000	73.2121	73.2121	1.4000e-003	1.3400e-003	73.6471
Landscaping	0.0378	0.0145	1.2551	7.0000e-005		6.9500e-003	6.9500e-003		6.9500e-003	6.9500e-003	0.0000	2.0498	2.0498	1.9700e-003	0.0000	2.0990
Total	**1.3570**	**0.0777**	**1.2820**	**4.7000e-004**		**0.0121**	**0.0121**		**0.0121**	**0.0121**	**0.0000**	**75.2618**	**75.2618**	**3.3700e-003**	**1.3400e-003**	**75.7462**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.6213	0.2878	6.9300e-003	20.8812
Unmitigated	14.5266	0.3598	8.6600e-003	26.1016

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	11.011 / 6.94174	14.5266	0.3598	8.6600e-003	26.1016
Total		**14.5266**	**0.3598**	**8.6600e-003**	**26.1016**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	8.80882 / 5.55339	11.6213	0.2878	6.9300e-003	20.8812
Total		**11.6213**	**0.2878**	**6.9300e-003**	**20.8812**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	26.4721	1.5645	0.0000	65.5834
Unmitigated	35.2961	2.0859	0.0000	87.4445

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	173.88	35.2961	2.0859	0.0000	87.4445
Total		**35.2961**	**2.0859**	**0.0000**	**87.4445**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	130.41	26.4721	1.5645	0.0000	65.5834
Total		**26.4721**	**1.5645**	**0.0000**	**65.5834**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 4 Construction and Operations (Annual)

Parc West Phase 4 Const and Ops 2024

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	169.00	Dwelling Unit	31.60	304,200.00	483

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Phase 4 Acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Removing 3 structures

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment -

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves -

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2024

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65

Parc West Phase 4 Const and Ops 2024 - Fresno County, Annual

tblAreaCoating	Area_EF_Residential_Interior	150	65
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	35.00	20.00
tblConstructionPhase	PhaseEndDate	2/27/2026	1/3/2025
tblConstructionPhase	PhaseEndDate	4/17/2026	1/31/2025
tblConstructionPhase	PhaseEndDate	6/5/2026	3/21/2025
tblConstructionPhase	PhaseStartDate	2/28/2026	1/4/2025
tblConstructionPhase	PhaseStartDate	4/18/2026	2/1/2025
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.50	0.53
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	9.0000e-004
tblFleetMix	LHD2	4.0970e-003	9.0000e-004
tblFleetMix	MCY	4.8840e-003	2.5000e-003
tblFleetMix	MDV	0.11	0.06
tblFleetMix	MH	5.3500e-004	2.0000e-003
tblFleetMix	MHD	0.03	8.0000e-003
tblFleetMix	OBUS	2.3410e-003	0.00
tblFleetMix	SBUS	1.0580e-003	2.0000e-004
tblFleetMix	UBUS	1.4060e-003	4.3000e-003
tblLandUse	LotAcreage	54.87	31.60
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	30.00	15.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.5369	4.9193	5.4294	0.0102	0.4406	0.2133	0.6539	0.1977	0.2000	0.3977	0.0000	889.3912	889.3912	0.2052	0.0000	894.5202
2025	1.2658	0.2477	0.3993	6.6000e-004	3.7900e-003	0.0115	0.0153	1.0100e-003	0.0107	0.0117	0.0000	57.6519	57.6519	0.0156	0.0000	58.0412
Maximum	**1.2658**	**4.9193**	**5.4294**	**0.0102**	**0.4406**	**0.2133**	**0.6539**	**0.1977**	**0.2000**	**0.3977**	**0.0000**	**889.3912**	**889.3912**	**0.2052**	**0.0000**	**894.5202**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.5369	4.9193	5.4294	0.0102	0.2339	0.2133	0.4472	0.0986	0.2000	0.2986	0.0000	889.3902	889.3902	0.2052	0.0000	894.5192
2025	1.2658	0.2477	0.3993	6.6000e-004	3.7900e-003	0.0115	0.0153	1.0100e-003	0.0107	0.0117	0.0000	57.6518	57.6518	0.0156	0.0000	58.0411
Maximum	**1.2658**	**4.9193**	**5.4294**	**0.0102**	**0.2339**	**0.2133**	**0.4472**	**0.0986**	**0.2000**	**0.2986**	**0.0000**	**889.3902**	**889.3902**	**0.2052**	**0.0000**	**894.5192**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**46.51**	**0.00**	**30.89**	**49.88**	**0.00**	**24.21**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2024	3-31-2024	1.1128	1.1128
2	4-1-2024	6-30-2024	1.4368	1.4368
3	7-1-2024	9-30-2024	1.4525	1.4525
4	10-1-2024	12-31-2024	1.4529	1.4529
5	1-1-2025	3-31-2025	1.4961	1.4961
		Highest	1.4961	1.4961

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.0009	0.1731	7.1297	0.0196		0.9661	0.9661		0.9661	0.9661	127.7500	75.2618	203.0119	0.6006	1.3400e-003	218.4262
Energy	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	430.5466	430.5466	0.0213	7.6800e-003	433.3682
Mobile	0.4251	1.4194	4.7815	0.0169	1.7270	0.0131	1.7401	0.4618	0.0122	0.4740	0.0000	1,553.3812	1,553.3812	0.0890	0.0000	1,555.6072
Waste						0.0000	0.0000		0.0000	0.0000	35.2961	0.0000	35.2961	2.0859	0.0000	87.4445
Water						0.0000	0.0000		0.0000	0.0000	3.4933	11.0333	14.5266	0.3598	8.6600e-003	26.1016
Total	**2.4499**	**1.7961**	**11.9978**	**0.0377**	**1.7270**	**0.9957**	**2.7227**	**0.4618**	**0.9948**	**1.4566**	**166.5394**	**2,070.2229**	**2,236.7623**	**3.1566**	**0.0177**	**2,320.9477**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3569	0.0777	1.2812	4.7000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	75.2618	75.2618	3.3700e-003	1.3400e-003	75.7461
Energy	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	414.8418	414.8418	0.0209	7.3900e-003	417.5679
Mobile	0.4194	1.3804	4.5862	0.0161	1.6360	0.0125	1.6486	0.4375	0.0117	0.4491	0.0000	1,477.0506	1,477.0506	0.0859	0.0000	1,479.1979
Waste						0.0000	0.0000		0.0000	0.0000	26.4721	0.0000	26.4721	1.5645	0.0000	65.5834
Water						0.0000	0.0000		0.0000	0.0000	2.7946	8.8266	11.6213	0.2878	6.9300e-003	20.8812
Total	**1.7987**	**1.6495**	**5.9489**	**0.0177**	**1.6360**	**0.0401**	**1.6761**	**0.4375**	**0.0392**	**0.4767**	**29.2667**	**1,975.9808**	**2,005.2475**	**1.9624**	**0.0157**	**2,058.9765**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**26.58**	**8.16**	**50.42**	**52.98**	**5.27**	**95.98**	**38.44**	**5.27**	**96.06**	**67.28**	**82.43**	**4.55**	**10.35**	**37.83**	**11.43**	**11.29**

3.0 Construction Detail

Construction Phase

Parc West Phase 4 Const and Ops 2024 - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2024	1/26/2024	5	20	
2	Grading	Grading	1/27/2024	3/29/2024	5	45	
3	Building Construction	Building Construction	3/30/2024	1/3/2025	5	200	
4	Paving	Paving	1/4/2025	1/31/2025	5	20	
5	Architectural Coating	Architectural Coating	2/1/2025	3/21/2025	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 616,005; Residential Outdoor: 205,335; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 4 Const and Ops 2024 - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	3	7.00	231	0.29
Building Construction	Forklifts	8	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	8	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	25	61.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0266	0.2718	0.1834	3.8000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	33.4571	33.4571	0.0108	0.0000	33.7276
Total	**0.0266**	**0.2718**	**0.1834**	**3.8000e-004**	**0.1807**	**0.0123**	**0.1930**	**0.0993**	**0.0113**	**0.1106**	**0.0000**	**33.4571**	**33.4571**	**0.0108**	**0.0000**	**33.7276**

3.2 Site Preparation - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	3.1000e-004	3.4700e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0725	1.0725	2.0000e-005	0.0000	1.0731
Total	**5.8000e-004**	**3.1000e-004**	**3.4700e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0725**	**1.0725**	**2.0000e-005**	**0.0000**	**1.0731**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0813	0.0000	0.0813	0.0447	0.0000	0.0447	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0266	0.2718	0.1834	3.8000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	33.4570	33.4570	0.0108	0.0000	33.7275
Total	**0.0266**	**0.2718**	**0.1834**	**3.8000e-004**	**0.0813**	**0.0123**	**0.0936**	**0.0447**	**0.0113**	**0.0560**	**0.0000**	**33.4570**	**33.4570**	**0.0108**	**0.0000**	**33.7275**

3.2 Site Preparation - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	3.1000e-004	3.4700e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0725	1.0725	2.0000e-005	0.0000	1.0731
Total	**5.8000e-004**	**3.1000e-004**	**3.4700e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0725**	**1.0725**	**2.0000e-005**	**0.0000**	**1.0731**

3.3 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1952	0.0000	0.1952	0.0809	0.0000	0.0809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0724	0.7285	0.6238	1.4000e-003		0.0301	0.0301		0.0276	0.0276	0.0000	122.6689	122.6689	0.0397	0.0000	123.6608
Total	**0.0724**	**0.7285**	**0.6238**	**1.4000e-003**	**0.1952**	**0.0301**	**0.2252**	**0.0809**	**0.0276**	**0.1086**	**0.0000**	**122.6689**	**122.6689**	**0.0397**	**0.0000**	**123.6608**

3.3 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4500e-003	7.9000e-004	8.6900e-003	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.6813	2.6813	5.0000e-005	0.0000	2.6826
Total	**1.4500e-003**	**7.9000e-004**	**8.6900e-003**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**2.6813**	**2.6813**	**5.0000e-005**	**0.0000**	**2.6826**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0878	0.0000	0.0878	0.0364	0.0000	0.0364	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0724	0.7285	0.6238	1.4000e-003		0.0301	0.0301		0.0276	0.0276	0.0000	122.6688	122.6688	0.0397	0.0000	123.6606
Total	**0.0724**	**0.7285**	**0.6238**	**1.4000e-003**	**0.0878**	**0.0301**	**0.1179**	**0.0364**	**0.0276**	**0.0641**	**0.0000**	**122.6688**	**122.6688**	**0.0397**	**0.0000**	**123.6606**

3.3 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4500e-003	7.9000e-004	8.6900e-003	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.6813	2.6813	5.0000e-005	0.0000	2.6826
Total	**1.4500e-003**	**7.9000e-004**	**8.6900e-003**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**2.6813**	**2.6813**	**5.0000e-005**	**0.0000**	**2.6826**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4132	3.7608	4.4724	7.5400e-003		0.1705	0.1705		0.1606	0.1606	0.0000	648.2919	648.2919	0.1501	0.0000	652.0444
Total	**0.4132**	**3.7608**	**4.4724**	**7.5400e-003**		**0.1705**	**0.1705**		**0.1606**	**0.1606**	**0.0000**	**648.2919**	**648.2919**	**0.1501**	**0.0000**	**652.0444**

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3300e-003	0.1466	0.0217	4.8000e-004	0.0118	1.4000e-004	0.0119	3.3900e-003	1.3000e-004	3.5300e-003	0.0000	45.4183	45.4183	3.7800e-003	0.0000	45.5129
Worker	0.0194	0.0105	0.1160	4.0000e-004	0.0480	2.8000e-004	0.0483	0.0128	2.5000e-004	0.0130	0.0000	35.8012	35.8012	7.1000e-004	0.0000	35.8189
Total	**0.0227**	**0.1572**	**0.1377**	**8.8000e-004**	**0.0598**	**4.2000e-004**	**0.0602**	**0.0162**	**3.8000e-004**	**0.0166**	**0.0000**	**81.2195**	**81.2195**	**4.4900e-003**	**0.0000**	**81.3318**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4132	3.7608	4.4724	7.5400e-003		0.1705	0.1705		0.1606	0.1606	0.0000	648.2911	648.2911	0.1501	0.0000	652.0436
Total	**0.4132**	**3.7608**	**4.4724**	**7.5400e-003**		**0.1705**	**0.1705**		**0.1606**	**0.1606**	**0.0000**	**648.2911**	**648.2911**	**0.1501**	**0.0000**	**652.0436**

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3300e-003	0.1466	0.0217	4.8000e-004	0.0118	1.4000e-004	0.0119	3.3900e-003	1.3000e-004	3.5300e-003	0.0000	45.4183	45.4183	3.7800e-003	0.0000	45.5129
Worker	0.0194	0.0105	0.1160	4.0000e-004	0.0480	2.8000e-004	0.0483	0.0128	2.5000e-004	0.0130	0.0000	35.8012	35.8012	7.1000e-004	0.0000	35.8189
Total	**0.0227**	**0.1572**	**0.1377**	**8.8000e-004**	**0.0598**	**4.2000e-004**	**0.0602**	**0.0162**	**3.8000e-004**	**0.0166**	**0.0000**	**81.2195**	**81.2195**	**4.4900e-003**	**0.0000**	**81.3318**

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.8500e-003	0.0531	0.0678	1.1000e-004		2.2400e-003	2.2400e-003		2.1100e-003	2.1100e-003	0.0000	9.8753	9.8753	2.2700e-003	0.0000	9.9321
Total	**5.8500e-003**	**0.0531**	**0.0678**	**1.1000e-004**		**2.2400e-003**	**2.2400e-003**		**2.1100e-003**	**2.1100e-003**	**0.0000**	**9.8753**	**9.8753**	**2.2700e-003**	**0.0000**	**9.9321**

3.4 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	2.2200e-003	3.2000e-004	1.0000e-005	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.6867	0.6867	6.0000e-005	0.0000	0.6882
Worker	2.8000e-004	1.4000e-004	1.6300e-003	1.0000e-005	7.3000e-004	0.0000	7.4000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5235	0.5235	1.0000e-005	0.0000	0.5237
Total	**3.3000e-004**	**2.3600e-003**	**1.9500e-003**	**2.0000e-005**	**9.1000e-004**	**0.0000**	**9.2000e-004**	**2.4000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**1.2102**	**1.2102**	**7.0000e-005**	**0.0000**	**1.2119**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.8500e-003	0.0531	0.0678	1.1000e-004		2.2400e-003	2.2400e-003		2.1100e-003	2.1100e-003	0.0000	9.8753	9.8753	2.2700e-003	0.0000	9.9321
Total	**5.8500e-003**	**0.0531**	**0.0678**	**1.1000e-004**		**2.2400e-003**	**2.2400e-003**		**2.1100e-003**	**2.1100e-003**	**0.0000**	**9.8753**	**9.8753**	**2.2700e-003**	**0.0000**	**9.9321**

3.4 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	2.2200e-003	3.2000e-004	1.0000e-005	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.6867	0.6867	6.0000e-005	0.0000	0.6882
Worker	2.8000e-004	1.4000e-004	1.6300e-003	1.0000e-005	7.3000e-004	0.0000	7.4000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5235	0.5235	1.0000e-005	0.0000	0.5237
Total	**3.3000e-004**	**2.3600e-003**	**1.9500e-003**	**2.0000e-005**	**9.1000e-004**	**0.0000**	**9.2000e-004**	**2.4000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**1.2102**	**1.2102**	**7.0000e-005**	**0.0000**	**1.2119**

3.5 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0183	0.1716	0.2916	4.6000e-004		8.3700e-003	8.3700e-003		7.7000e-003	7.7000e-003	0.0000	40.0385	40.0385	0.0130	0.0000	40.3622
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0183**	**0.1716**	**0.2916**	**4.6000e-004**		**8.3700e-003**	**8.3700e-003**		**7.7000e-003**	**7.7000e-003**	**0.0000**	**40.0385**	**40.0385**	**0.0130**	**0.0000**	**40.3622**

3.5 Paving - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	2.4000e-004	2.6700e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.8582	0.8582	2.0000e-005	0.0000	0.8586
Total	**4.5000e-004**	**2.4000e-004**	**2.6700e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.8582**	**0.8582**	**2.0000e-005**	**0.0000**	**0.8586**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0183	0.1716	0.2916	4.6000e-004		8.3700e-003	8.3700e-003		7.7000e-003	7.7000e-003	0.0000	40.0385	40.0385	0.0130	0.0000	40.3622
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0183**	**0.1716**	**0.2916**	**4.6000e-004**		**8.3700e-003**	**8.3700e-003**		**7.7000e-003**	**7.7000e-003**	**0.0000**	**40.0385**	**40.0385**	**0.0130**	**0.0000**	**40.3622**

3.5 Paving - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	2.4000e-004	2.6700e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.8582	0.8582	2.0000e-005	0.0000	0.8586
Total	**4.5000e-004**	**2.4000e-004**	**2.6700e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.8582**	**0.8582**	**2.0000e-005**	**0.0000**	**0.8586**

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2373					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0201	0.0317	5.0000e-005		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004	0.0000	4.4682	4.4682	2.4000e-004	0.0000	4.4743
Total	**1.2402**	**0.0201**	**0.0317**	**5.0000e-005**		**9.0000e-004**	**9.0000e-004**		**9.0000e-004**	**9.0000e-004**	**0.0000**	**4.4682**	**4.4682**	**2.4000e-004**	**0.0000**	**4.4743**

3.6 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	3.3000e-004	3.7300e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.5000e-004	0.0000	1.2015	1.2015	2.0000e-005	0.0000	1.2020
Total	**6.4000e-004**	**3.3000e-004**	**3.7300e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.2015**	**1.2015**	**2.0000e-005**	**0.0000**	**1.2020**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2373					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0201	0.0317	5.0000e-005		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004	0.0000	4.4682	4.4682	2.4000e-004	0.0000	4.4743
Total	**1.2402**	**0.0201**	**0.0317**	**5.0000e-005**		**9.0000e-004**	**9.0000e-004**		**9.0000e-004**	**9.0000e-004**	**0.0000**	**4.4682**	**4.4682**	**2.4000e-004**	**0.0000**	**4.4743**

3.6 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	3.3000e-004	3.7300e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.5000e-004	0.0000	1.2015	1.2015	2.0000e-005	0.0000	1.2020
Total	**6.4000e-004**	**3.3000e-004**	**3.7300e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.2015**	**1.2015**	**2.0000e-005**	**0.0000**	**1.2020**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4194	1.3804	4.5862	0.0161	1.6360	0.0125	1.6486	0.4375	0.0117	0.4491	0.0000	1,477.0506	1,477.0506	0.0859	0.0000	1,479.1979
Unmitigated	0.4251	1.4194	4.7815	0.0169	1.7270	0.0131	1.7401	0.4618	0.0122	0.4740	0.0000	1,553.3812	1,553.3812	0.0890	0.0000	1,555.6072

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,595.36	1,612.26	1444.95	4,611,177	4,368,321
Total	1,595.36	1,612.26	1,444.95	4,611,177	4,368,321

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.527700	0.209000	0.167500	0.055600	0.000900	0.000900	0.008000	0.021400	0.000000	0.004300	0.002500	0.000200	0.002000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	193.2064	193.2064	0.0167	3.3300e-003	194.6154
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	194.7562	194.7562	0.0168	3.3600e-003	196.1766
NaturalGas Mitigated	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	221.6354	221.6354	4.2500e-003	4.0600e-003	222.9525
NaturalGas Unmitigated	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.7904	235.7904	4.5200e-003	4.3200e-003	237.1916

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.41855e+006	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.7904	235.7904	4.5200e-003	4.3200e-003	237.1916
Total		**0.0238**	**0.2036**	**0.0866**	**1.3000e-003**		**0.0165**	**0.0165**		**0.0165**	**0.0165**	**0.0000**	**235.7904**	**235.7904**	**4.5200e-003**	**4.3200e-003**	**237.1916**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.15329e+006	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	221.6354	221.6354	4.2500e-003	4.0600e-003	222.9525
Total		**0.0224**	**0.1914**	**0.0814**	**1.2200e-003**		**0.0155**	**0.0155**		**0.0155**	**0.0155**	**0.0000**	**221.6354**	**221.6354**	**4.2500e-003**	**4.0600e-003**	**222.9525**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.48057e+006	194.7562	0.0168	3.3600e-003	196.1766
Total		**194.7562**	**0.0168**	**3.3600e-003**	**196.1766**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.46878e+006	193.2064	0.0167	3.3300e-003	194.6154
Total		**193.2064**	**0.0167**	**3.3300e-003**	**194.6154**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3569	0.0777	1.2812	4.7000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	75.2618	75.2618	3.3700e-003	1.3400e-003	75.7461
Unmitigated	2.0009	0.1731	7.1297	0.0196		0.9661	0.9661		0.9661	0.9661	127.7500	75.2618	203.0119	0.6006	1.3400e-003	218.4262

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1237					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1881					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.6514	0.1586	5.8753	0.0195		0.9592	0.9592		0.9592	0.9592	127.7500	73.2121	200.9621	0.5986	1.3400e-003	216.3273
Landscaping	0.0377	0.0145	1.2543	7.0000e-005		6.9500e-003	6.9500e-003		6.9500e-003	6.9500e-003	0.0000	2.0498	2.0498	1.9700e-003	0.0000	2.0989
Total	**2.0009**	**0.1731**	**7.1297**	**0.0196**		**0.9661**	**0.9661**		**0.9661**	**0.9661**	**127.7500**	**75.2618**	**203.0119**	**0.6006**	**1.3400e-003**	**218.4262**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1237					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1881					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.4000e-003	0.0632	0.0269	4.0000e-004		5.1100e-003	5.1100e-003		5.1100e-003	5.1100e-003	0.0000	73.2121	73.2121	1.4000e-003	1.3400e-003	73.6471
Landscaping	0.0377	0.0145	1.2543	7.0000e-005		6.9500e-003	6.9500e-003		6.9500e-003	6.9500e-003	0.0000	2.0498	2.0498	1.9700e-003	0.0000	2.0989
Total	**1.3569**	**0.0777**	**1.2812**	**4.7000e-004**		**0.0121**	**0.0121**		**0.0121**	**0.0121**	**0.0000**	**75.2618**	**75.2618**	**3.3700e-003**	**1.3400e-003**	**75.7460**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.6213	0.2878	6.9300e-003	20.8812
Unmitigated	14.5266	0.3598	8.6600e-003	26.1016

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	11.011 / 6.94174	14.5266	0.3598	8.6600e-003	26.1016
Total		**14.5266**	**0.3598**	**8.6600e-003**	**26.1016**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	8.80882 / 5.55339	11.6213	0.2878	6.9300e-003	20.8812
Total		**11.6213**	**0.2878**	**6.9300e-003**	**20.8812**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	26.4721	1.5645	0.0000	65.5834
Unmitigated	35.2961	2.0859	0.0000	87.4445

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	173.88	35.2961	2.0859	0.0000	87.4445
Total		**35.2961**	**2.0859**	**0.0000**	**87.4445**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	130.41	26.4721	1.5645	0.0000	65.5834
Total		**26.4721**	**1.5645**	**0.0000**	**65.5834**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 5 Construction and Operations (Annual)

Parc West Phase 5 Const and Ops 2025

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	170.00	Dwelling Unit	31.60	306,000.00	486

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Phase 5 Acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Removing 3 structures

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment -

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves - SJVAPCD Rule 4901 Compliance

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2025

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65

Parc West Phase 5 Const and Ops 2025 - Fresno County, Annual

tblAreaCoating	Area_EF_Residential_Interior	150	65
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	65	150
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	65	150
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	35.00	20.00
tblConstructionPhase	PhaseEndDate	3/2/2027	1/6/2026
tblConstructionPhase	PhaseEndDate	4/20/2027	2/3/2026
tblConstructionPhase	PhaseEndDate	6/8/2027	3/24/2026
tblConstructionPhase	PhaseStartDate	3/3/2027	1/7/2026
tblConstructionPhase	PhaseStartDate	4/21/2027	2/4/2026
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.51	0.52
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	8.0000e-004
tblFleetMix	LHD2	3.9290e-003	9.0000e-004
tblFleetMix	MCY	4.8100e-003	2.5000e-003
tblFleetMix	MDV	0.10	0.06
tblFleetMix	MH	5.1200e-004	2.2000e-003
tblFleetMix	MHD	0.03	7.6000e-003
tblFleetMix	OBUS	2.3280e-003	0.00
tblFleetMix	SBUS	1.0480e-003	1.0000e-004
tblFleetMix	UBUS	1.3540e-003	4.3000e-003
tblLandUse	LotAcreage	55.19	31.60
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005

tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	0.2473	2.2583	2.4862	5.3100e-003	0.4403	0.0885	0.5288	0.1977	0.0825	0.2801	0.0000	466.0595	466.0595	0.1084	0.0000	468.7694
2026	1.2609	0.1344	0.2180	3.7000e-004	4.0900e-003	6.1700e-003	0.0103	1.0900e-003	5.7700e-003	6.8600e-003	0.0000	32.7068	32.7068	7.9300e-003	0.0000	32.9051
Maximum	**1.2609**	**2.2583**	**2.4862**	**5.3100e-003**	**0.4403**	**0.0885**	**0.5288**	**0.1977**	**0.0825**	**0.2801**	**0.0000**	**466.0595**	**466.0595**	**0.1084**	**0.0000**	**468.7694**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	0.2473	2.2583	2.4862	5.3100e-003	0.2336	0.0885	0.3221	0.0985	0.0825	0.1810	0.0000	466.0590	466.0590	0.1084	0.0000	468.7689
2026	1.2609	0.1344	0.2180	3.7000e-004	4.0900e-003	6.1700e-003	0.0103	1.0900e-003	5.7700e-003	6.8600e-003	0.0000	32.7068	32.7068	7.9300e-003	0.0000	32.9051
Maximum	**1.2609**	**2.2583**	**2.4862**	**5.3100e-003**	**0.2336**	**0.0885**	**0.3221**	**0.0985**	**0.0825**	**0.1810**	**0.0000**	**466.0590**	**466.0590**	**0.1084**	**0.0000**	**468.7689**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**46.51**	**0.00**	**38.34**	**49.88**	**0.00**	**34.54**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**

Parc West Phase 5 Const and Ops 2025 - Fresno County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2025	3-31-2025	0.9631	0.9631
2	4-1-2025	6-30-2025	0.5136	0.5136
3	7-1-2025	9-30-2025	0.5137	0.5137
4	10-1-2025	12-31-2025	0.5140	0.5140
5	1-1-2026	3-31-2026	1.3977	1.3977
		Highest	1.3977	1.3977

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.0088	0.1735	7.1366	0.0196		0.9662	0.9662		0.9662	0.9662	127.7500	75.7072	203.4572	0.6006	1.3500e-003	218.8743
Energy	0.0240	0.2048	0.0872	1.3100e-003		0.0166	0.0166		0.0166	0.0166	0.0000	433.0942	433.0942	0.0214	7.7300e-003	435.9325
Mobile	0.4013	1.3514	4.4724	0.0164	1.7365	0.0128	1.7493	0.4643	0.0119	0.4761	0.0000	1,508.8485	1,508.8485	0.0851	0.0000	1,510.9752
Waste						0.0000	0.0000		0.0000	0.0000	35.5153	0.0000	35.5153	2.0989	0.0000	87.9877
Water						0.0000	0.0000		0.0000	0.0000	3.5140	11.0986	14.6126	0.3619	8.7100e-003	26.2560
Total	**2.4341**	**1.7297**	**11.6961**	**0.0373**	**1.7365**	**0.9956**	**2.7321**	**0.4643**	**0.9947**	**1.4589**	**166.7793**	**2,028.7484**	**2,195.5277**	**3.1679**	**0.0178**	**2,280.0256**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5276	0.0781	1.2881	4.7000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	75.7072	75.7072	3.3900e-003	1.3500e-003	76.1942
Energy	0.0225	0.1925	0.0819	1.2300e-003		0.0156	0.0156		0.0156	0.0156	0.0000	417.2965	417.2965	0.0210	7.4400e-003	420.0387
Mobile	0.3959	1.3151	4.2891	0.0156	1.6451	0.0122	1.6573	0.4398	0.0113	0.4511	0.0000	1,434.7307	1,434.7307	0.0821	0.0000	1,436.7835
Waste						0.0000	0.0000		0.0000	0.0000	26.6365	0.0000	26.6365	1.5742	0.0000	65.9907
Water						0.0000	0.0000		0.0000	0.0000	2.8112	8.8789	11.6900	0.2895	6.9700e-003	21.0048
Total	**1.9460**	**1.5857**	**5.6591**	**0.0173**	**1.6451**	**0.0399**	**1.6850**	**0.4398**	**0.0390**	**0.4788**	**29.4476**	**1,936.6132**	**1,966.0608**	**1.9702**	**0.0158**	**2,020.0119**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**20.05**	**8.32**	**51.62**	**53.61**	**5.27**	**95.99**	**38.33**	**5.27**	**96.08**	**67.18**	**82.34**	**4.54**	**10.45**	**37.81**	**11.41**	**11.40**

3.0 Construction Detail

Construction Phase

Parc West Phase 5 Const and Ops 2025 - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2025	1/28/2025	5	20	
2	Grading	Grading	1/29/2025	4/1/2025	5	45	
3	Building Construction	Building Construction	4/2/2025	1/6/2026	5	200	
4	Paving	Paving	1/7/2026	2/3/2026	5	20	
5	Architectural Coating	Architectural Coating	2/4/2026	3/24/2026	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 619,650; Residential Outdoor: 206,550; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 5 Const and Ops 2025 - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	61.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0247	0.2523	0.1791	3.8000e-004		0.0109	0.0109		0.0100	0.0100	0.0000	33.4670	33.4670	0.0108	0.0000	33.7376
Total	**0.0247**	**0.2523**	**0.1791**	**3.8000e-004**	**0.1807**	**0.0109**	**0.1915**	**0.0993**	**0.0100**	**0.1093**	**0.0000**	**33.4670**	**33.4670**	**0.0108**	**0.0000**	**33.7376**

3.2 Site Preparation - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	2.8000e-004	3.2000e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0298	1.0298	2.0000e-005	0.0000	1.0303
Total	**5.5000e-004**	**2.8000e-004**	**3.2000e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0298**	**1.0298**	**2.0000e-005**	**0.0000**	**1.0303**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0813	0.0000	0.0813	0.0447	0.0000	0.0447	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0247	0.2523	0.1791	3.8000e-004		0.0109	0.0109		0.0100	0.0100	0.0000	33.4670	33.4670	0.0108	0.0000	33.7375
Total	**0.0247**	**0.2523**	**0.1791**	**3.8000e-004**	**0.0813**	**0.0109**	**0.0922**	**0.0447**	**0.0100**	**0.0547**	**0.0000**	**33.4670**	**33.4670**	**0.0108**	**0.0000**	**33.7375**

3.2 Site Preparation - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	2.8000e-004	3.2000e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0298	1.0298	2.0000e-005	0.0000	1.0303
Total	**5.5000e-004**	**2.8000e-004**	**3.2000e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0298**	**1.0298**	**2.0000e-005**	**0.0000**	**1.0303**

3.3 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1952	0.0000	0.1952	0.0809	0.0000	0.0809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0653	0.6287	0.5925	1.4000e-003		0.0255	0.0255		0.0234	0.0234	0.0000	122.6390	122.6390	0.0397	0.0000	123.6306
Total	**0.0653**	**0.6287**	**0.5925**	**1.4000e-003**	**0.1952**	**0.0255**	**0.2206**	**0.0809**	**0.0234**	**0.1043**	**0.0000**	**122.6390**	**122.6390**	**0.0397**	**0.0000**	**123.6306**

3.3 Grading - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3600e-003	7.1000e-004	8.0000e-003	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.7000e-004	0.0000	2.5746	2.5746	5.0000e-005	0.0000	2.5758
Total	**1.3600e-003**	**7.1000e-004**	**8.0000e-003**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.7000e-004**	**0.0000**	**2.5746**	**2.5746**	**5.0000e-005**	**0.0000**	**2.5758**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0878	0.0000	0.0878	0.0364	0.0000	0.0364	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0653	0.6287	0.5925	1.4000e-003		0.0255	0.0255		0.0234	0.0234	0.0000	122.6388	122.6388	0.0397	0.0000	123.6304
Total	**0.0653**	**0.6287**	**0.5925**	**1.4000e-003**	**0.0878**	**0.0255**	**0.1133**	**0.0364**	**0.0234**	**0.0598**	**0.0000**	**122.6388**	**122.6388**	**0.0397**	**0.0000**	**123.6304**

3.3 Grading - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3600e-003	7.1000e-004	8.0000e-003	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.7000e-004	0.0000	2.5746	2.5746	5.0000e-005	0.0000	2.5758
Total	**1.3600e-003**	**7.1000e-004**	**8.0000e-003**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.7000e-004**	**0.0000**	**2.5746**	**2.5746**	**5.0000e-005**	**0.0000**	**2.5758**

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1340	1.2220	1.5763	2.6400e-003		0.0517	0.0517		0.0486	0.0486	0.0000	227.2811	227.2811	0.0534	0.0000	228.6167
Total	**0.1340**	**1.2220**	**1.5763**	**2.6400e-003**		**0.0517**	**0.0517**		**0.0486**	**0.0486**	**0.0000**	**227.2811**	**227.2811**	**0.0534**	**0.0000**	**228.6167**

3.4 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2300e-003	0.1447	0.0208	4.7000e-004	0.0117	1.4000e-004	0.0118	3.3800e-003	1.3000e-004	3.5100e-003	0.0000	44.8661	44.8661	3.7800e-003	0.0000	44.9607
Worker	0.0181	9.4400e-003	0.1063	3.8000e-004	0.0478	2.7000e-004	0.0481	0.0127	2.5000e-004	0.0130	0.0000	34.2019	34.2019	6.3000e-004	0.0000	34.2177
Total	**0.0214**	**0.1542**	**0.1271**	**8.5000e-004**	**0.0595**	**4.1000e-004**	**0.0599**	**0.0161**	**3.8000e-004**	**0.0165**	**0.0000**	**79.0680**	**79.0680**	**4.4100e-003**	**0.0000**	**79.1784**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1340	1.2220	1.5763	2.6400e-003		0.0517	0.0517		0.0486	0.0486	0.0000	227.2808	227.2808	0.0534	0.0000	228.6165
Total	**0.1340**	**1.2220**	**1.5763**	**2.6400e-003**		**0.0517**	**0.0517**		**0.0486**	**0.0486**	**0.0000**	**227.2808**	**227.2808**	**0.0534**	**0.0000**	**228.6165**

3.4 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2300e-003	0.1447	0.0208	4.7000e-004	0.0117	1.4000e-004	0.0118	3.3800e-003	1.3000e-004	3.5100e-003	0.0000	44.8661	44.8661	3.7800e-003	0.0000	44.9607
Worker	0.0181	9.4400e-003	0.1063	3.8000e-004	0.0478	2.7000e-004	0.0481	0.0127	2.5000e-004	0.0130	0.0000	34.2019	34.2019	6.3000e-004	0.0000	34.2177
Total	**0.0214**	**0.1542**	**0.1271**	**8.5000e-004**	**0.0595**	**4.1000e-004**	**0.0599**	**0.0161**	**3.8000e-004**	**0.0165**	**0.0000**	**79.0680**	**79.0680**	**4.4100e-003**	**0.0000**	**79.1784**

3.4 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7300e-003	0.0249	0.0322	5.0000e-005		1.0600e-003	1.0600e-003		9.9000e-004	9.9000e-004	0.0000	4.6384	4.6384	1.0900e-003	0.0000	4.6657
Total	**2.7300e-003**	**0.0249**	**0.0322**	**5.0000e-005**		**1.0600e-003**	**1.0600e-003**		**9.9000e-004**	**9.9000e-004**	**0.0000**	**4.6384**	**4.6384**	**1.0900e-003**	**0.0000**	**4.6657**

3.4 Building Construction - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	2.9300e-003	4.1000e-004	1.0000e-005	2.4000e-004	0.0000	2.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.9097	0.9097	8.0000e-005	0.0000	0.9117
Worker	3.5000e-004	1.8000e-004	2.0300e-003	1.0000e-005	9.8000e-004	1.0000e-005	9.8000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.6761	0.6761	1.0000e-005	0.0000	0.6764
Total	**4.1000e-004**	**3.1100e-003**	**2.4400e-003**	**2.0000e-005**	**1.2200e-003**	**1.0000e-005**	**1.2200e-003**	**3.3000e-004**	**0.0000**	**3.3000e-004**	**0.0000**	**1.5859**	**1.5859**	**9.0000e-005**	**0.0000**	**1.5881**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7300e-003	0.0249	0.0322	5.0000e-005		1.0600e-003	1.0600e-003		9.9000e-004	9.9000e-004	0.0000	4.6384	4.6384	1.0900e-003	0.0000	4.6656
Total	**2.7300e-003**	**0.0249**	**0.0322**	**5.0000e-005**		**1.0600e-003**	**1.0600e-003**		**9.9000e-004**	**9.9000e-004**	**0.0000**	**4.6384**	**4.6384**	**1.0900e-003**	**0.0000**	**4.6656**

3.4 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	2.9300e-003	4.1000e-004	1.0000e-005	2.4000e-004	0.0000	2.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.9097	0.9097	8.0000e-005	0.0000	0.9117
Worker	3.5000e-004	1.8000e-004	2.0300e-003	1.0000e-005	9.8000e-004	1.0000e-005	9.8000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.6761	0.6761	1.0000e-005	0.0000	0.6764
Total	**4.1000e-004**	**3.1100e-003**	**2.4400e-003**	**2.0000e-005**	**1.2200e-003**	**1.0000e-005**	**1.2200e-003**	**3.3000e-004**	**0.0000**	**3.3000e-004**	**0.0000**	**1.5859**	**1.5859**	**9.0000e-005**	**0.0000**	**1.5881**

3.5 Paving - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.1500e-003	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0193	20.0193	6.4700e-003	0.0000	20.1811
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.1500e-003**	**0.0858**	**0.1458**	**2.3000e-004**		**4.1900e-003**	**4.1900e-003**		**3.8500e-003**	**3.8500e-003**	**0.0000**	**20.0193**	**20.0193**	**6.4700e-003**	**0.0000**	**20.1811**

3.5 Paving - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.2000e-004	2.4900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.8313	0.8313	1.0000e-005	0.0000	0.8317
Total	**4.3000e-004**	**2.2000e-004**	**2.4900e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.8313**	**0.8313**	**1.0000e-005**	**0.0000**	**0.8317**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.1500e-003	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0192	20.0192	6.4700e-003	0.0000	20.1811
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.1500e-003**	**0.0858**	**0.1458**	**2.3000e-004**		**4.1900e-003**	**4.1900e-003**		**3.8500e-003**	**3.8500e-003**	**0.0000**	**20.0192**	**20.0192**	**6.4700e-003**	**0.0000**	**20.1811**

3.5 Paving - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.2000e-004	2.4900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.8313	0.8313	1.0000e-005	0.0000	0.8317
Total	**4.3000e-004**	**2.2000e-004**	**2.4900e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.8313**	**0.8313**	**1.0000e-005**	**0.0000**	**0.8317**

3.6 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2446					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0201	0.0317	5.0000e-005		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004	0.0000	4.4682	4.4682	2.4000e-004	0.0000	4.4743
Total	**1.2476**	**0.0201**	**0.0317**	**5.0000e-005**		**9.0000e-004**	**9.0000e-004**		**9.0000e-004**	**9.0000e-004**	**0.0000**	**4.4682**	**4.4682**	**2.4000e-004**	**0.0000**	**4.4743**

3.6 Architectural Coating - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	3.0000e-004	3.4900e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.5000e-004	0.0000	1.1638	1.1638	2.0000e-005	0.0000	1.1643
Total	**6.0000e-004**	**3.0000e-004**	**3.4900e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.1638**	**1.1638**	**2.0000e-005**	**0.0000**	**1.1643**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2446					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0201	0.0317	5.0000e-005		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004	0.0000	4.4682	4.4682	2.4000e-004	0.0000	4.4743
Total	**1.2476**	**0.0201**	**0.0317**	**5.0000e-005**		**9.0000e-004**	**9.0000e-004**		**9.0000e-004**	**9.0000e-004**	**0.0000**	**4.4682**	**4.4682**	**2.4000e-004**	**0.0000**	**4.4743**

3.6 Architectural Coating - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	3.0000e-004	3.4900e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.5000e-004	0.0000	1.1638	1.1638	2.0000e-005	0.0000	1.1643
Total	**6.0000e-004**	**3.0000e-004**	**3.4900e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.1638**	**1.1638**	**2.0000e-005**	**0.0000**	**1.1643**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3959	1.3151	4.2891	0.0156	1.6451	0.0122	1.6573	0.4398	0.0113	0.4511	0.0000	1,434.7307	1,434.7307	0.0821	0.0000	1,436.7835
Unmitigated	0.4013	1.3514	4.4724	0.0164	1.7365	0.0128	1.7493	0.4643	0.0119	0.4761	0.0000	1,508.8485	1,508.8485	0.0851	0.0000	1,510.9752

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,604.80	1,621.80	1453.50	4,638,462	4,394,170
Total	1,604.80	1,621.80	1,453.50	4,638,462	4,394,170

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.524400	0.212000	0.167700	0.056300	0.000800	0.000900	0.007600	0.021200	0.000000	0.004300	0.002500	0.000100	0.002200

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	194.3496	194.3496	0.0168	3.3500e-003	195.7670
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	195.9086	195.9086	0.0169	3.3800e-003	197.3374
NaturalGas Mitigated	0.0225	0.1925	0.0819	1.2300e-003		0.0156	0.0156		0.0156	0.0156	0.0000	222.9469	222.9469	4.2700e-003	4.0900e-003	224.2717
NaturalGas Unmitigated	0.0240	0.2048	0.0872	1.3100e-003		0.0166	0.0166		0.0166	0.0166	0.0000	237.1856	237.1856	4.5500e-003	4.3500e-003	238.5951

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.44469e+006	0.0240	0.2048	0.0872	1.3100e-003		0.0166	0.0166		0.0166	0.0166	0.0000	237.1856	237.1856	4.5500e-003	4.3500e-003	238.5951
Total		**0.0240**	**0.2048**	**0.0872**	**1.3100e-003**		**0.0166**	**0.0166**		**0.0166**	**0.0166**	**0.0000**	**237.1856**	**237.1856**	**4.5500e-003**	**4.3500e-003**	**238.5951**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.17787e+006	0.0225	0.1925	0.0819	1.2300e-003		0.0156	0.0156		0.0156	0.0156	0.0000	222.9469	222.9469	4.2700e-003	4.0900e-003	224.2717
Total		**0.0225**	**0.1925**	**0.0819**	**1.2300e-003**		**0.0156**	**0.0156**		**0.0156**	**0.0156**	**0.0000**	**222.9469**	**222.9469**	**4.2700e-003**	**4.0900e-003**	**224.2717**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.48933e+006	195.9086	0.0169	3.3800e-003	197.3374
Total		**195.9086**	**0.0169**	**3.3800e-003**	**197.3374**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.47747e+006	194.3496	0.0168	3.3500e-003	195.7670
Total		**194.3496**	**0.0168**	**3.3500e-003**	**195.7670**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5276	0.0781	1.2881	4.7000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	75.7072	75.7072	3.3900e-003	1.3500e-003	76.1942
Unmitigated	2.0088	0.1735	7.1366	0.0196		0.9662	0.9662		0.9662	0.9662	127.7500	75.7072	203.4572	0.6006	1.3500e-003	218.8743

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1245					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1951					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.6514	0.1590	5.8755	0.0195		0.9592	0.9592		0.9592	0.9592	127.7500	73.6453	201.3953	0.5986	1.3500e-003	216.7631
Landscaping	0.0379	0.0145	1.2611	7.0000e-005		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003	0.0000	2.0619	2.0619	1.9700e-003	0.0000	2.1113
Total	**2.0088**	**0.1735**	**7.1366**	**0.0196**		**0.9662**	**0.9662**		**0.9662**	**0.9662**	**127.7500**	**75.7072**	**203.4572**	**0.6006**	**1.3500e-003**	**218.8743**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2872					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1951					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.4400e-003	0.0636	0.0271	4.1000e-004		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003	0.0000	73.6453	73.6453	1.4100e-003	1.3500e-003	74.0829
Landscaping	0.0379	0.0145	1.2611	7.0000e-005		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003	0.0000	2.0619	2.0619	1.9700e-003	0.0000	2.1113
Total	**1.5276**	**0.0781**	**1.2881**	**4.8000e-004**		**0.0121**	**0.0121**		**0.0121**	**0.0121**	**0.0000**	**75.7072**	**75.7072**	**3.3800e-003**	**1.3500e-003**	**76.1942**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.6900	0.2895	6.9700e-003	21.0048
Unmitigated	14.6126	0.3619	8.7100e-003	26.2560

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	11.0762 / 6.98281	14.6126	0.3619	8.7100e-003	26.2560
Total		**14.6126**	**0.3619**	**8.7100e-003**	**26.2560**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	8.86095 / 5.58625	11.6900	0.2895	6.9700e-003	21.0048
Total		**11.6900**	**0.2895**	**6.9700e-003**	**21.0048**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	26.6365	1.5742	0.0000	65.9907
Unmitigated	35.5153	2.0989	0.0000	87.9877

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	174.96	35.5153	2.0989	0.0000	87.9877
Total		**35.5153**	**2.0989**	**0.0000**	**87.9877**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	131.22	26.6365	1.5742	0.0000	65.9907
Total		**26.6365**	**1.5742**	**0.0000**	**65.9907**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Full Project Operations 2025 (Annual)

Parc West Phase Ops All Phases

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	844.00	Dwelling Unit	160.00	1,519,200.00	2414

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Project at Buildout in 2025

Construction Phase - Ops only run

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves - SJVAPCD Rule 4901 Compliance

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2025

Parc West Phase Ops All Phases - Fresno County, Annual

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	64.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65
tblAreaCoating	Area_EF_Residential_Interior	150	65
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.51	0.52
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	8.0000e-004
tblFleetMix	LHD2	3.9290e-003	9.0000e-004
tblFleetMix	MCY	4.8100e-003	2.5000e-003
tblFleetMix	MDV	0.10	0.06
tblFleetMix	MH	5.1200e-004	2.2000e-003
tblFleetMix	MHD	0.03	7.6000e-003
tblFleetMix	OBUS	2.3280e-003	0.00
tblFleetMix	SBUS	1.0480e-003	1.0000e-004
tblFleetMix	UBUS	1.3540e-003	4.3000e-003
tblLandUse	LotAcreage	274.03	160.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2039	4.5773	0.0652	0.1932	4.9000e-004	0.0398	9.3000e-004	0.0407	0.0106	9.2000e-004	0.0115	0.0000	43.0039	43.0039	9.9000e-004	0.0000	43.0286
2040	1.6000	0.0217	0.0650	1.7000e-004	0.0139	2.4000e-004	0.0141	3.6900e-003	2.4000e-004	3.9400e-003	0.0000	14.6989	14.6989	3.2000e-004	0.0000	14.7068
Maximum	**4.5773**	**0.0652**	**0.1932**	**4.9000e-004**	**0.0398**	**9.3000e-004**	**0.0407**	**0.0106**	**9.2000e-004**	**0.0115**	**0.0000**	**43.0039**	**43.0039**	**9.9000e-004**	**0.0000**	**43.0286**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2039	4.5773	0.0652	0.1932	4.9000e-004	0.0398	9.3000e-004	0.0407	0.0106	9.2000e-004	0.0115	0.0000	43.0038	43.0038	9.9000e-004	0.0000	43.0286
2040	1.6000	0.0217	0.0650	1.7000e-004	0.0139	2.4000e-004	0.0141	3.6900e-003	2.4000e-004	3.9400e-003	0.0000	14.6989	14.6989	3.2000e-004	0.0000	14.7068
Maximum	**4.5773**	**0.0652**	**0.1932**	**4.9000e-004**	**0.0398**	**9.3000e-004**	**0.0407**	**0.0106**	**9.2000e-004**	**0.0115**	**0.0000**	**43.0038**	**43.0038**	**9.9000e-004**	**0.0000**	**43.0286**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
58	4-1-2039	6-30-2039	0.8952	0.8952
59	7-1-2039	9-30-2039	1.8719	1.8719
60	10-1-2039	12-31-2039	1.8720	1.8720
61	1-1-2040	3-31-2040	1.6260	1.6260
		Highest	1.8720	1.8720

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	10.0368	0.8709	36.0075	0.0990		4.8910	4.8910		4.8910	4.8910	646.8357	375.8637	1,022.6994	3.0406	6.7000e-003	1,100.7129
Energy	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	2,150.1854	2,150.1854	0.1064	0.0384	2,164.2765
Mobile	1.9931	6.7144	22.2295	0.0815	8.6342	0.0636	8.6977	2.3083	0.0591	2.3674	0.0000	7,501.3278	7,501.3278	0.4228	0.0000	7,511.8966
Waste						0.0000	0.0000		0.0000	0.0000	176.4073	0.0000	176.4073	10.4254	0.0000	437.0415
Water						0.0000	0.0000		0.0000	0.0000	17.4458	55.1012	72.5470	1.7966	0.0433	130.3533
Total	**12.1489**	**8.6021**	**58.6697**	**0.1869**	**8.6342**	**5.0368**	**13.6709**	**2.3083**	**5.0323**	**7.3406**	**840.6887**	**10,082.4781**	**10,923.1669**	**15.7918**	**0.0883**	**11,344.2808**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.7761	0.3878	6.3952	2.3500e-003		0.0603	0.0603		0.0603	0.0603	0.0000	375.8637	375.8637	0.0168	6.7000e-003	378.2816
Energy	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	2,071.7541	2,071.7541	0.1044	0.0369	2,085.3687
Mobile	1.9663	6.5339	21.3183	0.0775	8.1794	0.0606	8.2401	2.1867	0.0564	2.2431	0.0000	7,132.8105	7,132.8105	0.4080	0.0000	7,143.0115
Waste						0.0000	0.0000		0.0000	0.0000	132.3055	0.0000	132.3055	7.8190	0.0000	327.7812
Water						0.0000	0.0000		0.0000	0.0000	13.9566	44.0810	58.0376	1.4373	0.0346	104.2827
Total	**8.8542**	**7.8775**	**28.1202**	**0.0859**	**8.1794**	**0.1982**	**8.3776**	**2.1867**	**0.1939**	**2.3806**	**146.2621**	**9,624.5094**	**9,770.7714**	**9.7856**	**0.0782**	**10,038.7256**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**27.12**	**8.42**	**52.07**	**54.03**	**5.27**	**96.07**	**38.72**	**5.27**	**96.15**	**67.57**	**82.60**	**4.54**	**10.55**	**38.03**	**11.41**	**11.51**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	5/18/2039	3/20/2040	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 3,076,380; Residential Outdoor: 1,025,460; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	61.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Architectural Coating - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.5604					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6100e-003	0.0618	0.1462	2.4000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	20.8090	20.8090	7.7000e-004	0.0000	20.8282
Total	**4.5700**	**0.0618**	**0.1462**	**2.4000e-004**		**8.1000e-004**	**8.1000e-004**		**8.1000e-004**	**8.1000e-004**	**0.0000**	**20.8090**	**20.8090**	**7.7000e-004**	**0.0000**	**20.8282**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2800e-003	3.4200e-003	0.0470	2.4000e-004	0.0398	1.2000e-004	0.0399	0.0106	1.1000e-004	0.0107	0.0000	22.1949	22.1949	2.2000e-004	0.0000	22.2004
Total	**7.2800e-003**	**3.4200e-003**	**0.0470**	**2.4000e-004**	**0.0398**	**1.2000e-004**	**0.0399**	**0.0106**	**1.1000e-004**	**0.0107**	**0.0000**	**22.1949**	**22.1949**	**2.2000e-004**	**0.0000**	**22.2004**

3.2 Architectural Coating - 2039

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.5604					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6100e-003	0.0618	0.1462	2.4000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	20.8090	20.8090	7.7000e-004	0.0000	20.8282
Total	**4.5700**	**0.0618**	**0.1462**	**2.4000e-004**		**8.1000e-004**	**8.1000e-004**		**8.1000e-004**	**8.1000e-004**	**0.0000**	**20.8090**	**20.8090**	**7.7000e-004**	**0.0000**	**20.8282**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2800e-003	3.4200e-003	0.0470	2.4000e-004	0.0398	1.2000e-004	0.0399	0.0106	1.1000e-004	0.0107	0.0000	22.1949	22.1949	2.2000e-004	0.0000	22.2004
Total	**7.2800e-003**	**3.4200e-003**	**0.0470**	**2.4000e-004**	**0.0398**	**1.2000e-004**	**0.0399**	**0.0106**	**1.1000e-004**	**0.0107**	**0.0000**	**22.1949**	**22.1949**	**2.2000e-004**	**0.0000**	**22.2004**

3.2 Architectural Coating - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5947					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2700e-003	0.0207	0.0511	8.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	7.2768	7.2768	2.6000e-004	0.0000	7.2832
Total	**1.5980**	**0.0207**	**0.0511**	**8.0000e-005**		**2.1000e-004**	**2.1000e-004**		**2.1000e-004**	**2.1000e-004**	**0.0000**	**7.2768**	**7.2768**	**2.6000e-004**	**0.0000**	**7.2832**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9300e-003	9.8000e-004	0.0139	8.0000e-005	0.0139	3.0000e-005	0.0139	3.6900e-003	3.0000e-005	3.7200e-003	0.0000	7.4221	7.4221	6.0000e-005	0.0000	7.4236
Total	**1.9300e-003**	**9.8000e-004**	**0.0139**	**8.0000e-005**	**0.0139**	**3.0000e-005**	**0.0139**	**3.6900e-003**	**3.0000e-005**	**3.7200e-003**	**0.0000**	**7.4221**	**7.4221**	**6.0000e-005**	**0.0000**	**7.4236**

3.2 Architectural Coating - 2040

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5947					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2700e-003	0.0207	0.0511	8.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	7.2768	7.2768	2.6000e-004	0.0000	7.2832
Total	**1.5980**	**0.0207**	**0.0511**	**8.0000e-005**		**2.1000e-004**	**2.1000e-004**		**2.1000e-004**	**2.1000e-004**	**0.0000**	**7.2768**	**7.2768**	**2.6000e-004**	**0.0000**	**7.2832**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9300e-003	9.8000e-004	0.0139	8.0000e-005	0.0139	3.0000e-005	0.0139	3.6900e-003	3.0000e-005	3.7200e-003	0.0000	7.4221	7.4221	6.0000e-005	0.0000	7.4236
Total	**1.9300e-003**	**9.8000e-004**	**0.0139**	**8.0000e-005**	**0.0139**	**3.0000e-005**	**0.0139**	**3.6900e-003**	**3.0000e-005**	**3.7200e-003**	**0.0000**	**7.4221**	**7.4221**	**6.0000e-005**	**0.0000**	**7.4236**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.9663	6.5339	21.3183	0.0775	8.1794	0.0606	8.2401	2.1867	0.0564	2.2431	0.0000	7,132.8105	7,132.8105	0.4080	0.0000	7,143.0115
Unmitigated	1.9931	6.7144	22.2295	0.0815	8.6342	0.0636	8.6977	2.3083	0.0591	2.3674	0.0000	7,501.3278	7,501.3278	0.4228	0.0000	7,511.8966

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	7,967.36	8,051.76	7216.20	23,062,676	21,848,042
Total	7,967.36	8,051.76	7,216.20	23,062,676	21,848,042

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.40	15.90	35.70	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.524400	0.212000	0.167700	0.056300	0.000800	0.000900	0.007600	0.021200	0.000000	0.004300	0.002500	0.000100	0.002200

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	964.8886	964.8886	0.0832	0.0166	971.9256
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	972.6285	972.6285	0.0839	0.0168	979.7220
NaturalGas Mitigated	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	1,106.8655	1,106.8655	0.0212	0.0203	1,113.4431
NaturalGas Unmitigated	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	1,177.5569	1,177.5569	0.0226	0.0216	1,184.5545

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	2.20666e+007	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	1,177.5569	1,177.5569	0.0226	0.0216	1,184.5545
Total		**0.1190**	**1.0168**	**0.4327**	**6.4900e-003**		**0.0822**	**0.0822**		**0.0822**	**0.0822**	**0.0000**	**1,177.5569**	**1,177.5569**	**0.0226**	**0.0216**	**1,184.5545**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	2.07419e+007	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	1,106.8655	1,106.8655	0.0212	0.0203	1,113.4431
Total		**0.1118**	**0.9558**	**0.4067**	**6.1000e-003**		**0.0773**	**0.0773**		**0.0773**	**0.0773**	**0.0000**	**1,106.8655**	**1,106.8655**	**0.0212**	**0.0203**	**1,113.4431**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	7.39406e +006	972.6285	0.0839	0.0168	979.7220
Total		**972.6285**	**0.0839**	**0.0168**	**979.7220**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	7.33523e +006	964.8886	0.0832	0.0166	971.9256
Total		**964.8886**	**0.0832**	**0.0166**	**971.9256**

6.0 Area Detail

6.1 Mitigation Measures Area

Parc West Phase Ops All Phases - Fresno County, Annual

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.7761	0.3878	6.3952	2.3500e-003		0.0603	0.0603		0.0603	0.0603	0.0000	375.8637	375.8637	0.0168	6.7000e-003	378.2816
Unmitigated	10.0368	0.8709	36.0075	0.0990		4.8910	4.8910		4.8910	4.8910	646.8357	375.8637	1,022.6994	3.0406	6.7000e-003	1,100.7129

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6179					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.9332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.2977	0.7988	29.7467	0.0986		4.8563	4.8563		4.8563	4.8563	646.8357	365.6270	1,012.4627	3.0308	6.7000e-003	1,090.2311
Landscaping	0.1880	0.0721	6.2609	3.3000e-004		0.0347	0.0347		0.0347	0.0347	0.0000	10.2367	10.2367	9.8000e-003	0.0000	10.4818
Total	**10.0368**	**0.8709**	**36.0075**	**0.0990**		**4.8910**	**4.8910**		**4.8910**	**4.8910**	**646.8357**	**375.8637**	**1,022.6994**	**3.0406**	**6.7000e-003**	**1,100.7129**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6179					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.9332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0369	0.3157	0.1343	2.0200e-003		0.0255	0.0255		0.0255	0.0255	0.0000	365.6270	365.6270	7.0100e-003	6.7000e-003	367.7998
Landscaping	0.1880	0.0721	6.2609	3.3000e-004		0.0347	0.0347		0.0347	0.0347	0.0000	10.2367	10.2367	9.8000e-003	0.0000	10.4818
Total	**6.7761**	**0.3878**	**6.3952**	**2.3500e-003**		**0.0603**	**0.0603**		**0.0603**	**0.0603**	**0.0000**	**375.8637**	**375.8637**	**0.0168**	**6.7000e-003**	**378.2816**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	58.0376	1.4373	0.0346	104.2827
Unmitigated	72.5470	1.7966	0.0433	130.3533

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	54.99 / 34.6676	72.5470	1.7966	0.0433	130.3533
Total		**72.5470**	**1.7966**	**0.0433**	**130.3533**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	43.992 / 27.7341	58.0376	1.4373	0.0346	104.2827
Total		**58.0376**	**1.4373**	**0.0346**	**104.2827**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	132.3055	7.8190	0.0000	327.7812
Unmitigated	176.4073	10.4254	0.0000	437.0415

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	869.04	176.4073	10.4254	0.0000	437.0415
Total		**176.4073**	**10.4254**	**0.0000**	**437.0415**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	651.78	132.3055	7.8190	0.0000	327.7812
Total		**132.3055**	**7.8190**	**0.0000**	**327.7812**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 1 Construction and Operations

(Summer Daily)

Parc West Phase 1 (Tract 6212 and 6276)

Fresno County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	167.00	Dwelling Unit	31.77	300,600.00	478

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Parc West Phase 1 (Tract 6212 and 6276) - Fresno County, Summer

Project Characteristics - PG&E Energy Intensity

Land Use - Site plan acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2021

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblConstructionPhase	NumDays	500.00	205.00
tblConstructionPhase	NumDays	35.00	20.00
tblFleetMix	HHD	0.12	0.02
tblFleetMix	LDA	0.49	0.54
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17

tblFleetMix	LHD1	0.02	1.4000e-003
tblFleetMix	LHD2	4.7320e-003	9.0000e-004
tblFleetMix	MCY	5.1540e-003	2.6000e-003
tblFleetMix	MDV	0.12	0.05
tblFleetMix	MH	6.2900e-004	1.6000e-003
tblFleetMix	MHD	0.03	9.0000e-003
tblFleetMix	OBUS	2.3660e-003	0.00
tblFleetMix	SBUS	1.0970e-003	9.0000e-004
tblFleetMix	UBUS	1.5900e-003	4.4000e-003
tblLandUse	LotAcreage	54.22	31.77
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	7.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	7.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	30.00	15.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblWoodstoves	NumberCatalytic	31.77	54.22
tblWoodstoves	NumberNoncatalytic	31.77	54.22

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.4205	46.4452	38.3344	0.0681	18.2141	2.1071	20.2595	9.9699	1.9774	11.8516	0.0000	6,539.8599	6,539.8599	1.9468	0.0000	6,575.8013
2022	70.1181	35.7735	37.7046	0.0679	0.6149	1.7743	2.3891	0.1659	1.6662	1.8321	0.0000	6,519.5838	6,519.5838	1.4307	0.0000	6,555.2449
Maximum	**70.1181**	**46.4452**	**38.3344**	**0.0681**	**18.2141**	**2.1071**	**20.2595**	**9.9699**	**1.9774**	**11.8516**	**0.0000**	**6,539.8599**	**6,539.8599**	**1.9468**	**0.0000**	**6,575.8013**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.4205	46.4452	38.3344	0.0681	8.2777	2.1071	10.3230	4.5080	1.9774	6.3898	0.0000	6,539.8599	6,539.8599	1.9468	0.0000	6,575.8013
2022	70.1181	35.7735	37.7046	0.0679	0.6149	1.7743	2.3891	0.1659	1.6662	1.8321	0.0000	6,519.5838	6,519.5838	1.4307	0.0000	6,555.2449
Maximum	**70.1181**	**46.4452**	**38.3344**	**0.0681**	**8.2777**	**2.1071**	**10.3230**	**4.5080**	**1.9774**	**6.3898**	**0.0000**	**6,539.8599**	**6,539.8599**	**1.9468**	**0.0000**	**6,575.8013**

Parc West Phase 1 (Tract 6212 and 6276) - Fresno County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.77**	**0.00**	**43.87**	**53.89**	**0.00**	**39.92**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	35.5262	5.6757	259.2090	0.8090		40.1264	40.1264		40.1264	40.1264	5,893.2369	1,969.8671	7,863.1039	27.6110	0.0357	8,564.0056
Energy	0.1290	1.1024	0.4691	7.0400e-003		0.0891	0.0891		0.0891	0.0891		1,407.3344	1,407.3344	0.0270	0.0258	1,415.6975
Mobile	4.0408	11.0623	39.7351	0.1164	10.2521	0.0967	10.3488	2.7386	0.0904	2.8289		11,772.8561	11,772.8561	0.7625		11,791.9180
Total	**39.6960**	**17.8405**	**299.4132**	**0.9325**	**10.2521**	**40.3122**	**50.5643**	**2.7386**	**40.3059**	**43.0445**	**5,893.2369**	**15,150.0576**	**21,043.2944**	**28.4005**	**0.0615**	**21,771.6211**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.5755	1.6830	14.4560	0.0105		0.1993	0.1993		0.1993	0.1993	0.0000	1,969.8671	1,969.8671	0.0613	0.0357	1,982.0266
Energy	0.1213	1.0362	0.4410	6.6100e-003		0.0838	0.0838		0.0838	0.0838		1,322.8490	1,322.8490	0.0254	0.0243	1,330.7101
Mobile	3.9932	10.7326	38.0091	0.1107	9.7122	0.0922	9.8044	2.5943	0.0862	2.6805		11,191.0071	11,191.0071	0.7357		11,209.3984
Total	**12.6899**	**13.4518**	**52.9061**	**0.1277**	**9.7122**	**0.3753**	**10.0875**	**2.5943**	**0.3693**	**2.9636**	**0.0000**	**14,483.7232**	**14,483.7232**	**0.8223**	**0.0599**	**14,522.1351**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**68.03**	**24.60**	**82.33**	**86.30**	**5.27**	**99.07**	**80.05**	**5.27**	**99.08**	**93.12**	**100.00**	**4.40**	**31.17**	**97.10**	**2.52**	**33.30**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/28/2021	5	20	
2	Grading	Grading	1/29/2021	4/1/2021	5	45	
3	Building Construction	Building Construction	4/2/2021	1/13/2022	5	205	
4	Paving	Paving	1/14/2022	2/10/2022	5	20	
5	Architectural Coating	Architectural Coating	2/11/2022	3/31/2022	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 608,715; Residential Outdoor: 202,905; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	2	7.00	231	0.29
Building Construction	Forklifts	7	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	7	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	20	60.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0816	0.0409	0.5263	1.4600e-003	0.1479	9.0000e-004	0.1488	0.0392	8.2000e-004	0.0401		145.4060	145.4060	3.6300e-003		145.4967
Total	**0.0816**	**0.0409**	**0.5263**	**1.4600e-003**	**0.1479**	**9.0000e-004**	**0.1488**	**0.0392**	**8.2000e-004**	**0.0401**		**145.4060**	**145.4060**	**3.6300e-003**		**145.4967**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**8.1298**	**2.0445**	**10.1743**	**4.4688**	**1.8809**	**6.3497**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0816	0.0409	0.5263	1.4600e-003	0.1479	9.0000e-004	0.1488	0.0392	8.2000e-004	0.0401		145.4060	145.4060	3.6300e-003		145.4967
Total	**0.0816**	**0.0409**	**0.5263**	**1.4600e-003**	**0.1479**	**9.0000e-004**	**0.1488**	**0.0392**	**8.2000e-004**	**0.0401**		**145.4060**	**145.4060**	**3.6300e-003**		**145.4967**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0907	0.0454	0.5847	1.6200e-003	0.1643	1.0000e-003	0.1653	0.0436	9.2000e-004	0.0445		161.5622	161.5622	4.0300e-003		161.6630
Total	**0.0907**	**0.0454**	**0.5847**	**1.6200e-003**	**0.1643**	**1.0000e-003**	**0.1653**	**0.0436**	**9.2000e-004**	**0.0445**		**161.5622**	**161.5622**	**4.0300e-003**		**161.6630**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**3.9030**	**1.9853**	**5.8883**	**1.6184**	**1.8265**	**3.4449**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0907	0.0454	0.5847	1.6200e-003	0.1643	1.0000e-003	0.1653	0.0436	9.2000e-004	0.0445		161.5622	161.5622	4.0300e-003		161.6630
Total	**0.0907**	**0.0454**	**0.5847**	**1.6200e-003**	**0.1643**	**1.0000e-003**	**0.1653**	**0.0436**	**9.2000e-004**	**0.0445**		**161.5622**	**161.5622**	**4.0300e-003**		**161.6630**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0950	37.7022	36.2960	0.0581		2.0987	2.0987		1.9695	1.9695		5,518.0462	5,518.0462	1.3651		5,552.1726
Total	**4.0950**	**37.7022**	**36.2960**	**0.0581**		**2.0987**	**2.0987**		**1.9695**	**1.9695**		**5,518.0462**	**5,518.0462**	**1.3651**		**5,552.1726**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0534	2.0027	0.2843	5.1200e-003	0.1220	5.3500e-003	0.1273	0.0351	5.1200e-003	0.0402		537.1271	537.1271	0.0605		538.6397
Worker	0.2721	0.1362	1.7542	4.8700e-003	0.4929	2.9900e-003	0.4959	0.1307	2.7500e-003	0.1335		484.6866	484.6866	0.0121		484.9889
Total	**0.3255**	**2.1389**	**2.0385**	**9.9900e-003**	**0.6149**	**8.3400e-003**	**0.6232**	**0.1659**	**7.8700e-003**	**0.1737**		**1,021.8137**	**1,021.8137**	**0.0726**		**1,023.6286**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0950	37.7022	36.2960	0.0581		2.0987	2.0987		1.9695	1.9695	0.0000	5,518.0462	5,518.0462	1.3651		5,552.1726
Total	**4.0950**	**37.7022**	**36.2960**	**0.0581**		**2.0987**	**2.0987**		**1.9695**	**1.9695**	**0.0000**	**5,518.0462**	**5,518.0462**	**1.3651**		**5,552.1726**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0534	2.0027	0.2843	5.1200e-003	0.1220	5.3500e-003	0.1273	0.0351	5.1200e-003	0.0402		537.1271	537.1271	0.0605		538.6397
Worker	0.2721	0.1362	1.7542	4.8700e-003	0.4929	2.9900e-003	0.4959	0.1307	2.7500e-003	0.1335		484.6866	484.6866	0.0121		484.9889
Total	**0.3255**	**2.1389**	**2.0385**	**9.9900e-003**	**0.6149**	**8.3400e-003**	**0.6232**	**0.1659**	**7.8700e-003**	**0.1737**		**1,021.8137**	**1,021.8137**	**0.0726**		**1,023.6286**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6702	33.7524	35.8388	0.0581		1.7668	1.7668		1.6592	1.6592		5,520.2821	5,520.2821	1.3570		5,554.2074
Total	**3.6702**	**33.7524**	**35.8388**	**0.0581**		**1.7668**	**1.7668**		**1.6592**	**1.6592**		**5,520.2821**	**5,520.2821**	**1.3570**		**5,554.2074**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0497	1.8994	0.2631	5.0800e-003	0.1220	4.5900e-003	0.1266	0.0351	4.3900e-003	0.0395		532.0465	532.0465	0.0586		533.5125
Worker	0.2523	0.1217	1.6027	4.6900e-003	0.4929	2.9000e-003	0.4958	0.1307	2.6700e-003	0.1334		467.2553	467.2553	0.0108		467.5250
Total	**0.3020**	**2.0211**	**1.8658**	**9.7700e-003**	**0.6149**	**7.4900e-003**	**0.6224**	**0.1659**	**7.0600e-003**	**0.1729**		**999.3018**	**999.3018**	**0.0694**		**1,001.0375**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6702	33.7524	35.8388	0.0581		1.7668	1.7668		1.6592	1.6592	0.0000	5,520.2821	5,520.2821	1.3570		5,554.2074
Total	**3.6702**	**33.7524**	**35.8388**	**0.0581**		**1.7668**	**1.7668**		**1.6592**	**1.6592**	**0.0000**	**5,520.2821**	**5,520.2821**	**1.3570**		**5,554.2074**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0497	1.8994	0.2631	5.0800e-003	0.1220	4.5900e-003	0.1266	0.0351	4.3900e-003	0.0395		532.0465	532.0465	0.0586		533.5125
Worker	0.2523	0.1217	1.6027	4.6900e-003	0.4929	2.9000e-003	0.4958	0.1307	2.6700e-003	0.1334		467.2553	467.2553	0.0108		467.5250
Total	**0.3020**	**2.0211**	**1.8658**	**9.7700e-003**	**0.6149**	**7.4900e-003**	**0.6224**	**0.1659**	**7.0600e-003**	**0.1729**		**999.3018**	**999.3018**	**0.0694**		**1,001.0375**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2056	22.2498	29.1610	0.0456		1.1358	1.1358		1.0449	1.0449		4,415.3206	4,415.3206	1.4280		4,451.0207
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2056**	**22.2498**	**29.1610**	**0.0456**		**1.1358**	**1.1358**		**1.0449**	**1.0449**		**4,415.3206**	**4,415.3206**	**1.4280**		**4,451.0207**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0631	0.0304	0.4007	1.1700e-003	0.1232	7.2000e-004	0.1240	0.0327	6.7000e-004	0.0334		116.8138	116.8138	2.7000e-003		116.8813
Total	**0.0631**	**0.0304**	**0.4007**	**1.1700e-003**	**0.1232**	**7.2000e-004**	**0.1240**	**0.0327**	**6.7000e-004**	**0.0334**		**116.8138**	**116.8138**	**2.7000e-003**		**116.8813**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2056	22.2498	29.1610	0.0456		1.1358	1.1358		1.0449	1.0449	0.0000	4,415.3206	4,415.3206	1.4280		4,451.0207
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2056**	**22.2498**	**29.1610**	**0.0456**		**1.1358**	**1.1358**		**1.0449**	**1.0449**	**0.0000**	**4,415.3206**	**4,415.3206**	**1.4280**		**4,451.0207**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0631	0.0304	0.4007	1.1700e-003	0.1232	7.2000e-004	0.1240	0.0327	6.7000e-004	0.0334		116.8138	116.8138	2.7000e-003		116.8813
Total	**0.0631**	**0.0304**	**0.4007**	**1.1700e-003**	**0.1232**	**7.2000e-004**	**0.1240**	**0.0327**	**6.7000e-004**	**0.0334**		**116.8138**	**116.8138**	**2.7000e-003**		**116.8813**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	69.8631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**70.0676**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0505	0.0243	0.3206	9.4000e-004	0.0986	5.8000e-004	0.0992	0.0262	5.3000e-004	0.0267		93.4511	93.4511	2.1600e-003		93.5050
Total	**0.0505**	**0.0243**	**0.3206**	**9.4000e-004**	**0.0986**	**5.8000e-004**	**0.0992**	**0.0262**	**5.3000e-004**	**0.0267**		**93.4511**	**93.4511**	**2.1600e-003**		**93.5050**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	69.8631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**70.0676**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0505	0.0243	0.3206	9.4000e-004	0.0986	5.8000e-004	0.0992	0.0262	5.3000e-004	0.0267		93.4511	93.4511	2.1600e-003		93.5050
Total	**0.0505**	**0.0243**	**0.3206**	**9.4000e-004**	**0.0986**	**5.8000e-004**	**0.0992**	**0.0262**	**5.3000e-004**	**0.0267**		**93.4511**	**93.4511**	**2.1600e-003**		**93.5050**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.9932	10.7326	38.0091	0.1107	9.7122	0.0922	9.8044	2.5943	0.0862	2.6805		11,191.0071	11,191.0071	0.7357		11,209.3984
Unmitigated	4.0408	11.0623	39.7351	0.1164	10.2521	0.0967	10.3488	2.7386	0.0904	2.8289		11,772.8561	11,772.8561	0.7625		11,791.9180

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,589.84	1,654.97	1439.54	4,615,230	4,372,162
Total	1,589.84	1,654.97	1,439.54	4,615,230	4,372,162

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.537300	0.200000	0.167100	0.054200	0.001400	0.000900	0.009000	0.020600	0.000000	0.004400	0.002600	0.000900	0.001600

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1213	1.0362	0.4410	6.6100e-003		0.0838	0.0838		0.0838	0.0838		1,322.8490	1,322.8490	0.0254	0.0243	1,330.7101
NaturalGas Unmitigated	0.1290	1.1024	0.4691	7.0400e-003		0.0891	0.0891		0.0891	0.0891		1,407.3344	1,407.3344	0.0270	0.0258	1,415.6975

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	11962.3	0.1290	1.1024	0.4691	7.0400e-003		0.0891	0.0891		0.0891	0.0891		1,407.3344	1,407.3344	0.0270	0.0258	1,415.6975
Total		**0.1290**	**1.1024**	**0.4691**	**7.0400e-003**		**0.0891**	**0.0891**		**0.0891**	**0.0891**		**1,407.3344**	**1,407.3344**	**0.0270**	**0.0258**	**1,415.6975**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	11.2442	0.1213	1.0362	0.4410	6.6100e-003		0.0838	0.0838		0.0838	0.0838		1,322.8490	1,322.8490	0.0254	0.0243	1,330.7101
Total		**0.1213**	**1.0362**	**0.4410**	**6.6100e-003**		**0.0838**	**0.0838**		**0.0838**	**0.0838**		**1,322.8490**	**1,322.8490**	**0.0254**	**0.0243**	**1,330.7101**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.5755	1.6830	14.4560	0.0105		0.1993	0.1993		0.1993	0.1993	0.0000	1,969.8671	1,969.8671	0.0613	0.0357	1,982.0266
Unmitigated	35.5262	5.6757	259.2090	0.8090		40.1264	40.1264		40.1264	40.1264	5,893.2369	1,969.8671	7,863.1039	27.6110	0.0357	8,564.0056

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5460					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.4328					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	27.1291	5.5163	245.4014	0.8083		40.0503	40.0503		40.0503	40.0503	5,893.2369	1,945.0588	7,838.2957	27.5870	0.0357	8,538.5963
Landscaping	0.4184	0.1594	13.8077	7.3000e-004		0.0761	0.0761		0.0761	0.0761		24.8082	24.8082	0.0240		25.4093
Total	**35.5262**	**5.6757**	**259.2090**	**0.8090**		**40.1264**	**40.1264**		**40.1264**	**40.1264**	**5,893.2369**	**1,969.8671**	**7,863.1039**	**27.6110**	**0.0357**	**8,564.0056**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5460					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.4328					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1783	1.5236	0.6484	9.7300e-003		0.1232	0.1232		0.1232	0.1232	0.0000	1,945.0588	1,945.0588	0.0373	0.0357	1,956.6173
Landscaping	0.4184	0.1594	13.8077	7.3000e-004		0.0761	0.0761		0.0761	0.0761		24.8082	24.8082	0.0240		25.4093
Total	**8.5755**	**1.6830**	**14.4560**	**0.0105**		**0.1993**	**0.1993**		**0.1993**	**0.1993**	**0.0000**	**1,969.8671**	**1,969.8671**	**0.0613**	**0.0357**	**1,982.0266**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 2 Construction and Operations

(Summer Daily)

Parc West Phase 2 Const and Ops 2022

Fresno County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	169.00	Dwelling Unit	31.60	304,200.00	483

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Phase 2 Acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Removing 3 structures

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment -

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves -

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2022

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65

Parc West Phase 2 Const and Ops 2022 - Fresno County, Summer

tblAreaCoating	Area_EF_Residential_Interior	150	65
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	30.00	5.00
tblConstructionPhase	NumDays	35.00	20.00
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.49	0.53
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	1.3000e-003
tblFleetMix	LHD2	4.5020e-003	9.0000e-004
tblFleetMix	MCY	5.0620e-003	2.5000e-003
tblFleetMix	MDV	0.12	0.05
tblFleetMix	MH	5.9400e-004	1.8000e-003
tblFleetMix	MHD	0.03	9.0000e-003
tblFleetMix	OBUS	2.3630e-003	0.00
tblFleetMix	SBUS	1.0830e-003	7.0000e-004
tblFleetMix	UBUS	1.5190e-003	4.4000e-003
tblLandUse	LotAcreage	54.87	31.60
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	8.00	15.00
tblTripsAndVMT	WorkerTripNumber	30.00	15.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	5.1672	46.3490	47.8708	0.0864	18.2141	2.2859	19.8276	9.9699	2.1537	11.4543	0.0000	8,258.4752	8,258.4752	1.9478	0.0000	8,302.7832
2023	70.9384	42.4504	47.3418	0.0861	0.6231	1.9779	2.6009	0.1680	1.8637	2.0317	0.0000	8,229.9441	8,229.9441	1.7398	0.0000	8,273.4387
Maximum	**70.9384**	**46.3490**	**47.8708**	**0.0864**	**18.2141**	**2.2859**	**19.8276**	**9.9699**	**2.1537**	**11.4543**	**0.0000**	**8,258.4752**	**8,258.4752**	**1.9478**	**0.0000**	**8,302.7832**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	5.1672	46.3490	47.8708	0.0864	8.2777	2.2859	9.8911	4.5080	2.1537	5.9924	0.0000	8,258.4752	8,258.4752	1.9478	0.0000	8,302.7832
2023	70.9384	42.4504	47.3418	0.0861	0.6231	1.9779	2.6009	0.1680	1.8637	2.0317	0.0000	8,229.9441	8,229.9441	1.7398	0.0000	8,273.4387
Maximum	**70.9384**	**46.3490**	**47.8708**	**0.0864**	**8.2777**	**2.2859**	**9.8911**	**4.5080**	**2.1537**	**5.9924**	**0.0000**	**8,258.4752**	**8,258.4752**	**1.9478**	**0.0000**	**8,302.7832**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.75**	**0.00**	**44.30**	**53.88**	**0.00**	**40.50**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	23.4970	4.0298	157.2585	0.4760		23.4717	23.4717		23.4717	23.4717	3,434.6419	1,993.4583	5,428.1002	16.1182	0.0361	5,841.8090
Energy	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520
Mobile	3.6442	9.9798	35.5296	0.1100	9.9841	0.0886	10.0727	2.6664	0.0827	2.7491		11,128.6661	11,128.6661	0.6984		11,146.1271
Total	**27.2718**	**15.1253**	**193.2629**	**0.5931**	**9.9841**	**23.6505**	**33.6346**	**2.6664**	**23.6446**	**26.3110**	**3,434.6419**	**14,546.3131**	**17,980.9550**	**16.8439**	**0.0622**	**18,420.5881**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.7898	1.7029	14.6138	0.0106		0.2018	0.2018		0.2018	0.2018	0.0000	1,993.4583	1,993.4583	0.0620	0.0361	2,005.7607
Energy	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
Mobile	3.6021	9.6915	33.9813	0.1046	9.4582	0.0845	9.5427	2.5259	0.0789	2.6048		10,579.2274	10,579.2274	0.6742		10,596.0814
Total	**11.5146**	**12.4430**	**49.0414**	**0.1218**	**9.4582**	**0.3711**	**9.8293**	**2.5259**	**0.3654**	**2.8914**	**0.0000**	**13,911.3772**	**13,911.3772**	**0.7618**	**0.0606**	**13,948.4888**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**57.78**	**17.73**	**74.62**	**79.46**	**5.27**	**98.43**	**70.78**	**5.27**	**98.45**	**89.01**	**100.00**	**4.36**	**22.63**	**95.48**	**2.52**	**24.28**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2022	1/7/2022	5	5	
2	Site Preparation	Site Preparation	1/8/2022	2/4/2022	5	20	
3	Grading	Grading	2/5/2022	4/8/2022	5	45	
4	Building Construction	Building Construction	4/9/2022	1/13/2023	5	200	
5	Paving	Paving	1/14/2023	2/10/2023	5	20	
6	Architectural Coating	Architectural Coating	2/11/2023	3/31/2023	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 616,005; Residential Outdoor: 205,335; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 2 Const and Ops 2022 - Fresno County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	3	7.00	231	0.29
Building Construction	Forklifts	8	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	8	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	3	15.00	0.00	56.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	25	61.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4382	0.0000	2.4382	0.3692	0.0000	0.3692			0.0000			0.0000
Off-Road	1.3972	13.3718	10.5018	0.0200		0.6535	0.6535		0.6132	0.6132		1,919.7153	1,919.7153	0.4615		1,931.2534
Total	**1.3972**	**13.3718**	**10.5018**	**0.0200**	**2.4382**	**0.6535**	**3.0917**	**0.3692**	**0.6132**	**0.9824**		**1,919.7153**	**1,919.7153**	**0.4615**		**1,931.2534**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0779	2.5842	0.3722	8.8100e-003	0.1961	7.8800e-003	0.2040	0.0538	7.5400e-003	0.0613		925.2413	925.2413	0.0740		927.0916
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0631	0.0304	0.4007	1.1700e-003	0.1232	7.2000e-004	0.1240	0.0327	6.7000e-004	0.0334		116.8138	116.8138	2.7000e-003		116.8813
Total	**0.1409**	**2.6147**	**0.7729**	**9.9800e-003**	**0.3193**	**8.6000e-003**	**0.3279**	**0.0865**	**8.2100e-003**	**0.0947**		**1,042.0551**	**1,042.0551**	**0.0767**		**1,043.9728**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0972	0.0000	1.0972	0.1661	0.0000	0.1661			0.0000			0.0000
Off-Road	1.3972	13.3718	10.5018	0.0200		0.6535	0.6535		0.6132	0.6132	0.0000	1,919.7153	1,919.7153	0.4615		1,931.2534
Total	**1.3972**	**13.3718**	**10.5018**	**0.0200**	**1.0972**	**0.6535**	**1.7507**	**0.1661**	**0.6132**	**0.7793**	**0.0000**	**1,919.7153**	**1,919.7153**	**0.4615**		**1,931.2534**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0779	2.5842	0.3722	8.8100e-003	0.1961	7.8800e-003	0.2040	0.0538	7.5400e-003	0.0613		925.2413	925.2413	0.0740		927.0916
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0631	0.0304	0.4007	1.1700e-003	0.1232	7.2000e-004	0.1240	0.0327	6.7000e-004	0.0334		116.8138	116.8138	2.7000e-003		116.8813
Total	**0.1409**	**2.6147**	**0.7729**	**9.9800e-003**	**0.3193**	**8.6000e-003**	**0.3279**	**0.0865**	**8.2100e-003**	**0.0947**		**1,042.0551**	**1,042.0551**	**0.0767**		**1,043.9728**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**18.0663**	**1.6126**	**19.6788**	**9.9307**	**1.4836**	**11.4143**		**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0757	0.0365	0.4808	1.4100e-003	0.1479	8.7000e-004	0.1487	0.0392	8.0000e-004	0.0400		140.1766	140.1766	3.2400e-003		140.2575
Total	**0.0757**	**0.0365**	**0.4808**	**1.4100e-003**	**0.1479**	**8.7000e-004**	**0.1487**	**0.0392**	**8.0000e-004**	**0.0400**		**140.1766**	**140.1766**	**3.2400e-003**		**140.2575**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**8.1298**	**1.6126**	**9.7424**	**4.4688**	**1.4836**	**5.9524**	**0.0000**	**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0757	0.0365	0.4808	1.4100e-003	0.1479	8.7000e-004	0.1487	0.0392	8.0000e-004	0.0400		140.1766	140.1766	3.2400e-003		140.2575
Total	**0.0757**	**0.0365**	**0.4808**	**1.4100e-003**	**0.1479**	**8.7000e-004**	**0.1487**	**0.0392**	**8.0000e-004**	**0.0400**		**140.1766**	**140.1766**	**3.2400e-003**		**140.2575**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0841	0.0406	0.5342	1.5600e-003	0.1643	9.7000e-004	0.1653	0.0436	8.9000e-004	0.0445		155.7518	155.7518	3.6000e-003		155.8417
Total	**0.0841**	**0.0406**	**0.5342**	**1.5600e-003**	**0.1643**	**9.7000e-004**	**0.1653**	**0.0436**	**8.9000e-004**	**0.0445**		**155.7518**	**155.7518**	**3.6000e-003**		**155.8417**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**3.9030**	**1.6349**	**5.5379**	**1.6184**	**1.5041**	**3.1225**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0841	0.0406	0.5342	1.5600e-003	0.1643	9.7000e-004	0.1653	0.0436	8.9000e-004	0.0445		155.7518	155.7518	3.6000e-003		155.8417
Total	**0.0841**	**0.0406**	**0.5342**	**1.5600e-003**	**0.1643**	**9.7000e-004**	**0.1653**	**0.0436**	**8.9000e-004**	**0.0445**		**155.7518**	**155.7518**	**3.6000e-003**		**155.8417**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.8610	44.3258	45.9783	0.0766		2.2783	2.2783		2.1466	2.1466		7,251.3858	7,251.3858	1.7027		7,293.9536
Total	**4.8610**	**44.3258**	**45.9783**	**0.0766**		**2.2783**	**2.2783**		**2.1466**	**2.1466**		**7,251.3858**	**7,251.3858**	**1.7027**		**7,293.9536**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0497	1.8994	0.2631	5.0800e-003	0.1220	4.5900e-003	0.1266	0.0351	4.3900e-003	0.0395		532.0465	532.0465	0.0586		533.5125
Worker	0.2565	0.1237	1.6295	4.7700e-003	0.5011	2.9500e-003	0.5041	0.1329	2.7100e-003	0.1356		475.0429	475.0429	0.0110		475.3171
Total	**0.3062**	**2.0231**	**1.8926**	**9.8500e-003**	**0.6231**	**7.5400e-003**	**0.6306**	**0.1680**	**7.1000e-003**	**0.1751**		**1,007.0893**	**1,007.0893**	**0.0696**		**1,008.8296**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.8610	44.3258	45.9783	0.0766		2.2783	2.2783		2.1466	2.1466	0.0000	7,251.3858	7,251.3858	1.7027		7,293.9536
Total	**4.8610**	**44.3258**	**45.9783**	**0.0766**		**2.2783**	**2.2783**		**2.1466**	**2.1466**	**0.0000**	**7,251.3858**	**7,251.3858**	**1.7027**		**7,293.9536**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0497	1.8994	0.2631	5.0800e-003	0.1220	4.5900e-003	0.1266	0.0351	4.3900e-003	0.0395		532.0465	532.0465	0.0586		533.5125
Worker	0.2565	0.1237	1.6295	4.7700e-003	0.5011	2.9500e-003	0.5041	0.1329	2.7100e-003	0.1356		475.0429	475.0429	0.0110		475.3171
Total	**0.3062**	**2.0231**	**1.8926**	**9.8500e-003**	**0.6231**	**7.5400e-003**	**0.6306**	**0.1680**	**7.1000e-003**	**0.1751**		**1,007.0893**	**1,007.0893**	**0.0696**		**1,008.8296**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.4833	40.8513	45.6348	0.0766		1.9736	1.9736		1.8597	1.8597		7,253.7195	7,253.7195	1.6903		7,295.9774
Total	**4.4833**	**40.8513**	**45.6348**	**0.0766**		**1.9736**	**1.9736**		**1.8597**	**1.8597**		**7,253.7195**	**7,253.7195**	**1.6903**		**7,295.9774**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0341	1.4884	0.2161	4.9500e-003	0.1220	1.4200e-003	0.1234	0.0351	1.3600e-003	0.0365		519.0185	519.0185	0.0397		520.0105
Worker	0.2386	0.1108	1.4909	4.5900e-003	0.5011	2.8700e-003	0.5040	0.1329	2.6400e-003	0.1356		457.2062	457.2062	9.7900e-003		457.4508
Total	**0.2727**	**1.5991**	**1.7070**	**9.5400e-003**	**0.6231**	**4.2900e-003**	**0.6274**	**0.1680**	**4.0000e-003**	**0.1720**		**976.2246**	**976.2246**	**0.0495**		**977.4613**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.4833	40.8513	45.6348	0.0766		1.9736	1.9736		1.8597	1.8597	0.0000	7,253.7195	7,253.7195	1.6903		7,295.9774
Total	**4.4833**	**40.8513**	**45.6348**	**0.0766**		**1.9736**	**1.9736**		**1.8597**	**1.8597**	**0.0000**	**7,253.7195**	**7,253.7195**	**1.6903**		**7,295.9774**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0341	1.4884	0.2161	4.9500e-003	0.1220	1.4200e-003	0.1234	0.0351	1.3600e-003	0.0365		519.0185	519.0185	0.0397		520.0105
Worker	0.2386	0.1108	1.4909	4.5900e-003	0.5011	2.8700e-003	0.5040	0.1329	2.6400e-003	0.1356		457.2062	457.2062	9.7900e-003		457.4508
Total	**0.2727**	**1.5991**	**1.7070**	**9.5400e-003**	**0.6231**	**4.2900e-003**	**0.6274**	**0.1680**	**4.0000e-003**	**0.1720**		**976.2246**	**976.2246**	**0.0495**		**977.4613**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0655	20.3833	29.1684	0.0456		1.0204	1.0204		0.9388	0.9388		4,415.1683	4,415.1683	1.4280		4,450.8672
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0655**	**20.3833**	**29.1684**	**0.0456**		**1.0204**	**1.0204**		**0.9388**	**0.9388**		**4,415.1683**	**4,415.1683**	**1.4280**		**4,450.8672**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0587	0.0272	0.3666	1.1300e-003	0.1232	7.1000e-004	0.1239	0.0327	6.5000e-004	0.0333		112.4277	112.4277	2.4100e-003		112.4879
Total	**0.0587**	**0.0272**	**0.3666**	**1.1300e-003**	**0.1232**	**7.1000e-004**	**0.1239**	**0.0327**	**6.5000e-004**	**0.0333**		**112.4277**	**112.4277**	**2.4100e-003**		**112.4879**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0655	20.3833	29.1684	0.0456		1.0204	1.0204		0.9388	0.9388	0.0000	4,415.1683	4,415.1683	1.4280		4,450.8672
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0655**	**20.3833**	**29.1684**	**0.0456**		**1.0204**	**1.0204**		**0.9388**	**0.9388**	**0.0000**	**4,415.1683**	**4,415.1683**	**1.4280**		**4,450.8672**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0587	0.0272	0.3666	1.1300e-003	0.1232	7.1000e-004	0.1239	0.0327	6.5000e-004	0.0333		112.4277	112.4277	2.4100e-003		112.4879
Total	**0.0587**	**0.0272**	**0.3666**	**1.1300e-003**	**0.1232**	**7.1000e-004**	**0.1239**	**0.0327**	**6.5000e-004**	**0.0333**		**112.4277**	**112.4277**	**2.4100e-003**		**112.4879**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	70.6998					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**70.8914**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0218	0.2933	9.0000e-004	0.0986	5.6000e-004	0.0991	0.0262	5.2000e-004	0.0267		89.9422	89.9422	1.9200e-003		89.9903
Total	**0.0469**	**0.0218**	**0.2933**	**9.0000e-004**	**0.0986**	**5.6000e-004**	**0.0991**	**0.0262**	**5.2000e-004**	**0.0267**		**89.9422**	**89.9422**	**1.9200e-003**		**89.9903**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	70.6998					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**70.8914**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0218	0.2933	9.0000e-004	0.0986	5.6000e-004	0.0991	0.0262	5.2000e-004	0.0267		89.9422	89.9422	1.9200e-003		89.9903
Total	**0.0469**	**0.0218**	**0.2933**	**9.0000e-004**	**0.0986**	**5.6000e-004**	**0.0991**	**0.0262**	**5.2000e-004**	**0.0267**		**89.9422**	**89.9422**	**1.9200e-003**		**89.9903**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.6021	9.6915	33.9813	0.1046	9.4582	0.0845	9.5427	2.5259	0.0789	2.6048		10,579.2274	10,579.2274	0.6742		10,596.0814
Unmitigated	3.6442	9.9798	35.5296	0.1100	9.9841	0.0886	10.0727	2.6664	0.0827	2.7491		11,128.6661	11,128.6661	0.6984		11,146.1271

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,595.36	1,612.26	1444.95	4,611,177	4,368,321
Total	1,595.36	1,612.26	1,444.95	4,611,177	4,368,321

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.534300	0.203000	0.167300	0.054500	0.001300	0.000900	0.009000	0.020700	0.000000	0.004400	0.002500	0.000700	0.001800

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
NaturalGas Unmitigated	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	12105.6	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520
Total		**0.1306**	**1.1156**	**0.4747**	**7.1200e-003**		**0.0902**	**0.0902**		**0.0902**	**0.0902**		**1,424.1887**	**1,424.1887**	**0.0273**	**0.0261**	**1,432.6520**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	11.3789	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
Total		**0.1227**	**1.0486**	**0.4462**	**6.6900e-003**		**0.0848**	**0.0848**		**0.0848**	**0.0848**		**1,338.6915**	**1,338.6915**	**0.0257**	**0.0245**	**1,346.6467**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.7898	1.7029	14.6138	0.0106		0.2018	0.2018		0.2018	0.2018	0.0000	1,993.4583	1,993.4583	0.0620	0.0361	2,005.7607
Unmitigated	23.4970	4.0298	157.2585	0.4760		23.4717	23.4717		23.4717	23.4717	3,434.6419	1,993.4583	5,428.1002	16.1182	0.0361	5,841.8090

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6779					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	15.8876	3.8689	143.3008	0.4752		23.3946	23.3946		23.3946	23.3946	3,434.6419	1,968.3529	5,402.9949	16.0940	0.0361	5,816.0981
Landscaping	0.4216	0.1610	13.9577	7.4000e-004		0.0771	0.0771		0.0771	0.0771		25.1054	25.1054	0.0242		25.7109
Total	**23.4970**	**4.0298**	**157.2585**	**0.4760**		**23.4717**	**23.4717**		**23.4717**	**23.4717**	**3,434.6419**	**1,993.4583**	**5,428.1002**	**16.1182**	**0.0361**	**5,841.8090**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6779					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1804	1.5419	0.6561	9.8400e-003		0.1247	0.1247		0.1247	0.1247	0.0000	1,968.3529	1,968.3529	0.0377	0.0361	1,980.0499
Landscaping	0.4216	0.1610	13.9577	7.4000e-004		0.0771	0.0771		0.0771	0.0771		25.1054	25.1054	0.0242		25.7109
Total	**7.7898**	**1.7029**	**14.6138**	**0.0106**		**0.2018**	**0.2018**		**0.2018**	**0.2018**	**0.0000**	**1,993.4583**	**1,993.4583**	**0.0620**	**0.0361**	**2,005.7607**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 3 Construction and Operations

(Summer Daily)

Parc West Phase 3 Const and Ops 2023

Fresno County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	169.00	Dwelling Unit	31.60	304,200.00	483

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Phase 2 Acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Removing 3 structures

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment -

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves -

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2023

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65

Parc West Phase 3 Const and Ops 2023 - Fresno County, Summer

tblAreaCoating	Area_EF_Residential_Interior	150	65
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	35.00	20.00
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.50	0.53
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	1.1000e-003
tblFleetMix	LHD2	4.2870e-003	9.0000e-004
tblFleetMix	MCY	4.9660e-003	2.5000e-003
tblFleetMix	MDV	0.11	0.06
tblFleetMix	MH	5.6200e-004	1.9000e-003
tblFleetMix	MHD	0.03	8.5000e-003
tblFleetMix	OBUS	2.3600e-003	0.00
tblFleetMix	SBUS	1.0700e-003	4.0000e-004
tblFleetMix	UBUS	1.4600e-003	4.3000e-003
tblLandUse	LotAcreage	54.87	31.60
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290

tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	30.00	15.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.7560	42.4504	47.3418	0.0861	18.2141	1.9779	19.4810	9.9699	1.8637	11.1354	0.0000	8,229.9441	8,229.9441	1.9474	0.0000	8,273.4387
2024	70.9244	39.7574	46.9840	0.0859	0.6231	1.7350	2.3580	0.1680	1.6342	1.8022	0.0000	8,209.3371	8,209.3371	1.7286	0.0000	8,252.5511
Maximum	**70.9244**	**42.4504**	**47.3418**	**0.0861**	**18.2141**	**1.9779**	**19.4810**	**9.9699**	**1.8637**	**11.1354**	**0.0000**	**8,229.9441**	**8,229.9441**	**1.9474**	**0.0000**	**8,273.4387**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.7560	42.4504	47.3418	0.0861	8.2777	1.9779	9.5446	4.5080	1.8637	5.6736	0.0000	8,229.9441	8,229.9441	1.9474	0.0000	8,273.4387
2024	70.9244	39.7574	46.9840	0.0859	0.6231	1.7350	2.3580	0.1680	1.6342	1.8022	0.0000	8,209.3370	8,209.3370	1.7286	0.0000	8,252.5511
Maximum	**70.9244**	**42.4504**	**47.3418**	**0.0861**	**8.2777**	**1.9779**	**9.5446**	**4.5080**	**1.8637**	**5.6736**	**0.0000**	**8,229.9441**	**8,229.9441**	**1.9474**	**0.0000**	**8,273.4387**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.75**	**0.00**	**45.50**	**53.88**	**0.00**	**42.22**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	23.4956	4.0296	157.2466	0.4760		23.4718	23.4718		23.4718	23.4718	3,434.6419	1,993.4583	5,428.1002	16.1181	0.0361	5,841.8070
Energy	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520
Mobile	3.3501	8.2648	32.6557	0.1065	9.9758	0.0764	10.0522	2.6627	0.0711	2.7338		10,781.0657	10,781.0657	0.5944		10,795.9256
Total	**26.9762**	**13.4100**	**190.3770**	**0.5896**	**9.9758**	**23.6384**	**33.6142**	**2.6627**	**23.6331**	**26.2958**	**3,434.6419**	**14,198.7128**	**17,633.3547**	**16.7398**	**0.0622**	**18,070.3845**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.7884	1.7026	14.6019	0.0106		0.2019	0.2019		0.2019	0.2019	0.0000	1,993.4583	1,993.4583	0.0619	0.0361	2,005.7588
Energy	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
Mobile	3.3125	8.0402	31.2258	0.1012	9.4504	0.0729	9.5233	2.5225	0.0678	2.5903		10,249.9391	10,249.9391	0.5722		10,264.2431
Total	**11.2236**	**10.7915**	**46.2740**	**0.1185**	**9.4504**	**0.3595**	**9.8099**	**2.5225**	**0.3544**	**2.8769**	**0.0000**	**13,582.0889**	**13,582.0889**	**0.6597**	**0.0606**	**13,616.6486**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**58.39**	**19.53**	**75.69**	**79.90**	**5.27**	**98.48**	**70.82**	**5.27**	**98.50**	**89.06**	**100.00**	**4.34**	**22.98**	**96.06**	**2.52**	**24.65**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2023	1/27/2023	5	20	
2	Grading	Grading	1/28/2023	3/31/2023	5	45	
3	Building Construction	Building Construction	4/1/2023	1/5/2024	5	200	
4	Paving	Paving	1/6/2024	2/2/2024	5	20	
5	Architectural Coating	Architectural Coating	2/3/2024	3/22/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 616,005; Residential Outdoor: 205,335; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 3 Const and Ops 2023 - Fresno County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	3	7.00	231	0.29
Building Construction	Forklifts	8	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	8	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	25	61.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**18.0663**	**1.2660**	**19.3323**	**9.9307**	**1.1647**	**11.0954**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0704	0.0327	0.4399	1.3500e-003	0.1479	8.5000e-004	0.1487	0.0392	7.8000e-004	0.0400		134.9133	134.9133	2.8900e-003		134.9855
Total	**0.0704**	**0.0327**	**0.4399**	**1.3500e-003**	**0.1479**	**8.5000e-004**	**0.1487**	**0.0392**	**7.8000e-004**	**0.0400**		**134.9133**	**134.9133**	**2.8900e-003**		**134.9855**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**8.1298**	**1.2660**	**9.3958**	**4.4688**	**1.1647**	**5.6336**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0704	0.0327	0.4399	1.3500e-003	0.1479	8.5000e-004	0.1487	0.0392	7.8000e-004	0.0400		134.9133	134.9133	2.8900e-003		134.9855
Total	**0.0704**	**0.0327**	**0.4399**	**1.3500e-003**	**0.1479**	**8.5000e-004**	**0.1487**	**0.0392**	**7.8000e-004**	**0.0400**		**134.9133**	**134.9133**	**2.8900e-003**		**134.9855**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**8.6733**	**1.4245**	**10.0978**	**3.5965**	**1.3105**	**4.9070**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0782	0.0363	0.4888	1.5000e-003	0.1643	9.4000e-004	0.1652	0.0436	8.7000e-004	0.0445		149.9037	149.9037	3.2100e-003		149.9839
Total	**0.0782**	**0.0363**	**0.4888**	**1.5000e-003**	**0.1643**	**9.4000e-004**	**0.1652**	**0.0436**	**8.7000e-004**	**0.0445**		**149.9037**	**149.9037**	**3.2100e-003**		**149.9839**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**3.9030**	**1.4245**	**5.3275**	**1.6184**	**1.3105**	**2.9290**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0782	0.0363	0.4888	1.5000e-003	0.1643	9.4000e-004	0.1652	0.0436	8.7000e-004	0.0445		149.9037	149.9037	3.2100e-003		149.9839
Total	**0.0782**	**0.0363**	**0.4888**	**1.5000e-003**	**0.1643**	**9.4000e-004**	**0.1652**	**0.0436**	**8.7000e-004**	**0.0445**		**149.9037**	**149.9037**	**3.2100e-003**		**149.9839**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.4833	40.8513	45.6348	0.0766		1.9736	1.9736		1.8597	1.8597		7,253.7195	7,253.7195	1.6903		7,295.9774
Total	**4.4833**	**40.8513**	**45.6348**	**0.0766**		**1.9736**	**1.9736**		**1.8597**	**1.8597**		**7,253.7195**	**7,253.7195**	**1.6903**		**7,295.9774**

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0341	1.4884	0.2161	4.9500e-003	0.1220	1.4200e-003	0.1234	0.0351	1.3600e-003	0.0365		519.0185	519.0185	0.0397		520.0105
Worker	0.2386	0.1108	1.4909	4.5900e-003	0.5011	2.8700e-003	0.5040	0.1329	2.6400e-003	0.1356		457.2062	457.2062	9.7900e-003		457.4508
Total	**0.2727**	**1.5991**	**1.7070**	**9.5400e-003**	**0.6231**	**4.2900e-003**	**0.6274**	**0.1680**	**4.0000e-003**	**0.1720**		**976.2246**	**976.2246**	**0.0495**		**977.4613**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.4833	40.8513	45.6348	0.0766		1.9736	1.9736		1.8597	1.8597	0.0000	7,253.7195	7,253.7195	1.6903		7,295.9774
Total	**4.4833**	**40.8513**	**45.6348**	**0.0766**		**1.9736**	**1.9736**		**1.8597**	**1.8597**	**0.0000**	**7,253.7195**	**7,253.7195**	**1.6903**		**7,295.9774**

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0341	1.4884	0.2161	4.9500e-003	0.1220	1.4200e-003	0.1234	0.0351	1.3600e-003	0.0365		519.0185	519.0185	0.0397		520.0105
Worker	0.2386	0.1108	1.4909	4.5900e-003	0.5011	2.8700e-003	0.5040	0.1329	2.6400e-003	0.1356		457.2062	457.2062	9.7900e-003		457.4508
Total	**0.2727**	**1.5991**	**1.7070**	**9.5400e-003**	**0.6231**	**4.2900e-003**	**0.6274**	**0.1680**	**4.0000e-003**	**0.1720**		**976.2246**	**976.2246**	**0.0495**		**977.4613**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.1946	38.1806	45.4050	0.0766		1.7308	1.7308		1.6303	1.6303		7,255.0200	7,255.0200	1.6798		7,297.0144
Total	**4.1946**	**38.1806**	**45.4050**	**0.0766**		**1.7308**	**1.7308**		**1.6303**	**1.6303**		**7,255.0200**	**7,255.0200**	**1.6798**		**7,297.0144**

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0332	1.4773	0.2055	4.9100e-003	0.1220	1.4100e-003	0.1234	0.0351	1.3500e-003	0.0365		514.9948	514.9948	0.0400		515.9954
Worker	0.2228	0.0996	1.3735	4.4100e-003	0.5011	2.8000e-003	0.5039	0.1329	2.5800e-003	0.1355		439.3223	439.3223	8.7600e-003		439.5413
Total	**0.2559**	**1.5768**	**1.5790**	**9.3200e-003**	**0.6231**	**4.2100e-003**	**0.6273**	**0.1680**	**3.9300e-003**	**0.1720**		**954.3171**	**954.3171**	**0.0488**		**955.5367**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.1946	38.1806	45.4050	0.0766		1.7308	1.7308		1.6303	1.6303	0.0000	7,255.0200	7,255.0200	1.6798		7,297.0144
Total	**4.1946**	**38.1806**	**45.4050**	**0.0766**		**1.7308**	**1.7308**		**1.6303**	**1.6303**	**0.0000**	**7,255.0200**	**7,255.0200**	**1.6798**		**7,297.0144**

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0332	1.4773	0.2055	4.9100e-003	0.1220	1.4100e-003	0.1234	0.0351	1.3500e-003	0.0365		514.9948	514.9948	0.0400		515.9954
Worker	0.2228	0.0996	1.3735	4.4100e-003	0.5011	2.8000e-003	0.5039	0.1329	2.5800e-003	0.1355		439.3223	439.3223	8.7600e-003		439.5413
Total	**0.2559**	**1.5768**	**1.5790**	**9.3200e-003**	**0.6231**	**4.2100e-003**	**0.6273**	**0.1680**	**3.9300e-003**	**0.1720**		**954.3171**	**954.3171**	**0.0488**		**955.5367**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9763	19.0492	29.2515	0.0456		0.9370	0.9370		0.8621	0.8621		4,415.0944	4,415.0944	1.4279		4,450.7927
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9763**	**19.0492**	**29.2515**	**0.0456**		**0.9370**	**0.9370**		**0.8621**	**0.8621**		**4,415.0944**	**4,415.0944**	**1.4279**		**4,450.7927**

3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0548	0.0245	0.3378	1.0800e-003	0.1232	6.9000e-004	0.1239	0.0327	6.3000e-004	0.0333		108.0301	108.0301	2.1500e-003		108.0839
Total	**0.0548**	**0.0245**	**0.3378**	**1.0800e-003**	**0.1232**	**6.9000e-004**	**0.1239**	**0.0327**	**6.3000e-004**	**0.0333**		**108.0301**	**108.0301**	**2.1500e-003**		**108.0839**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9763	19.0492	29.2515	0.0456		0.9370	0.9370		0.8621	0.8621	0.0000	4,415.0944	4,415.0944	1.4279		4,450.7927
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9763**	**19.0492**	**29.2515**	**0.0456**		**0.9370**	**0.9370**		**0.8621**	**0.8621**	**0.0000**	**4,415.0944**	**4,415.0944**	**1.4279**		**4,450.7927**

3.5 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0548	0.0245	0.3378	1.0800e-003	0.1232	6.9000e-004	0.1239	0.0327	6.3000e-004	0.0333		108.0301	108.0301	2.1500e-003		108.0839
Total	**0.0548**	**0.0245**	**0.3378**	**1.0800e-003**	**0.1232**	**6.9000e-004**	**0.1239**	**0.0327**	**6.3000e-004**	**0.0333**		**108.0301**	**108.0301**	**2.1500e-003**		**108.0839**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	70.6998					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**70.8805**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0438	0.0196	0.2702	8.7000e-004	0.0986	5.5000e-004	0.0991	0.0262	5.1000e-004	0.0267		86.4241	86.4241	1.7200e-003		86.4671
Total	**0.0438**	**0.0196**	**0.2702**	**8.7000e-004**	**0.0986**	**5.5000e-004**	**0.0991**	**0.0262**	**5.1000e-004**	**0.0267**		**86.4241**	**86.4241**	**1.7200e-003**		**86.4671**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	70.6998					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**70.8805**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0438	0.0196	0.2702	8.7000e-004	0.0986	5.5000e-004	0.0991	0.0262	5.1000e-004	0.0267		86.4241	86.4241	1.7200e-003		86.4671
Total	**0.0438**	**0.0196**	**0.2702**	**8.7000e-004**	**0.0986**	**5.5000e-004**	**0.0991**	**0.0262**	**5.1000e-004**	**0.0267**		**86.4241**	**86.4241**	**1.7200e-003**		**86.4671**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.3125	8.0402	31.2258	0.1012	9.4504	0.0729	9.5233	2.5225	0.0678	2.5903		10,249.9391	10,249.9391	0.5722		10,264.2431
Unmitigated	3.3501	8.2648	32.6557	0.1065	9.9758	0.0764	10.0522	2.6627	0.0711	2.7338		10,781.0657	10,781.0657	0.5944		10,795.9256

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,595.36	1,612.26	1444.95	4,611,177	4,368,321
Total	1,595.36	1,612.26	1,444.95	4,611,177	4,368,321

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.530500	0.205800	0.167300	0.055000	0.001100	0.000900	0.008500	0.021800	0.000000	0.004300	0.002500	0.000400	0.001900

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
NaturalGas Unmitigated	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	12105.6	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520
Total		**0.1306**	**1.1156**	**0.4747**	**7.1200e-003**		**0.0902**	**0.0902**		**0.0902**	**0.0902**		**1,424.1887**	**1,424.1887**	**0.0273**	**0.0261**	**1,432.6520**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	11.3789	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
Total		**0.1227**	**1.0486**	**0.4462**	**6.6900e-003**		**0.0848**	**0.0848**		**0.0848**	**0.0848**		**1,338.6915**	**1,338.6915**	**0.0257**	**0.0245**	**1,346.6467**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.7884	1.7026	14.6019	0.0106		0.2019	0.2019		0.2019	0.2019	0.0000	1,993.4583	1,993.4583	0.0619	0.0361	2,005.7588
Unmitigated	23.4956	4.0296	157.2466	0.4760		23.4718	23.4718		23.4718	23.4718	3,434.6419	1,993.4583	5,428.1002	16.1181	0.0361	5,841.8070

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6779					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	15.8876	3.8689	143.3008	0.4752		23.3946	23.3946		23.3946	23.3946	3,434.6419	1,968.3529	5,402.9949	16.0940	0.0361	5,816.0981
Landscaping	0.4201	0.1608	13.9458	7.4000e-004		0.0772	0.0772		0.0772	0.0772		25.1053	25.1053	0.0241		25.7089
Total	**23.4956**	**4.0296**	**157.2466**	**0.4760**		**23.4718**	**23.4718**		**23.4718**	**23.4718**	**3,434.6419**	**1,993.4583**	**5,428.1002**	**16.1181**	**0.0361**	**5,841.8070**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6779					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1804	1.5419	0.6561	9.8400e-003		0.1247	0.1247		0.1247	0.1247	0.0000	1,968.3529	1,968.3529	0.0377	0.0361	1,980.0499
Landscaping	0.4201	0.1608	13.9458	7.4000e-004		0.0772	0.0772		0.0772	0.0772		25.1053	25.1053	0.0241		25.7089
Total	**7.7884**	**1.7026**	**14.6019**	**0.0106**		**0.2019**	**0.2019**		**0.2019**	**0.2019**	**0.0000**	**1,993.4583**	**1,993.4583**	**0.0619**	**0.0361**	**2,005.7588**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 4 Construction and Operations

(Summer Daily)

Parc West Phase 4 Const and Ops 2024

Fresno County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	169.00	Dwelling Unit	31.60	304,200.00	483

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Phase 4 Acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Removing 3 structures

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment -

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves -

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2024

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65

Parc West Phase 4 Const and Ops 2024 - Fresno County, Summer

tblAreaCoating	Area_EF_Residential_Interior	150	65
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	35.00	20.00
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.50	0.53
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	9.0000e-004
tblFleetMix	LHD2	4.0970e-003	9.0000e-004
tblFleetMix	MCY	4.8840e-003	2.5000e-003
tblFleetMix	MDV	0.11	0.06
tblFleetMix	MH	5.3500e-004	2.0000e-003
tblFleetMix	MHD	0.03	8.0000e-003
tblFleetMix	OBUS	2.3410e-003	0.00
tblFleetMix	SBUS	1.0580e-003	2.0000e-004
tblFleetMix	UBUS	1.4060e-003	4.3000e-003
tblLandUse	LotAcreage	54.87	31.60
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290

tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	30.00	15.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	4.4505	39.7574	46.9840	0.0859	18.2141	1.7350	19.4443	9.9699	1.6342	11.1017	0.0000	8,209.3371	8,209.3371	1.9465	0.0000	8,252.5511
2025	70.9118	36.9780	46.6341	0.0857	0.6231	1.4957	2.1187	0.1680	1.4088	1.5768	0.0000	8,190.1731	8,190.1731	1.7176	0.0000	8,233.1123
Maximum	**70.9118**	**39.7574**	**46.9840**	**0.0859**	**18.2141**	**1.7350**	**19.4443**	**9.9699**	**1.6342**	**11.1017**	**0.0000**	**8,209.3371**	**8,209.3371**	**1.9465**	**0.0000**	**8,252.5511**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	4.4505	39.7574	46.9840	0.0859	8.2777	1.7350	9.5079	4.5080	1.6342	5.6398	0.0000	8,209.3370	8,209.3370	1.9465	0.0000	8,252.5511
2025	70.9118	36.9780	46.6341	0.0857	0.6231	1.4957	2.1187	0.1680	1.4088	1.5768	0.0000	8,190.1731	8,190.1731	1.7176	0.0000	8,233.1123
Maximum	**70.9118**	**39.7574**	**46.9840**	**0.0859**	**8.2777**	**1.7350**	**9.5079**	**4.5080**	**1.6342**	**5.6398**	**0.0000**	**8,209.3370**	**8,209.3370**	**1.9465**	**0.0000**	**8,252.5511**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.75**	**0.00**	**46.08**	**53.88**	**0.00**	**43.08**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	23.4945	4.0295	157.2377	0.4760		23.4718	23.4718		23.4718	23.4718	3,434.6419	1,993.4583	5,428.1002	16.1181	0.0361	5,841.8057
Energy	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520
Mobile	3.1246	7.7537	30.2805	0.1026	9.9694	0.0738	10.0433	2.6600	0.0687	2.7287		10,392.6942	10,392.6942	0.5578		10,406.6381
Total	**26.7496**	**12.8988**	**187.9929**	**0.5857**	**9.9694**	**23.6359**	**33.6053**	**2.6600**	**23.6307**	**26.2907**	**3,434.6419**	**13,810.3413**	**17,244.9832**	**16.7031**	**0.0622**	**17,681.0958**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.7873	1.7025	14.5930	0.0106		0.2019	0.2019		0.2019	0.2019	0.0000	1,993.4583	1,993.4583	0.0618	0.0361	2,005.7574
Energy	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
Mobile	3.0900	7.5473	28.9503	0.0975	9.4444	0.0704	9.5148	2.5199	0.0655	2.5854		9,880.6666	9,880.6666	0.5372		9,894.0972
Total	**11.0001**	**10.2984**	**43.9895**	**0.1148**	**9.4444**	**0.3571**	**9.8015**	**2.5199**	**0.3522**	**2.8721**	**0.0000**	**13,212.8164**	**13,212.8164**	**0.6247**	**0.0606**	**13,246.5014**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**58.88**	**20.16**	**76.60**	**80.40**	**5.27**	**98.49**	**70.83**	**5.27**	**98.51**	**89.08**	**100.00**	**4.33**	**23.38**	**96.26**	**2.52**	**25.08**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2024	1/26/2024	5	20	
2	Grading	Grading	1/27/2024	3/29/2024	5	45	
3	Building Construction	Building Construction	3/30/2024	1/3/2025	5	200	
4	Paving	Paving	1/4/2025	1/31/2025	5	20	
5	Architectural Coating	Architectural Coating	2/1/2025	3/21/2025	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 616,005; Residential Outdoor: 205,335; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 4 Const and Ops 2024 - Fresno County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	3	7.00	231	0.29
Building Construction	Forklifts	8	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	8	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	25	61.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.6609	27.1760	18.3356	0.0381		1.2294	1.2294		1.1310	1.1310		3,688.0100	3,688.0100	1.1928		3,717.8294
Total	**2.6609**	**27.1760**	**18.3356**	**0.0381**	**18.0663**	**1.2294**	**19.2956**	**9.9307**	**1.1310**	**11.0617**		**3,688.0100**	**3,688.0100**	**1.1928**		**3,717.8294**

3.2 Site Preparation - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0657	0.0294	0.4053	1.3000e-003	0.1479	8.3000e-004	0.1487	0.0392	7.6000e-004	0.0400		129.6361	129.6361	2.5800e-003		129.7007
Total	**0.0657**	**0.0294**	**0.4053**	**1.3000e-003**	**0.1479**	**8.3000e-004**	**0.1487**	**0.0392**	**7.6000e-004**	**0.0400**		**129.6361**	**129.6361**	**2.5800e-003**		**129.7007**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	2.6609	27.1760	18.3356	0.0381		1.2294	1.2294		1.1310	1.1310	0.0000	3,688.0100	3,688.0100	1.1928		3,717.8294
Total	**2.6609**	**27.1760**	**18.3356**	**0.0381**	**8.1298**	**1.2294**	**9.3592**	**4.4688**	**1.1310**	**5.5998**	**0.0000**	**3,688.0100**	**3,688.0100**	**1.1928**		**3,717.8294**

3.2 Site Preparation - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0657	0.0294	0.4053	1.3000e-003	0.1479	8.3000e-004	0.1487	0.0392	7.6000e-004	0.0400		129.6361	129.6361	2.5800e-003		129.7007
Total	**0.0657**	**0.0294**	**0.4053**	**1.3000e-003**	**0.1479**	**8.3000e-004**	**0.1487**	**0.0392**	**7.6000e-004**	**0.0400**		**129.6361**	**129.6361**	**2.5800e-003**		**129.7007**

3.3 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**8.6733**	**1.3354**	**10.0087**	**3.5965**	**1.2286**	**4.8251**		**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

3.3 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0730	0.0326	0.4503	1.4400e-003	0.1643	9.2000e-004	0.1652	0.0436	8.5000e-004	0.0444		144.0401	144.0401	2.8700e-003		144.1119
Total	**0.0730**	**0.0326**	**0.4503**	**1.4400e-003**	**0.1643**	**9.2000e-004**	**0.1652**	**0.0436**	**8.5000e-004**	**0.0444**		**144.0401**	**144.0401**	**2.8700e-003**		**144.1119**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**3.9030**	**1.3354**	**5.2384**	**1.6184**	**1.2286**	**2.8470**	**0.0000**	**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

3.3 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0730	0.0326	0.4503	1.4400e-003	0.1643	9.2000e-004	0.1652	0.0436	8.5000e-004	0.0444		144.0401	144.0401	2.8700e-003		144.1119
Total	**0.0730**	**0.0326**	**0.4503**	**1.4400e-003**	**0.1643**	**9.2000e-004**	**0.1652**	**0.0436**	**8.5000e-004**	**0.0444**		**144.0401**	**144.0401**	**2.8700e-003**		**144.1119**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.1946	38.1806	45.4050	0.0766		1.7308	1.7308		1.6303	1.6303		7,255.0200	7,255.0200	1.6798		7,297.0144
Total	**4.1946**	**38.1806**	**45.4050**	**0.0766**		**1.7308**	**1.7308**		**1.6303**	**1.6303**		**7,255.0200**	**7,255.0200**	**1.6798**		**7,297.0144**

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0332	1.4773	0.2055	4.9100e-003	0.1220	1.4100e-003	0.1234	0.0351	1.3500e-003	0.0365		514.9948	514.9948	0.0400		515.9954
Worker	0.2228	0.0996	1.3735	4.4100e-003	0.5011	2.8000e-003	0.5039	0.1329	2.5800e-003	0.1355		439.3223	439.3223	8.7600e-003		439.5413
Total	**0.2559**	**1.5768**	**1.5790**	**9.3200e-003**	**0.6231**	**4.2100e-003**	**0.6273**	**0.1680**	**3.9300e-003**	**0.1720**		**954.3171**	**954.3171**	**0.0488**		**955.5367**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.1946	38.1806	45.4050	0.0766		1.7308	1.7308		1.6303	1.6303	0.0000	7,255.0200	7,255.0200	1.6798		7,297.0144
Total	**4.1946**	**38.1806**	**45.4050**	**0.0766**		**1.7308**	**1.7308**		**1.6303**	**1.6303**	**0.0000**	**7,255.0200**	**7,255.0200**	**1.6798**		**7,297.0144**

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0332	1.4773	0.2055	4.9100e-003	0.1220	1.4100e-003	0.1234	0.0351	1.3500e-003	0.0365		514.9948	514.9948	0.0400		515.9954
Worker	0.2228	0.0996	1.3735	4.4100e-003	0.5011	2.8000e-003	0.5039	0.1329	2.5800e-003	0.1355		439.3223	439.3223	8.7600e-003		439.5413
Total	**0.2559**	**1.5768**	**1.5790**	**9.3200e-003**	**0.6231**	**4.2100e-003**	**0.6273**	**0.1680**	**3.9300e-003**	**0.1720**		**954.3171**	**954.3171**	**0.0488**		**955.5367**

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.8997	35.4223	45.1693	0.0766		1.4915	1.4915		1.4049	1.4049		7,257.0934	7,257.0934	1.6695		7,298.8306
Total	**3.8997**	**35.4223**	**45.1693**	**0.0766**		**1.4915**	**1.4915**		**1.4049**	**1.4049**		**7,257.0934**	**7,257.0934**	**1.6695**		**7,298.8306**

3.4 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0324	1.4657	0.1974	4.8800e-003	0.1220	1.3900e-003	0.1234	0.0351	1.3300e-003	0.0365		511.2647	511.2647	0.0402		512.2695
Worker	0.2092	0.0900	1.2674	4.2300e-003	0.5011	2.7500e-003	0.5039	0.1329	2.5300e-003	0.1354		421.8150	421.8150	7.8900e-003		422.0122
Total	**0.2415**	**1.5557**	**1.4648**	**9.1100e-003**	**0.6231**	**4.1400e-003**	**0.6272**	**0.1680**	**3.8600e-003**	**0.1719**		**933.0797**	**933.0797**	**0.0481**		**934.2817**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.8997	35.4223	45.1693	0.0766		1.4915	1.4915		1.4049	1.4049	0.0000	7,257.0934	7,257.0934	1.6695		7,298.8306
Total	**3.8997**	**35.4223**	**45.1693**	**0.0766**		**1.4915**	**1.4915**		**1.4049**	**1.4049**	**0.0000**	**7,257.0934**	**7,257.0934**	**1.6695**		**7,298.8306**

3.4 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0324	1.4657	0.1974	4.8800e-003	0.1220	1.3900e-003	0.1234	0.0351	1.3300e-003	0.0365		511.2647	511.2647	0.0402		512.2695
Worker	0.2092	0.0900	1.2674	4.2300e-003	0.5011	2.7500e-003	0.5039	0.1329	2.5300e-003	0.1354		421.8150	421.8150	7.8900e-003		422.0122
Total	**0.2415**	**1.5557**	**1.4648**	**9.1100e-003**	**0.6231**	**4.1400e-003**	**0.6272**	**0.1680**	**3.8600e-003**	**0.1719**		**933.0797**	**933.0797**	**0.0481**		**934.2817**

3.5 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8303	17.1633	29.1559	0.0456		0.8371	0.8371		0.7701	0.7701		4,413.4903	4,413.4903	1.4274		4,449.1756
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8303**	**17.1633**	**29.1559**	**0.0456**		**0.8371**	**0.8371**		**0.7701**	**0.7701**		**4,413.4903**	**4,413.4903**	**1.4274**		**4,449.1756**

3.5 Paving - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0514	0.0221	0.3117	1.0400e-003	0.1232	6.8000e-004	0.1239	0.0327	6.2000e-004	0.0333		103.7250	103.7250	1.9400e-003		103.7735
Total	**0.0514**	**0.0221**	**0.3117**	**1.0400e-003**	**0.1232**	**6.8000e-004**	**0.1239**	**0.0327**	**6.2000e-004**	**0.0333**		**103.7250**	**103.7250**	**1.9400e-003**		**103.7735**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8303	17.1633	29.1559	0.0456		0.8371	0.8371		0.7701	0.7701	0.0000	4,413.4903	4,413.4903	1.4274		4,449.1756
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8303**	**17.1633**	**29.1559**	**0.0456**		**0.8371**	**0.8371**		**0.7701**	**0.7701**	**0.0000**	**4,413.4903**	**4,413.4903**	**1.4274**		**4,449.1756**

3.5 Paving - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0514	0.0221	0.3117	1.0400e-003	0.1232	6.8000e-004	0.1239	0.0327	6.2000e-004	0.0333		103.7250	103.7250	1.9400e-003		103.7735
Total	**0.0514**	**0.0221**	**0.3117**	**1.0400e-003**	**0.1232**	**6.8000e-004**	**0.1239**	**0.0327**	**6.2000e-004**	**0.0333**		**103.7250**	**103.7250**	**1.9400e-003**		**103.7735**

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	70.6998					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**70.8706**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

3.6 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0411	0.0177	0.2493	8.3000e-004	0.0986	5.4000e-004	0.0991	0.0262	5.0000e-004	0.0266		82.9800	82.9800	1.5500e-003		83.0188
Total	**0.0411**	**0.0177**	**0.2493**	**8.3000e-004**	**0.0986**	**5.4000e-004**	**0.0991**	**0.0262**	**5.0000e-004**	**0.0266**		**82.9800**	**82.9800**	**1.5500e-003**		**83.0188**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	70.6998					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**70.8706**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

3.6 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0411	0.0177	0.2493	8.3000e-004	0.0986	5.4000e-004	0.0991	0.0262	5.0000e-004	0.0266		82.9800	82.9800	1.5500e-003		83.0188
Total	**0.0411**	**0.0177**	**0.2493**	**8.3000e-004**	**0.0986**	**5.4000e-004**	**0.0991**	**0.0262**	**5.0000e-004**	**0.0266**		**82.9800**	**82.9800**	**1.5500e-003**		**83.0188**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.0900	7.5473	28.9503	0.0975	9.4444	0.0704	9.5148	2.5199	0.0655	2.5854		9,880.6666	9,880.6666	0.5372		9,894.0972
Unmitigated	3.1246	7.7537	30.2805	0.1026	9.9694	0.0738	10.0433	2.6600	0.0687	2.7287		10,392.6942	10,392.6942	0.5578		10,406.6381

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,595.36	1,612.26	1444.95	4,611,177	4,368,321
Total	1,595.36	1,612.26	1,444.95	4,611,177	4,368,321

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.527700	0.209000	0.167500	0.055600	0.000900	0.000900	0.008000	0.021400	0.000000	0.004300	0.002500	0.000200	0.002000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
NaturalGas Unmitigated	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	12105.6	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520
Total		**0.1306**	**1.1156**	**0.4747**	**7.1200e-003**		**0.0902**	**0.0902**		**0.0902**	**0.0902**		**1,424.1887**	**1,424.1887**	**0.0273**	**0.0261**	**1,432.6520**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	11.3789	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
Total		**0.1227**	**1.0486**	**0.4462**	**6.6900e-003**		**0.0848**	**0.0848**		**0.0848**	**0.0848**		**1,338.6915**	**1,338.6915**	**0.0257**	**0.0245**	**1,346.6467**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.7873	1.7025	14.5930	0.0106		0.2019	0.2019		0.2019	0.2019	0.0000	1,993.4583	1,993.4583	0.0618	0.0361	2,005.7574
Unmitigated	23.4945	4.0295	157.2377	0.4760		23.4718	23.4718		23.4718	23.4718	3,434.6419	1,993.4583	5,428.1002	16.1181	0.0361	5,841.8057

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6779					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	15.8876	3.8689	143.3008	0.4752		23.3946	23.3946		23.3946	23.3946	3,434.6419	1,968.3529	5,402.9949	16.0940	0.0361	5,816.0981
Landscaping	0.4191	0.1606	13.9369	7.4000e-004		0.0773	0.0773		0.0773	0.0773		25.1053	25.1053	0.0241		25.7076
Total	**23.4945**	**4.0295**	**157.2377**	**0.4760**		**23.4718**	**23.4718**		**23.4718**	**23.4718**	**3,434.6419**	**1,993.4583**	**5,428.1002**	**16.1181**	**0.0361**	**5,841.8057**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6779					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1804	1.5419	0.6561	9.8400e-003		0.1247	0.1247		0.1247	0.1247	0.0000	1,968.3529	1,968.3529	0.0377	0.0361	1,980.0499
Landscaping	0.4191	0.1606	13.9369	7.4000e-004		0.0773	0.0773		0.0773	0.0773		25.1053	25.1053	0.0241		25.7076
Total	**7.7873**	**1.7025**	**14.5930**	**0.0106**		**0.2019**	**0.2019**		**0.2019**	**0.2019**	**0.0000**	**1,993.4583**	**1,993.4583**	**0.0618**	**0.0361**	**2,005.7574**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 5 Construction and Operations

(Summer Daily)

Parc West Phase 5 Const and Ops 2025

Fresno County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	170.00	Dwelling Unit	31.60	306,000.00	486

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Phase 5 Acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Removing 3 structures

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment -

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves - SJVAPCD Rule 4901 Compliance

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2025

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65

Parc West Phase 5 Const and Ops 2025 - Fresno County, Summer

tblAreaCoating	Area_EF_Residential_Interior	150	65
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	65	150
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	65	150
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	35.00	20.00
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.51	0.52
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	8.0000e-004
tblFleetMix	LHD2	3.9290e-003	9.0000e-004
tblFleetMix	MCY	4.8100e-003	2.5000e-003
tblFleetMix	MDV	0.10	0.06
tblFleetMix	MH	5.1200e-004	2.2000e-003
tblFleetMix	MHD	0.03	7.6000e-003
tblFleetMix	OBUS	2.3280e-003	0.00
tblFleetMix	SBUS	1.0480e-003	1.0000e-004
tblFleetMix	UBUS	1.3540e-003	4.3000e-003
tblLandUse	LotAcreage	55.19	31.60
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55

tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2025	2.9698	27.9724	26.7466	0.0635	18.2141	1.1318	19.3017	9.9699	1.0413	10.9705	0.0000	6,146.5814	6,146.5814	1.9458	0.0000	6,195.2261
2026	71.3278	14.0058	17.4628	0.0359	0.6231	0.5316	1.1547	0.1680	0.5001	0.6681	0.0000	3,472.9927	3,472.9927	0.7155	0.0000	3,489.1997
Maximum	**71.3278**	**27.9724**	**26.7466**	**0.0635**	**18.2141**	**1.1318**	**19.3017**	**9.9699**	**1.0413**	**10.9705**	**0.0000**	**6,146.5814**	**6,146.5814**	**1.9458**	**0.0000**	**6,195.2261**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2025	2.9698	27.9724	26.7466	0.0635	8.2777	1.1318	9.3653	4.5080	1.0413	5.5086	0.0000	6,146.5814	6,146.5814	1.9458	0.0000	6,195.2261
2026	71.3278	14.0058	17.4628	0.0359	0.6231	0.5316	1.1547	0.1680	0.5001	0.6681	0.0000	3,472.9927	3,472.9927	0.7155	0.0000	3,489.1997
Maximum	**71.3278**	**27.9724**	**26.7466**	**0.0635**	**8.2777**	**1.1318**	**9.3653**	**4.5080**	**1.0413**	**5.5086**	**0.0000**	**6,146.5814**	**6,146.5814**	**1.9458**	**0.0000**	**6,195.2261**

Parc West Phase 5 Const and Ops 2025 - Fresno County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.75**	**0.00**	**48.57**	**53.88**	**0.00**	**46.93**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	23.5398	4.0394	157.3166	0.4760		23.4731	23.4731		23.4731	23.4731	3,434.6419	2,005.2539	5,439.8958	16.1184	0.0363	5,853.6729
Energy	0.1313	1.1222	0.4775	7.1600e-003		0.0907	0.0907		0.0907	0.0907		1,432.6159	1,432.6159	0.0275	0.0263	1,441.1292
Mobile	2.9556	7.3900	28.3370	0.0996	10.0247	0.0719	10.0966	2.6742	0.0669	2.7411		10,091.6112	10,091.6112	0.5318		10,104.9062
Total	**26.6267**	**12.5516**	**186.1312**	**0.5828**	**10.0247**	**23.6357**	**33.6605**	**2.6742**	**23.6307**	**26.3049**	**3,434.6419**	**13,529.4809**	**16,964.1229**	**16.6777**	**0.0626**	**17,399.7083**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.7243	1.7124	14.6719	0.0106		0.2032	0.2032		0.2032	0.2032	0.0000	2,005.2539	2,005.2539	0.0621	0.0363	2,017.6246
Energy	0.1234	1.0549	0.4489	6.7300e-003		0.0853	0.0853		0.0853	0.0853		1,346.6128	1,346.6128	0.0258	0.0247	1,354.6150
Mobile	2.9232	7.1978	27.0891	0.0947	9.4968	0.0686	9.5654	2.5334	0.0638	2.5972		9,594.5895	9,594.5895	0.5125		9,607.4028
Total	**11.7710**	**9.9650**	**42.2099**	**0.1120**	**9.4968**	**0.3570**	**9.8538**	**2.5334**	**0.3522**	**2.8856**	**0.0000**	**12,946.4561**	**12,946.4561**	**0.6005**	**0.0610**	**12,979.6424**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**55.79**	**20.61**	**77.32**	**80.78**	**5.27**	**98.49**	**70.73**	**5.27**	**98.51**	**89.03**	**100.00**	**4.31**	**23.68**	**96.40**	**2.51**	**25.40**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2025	1/28/2025	5	20	
2	Grading	Grading	1/29/2025	4/1/2025	5	45	
3	Building Construction	Building Construction	4/2/2025	1/6/2026	5	200	
4	Paving	Paving	1/7/2026	2/3/2026	5	20	
5	Architectural Coating	Architectural Coating	2/4/2026	3/24/2026	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 619,650; Residential Outdoor: 206,550; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 5 Const and Ops 2025 - Fresno County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	61.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	**2.4727**	**25.2339**	**17.9118**	**0.0381**	**18.0663**	**1.0868**	**19.1531**	**9.9307**	**0.9999**	**10.9305**		**3,689.1037**	**3,689.1037**	**1.1931**		**3,718.9320**

3.2 Site Preparation - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0617	0.0266	0.3740	1.2500e-003	0.1479	8.1000e-004	0.1487	0.0392	7.5000e-004	0.0400		124.4700	124.4700	2.3300e-003		124.5282
Total	**0.0617**	**0.0266**	**0.3740**	**1.2500e-003**	**0.1479**	**8.1000e-004**	**0.1487**	**0.0392**	**7.5000e-004**	**0.0400**		**124.4700**	**124.4700**	**2.3300e-003**		**124.5282**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	**2.4727**	**25.2339**	**17.9118**	**0.0381**	**8.1298**	**1.0868**	**9.2166**	**4.4688**	**0.9999**	**5.4687**	**0.0000**	**3,689.1037**	**3,689.1037**	**1.1931**		**3,718.9320**

3.2 Site Preparation - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0617	0.0266	0.3740	1.2500e-003	0.1479	8.1000e-004	0.1487	0.0392	7.5000e-004	0.0400		124.4700	124.4700	2.3300e-003		124.5282
Total	**0.0617**	**0.0266**	**0.3740**	**1.2500e-003**	**0.1479**	**8.1000e-004**	**0.1487**	**0.0392**	**7.5000e-004**	**0.0400**		**124.4700**	**124.4700**	**2.3300e-003**		**124.5282**

3.3 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

3.3 Grading - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0686	0.0295	0.4155	1.3900e-003	0.1643	9.0000e-004	0.1652	0.0436	8.3000e-004	0.0444		138.3000	138.3000	2.5900e-003		138.3647
Total	**0.0686**	**0.0295**	**0.4155**	**1.3900e-003**	**0.1643**	**9.0000e-004**	**0.1652**	**0.0436**	**8.3000e-004**	**0.0444**		**138.3000**	**138.3000**	**2.5900e-003**		**138.3647**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**3.9030**	**1.1309**	**5.0339**	**1.6184**	**1.0404**	**2.6589**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

3.3 Grading - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0686	0.0295	0.4155	1.3900e-003	0.1643	9.0000e-004	0.1652	0.0436	8.3000e-004	0.0444		138.3000	138.3000	2.5900e-003		138.3647
Total	**0.0686**	**0.0295**	**0.4155**	**1.3900e-003**	**0.1643**	**9.0000e-004**	**0.1652**	**0.0436**	**8.3000e-004**	**0.0444**		**138.3000**	**138.3000**	**2.5900e-003**		**138.3647**

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

3.4 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0324	1.4657	0.1974	4.8800e-003	0.1220	1.3900e-003	0.1234	0.0351	1.3300e-003	0.0365		511.2647	511.2647	0.0402		512.2695
Worker	0.2092	0.0900	1.2674	4.2300e-003	0.5011	2.7500e-003	0.5039	0.1329	2.5300e-003	0.1354		421.8150	421.8150	7.8900e-003		422.0122
Total	**0.2415**	**1.5557**	**1.4648**	**9.1100e-003**	**0.6231**	**4.1400e-003**	**0.6272**	**0.1680**	**3.8600e-003**	**0.1719**		**933.0797**	**933.0797**	**0.0481**		**934.2817**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

3.4 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0324	1.4657	0.1974	4.8800e-003	0.1220	1.3900e-003	0.1234	0.0351	1.3300e-003	0.0365		511.2647	511.2647	0.0402		512.2695
Worker	0.2092	0.0900	1.2674	4.2300e-003	0.5011	2.7500e-003	0.5039	0.1329	2.5300e-003	0.1354		421.8150	421.8150	7.8900e-003		422.0122
Total	**0.2415**	**1.5557**	**1.4648**	**9.1100e-003**	**0.6231**	**4.1400e-003**	**0.6272**	**0.1680**	**3.8600e-003**	**0.1719**		**933.0797**	**933.0797**	**0.0481**		**934.2817**

3.4 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

3.4 Building Construction - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0317	1.4540	0.1909	4.8500e-003	0.1220	1.3800e-003	0.1234	0.0351	1.3200e-003	0.0364		507.9109	507.9109	0.0401		508.9132
Worker	0.1974	0.0821	1.1873	4.1000e-003	0.5011	2.7000e-003	0.5038	0.1329	2.4800e-003	0.1354		408.6074	408.6074	7.2400e-003		408.7885
Total	**0.2291**	**1.5361**	**1.3782**	**8.9500e-003**	**0.6231**	**4.0800e-003**	**0.6272**	**0.1680**	**3.8000e-003**	**0.1718**		**916.5183**	**916.5183**	**0.0473**		**917.7016**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

3.4 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0317	1.4540	0.1909	4.8500e-003	0.1220	1.3800e-003	0.1234	0.0351	1.3200e-003	0.0364		507.9109	507.9109	0.0401		508.9132
Worker	0.1974	0.0821	1.1873	4.1000e-003	0.5011	2.7000e-003	0.5038	0.1329	2.4800e-003	0.1354		408.6074	408.6074	7.2400e-003		408.7885
Total	**0.2291**	**1.5361**	**1.3782**	**8.9500e-003**	**0.6231**	**4.0800e-003**	**0.6272**	**0.1680**	**3.8000e-003**	**0.1718**		**916.5183**	**916.5183**	**0.0473**		**917.7016**

3.5 Paving - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9152**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**		**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

3.5 Paving - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0485	0.0202	0.2920	1.0100e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		100.4772	100.4772	1.7800e-003		100.5218
Total	**0.0485**	**0.0202**	**0.2920**	**1.0100e-003**	**0.1232**	**6.6000e-004**	**0.1239**	**0.0327**	**6.1000e-004**	**0.0333**		**100.4772**	**100.4772**	**1.7800e-003**		**100.5218**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9152**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**	**0.0000**	**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

3.5 Paving - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0485	0.0202	0.2920	1.0100e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		100.4772	100.4772	1.7800e-003		100.5218
Total	**0.0485**	**0.0202**	**0.2920**	**1.0100e-003**	**0.1232**	**6.6000e-004**	**0.1239**	**0.0327**	**6.1000e-004**	**0.0333**		**100.4772**	**100.4772**	**1.7800e-003**		**100.5218**

3.6 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	71.1181					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**71.2890**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

3.6 Architectural Coating - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0388	0.0162	0.2336	8.1000e-004	0.0986	5.3000e-004	0.0991	0.0262	4.9000e-004	0.0266		80.3818	80.3818	1.4200e-003		80.4174
Total	**0.0388**	**0.0162**	**0.2336**	**8.1000e-004**	**0.0986**	**5.3000e-004**	**0.0991**	**0.0262**	**4.9000e-004**	**0.0266**		**80.3818**	**80.3818**	**1.4200e-003**		**80.4174**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	71.1181					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**71.2890**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

3.6 Architectural Coating - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0388	0.0162	0.2336	8.1000e-004	0.0986	5.3000e-004	0.0991	0.0262	4.9000e-004	0.0266		80.3818	80.3818	1.4200e-003		80.4174
Total	**0.0388**	**0.0162**	**0.2336**	**8.1000e-004**	**0.0986**	**5.3000e-004**	**0.0991**	**0.0262**	**4.9000e-004**	**0.0266**		**80.3818**	**80.3818**	**1.4200e-003**		**80.4174**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.9232	7.1978	27.0891	0.0947	9.4968	0.0686	9.5654	2.5334	0.0638	2.5972		9,594.5895	9,594.5895	0.5125		9,607.4028
Unmitigated	2.9556	7.3900	28.3370	0.0996	10.0247	0.0719	10.0966	2.6742	0.0669	2.7411		10,091.6112	10,091.6112	0.5318		10,104.9062

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,604.80	1,621.80	1453.50	4,638,462	4,394,170
Total	1,604.80	1,621.80	1,453.50	4,638,462	4,394,170

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.524400	0.212000	0.167700	0.056300	0.000800	0.000900	0.007600	0.021200	0.000000	0.004300	0.002500	0.000100	0.002200

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1234	1.0549	0.4489	6.7300e-003		0.0853	0.0853		0.0853	0.0853		1,346.6128	1,346.6128	0.0258	0.0247	1,354.6150
NaturalGas Unmitigated	0.1313	1.1222	0.4775	7.1600e-003		0.0907	0.0907		0.0907	0.0907		1,432.6159	1,432.6159	0.0275	0.0263	1,441.1292

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	12177.2	0.1313	1.1222	0.4775	7.1600e-003		0.0907	0.0907		0.0907	0.0907		1,432.6159	1,432.6159	0.0275	0.0263	1,441.1292
Total		**0.1313**	**1.1222**	**0.4775**	**7.1600e-003**		**0.0907**	**0.0907**		**0.0907**	**0.0907**		**1,432.6159**	**1,432.6159**	**0.0275**	**0.0263**	**1,441.1292**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	11.4462	0.1234	1.0549	0.4489	6.7300e-003		0.0853	0.0853		0.0853	0.0853		1,346.6128	1,346.6128	0.0258	0.0247	1,354.6150
Total		**0.1234**	**1.0549**	**0.4489**	**6.7300e-003**		**0.0853**	**0.0853**		**0.0853**	**0.0853**		**1,346.6128**	**1,346.6128**	**0.0258**	**0.0247**	**1,354.6150**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.7243	1.7124	14.6719	0.0106		0.2032	0.2032		0.2032	0.2032	0.0000	2,005.2539	2,005.2539	0.0621	0.0363	2,017.6246
Unmitigated	23.5398	4.0394	157.3166	0.4760		23.4731	23.4731		23.4731	23.4731	3,434.6419	2,005.2539	5,439.8958	16.1184	0.0363	5,853.6729

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6820					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5484					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	15.8887	3.8780	143.3047	0.4753		23.3953	23.3953		23.3953	23.3953	3,434.6419	1,980.0000	5,414.6419	16.0942	0.0363	5,827.8144
Landscaping	0.4207	0.1614	14.0119	7.4000e-004		0.0778	0.0778		0.0778	0.0778		25.2539	25.2539	0.0242		25.8585
Total	**23.5398**	**4.0394**	**157.3166**	**0.4760**		**23.4731**	**23.4731**		**23.4731**	**23.4731**	**3,434.6419**	**2,005.2539**	**5,439.8958**	**16.1184**	**0.0363**	**5,853.6729**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5737					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5484					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1815	1.5510	0.6600	9.9000e-003		0.1254	0.1254		0.1254	0.1254	0.0000	1,980.0000	1,980.0000	0.0380	0.0363	1,991.7662
Landscaping	0.4207	0.1614	14.0119	7.4000e-004		0.0778	0.0778		0.0778	0.0778		25.2539	25.2539	0.0242		25.8585
Total	**8.7243**	**1.7124**	**14.6719**	**0.0106**		**0.2032**	**0.2032**		**0.2032**	**0.2032**	**0.0000**	**2,005.2539**	**2,005.2539**	**0.0621**	**0.0363**	**2,017.6246**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Full Project Operations 2025

(Summer Daily)

Parc West Phase Ops All Phases

Fresno County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	844.00	Dwelling Unit	160.00	1,519,200.00	2414

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Project at Buildout in 2025

Construction Phase - Ops only run

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves - SJVAPCD Rule 4901 Compliance

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2025

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	64.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65
tblAreaCoating	Area_EF_Residential_Interior	150	65
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.51	0.52
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	8.0000e-004
tblFleetMix	LHD2	3.9290e-003	9.0000e-004
tblFleetMix	MCY	4.8100e-003	2.5000e-003
tblFleetMix	MDV	0.10	0.06
tblFleetMix	MH	5.1200e-004	2.2000e-003
tblFleetMix	MHD	0.03	7.6000e-003
tblFleetMix	OBUS	2.3280e-003	0.00
tblFleetMix	SBUS	1.0480e-003	1.0000e-004
tblFleetMix	UBUS	1.3540e-003	4.3000e-003
tblLandUse	LotAcreage	274.03	160.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2039	56.1733	0.7971	2.4824	6.2700e-003	0.5011	0.0114	0.5125	0.1329	0.0113	0.1442	0.0000	610.8297	610.8297	0.0137	0.0000	611.1732
2040	56.1451	0.7595	2.3797	6.1200e-003	0.5011	8.5700e-003	0.5097	0.1329	8.4800e-003	0.1414	0.0000	596.4978	596.4978	0.0125	0.0000	596.8111
Maximum	**56.1733**	**0.7971**	**2.4824**	**6.2700e-003**	**0.5011**	**0.0114**	**0.5125**	**0.1329**	**0.0113**	**0.1442**	**0.0000**	**610.8297**	**610.8297**	**0.0137**	**0.0000**	**611.1732**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2039	56.1733	0.7971	2.4824	6.2700e-003	0.5011	0.0114	0.5125	0.1329	0.0113	0.1442	0.0000	610.8297	610.8297	0.0137	0.0000	611.1732
2040	56.1451	0.7595	2.3797	6.1200e-003	0.5011	8.5700e-003	0.5097	0.1329	8.4800e-003	0.1414	0.0000	596.4978	596.4978	0.0125	0.0000	596.8111
Maximum	**56.1733**	**0.7971**	**2.4824**	**6.2700e-003**	**0.5011**	**0.0114**	**0.5125**	**0.1329**	**0.0113**	**0.1442**	**0.0000**	**610.8297**	**610.8297**	**0.0137**	**0.0000**	**611.1732**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	118.4165	20.2838	795.0934	2.4093		118.8310	118.8310		118.8310	118.8310	17,390.5920	9,955.4958	27,346.0878	81.6060	0.1802	29,439.9419
Energy	0.6520	5.5715	2.3708	0.0356		0.4505	0.4505		0.4505	0.4505		7,112.5165	7,112.5165	0.1363	0.1304	7,154.7827
Mobile	14.6781	36.7158	140.8591	0.4950	49.8435	0.3575	50.2010	13.2964	0.3323	13.6287		50,171.2129	50,171.2129	2.6429		50,237.2862
Total	**133.7465**	**62.5711**	**938.3233**	**2.9399**	**49.8435**	**119.6389**	**169.4824**	**13.2964**	**119.6138**	**132.9102**	**17,390.5920**	**67,239.2252**	**84,629.8172**	**84.3852**	**0.3106**	**86,832.0108**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	38.8863	8.5016	72.8418	0.0528		1.0086	1.0086		1.0086	1.0086	0.0000	9,955.4958	9,955.4958	0.3085	0.1802	10,016.9129
Energy	0.6128	5.2370	2.2285	0.0334		0.4234	0.4234		0.4234	0.4234		6,685.5364	6,685.5364	0.1281	0.1226	6,725.2652
Mobile	14.5170	35.7603	134.6544	0.4706	47.2184	0.3410	47.5594	12.5961	0.3170	12.9131		47,699.9948	47,699.9948	2.5471		47,763.6729
Total	**54.0162**	**49.4989**	**209.7247**	**0.5569**	**47.2184**	**1.7730**	**48.9914**	**12.5961**	**1.7490**	**14.3451**	**0.0000**	**64,341.0270**	**64,341.0270**	**2.9837**	**0.3028**	**64,505.8510**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**59.61**	**20.89**	**77.65**	**81.06**	**5.27**	**98.52**	**71.09**	**5.27**	**98.54**	**89.21**	**100.00**	**4.31**	**23.97**	**96.46**	**2.52**	**25.71**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	5/18/2039	3/20/2040	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 3,076,380; Residential Outdoor: 1,025,460; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	61.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Architectural Coating - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.9559					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1179	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003		281.4481	281.4481	0.0104		281.7081
Total	**56.0737**	**0.7577**	**1.7943**	**2.9700e-003**		**9.9000e-003**	**9.9000e-003**		**9.9000e-003**	**9.9000e-003**		**281.4481**	**281.4481**	**0.0104**		**281.7081**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0996	0.0394	0.6881	3.3000e-003	0.5011	1.4800e-003	0.5026	0.1329	1.3600e-003	0.1343		329.3816	329.3816	3.3400e-003		329.4652
Total	**0.0996**	**0.0394**	**0.6881**	**3.3000e-003**	**0.5011**	**1.4800e-003**	**0.5026**	**0.1329**	**1.3600e-003**	**0.1343**		**329.3816**	**329.3816**	**3.3400e-003**		**329.4652**

3.2 Architectural Coating - 2039

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.9559					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1179	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003	0.0000	281.4481	281.4481	0.0104		281.7081
Total	**56.0737**	**0.7577**	**1.7943**	**2.9700e-003**		**9.9000e-003**	**9.9000e-003**		**9.9000e-003**	**9.9000e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0104**		**281.7081**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0996	0.0394	0.6881	3.3000e-003	0.5011	1.4800e-003	0.5026	0.1329	1.3600e-003	0.1343		329.3816	329.3816	3.3400e-003		329.4652
Total	**0.0996**	**0.0394**	**0.6881**	**3.3000e-003**	**0.5011**	**1.4800e-003**	**0.5026**	**0.1329**	**1.3600e-003**	**0.1343**		**329.3816**	**329.3816**	**3.3400e-003**		**329.4652**

3.2 Architectural Coating - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.9559					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1149	0.7270	1.7923	2.9700e-003		7.4300e-003	7.4300e-003		7.4300e-003	7.4300e-003		281.4481	281.4481	9.9000e-003		281.6957
Total	**56.0708**	**0.7270**	**1.7923**	**2.9700e-003**		**7.4300e-003**	**7.4300e-003**		**7.4300e-003**	**7.4300e-003**		**281.4481**	**281.4481**	**9.9000e-003**		**281.6957**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0744	0.0325	0.5874	3.1500e-003	0.5011	1.1400e-003	0.5022	0.1329	1.0500e-003	0.1340		315.0497	315.0497	2.6300e-003		315.1154
Total	**0.0744**	**0.0325**	**0.5874**	**3.1500e-003**	**0.5011**	**1.1400e-003**	**0.5022**	**0.1329**	**1.0500e-003**	**0.1340**		**315.0497**	**315.0497**	**2.6300e-003**		**315.1154**

3.2 Architectural Coating - 2040

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.9559					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1149	0.7270	1.7923	2.9700e-003		7.4300e-003	7.4300e-003		7.4300e-003	7.4300e-003	0.0000	281.4481	281.4481	9.9000e-003		281.6957
Total	**56.0708**	**0.7270**	**1.7923**	**2.9700e-003**		**7.4300e-003**	**7.4300e-003**		**7.4300e-003**	**7.4300e-003**	**0.0000**	**281.4481**	**281.4481**	**9.9000e-003**		**281.6957**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0744	0.0325	0.5874	3.1500e-003	0.5011	1.1400e-003	0.5022	0.1329	1.0500e-003	0.1340		315.0497	315.0497	2.6300e-003		315.1154
Total	**0.0744**	**0.0325**	**0.5874**	**3.1500e-003**	**0.5011**	**1.1400e-003**	**0.5022**	**0.1329**	**1.0500e-003**	**0.1340**		**315.0497**	**315.0497**	**2.6300e-003**		**315.1154**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	14.5170	35.7603	134.6544	0.4706	47.2184	0.3410	47.5594	12.5961	0.3170	12.9131		47,699.9948	47,699.9948	2.5471		47,763.6729
Unmitigated	14.6781	36.7158	140.8591	0.4950	49.8435	0.3575	50.2010	13.2964	0.3323	13.6287		50,171.2129	50,171.2129	2.6429		50,237.2862

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	7,967.36	8,051.76	7216.20	23,062,676	21,848,042
Total	7,967.36	8,051.76	7,216.20	23,062,676	21,848,042

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.40	15.90	35.70	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.524400	0.212000	0.167700	0.056300	0.000800	0.000900	0.007600	0.021200	0.000000	0.004300	0.002500	0.000100	0.002200

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.6128	5.2370	2.2285	0.0334		0.4234	0.4234		0.4234	0.4234		6,685.5364	6,685.5364	0.1281	0.1226	6,725.2652
NaturalGas Unmitigated	0.6520	5.5715	2.3708	0.0356		0.4505	0.4505		0.4505	0.4505		7,112.5165	7,112.5165	0.1363	0.1304	7,154.7827

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	60456.4	0.6520	5.5715	2.3708	0.0356		0.4505	0.4505		0.4505	0.4505		7,112.5165	7,112.5165	0.1363	0.1304	7,154.7827
Total		**0.6520**	**5.5715**	**2.3708**	**0.0356**		**0.4505**	**0.4505**		**0.4505**	**0.4505**		**7,112.5165**	**7,112.5165**	**0.1363**	**0.1304**	**7,154.7827**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	56.8271	0.6128	5.2370	2.2285	0.0334		0.4234	0.4234		0.4234	0.4234		6,685.5364	6,685.5364	0.1281	0.1226	6,725.2652
Total		**0.6128**	**5.2370**	**2.2285**	**0.0334**		**0.4234**	**0.4234**		**0.4234**	**0.4234**		**6,685.5364**	**6,685.5364**	**0.1281**	**0.1226**	**6,725.2652**

6.0 Area Detail

6.1 Mitigation Measures Area

Parc West Phase Ops All Phases - Fresno County, Summer

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	38.8863	8.5016	72.8418	0.0528		1.0086	1.0086		1.0086	1.0086	0.0000	9,955.4958	9,955.4958	0.3085	0.1802	10,016.9129
Unmitigated	118.4165	20.2838	795.0934	2.4093		118.8310	118.8310		118.8310	118.8310	17,390.5920	9,955.4958	27,346.0878	81.6060	0.1802	29,439.9419

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.3857					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	32.5109					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	80.4312	19.4825	725.5283	2.4056		118.4450	118.4450		118.4450	118.4450	17,390.5920	9,830.1177	27,220.7097	81.4859	0.1802	29,311.5622
Landscaping	2.0887	0.8013	69.5651	3.6800e-003		0.3860	0.3860		0.3860	0.3860		125.3781	125.3781	0.1201		128.3798
Total	**118.4165**	**20.2838**	**795.0934**	**2.4093**		**118.8310**	**118.8310**		**118.8310**	**118.8310**	**17,390.5920**	**9,955.4958**	**27,346.0878**	**81.6060**	**0.1802**	**29,439.9419**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.3857					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	32.5109					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.9011	7.7003	3.2767	0.0492		0.6226	0.6226		0.6226	0.6226	0.0000	9,830.1177	9,830.1177	0.1884	0.1802	9,888.5331
Landscaping	2.0887	0.8013	69.5651	3.6800e-003		0.3860	0.3860		0.3860	0.3860		125.3781	125.3781	0.1201		128.3798
Total	**38.8863**	**8.5016**	**72.8418**	**0.0528**		**1.0086**	**1.0086**		**1.0086**	**1.0086**	**0.0000**	**9,955.4958**	**9,955.4958**	**0.3085**	**0.1802**	**10,016.9129**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

GHG Business as Usual

Parc West Phase Ops All Phases GHG BAU

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	844.00	Dwelling Unit	160.00	1,519,200.00	2414

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2005
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Project at Buildout in 2025

Construction Phase - Ops only run

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves - SJVAPCD Rule 4901 Compliance

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2025

Parc West Phase Ops All Phases GHG BAU - Fresno County, Annual

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	64.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	65
tblAreaCoating	Area_EF_Residential_Interior	250	65
tblFleetMix	HHD	0.11	0.02
tblFleetMix	LDA	0.42	0.52
tblFleetMix	LDT1	0.06	0.21
tblFleetMix	LDT2	0.15	0.17
tblFleetMix	LHD1	0.04	8.0000e-004
tblFleetMix	LHD2	6.9730e-003	9.0000e-004
tblFleetMix	MCY	5.2690e-003	2.5000e-003
tblFleetMix	MDV	0.18	0.06
tblFleetMix	MH	1.5690e-003	2.2000e-003
tblFleetMix	MHD	0.03	7.6000e-003
tblFleetMix	OBUS	2.0990e-003	0.00
tblFleetMix	SBUS	1.2120e-003	1.0000e-004
tblFleetMix	UBUS	1.7870e-003	4.3000e-003
tblLandUse	LotAcreage	274.03	160.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2039	4.5773	0.0652	0.1932	4.9000e-004	0.0398	9.3000e-004	0.0407	0.0106	9.2000e-004	0.0115	0.0000	43.0039	43.0039	9.9000e-004	0.0000	43.0286
2040	1.6000	0.0217	0.0650	1.7000e-004	0.0139	2.4000e-004	0.0141	3.6900e-003	2.4000e-004	3.9400e-003	0.0000	14.6989	14.6989	3.2000e-004	0.0000	14.7068
Maximum	**4.5773**	**0.0652**	**0.1932**	**4.9000e-004**	**0.0398**	**9.3000e-004**	**0.0407**	**0.0106**	**9.2000e-004**	**0.0115**	**0.0000**	**43.0039**	**43.0039**	**9.9000e-004**	**0.0000**	**43.0286**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2039	4.5773	0.0652	0.1932	4.9000e-004	0.0398	9.3000e-004	0.0407	0.0106	9.2000e-004	0.0115	0.0000	43.0038	43.0038	9.9000e-004	0.0000	43.0286
2040	1.6000	0.0217	0.0650	1.7000e-004	0.0139	2.4000e-004	0.0141	3.6900e-003	2.4000e-004	3.9400e-003	0.0000	14.6989	14.6989	3.2000e-004	0.0000	14.7068
Maximum	**4.5773**	**0.0652**	**0.1932**	**4.9000e-004**	**0.0398**	**9.3000e-004**	**0.0407**	**0.0106**	**9.2000e-004**	**0.0115**	**0.0000**	**43.0038**	**43.0038**	**9.9000e-004**	**0.0000**	**43.0286**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
58	**4-1-2039**	**6-30-2039**	0.8952	0.8952
59	**7-1-2039**	**9-30-2039**	1.8719	1.8719
60	**10-1-2039**	**12-31-2039**	1.8720	1.8720
61	**1-1-2040**	**3-31-2040**	1.6260	1.6260
		Highest	1.8720	1.8720

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	10.1632	0.8976	37.0147	0.0990		4.8869	4.8869		4.8869	4.8869	646.8357	375.8637	1,022.6994	3.0472	6.7000e-003	1,100.8776
Energy	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	3,328.5750	3,328.5750	0.1198	0.0417	3,344.0010
Mobile	12.4835	36.8930	156.4565	0.2527	8.6301	0.7592	9.3892	2.3086	0.7207	3.0293	0.0000	10,328.5467	10,328.5467	1.7454	0.0000	10,372.1814
Waste						0.0000	0.0000		0.0000	0.0000	176.4073	0.0000	176.4073	10.4254	0.0000	437.0415
Water						0.0000	0.0000		0.0000	0.0000	17.4458	121.8592	139.3050	1.7974	0.0435	197.1869
Total	**22.7657**	**38.8074**	**193.9038**	**0.3582**	**8.6301**	**5.7283**	**14.3584**	**2.3086**	**5.6898**	**7.9984**	**840.6887**	**14,154.8446**	**14,995.5334**	**17.1352**	**0.0919**	**15,451.2885**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.9025	0.4145	7.4024	2.3500e-003		0.0562	0.0562		0.0562	0.0562	0.0000	375.8637	375.8637	0.0234	6.7000e-003	378.4463
Energy	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	3,240.7666	3,240.7666	0.1177	0.0403	3,255.7054
Mobile	12.2063	35.3905	150.0008	0.2413	8.1756	0.7253	8.9009	2.1870	0.6886	2.8756	0.0000	9,814.6514	9,814.6514	1.6927	0.0000	9,856.9685
Waste						0.0000	0.0000		0.0000	0.0000	132.3055	0.0000	132.3055	7.8190	0.0000	327.7812
Water						0.0000	0.0000		0.0000	0.0000	13.9566	97.4873	111.4440	1.4379	0.0348	157.7495
Total	**19.2206**	**36.7608**	**157.8099**	**0.2498**	**8.1756**	**0.8588**	**9.0344**	**2.1870**	**0.8221**	**3.0091**	**146.2621**	**13,528.7690**	**13,675.0311**	**11.0907**	**0.0817**	**13,976.6508**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**15.57**	**5.27**	**18.61**	**30.27**	**5.27**	**85.01**	**37.08**	**5.27**	**85.55**	**62.38**	**82.60**	**4.42**	**8.81**	**35.28**	**11.04**	**9.54**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	5/18/2039	3/20/2040	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 3,076,380; Residential Outdoor: 1,025,460; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	61.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Architectural Coating - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.5604					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6100e-003	0.0618	0.1462	2.4000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	20.8090	20.8090	7.7000e-004	0.0000	20.8282
Total	**4.5700**	**0.0618**	**0.1462**	**2.4000e-004**		**8.1000e-004**	**8.1000e-004**		**8.1000e-004**	**8.1000e-004**	**0.0000**	**20.8090**	**20.8090**	**7.7000e-004**	**0.0000**	**20.8282**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2800e-003	3.4200e-003	0.0470	2.4000e-004	0.0398	1.2000e-004	0.0399	0.0106	1.1000e-004	0.0107	0.0000	22.1949	22.1949	2.2000e-004	0.0000	22.2004
Total	**7.2800e-003**	**3.4200e-003**	**0.0470**	**2.4000e-004**	**0.0398**	**1.2000e-004**	**0.0399**	**0.0106**	**1.1000e-004**	**0.0107**	**0.0000**	**22.1949**	**22.1949**	**2.2000e-004**	**0.0000**	**22.2004**

3.2 Architectural Coating - 2039

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.5604					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6100e-003	0.0618	0.1462	2.4000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	20.8090	20.8090	7.7000e-004	0.0000	20.8282
Total	**4.5700**	**0.0618**	**0.1462**	**2.4000e-004**		**8.1000e-004**	**8.1000e-004**		**8.1000e-004**	**8.1000e-004**	**0.0000**	**20.8090**	**20.8090**	**7.7000e-004**	**0.0000**	**20.8282**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2800e-003	3.4200e-003	0.0470	2.4000e-004	0.0398	1.2000e-004	0.0399	0.0106	1.1000e-004	0.0107	0.0000	22.1949	22.1949	2.2000e-004	0.0000	22.2004
Total	**7.2800e-003**	**3.4200e-003**	**0.0470**	**2.4000e-004**	**0.0398**	**1.2000e-004**	**0.0399**	**0.0106**	**1.1000e-004**	**0.0107**	**0.0000**	**22.1949**	**22.1949**	**2.2000e-004**	**0.0000**	**22.2004**

3.2 Architectural Coating - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5947					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2700e-003	0.0207	0.0511	8.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	7.2768	7.2768	2.6000e-004	0.0000	7.2832
Total	**1.5980**	**0.0207**	**0.0511**	**8.0000e-005**		**2.1000e-004**	**2.1000e-004**		**2.1000e-004**	**2.1000e-004**	**0.0000**	**7.2768**	**7.2768**	**2.6000e-004**	**0.0000**	**7.2832**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9300e-003	9.8000e-004	0.0139	8.0000e-005	0.0139	3.0000e-005	0.0139	3.6900e-003	3.0000e-005	3.7200e-003	0.0000	7.4221	7.4221	6.0000e-005	0.0000	7.4236
Total	**1.9300e-003**	**9.8000e-004**	**0.0139**	**8.0000e-005**	**0.0139**	**3.0000e-005**	**0.0139**	**3.6900e-003**	**3.0000e-005**	**3.7200e-003**	**0.0000**	**7.4221**	**7.4221**	**6.0000e-005**	**0.0000**	**7.4236**

3.2 Architectural Coating - 2040

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5947					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2700e-003	0.0207	0.0511	8.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	7.2768	7.2768	2.6000e-004	0.0000	7.2832
Total	**1.5980**	**0.0207**	**0.0511**	**8.0000e-005**		**2.1000e-004**	**2.1000e-004**		**2.1000e-004**	**2.1000e-004**	**0.0000**	**7.2768**	**7.2768**	**2.6000e-004**	**0.0000**	**7.2832**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9300e-003	9.8000e-004	0.0139	8.0000e-005	0.0139	3.0000e-005	0.0139	3.6900e-003	3.0000e-005	3.7200e-003	0.0000	7.4221	7.4221	6.0000e-005	0.0000	7.4236
Total	**1.9300e-003**	**9.8000e-004**	**0.0139**	**8.0000e-005**	**0.0139**	**3.0000e-005**	**0.0139**	**3.6900e-003**	**3.0000e-005**	**3.7200e-003**	**0.0000**	**7.4221**	**7.4221**	**6.0000e-005**	**0.0000**	**7.4236**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	12.2063	35.3905	150.0008	0.2413	8.1756	0.7253	8.9009	2.1870	0.6886	2.8756	0.0000	9,814.6514	9,814.6514	1.6927	0.0000	9,856.9685
Unmitigated	12.4835	36.8930	156.4565	0.2527	8.6301	0.7592	9.3892	2.3086	0.7207	3.0293	0.0000	10,328.5467	10,328.5467	1.7454	0.0000	10,372.1814

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	7,967.36	8,051.76	7216.20	23,028,599	21,815,759
Total	7,967.36	8,051.76	7,216.20	23,028,599	21,815,759

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.524400	0.212000	0.167700	0.056300	0.000800	0.000900	0.007600	0.021200	0.000000	0.004300	0.002500	0.000100	0.002200

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,133.9011	2,133.9011	0.0965	0.0200	2,142.2623
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,151.0182	2,151.0182	0.0973	0.0201	2,159.4465
NaturalGas Mitigated	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	1,106.8655	1,106.8655	0.0212	0.0203	1,113.4431
NaturalGas Unmitigated	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	1,177.5569	1,177.5569	0.0226	0.0216	1,184.5545

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	2.20666e+007	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	1,177.5569	1,177.5569	0.0226	0.0216	1,184.5545
Total		**0.1190**	**1.0168**	**0.4327**	**6.4900e-003**		**0.0822**	**0.0822**		**0.0822**	**0.0822**	**0.0000**	**1,177.5569**	**1,177.5569**	**0.0226**	**0.0216**	**1,184.5545**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	2.07419e+007	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	1,106.8655	1,106.8655	0.0212	0.0203	1,113.4431
Total		**0.1118**	**0.9558**	**0.4067**	**6.1000e-003**		**0.0773**	**0.0773**		**0.0773**	**0.0773**	**0.0000**	**1,106.8655**	**1,106.8655**	**0.0212**	**0.0203**	**1,113.4431**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	7.39406e+006	2,151.0182	0.0973	0.0201	2,159.4465
Total		**2,151.0182**	**0.0973**	**0.0201**	**2,159.4465**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	7.33523e+006	2,133.9011	0.0965	0.0200	2,142.2623
Total		**2,133.9011**	**0.0965**	**0.0200**	**2,142.2623**

6.0 Area Detail

6.1 Mitigation Measures Area

Parc West Phase Ops All Phases GHG BAU - Fresno County, Annual

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.9025	0.4145	7.4024	2.3500e-003		0.0562	0.0562		0.0562	0.0562	0.0000	375.8637	375.8637	0.0234	6.7000e-003	378.4463
Unmitigated	10.1632	0.8976	37.0147	0.0990		4.8869	4.8869		4.8869	4.8869	646.8357	375.8637	1,022.6994	3.0472	6.7000e-003	1,100.8776

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6179					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.9332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.2977	0.7988	29.7467	0.0986		4.8563	4.8563		4.8563	4.8563	646.8357	365.6270	1,012.4627	3.0308	6.7000e-003	1,090.2311
Landscaping	0.3144	0.0988	7.2680	3.3000e-004		0.0307	0.0307		0.0307	0.0307	0.0000	10.2367	10.2367	0.0164	0.0000	10.6465
Total	**10.1633**	**0.8976**	**37.0147**	**0.0990**		**4.8869**	**4.8869**		**4.8869**	**4.8869**	**646.8357**	**375.8637**	**1,022.6994**	**3.0472**	**6.7000e-003**	**1,100.8776**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6179					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.9332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0369	0.3157	0.1343	2.0200e-003		0.0255	0.0255		0.0255	0.0255	0.0000	365.6270	365.6270	7.0100e-003	6.7000e-003	367.7998
Landscaping	0.3144	0.0988	7.2680	3.3000e-004		0.0307	0.0307		0.0307	0.0307	0.0000	10.2367	10.2367	0.0164	0.0000	10.6465
Total	**6.9025**	**0.4145**	**7.4024**	**2.3500e-003**		**0.0562**	**0.0562**		**0.0562**	**0.0562**	**0.0000**	**375.8637**	**375.8637**	**0.0234**	**6.7000e-003**	**378.4463**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	111.4440	1.4379	0.0348	157.7495
Unmitigated	139.3050	1.7974	0.0435	197.1869

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	54.99 / 34.6676	139.3050	1.7974	0.0435	197.1869
Total		**139.3050**	**1.7974**	**0.0435**	**197.1869**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	43.992 / 27.7341	111.4440	1.4379	0.0348	157.7495
Total		**111.4440**	**1.4379**	**0.0348**	**157.7495**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	132.3055	7.8190	0.0000	327.7812
Unmitigated	176.4073	10.4254	0.0000	437.0415

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	869.04	176.4073	10.4254	0.0000	437.0415
Total		**176.4073**	**10.4254**	**0.0000**	**437.0415**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	651.78	132.3055	7.8190	0.0000	327.7812
Total		**132.3055**	**7.8190**	**0.0000**	**327.7812**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

GHG 2030 Mitigated

Parc West Phase Ops All Phases

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	844.00	Dwelling Unit	160.00	1,519,200.00	2414

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Project at Buildout in 2025

Construction Phase - Ops only run

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves - SJVAPCD Rule 4901 Compliance

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2025

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	64.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65
tblAreaCoating	Area_EF_Residential_Interior	150	65
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.52	0.52
tblFleetMix	LDT1	0.03	0.21

tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LHD1	9.7000e-003	8.0000e-004
tblFleetMix	LHD2	3.4040e-003	9.0000e-004
tblFleetMix	MCY	4.5630e-003	2.5000e-003
tblFleetMix	MDV	0.09	0.06
tblFleetMix	MH	4.3600e-004	2.2000e-003
tblFleetMix	MHD	0.03	7.6000e-003
tblFleetMix	OBUS	2.3060e-003	0.00
tblFleetMix	SBUS	9.9800e-004	1.0000e-004
tblFleetMix	UBUS	1.1850e-003	4.3000e-003
tblLandUse	LotAcreage	274.03	160.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2039	4.5773	0.0652	0.1932	4.9000e-004	0.0398	9.3000e-004	0.0407	0.0106	9.2000e-004	0.0115	0.0000	43.0039	43.0039	9.9000e-004	0.0000	43.0286
2040	1.6000	0.0217	0.0650	1.7000e-004	0.0139	2.4000e-004	0.0141	3.6900e-003	2.4000e-004	3.9400e-003	0.0000	14.6989	14.6989	3.2000e-004	0.0000	14.7068
Maximum	**4.5773**	**0.0652**	**0.1932**	**4.9000e-004**	**0.0398**	**9.3000e-004**	**0.0407**	**0.0106**	**9.2000e-004**	**0.0115**	**0.0000**	**43.0039**	**43.0039**	**9.9000e-004**	**0.0000**	**43.0286**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2039	4.5773	0.0652	0.1932	4.9000e-004	0.0398	9.3000e-004	0.0407	0.0106	9.2000e-004	0.0115	0.0000	43.0038	43.0038	9.9000e-004	0.0000	43.0286
2040	1.6000	0.0217	0.0650	1.7000e-004	0.0139	2.4000e-004	0.0141	3.6900e-003	2.4000e-004	3.9400e-003	0.0000	14.6989	14.6989	3.2000e-004	0.0000	14.7068
Maximum	**4.5773**	**0.0652**	**0.1932**	**4.9000e-004**	**0.0398**	**9.3000e-004**	**0.0407**	**0.0106**	**9.2000e-004**	**0.0115**	**0.0000**	**43.0038**	**43.0038**	**9.9000e-004**	**0.0000**	**43.0286**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
58	**4-1-2039**	**6-30-2039**	0.8952	0.8952
59	**7-1-2039**	**9-30-2039**	1.8719	1.8719
60	**10-1-2039**	**12-31-2039**	1.8720	1.8720
61	**1-1-2040**	**3-31-2040**	1.6260	1.6260
		Highest	1.8720	1.8720

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	10.0358	0.8708	35.9969	0.0990		4.8910	4.8910		4.8910	4.8910	646.8357	375.8637	1,022.6994	3.0406	6.7000e-003	1,100.7116
Energy	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	2,150.1854	2,150.1854	0.1064	0.0384	2,164.2765
Mobile	1.4394	5.5968	16.2093	0.0714	8.6194	0.0470	8.6665	2.3040	0.0437	2.3477	0.0000	6,593.6262	6,593.6262	0.3413	0.0000	6,602.1586
Waste						0.0000	0.0000		0.0000	0.0000	176.4073	0.0000	176.4073	10.4254	0.0000	437.0415
Water						0.0000	0.0000		0.0000	0.0000	17.4458	55.1012	72.5470	1.7966	0.0433	130.3533
Total	**11.5941**	**7.4844**	**52.6389**	**0.1768**	**8.6194**	**5.0203**	**13.6397**	**2.3040**	**5.0169**	**7.3209**	**840.6887**	**9,174.7765**	**10,015.4652**	**15.7103**	**0.0883**	**10,434.5415**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.7750	0.3878	6.3846	2.3500e-003		0.0603	0.0603		0.0603	0.0603	0.0000	375.8637	375.8637	0.0168	6.7000e-003	378.2803
Energy	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	2,071.7541	2,071.7541	0.1044	0.0369	2,085.3687
Mobile	1.4190	5.4659	15.5313	0.0679	8.1655	0.0449	8.2104	2.1827	0.0417	2.2244	0.0000	6,270.6402	6,270.6402	0.3303	0.0000	6,278.8971
Waste						0.0000	0.0000		0.0000	0.0000	132.3055	0.0000	132.3055	7.8190	0.0000	327.7812
Water						0.0000	0.0000		0.0000	0.0000	13.9566	44.0810	58.0376	1.4373	0.0346	104.2827
Total	**8.3059**	**6.8094**	**22.3226**	**0.0763**	**8.1655**	**0.1825**	**8.3479**	**2.1827**	**0.1792**	**2.3619**	**146.2621**	**8,762.3391**	**8,908.6012**	**9.7077**	**0.0782**	**9,174.6100**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**28.36**	**9.02**	**57.59**	**56.83**	**5.27**	**96.37**	**38.80**	**5.27**	**96.43**	**67.74**	**82.60**	**4.50**	**11.05**	**38.21**	**11.41**	**12.07**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	5/18/2039	3/20/2040	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 3,076,380; Residential Outdoor: 1,025,460; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	61.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Architectural Coating - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.5604					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6100e-003	0.0618	0.1462	2.4000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	20.8090	20.8090	7.7000e-004	0.0000	20.8282
Total	**4.5700**	**0.0618**	**0.1462**	**2.4000e-004**		**8.1000e-004**	**8.1000e-004**		**8.1000e-004**	**8.1000e-004**	**0.0000**	**20.8090**	**20.8090**	**7.7000e-004**	**0.0000**	**20.8282**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2800e-003	3.4200e-003	0.0470	2.4000e-004	0.0398	1.2000e-004	0.0399	0.0106	1.1000e-004	0.0107	0.0000	22.1949	22.1949	2.2000e-004	0.0000	22.2004
Total	**7.2800e-003**	**3.4200e-003**	**0.0470**	**2.4000e-004**	**0.0398**	**1.2000e-004**	**0.0399**	**0.0106**	**1.1000e-004**	**0.0107**	**0.0000**	**22.1949**	**22.1949**	**2.2000e-004**	**0.0000**	**22.2004**

3.2 Architectural Coating - 2039

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.5604					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6100e-003	0.0618	0.1462	2.4000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	20.8090	20.8090	7.7000e-004	0.0000	20.8282
Total	**4.5700**	**0.0618**	**0.1462**	**2.4000e-004**		**8.1000e-004**	**8.1000e-004**		**8.1000e-004**	**8.1000e-004**	**0.0000**	**20.8090**	**20.8090**	**7.7000e-004**	**0.0000**	**20.8282**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2800e-003	3.4200e-003	0.0470	2.4000e-004	0.0398	1.2000e-004	0.0399	0.0106	1.1000e-004	0.0107	0.0000	22.1949	22.1949	2.2000e-004	0.0000	22.2004
Total	**7.2800e-003**	**3.4200e-003**	**0.0470**	**2.4000e-004**	**0.0398**	**1.2000e-004**	**0.0399**	**0.0106**	**1.1000e-004**	**0.0107**	**0.0000**	**22.1949**	**22.1949**	**2.2000e-004**	**0.0000**	**22.2004**

3.2 Architectural Coating - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5947					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2700e-003	0.0207	0.0511	8.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	7.2768	7.2768	2.6000e-004	0.0000	7.2832
Total	**1.5980**	**0.0207**	**0.0511**	**8.0000e-005**		**2.1000e-004**	**2.1000e-004**		**2.1000e-004**	**2.1000e-004**	**0.0000**	**7.2768**	**7.2768**	**2.6000e-004**	**0.0000**	**7.2832**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9300e-003	9.8000e-004	0.0139	8.0000e-005	0.0139	3.0000e-005	0.0139	3.6900e-003	3.0000e-005	3.7200e-003	0.0000	7.4221	7.4221	6.0000e-005	0.0000	7.4236
Total	**1.9300e-003**	**9.8000e-004**	**0.0139**	**8.0000e-005**	**0.0139**	**3.0000e-005**	**0.0139**	**3.6900e-003**	**3.0000e-005**	**3.7200e-003**	**0.0000**	**7.4221**	**7.4221**	**6.0000e-005**	**0.0000**	**7.4236**

3.2 Architectural Coating - 2040

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5947					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2700e-003	0.0207	0.0511	8.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	7.2768	7.2768	2.6000e-004	0.0000	7.2832
Total	**1.5980**	**0.0207**	**0.0511**	**8.0000e-005**		**2.1000e-004**	**2.1000e-004**		**2.1000e-004**	**2.1000e-004**	**0.0000**	**7.2768**	**7.2768**	**2.6000e-004**	**0.0000**	**7.2832**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9300e-003	9.8000e-004	0.0139	8.0000e-005	0.0139	3.0000e-005	0.0139	3.6900e-003	3.0000e-005	3.7200e-003	0.0000	7.4221	7.4221	6.0000e-005	0.0000	7.4236
Total	**1.9300e-003**	**9.8000e-004**	**0.0139**	**8.0000e-005**	**0.0139**	**3.0000e-005**	**0.0139**	**3.6900e-003**	**3.0000e-005**	**3.7200e-003**	**0.0000**	**7.4221**	**7.4221**	**6.0000e-005**	**0.0000**	**7.4236**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4190	5.4659	15.5313	0.0679	8.1655	0.0449	8.2104	2.1827	0.0417	2.2244	0.0000	6,270.6402	6,270.6402	0.3303	0.0000	6,278.8971
Unmitigated	1.4394	5.5968	16.2093	0.0714	8.6194	0.0470	8.6665	2.3040	0.0437	2.3477	0.0000	6,593.6262	6,593.6262	0.3413	0.0000	6,602.1586

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	7,967.36	8,051.76	7216.20	23,028,599	21,815,759
Total	7,967.36	8,051.76	7,216.20	23,028,599	21,815,759

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.524400	0.212000	0.167700	0.056300	0.000800	0.000900	0.007600	0.021200	0.000000	0.004300	0.002500	0.000100	0.002200

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	964.8886	964.8886	0.0832	0.0166	971.9256
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	972.6285	972.6285	0.0839	0.0168	979.7220
NaturalGas Mitigated	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	1,106.8655	1,106.8655	0.0212	0.0203	1,113.4431
NaturalGas Unmitigated	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	1,177.5569	1,177.5569	0.0226	0.0216	1,184.5545

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	2.20666e+007	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	1,177.5569	1,177.5569	0.0226	0.0216	1,184.5545
Total		**0.1190**	**1.0168**	**0.4327**	**6.4900e-003**		**0.0822**	**0.0822**		**0.0822**	**0.0822**	**0.0000**	**1,177.5569**	**1,177.5569**	**0.0226**	**0.0216**	**1,184.5545**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	2.07419e+007	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	1,106.8655	1,106.8655	0.0212	0.0203	1,113.4431
Total		**0.1118**	**0.9558**	**0.4067**	**6.1000e-003**		**0.0773**	**0.0773**		**0.0773**	**0.0773**	**0.0000**	**1,106.8655**	**1,106.8655**	**0.0212**	**0.0203**	**1,113.4431**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	7.39406e +006	972.6285	0.0839	0.0168	979.7220
Total		**972.6285**	**0.0839**	**0.0168**	**979.7220**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	7.33523e +006	964.8886	0.0832	0.0166	971.9256
Total		**964.8886**	**0.0832**	**0.0166**	**971.9256**

6.0 Area Detail

6.1 Mitigation Measures Area

Parc West Phase Ops All Phases - Fresno County, Annual

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.7750	0.3878	6.3846	2.3500e-003		0.0603	0.0603		0.0603	0.0603	0.0000	375.8637	375.8637	0.0168	6.7000e-003	378.2803
Unmitigated	10.0358	0.8708	35.9969	0.0990		4.8910	4.8910		4.8910	4.8910	646.8357	375.8637	1,022.6994	3.0406	6.7000e-003	1,100.7116

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6179					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.9332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.2977	0.7988	29.7467	0.0986		4.8563	4.8563		4.8563	4.8563	646.8357	365.6270	1,012.4627	3.0308	6.7000e-003	1,090.2311
Landscaping	0.1870	0.0721	6.2502	3.3000e-004		0.0348	0.0348		0.0348	0.0348	0.0000	10.2367	10.2367	9.7500e-003	0.0000	10.4805
Total	**10.0358**	**0.8708**	**35.9969**	**0.0990**		**4.8910**	**4.8910**		**4.8910**	**4.8910**	**646.8357**	**375.8637**	**1,022.6994**	**3.0406**	**6.7000e-003**	**1,100.7116**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6179					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.9332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0369	0.3157	0.1343	2.0200e-003		0.0255	0.0255		0.0255	0.0255	0.0000	365.6270	365.6270	7.0100e-003	6.7000e-003	367.7998
Landscaping	0.1870	0.0721	6.2502	3.3000e-004		0.0348	0.0348		0.0348	0.0348	0.0000	10.2367	10.2367	9.7500e-003	0.0000	10.4805
Total	**6.7750**	**0.3878**	**6.3846**	**2.3500e-003**		**0.0603**	**0.0603**		**0.0603**	**0.0603**	**0.0000**	**375.8637**	**375.8637**	**0.0168**	**6.7000e-003**	**378.2803**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	58.0376	1.4373	0.0346	104.2827
Unmitigated	72.5470	1.7966	0.0433	130.3533

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	54.99 / 34.6676	72.5470	1.7966	0.0433	130.3533
Total		**72.5470**	**1.7966**	**0.0433**	**130.3533**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	43.992 / 27.7341	58.0376	1.4373	0.0346	104.2827
Total		**58.0376**	**1.4373**	**0.0346**	**104.2827**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	132.3055	7.8190	0.0000	327.7812
Unmitigated	176.4073	10.4254	0.0000	437.0415

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	869.04	176.4073	10.4254	0.0000	437.0415
Total		**176.4073**	**10.4254**	**0.0000**	**437.0415**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	651.78	132.3055	7.8190	0.0000	327.7812
Total		**132.3055**	**7.8190**	**0.0000**	**327.7812**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B: San Joaquin Valley Air Pollution Control District Amicus Brief on Friant Ranch Supreme Court Decision

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SUPREME COURT COPY

CASE NO. S219783

IN THE SUPREME COURT OF CALIFORNIA

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,
Plaintiffs and Appellants

v.

COUNTY OF FRESNO,
Defendant and Respondent

FRIANT RANCH, L.P.,
Real Party in Interest and Respondent

SUPREME COURT
FILED
APR 13 2015
Frank A. McGuire Clerk
Deputy

After a Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726

APPLICATION FOR LEAVE TO FILE AMICUS CURIAE BRIEF OF SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO AND REAL PARTY IN INTEREST AND RESPONDENT, FRIANT RANCH, L.P.

CATHERINE T. REDMOND (State Bar No. 226957)
261 High Street
Duxbury, Massachusetts 02332
Tel. (339) 236-5720
Catherinetredmond22@gmail.com

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT
Annette Ballatore-Williamson, District Counsel (State Bar. No. 192176)
1990 E. Gettysburg Avenue
Fresno, California 93726
Tel. (559) 230-6033
Annette.Ballatore-Williamson@valleyair.org

Counsel for San Joaquin Valley Unified Air Pollution Control District

CASE NO. S219783

IN THE SUPREME COURT OF CALIFORNIA

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,
Plaintiffs and Appellants

v.

COUNTY OF FRESNO,
Defendant and Respondent

FRIANT RANCH, L.P.,
Real Party in Interest and Respondent

After a Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

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Case No. 11CECG00726

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CATHERINE T. REDMOND (State Bar No. 226957)
261 High Street
Duxbury, Massachusetts 02332
Tel. (339) 236-5720
Catherinetredmond22@gmail.com

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT
Annette Ballatore-Williamson, District Counsel (State Bar. No. 192176)
1990 E. Gettysburg Avenue
Fresno, California 93726
Tel. (559) 230-6033
Annette.Ballatore-Williamson@valleyair.org

Counsel for San Joaquin Valley Unified Air Pollution Control District

APPLICATION

Pursuant to California Rules of Court 8.520(f)(1), proposed Amicus Curiae San Joaquin Valley Unified Air Pollution Control District hereby requests permission from the Chief Justice to file an amicus brief in support of Defendant and Respondent, County of Fresno, and Defendant and Real Parties in Interest Friant Ranch, L.P. Pursuant to Rule 8.520(f)(5) of the California Rules of Court, the proposed amicus curiae brief is combined with this Application. The brief addresses the following issue certified by this Court for review:

> Is an EIR adequate when it identifies the health impacts of air pollution and quantifies a project's expected emissions, or does CEQA further require the EIR to *correlate* a project's air quality emissions to specific health impacts?

As of the date of this filing, the deadline for the final reply brief on the merits was March 5, 2015. Accordingly, under Rule 8.520(f)(2), this application and brief are timely.

1. Background and Interest of San Joaquin Valley Unified Air Pollution Control District

The San Joaquin Valley Unified Air Pollution Control District ("Air District") regulates air quality in the eight counties comprising the San Joaquin Valley ("Central Valley"): Kern, Tulare, Madera, Fresno, Merced, San Joaquin, Stanislaus, and Kings, and is primarily responsible for attaining air quality standards within its jurisdiction. After billions of dollars of investment by Central Valley businesses, pioneering air quality regulations, and consistent efforts by residents, the Central Valley air basin has made historic improvements in air quality.

The Central Valley's geographical, topographical and meteorological features create exceptionally challenging air quality

conditions. For example, it receives air pollution transported from the San Francisco Bay Area and northern Central Valley communities, and the southern portion of the Central Valley includes three mountain ranges (Sierra, Tehachapi, and Coastal) that, under some meteorological conditions, effectively trap air pollution. Central Valley air pollution is only a fraction of what the Bay Area and Los Angeles produce, but these natural conditions result in air quality conditions that are only marginally better than Los Angeles, even though about ten times more pollution is emitted in the Los Angeles region. Bay Area air quality is much better than the Central Valley's, even though the Bay Area produces about six times more pollution. The Central Valley also receives air pollution transported from the Bay Area and northern counties in the Central Valley, including Sacramento, and transboundary anthropogenic ozone from as far away as China.

Notwithstanding these challenges, the Central Valley has reduced emissions at the same or better rate than other areas in California and has achieved unparalleled milestones in protecting public health and the environment:

- In the last decade, the Central Valley became the first air basin classified by the federal government under the Clean Air Act as a "serious nonattainment" area to come into attainment of health-based National Ambient Air Quality Standard ("NAAQS") for coarse particulate matter (PM10), an achievement made even more notable given the Valley's extensive agricultural sector. Unhealthy levels of particulate matter can cause and exacerbate a range of chronic and acute illnesses.
- In 2013, the Central Valley became the first air basin in the country to improve from a federal designation of "extreme" nonattainment to

actually attain (and quality for an attainment designation) of the 1-hour ozone NAAQS; ozone creates "smog" and, like PM10, causes adverse health impacts.

- The Central Valley also is in full attainment of federal standards for lead, nitrogen dioxide, sulfur dioxide, and carbon monoxide.
- The Central Valley continues to make progress toward compliance with its last two attainment standards, with the number of exceedences for the 8-hour ozone NAAQS reduced by 74% (for the 1997 standard) and 38% (for the 2008 standard) since 1991, and for the small particulate matter (PM2.5) NAAQS reduced by 85% (for the 1997 standard) and 61% (for the 2006 standard).

Sustained improvement in Central Valley air quality requires a rigorous and comprehensive regulatory framework that includes prohibitions (e.g., on wood-burning fireplaces in new residences), mandates (e.g., requiring the installation of best available pollution reduction technologies on new and modified equipment and industrial operations), innovations (e.g., fees assessed against residential development to fund pollution reduction actions to "offset" vehicular emissions associated with new residences), incentive programs (e.g., funding replacements of older, more polluting heavy duty trucks and school buses)[1], ongoing planning for continued air quality improvements, and enforcement of Air District permits and regulations.

The Air District is also an expert air quality agency for the eight counties and cities in the San Joaquin Valley. In that capacity, the Air District has developed air quality emission guidelines for use by the Central

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[1] San Joaquin's incentive program has been so successful that through 2012, it has awarded over $ 432 million in incentive funds and has achieved 93,349 tons of lifetime emissions reductions. *See* SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 2012 PM2.5 PLAN, 6-6 (2012) *available at* http://www.valleyair.org/Workshops/postings/2012/12-20-12PM25/FinalVersion/06%20Chapter%206%20Incentives.pdf.

Valley counties and cities that implement the California Environment Quality Act (CEQA).[2] In its guidance, the Air District has distinguished between toxic air contaminants and criteria air pollutants.[3] Recognizing this distinction, the Air District's CEQA Guidance has adopted distinct thresholds of significance for *criteria* pollutants (i.e., ozone, PM2.5 and their respective precursor pollutants) based upon scientific and factual data which demonstrates the level that can be accommodated on a cumulative basis in the San Joaquin Valley without affecting the attainment of the applicable NAAQS.[4] For *toxic air* pollutants, the District has adopted different thresholds of significance which scientific and factual data demonstrates has the potential to expose sensitive receptors (i.e., children, the elderly) to levels which may result in localized health impacts.[5]

The Air District's CEQA Guidance was followed by the County of Fresno in its environment review of the Friant Ranch project, for which the Air District also served as a commenting agency. The Court of Appeal's holding, however, requiring correlation between the project's criteria

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[2] *See, e.g.*, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, PLANNING DIVISION, GUIDE FOR ASSESSING AND MITIGATING AIR QUALITY IMPACTS (2015), *available at* http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf ("CEQA Guidance").

[3] Toxic air contaminants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as birth defects. There are currently 189 toxic air contaminants regulated by the United States Environmental Protection Agency ("EPA") and the states pursuant to the Clean Air Act. 42 U.S.C. § 7412. Common TACs include benzene, perchloroethylene and asbestos. *Id.* at 7412(b).

In contrast, there are only six (6) criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead. Although criteria air pollutants can also be harmful to human health, they are distinguishable from toxic air contaminants and are regulated separately. For instance, while criteria pollutants are regulated by numerous sections throughout Title I of the Clean Air Act, the regulation of toxic air contaminants occurs solely under section 112 of the Act. Compare 42 U.S.C. §§ 7407 – 7411 & 7501 – 7515 with 42 U.S.C. § 7411.

[4] See, e.g., CEQA Guidance at http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf, pp. 64-66, 80.

[5] See, e.g., CEQA Guidance at http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf, pp. 66, 99-101.

pollutants and local health impacts, departs from the Air District's Guidance and approved methodology for assessing criteria pollutants. A close reading of the administrative record that gave rise to this issue demonstrates that the Court's holding is based on a misunderstanding of the distinction between toxic air contaminants (for which a local health risk assessment is feasible and routinely performed) and criteria air pollutants (for which a local health risk assessment is not feasible and would result in speculative results).[6] The Air District has a direct interest in ensuring the lawfulness and consistent application of its CEQA Guidance, and will explain how the Court of Appeal departed from the Air District's long-standing CEQA Guidance in addressing criteria pollutants and toxic air contaminants in this amicus brief.

2. How the Proposed Amicus Curiae Brief Will Assist the Court

As counsel for the proposed amicus curiae, we have reviewed the briefs filed in this action. In addition to serving as a "commentary agency" for CEQA purposes over the Friant Ranch project, the Air District has a strong interest in assuring that CEQA is used for its intended purpose, and believes that this Court would benefit from additional briefing explaining the distinction between criteria pollutants and toxic air contaminants and the different methodologies employed by local air pollution control agencies such as the Air District to analyze these two categories of air pollutants under CEQA. The Air District will also explain how the Court of Appeal's opinion is based upon a fundamental misunderstanding of these two different approaches by requiring the County of Fresno to correlate the project's *criteria* pollution emissions with *local* health impacts. In doing

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[6] CEQA does not require speculation. *See, e.g.*, *Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.*, 6 Cal. 4th 1112, 1137 (1993) (upholding EIR that failed to evaluate cumulative toxic air emission increases given absence of any acceptable means for doing so).

so, the Air District will provide helpful analysis to support its position that at least insofar as criteria pollutants are concerned, CEQA does not require an EIR to correlate a project's air quality emissions to specific health impacts, because such an analysis is not reasonably feasible.

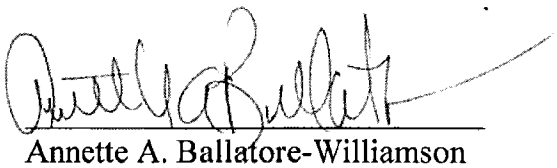
Rule 8.520 Disclosure

Pursuant to Cal. R. 8.520(f)(4), neither the Plaintiffs nor the Defendant or Real Party In Interest or their respective counsel authored this brief in whole or in part. Neither the Plaintiffs nor the Defendant or Real Party in Interest or their respective counsel made any monetary contribution towards or in support of the preparation of this brief.

CONCLUSION

On behalf of the San Joaquin Valley Unified Air Pollution Control District, we respectfully request that this Court accept the filing of the attached brief.

Dated: April 2, 2015



Annette A. Ballatore-Williamson
District Counsel
Attorney for Proposed Amicus Curiae

SAN JOAQUIN VALLEY UNIFIED
AIR POLLUTION CONTROL
DISTRICT

CASE NO. S219783

IN THE SUPREME COURT OF CALIFORNIA

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,
Plaintiffs and Appellants

v.

COUNTY OF FRESNO,
Defendant and Respondent

FRIANT RANCH, L.P.,
Real Party in Interest and Respondent

After a Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726

AMICUS CURIAE BRIEF OF SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO AND REAL PARTY IN INTEREST AND RESPONDENT, FRIANT RANCH, L.P.

CATHERINE T. REDMOND (State Bar No. 226957)
261 High Street
Duxbury, Massachusetts 02332
Tel. (339) 236-5720
Catherinetredmond22@gmail.com

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT
Annette A. Ballatore-Williamson, District Counsel (State Bar. No. 192176)
1990 E. Gettysburg Avenue
Fresno, California 93726
Tel. (559) 230-6033
Annette.Ballatore-Williamson@valleyair.org
Counsel for San Joaquin Valley Unified Air Pollution Control District

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I. INTRODUCTION.

The San Joaquin Valley Unified Air Pollution Control District ("Air District") respectfully submits that the Court of Appeal erred when it held that the air quality analysis contained in the Environmental Impact Report ("EIR") for the Friant Ranch development project was inadequate under the California Environmental Quality Act ("CEQA") because it did not include an analysis of the correlation between the project's criteria air pollutants and the potential adverse human health impacts. A close reading of the portion of the administrative record that gave rise to this issue demonstrates that the Court's holding is based on a misunderstanding of the distinction between toxic air contaminants and criteria air pollutants.

Toxic air contaminants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as birth defects. There are currently 189 toxic air contaminants (hereinafter referred to as "TACs") regulated by the United States Environmental Protection Agency ("EPA") and the states pursuant to the Clean Air Act. 42 U.S.C. § 7412. Common TACs include benzene, perchloroethylene and asbestos. *Id.* at 7412(b).

In contrast, there are only six (6) criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead. Although criteria air pollutants can also be harmful to human health,

they are distinguishable from TACs and are regulated separately. For instance, while criteria pollutants are regulated by numerous sections throughout Title I of the Clean Air Act, the regulation of TACs occurs solely under section 112 of the Act. *Compare* 42 U.S.C. §§ 7407 – 7411 & 7501 – 7515 *with* 42 U.S.C. § 7411.

The most relevant difference between criteria pollutants and TACs for purposes of this case is the manner in which human health impacts are accounted for. While it is common practice to analyze the correlation between an individual facility's TAC emissions and the expected localized human health impacts, such is not the case for criteria pollutants. Instead, the human health impacts associated with criteria air pollutants are analyzed and taken into consideration when EPA sets the national ambient air quality standard ("NAAQS") for each criteria pollutant. 42 U.S.C. § 7409(b)(1). The health impact of a particular criteria pollutant is analyzed on a regional and not a facility level based on how close the area is to complying with (attaining) the NAAQS. Accordingly, while the type of individual facility / health impact analysis that the Court of Appeal has required is a customary practice for TACs, it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task.

It is clear from a reading of both the administrative record and the Court of Appeal's decision that the Court did not have the expertise to fully

appreciate the difference between TACs and criteria air pollutants. As a result, the Court has ordered the County of Fresno to conduct an analysis that is not practicable and not likely yield valid information. The Air District respectfully requests that this portion of the Court of Appeal's decision be reversed.

II. THE COURT OF APPEAL ERRED IN FINDING THE FRIANT RANCH EIR INADEQUATE FOR FAILING TO ANALYZE THE SPECIFIC HUMAN HEALTH IMPACTS ASSOCIATED CRITERIA AIR POLLUTANTS.

Although the Air District does not take lightly the amount of air emissions at issue in this case, it submits that the Court of Appeal got it wrong when it required Fresno County to revise the Friant Ranch EIR to include an analysis correlating the criteria air pollutant emissions associated with the project with specific, localized health-impacts. The type of analysis the Court of Appeal has required will not yield reliable information because currently available modeling tools are not well suited for this task. Further, in reviewing this issue de novo, the Court of Appeal failed to appreciate that it lacked the scientific expertise to appreciate the significant differences between a health risk assessment commonly performed for toxic air contaminants and a similar type of analysis it felt should have been conducted for criteria air pollutants.

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A. Currently Available Modeling Tools are not Equipped to Provide a Meaningful Analysis of the Correlation between an Individual Development Project's Air Emissions and Specific Human Health Impacts.

In order to appreciate the problematic nature of the Court of Appeals' decision requiring a health risk type analysis for criteria air pollutants, it is important to understand how the relevant criteria pollutants (ozone and particulate matter) are formed, dispersed and regulated.

Ground level ozone (smog) is not directly emitted into the air, but is formed when precursor pollutants such as oxides of nitrogen (NOx) and volatile organic compounds (VOCs) are emitted into the atmosphere and undergo complex chemical reactions in the process of sunlight.[1] Once formed, ozone can be transported long distances by wind.[2] Because of the complexity of ozone formation, a specific tonnage amount of NOx or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area. In fact, even rural areas that have relatively low tonnages of emissions of NOx or VOCs can have high levels of ozone concentration simply due to wind transport.[3] Conversely, the San Francisco Bay Area has six times more NOx and VOC emissions per square mile than the San Joaquin Valley, but experiences lower

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[1] *See* United States Environmental Protection Agency, *Ground-level Ozone: Basic Information*, available at: http://www.epa.gov/airquality/ozonepollution/basic.html (visited March 10, 2015).
[2] *Id.*
[3] *Id.*

concentrations of ozone (and better air quality) simply because sea breezes disperse the emissions.[4]

Particulate matter ("PM") can be divided into two categories: directly emitted PM and secondary PM.[5] While directly emitted PM can have a localized impact, the tonnage emitted does not always equate to the local PM concentration because it can be transported long distances by wind.[6] Secondary PM, like ozone, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as sulfur dioxides (SOx) and NOx.[7] Because of the complexity of secondary PM formation, the tonnage of PM-forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary PM in that area.

The disconnect between the *tonnage* of precursor pollutants (NOx, SOx and VOCs) and the *concentration* of ozone or PM formed is important because it is not necessarily the tonnage of precursor pollutants that causes human health effects, but the concentration of resulting ozone or PM. Indeed, the national ambient air quality standards ("NAAQS"), which are statutorily required to be set by the United States Environmental Protection

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[4] *San Joaquin Valley Air Pollution Control District 2007 Ozone Plan*, Executive Summary p. ES-6, available at: http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_Adopted/03%20Executive%20Summary.pdf (visited March 10, 2015).

[5] United States Environmental Protection Agency, *Particulate Matter: Basic Information*, available at: http://www.epa.gov/airquality/particlepollution/basic.html (visited March 10, 2015).

[6] *Id.*

[7] *Id.*

Agency ("EPA") at levels that are "requisite to protect the public health," 42 U.S.C. § 7409(b)(1), are established as concentrations of ozone or particulate matter and not as tonnages of their precursor pollutants.[8]

Attainment of a particular NAAQS occurs when the concentration of the relevant pollutant remains below a set threshold on a consistent basis throughout a particular region. For example, the San Joaquin Valley attained the 1-hour ozone NAAQS when ozone concentrations remained at or below 0.124 parts per million Valley-wide on 3 or fewer days over a 3-year period.[9] Because the NAAQS are focused on achieving a particular concentration of pollution region-wide, the Air District's tools and plans for attaining the NAAQS are regional in nature.

For instance, the computer models used to simulate and predict an attainment date for the ozone or particulate matter NAAQS in the San Joaquin Valley are based on regional inputs, such as regional inventories of precursor pollutants (NOx, SOx and VOCs) and the atmospheric chemistry and meteorology of the Valley.[10] At a very basic level, the models simulate future ozone or PM levels based on predicted changes in precursor

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[8] See, e.g., United States Environmental Protection Agency, *Table of National Ambient Air Quality Standards*, available at: http://www.epa.gov/air/criteria.html#3 (visited March 10, 2015).

[9] *San Joaquin Valley Unified Air Pollution Control District 2013 Plan for the Revoked 1-Hour Ozone Standard*, Ch. 2 p. 2-16, available at: http://www.valleyair.org/Air_Quality_Plans/OzoneOneHourPlan2013/02Chapter2ScienceTrendsModeling.pdf (visited March 10, 2015).

[10] *Id.* at Ch. 2 p. 2-19 (visited March 12, 2015); *San Joaquin Valley Unified Air Pollution Control District 2008 PM2.5 Plan*, Appendix F, pp. F-2 – F-5, available at: http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Final_Adopted_PM2.5/20%20Appendix%20F.pdf (visited March 19, 2015).

emissions Valley wide.[11] Because the NAAQS are set levels necessary to protect human health, the closer a region is to attaining a particular NAAQS, the lower the human health impact is from that pollutant.

The goal of these modeling exercises is not to determine whether the emissions generated by a particular factory or development project will affect the date that the Valley attains the NAAQS. Rather, the Air District's modeling and planning strategy is regional in nature and based on the extent to which *all* of the emission-generating sources in the Valley (current and future) must be controlled in order to reach attainment.[12]

Accordingly, the Air District has based its thresholds of significance for CEQA purposes on the levels that scientific and factual data demonstrate that the Valley can accommodate without affecting the attainment date for the NAAQS.[13] The Air District has tied its CEQA significance thresholds to the level at which stationary pollution sources permitted by the Air District must "offset" their emissions.[14] This "offset"

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[11] *Id.*

[12] Although the Air District does have a dispersion modeling tool used during its air permitting process that is used to predict whether a particular project's directly emitted PM will either cause an exceedance of the PM NAAQS or contribute to an existing exceedance, this model bases the prediction on a worst case scenario of emissions and meteorology and has no provision for predicting any associated human health impacts. Further, this analysis is only performed for stationary sources (factories, oil refineries, etc.) that are required to obtain a New Source Review permit from the Air District and not for development projects such as Friant Ranch over which the Air District has no preconstruction permitting authority. *See* San Joaquin Valley Unified Air Pollution Control District Rule 2201 §§ 2.0; 3.3.9; 4.14.1, available at: http://www.valleyair.org/rules/currntrules/Rule2201041l.pdf (visited March 19, 2015).

[13] *San Joaquin Valley Unified Air Pollution Control District Guide to Assessing and Mitigating Air Quality Impacts*, (March 19, 2015) p. 22, available at: http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Jan%202002%20Rev.pdf (visited March 30, 2015).

[14] *Id.* at pp. 22, 25.

level allows for growth while keeping the cumulative effects of all new sources at a level that will not impede attainment of the NAAQS.[15] In the Valley, these thresholds are 15 tons per year of PM, and 10 tons of NOx or VOC per year. *Sierra Club*, *supra*, 172 Cal.Rptr.3d at 303; AR 4554. Thus, the CEQA air quality analysis for criteria pollutants is not really a localized, project-level impact analysis but one of regional, "cumulative impacts."

Accordingly, the significance thresholds applied in the Friant Ranch EIR (15 tons per year of PM and 10 tons of NOx or VOCs) are not intended to be indicative of any localized human health impact that the project may have. While the health effects of air pollution are of primary concern to the Air District (indeed, the NAAQS are established to protect human health), the Air District is simply not equipped to analyze whether and to what extent the criteria pollutant emissions of an individual CEQA project directly impact human health in a particular area. This is true even for projects with relatively high levels of emissions of criteria pollutant precursor emissions.

For instance, according to the EIR, the Friant Ranch project is estimated to emit 109.52 tons per year of ROG (VOC), 102.19 tons per year of NOx, and 117.38 tons per year of PM. Although these levels well

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[15] [15] *San Joaquin Valley Unified Air Pollution Control District Environmental Review Guidelines* (Aug. 2000) p. 4-11, available at: http://www.valleyair.org/transportation/CEQA%20Rules/ERG%20Adopted%20_August%202000_.pdf (visited March 12, 2015).

exceed the Air District's CEQA significance thresholds, this does not mean that one can easily determine the concentration of ozone or PM that will be created at or near the Friant Ranch site on a particular day or month of the year, or what specific health impacts will occur. Meteorology, the presence of sunlight, and other complex chemical factors all combine to determine the ultimate concentration and location of ozone or PM. This is especially true for a project like Friant Ranch where most of the criteria pollutant emissions derive not from a single "point source," but from area wide sources (consumer products, paint, etc.) or mobile sources (cars and trucks) driving to, from and around the site.

In addition, it would be extremely difficult to model the impact on NAAQS attainment that the emissions from the Friant Ranch project may have. As discussed above, the currently available modeling tools are equipped to model the impact of *all* emission sources in the Valley on attainment. According to the most recent EPA-approved emission inventory, the NOx inventory for the Valley is for the year 2014 is 458.2 tons per day, or 167,243 tons per year and the VOC (or ROG) inventory is 361.7 tons per day, or 132,020.5 tons per year.[16] Running the photochemical grid model used for predicting ozone attainment with the

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[16] *San Joaquin Valley Unified Air Pollution Control District 2007 Ozone Plan*, Appendix B pp. B-6, B-9,
available at:
http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_Adopted/19%20Appendix%20B%20April%202007.pdf (visited March 12, 2015).

emissions solely from the Friant Ranch project (which equate to less than one-tenth of one percent of the total NOx and VOC in the Valley) is not likely to yield valid information given the relative scale involved.

Finally, even once a model is developed to accurately ascertain local increases in concentrations of photochemical pollutants like ozone and some particulates, it remains impossible, using today's models, to correlate that increase in concentration to a specific health impact. The reason is the same: such models are designed to determine regional, population-wide health impacts, and simply are not accurate when applied at the local level.

For these reasons, it is not the norm for CEQA practitioners, including the Air District, to conduct an analysis of the localized health impacts associated with a project's criteria air pollutant emissions as part of the EIR process. When the accepted scientific method precludes a certain type of analysis, "the court cannot impose a legal standard to the contrary." *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 717 n. 8. However, that is exactly what the Court of Appeal has done in this case. Its decision upends the way CEQA air quality analysis of criteria pollutants occurs and should be reversed.

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B. The Court of Appeal Improperly Extrapolated a Request for a Health Risk Assessment for Toxic Air Contaminants into a Requirement that the EIR contain an Analysis of Localized Health Impacts Associated with Criteria Air Pollutants.

The Court of Appeal's error in requiring the new health impact analysis for criteria air pollutants clearly stems from a misunderstanding of terms of art commonly used in the air pollution field. More specifically, the Court of Appeal (and Appellants Sierra Club et al.) appear to have confused the health risk analysis ("HRA") performed to determine the health impacts associated with a project's toxic air contaminants ("TACs"), with an analysis correlating a project's criteria air pollutants (ozone, PM and the like) with specific localized health impacts.

The first type of analysis, the HRA, is commonly performed during the Air District's stationary source permitting process for projects that emit TACs and is, thus, incorporated into the CEQA review process. An HRA is a comprehensive analysis to evaluate and predict the dispersion of TACs emitted by a project and the potential for exposure of human populations. It also assesses and quantifies both the individual and population-wide health risks associated with those levels of exposure. There is no similar analysis conducted for criteria air pollutants. Thus, the second type of analysis (required by the Court of Appeal), is not currently part of the Air District's process because, as outlined above, the health risks associated

with exposure to criteria pollutants are evaluated on a regional level based on the region's attainment of the NAAQS.

The root of this confusion between the types of analyses conducted for TACs versus criteria air pollutants appears to stem from a comment that was presented to Fresno County by the City of Fresno during the administrative process.

In its comments on the draft EIR, the City of Fresno (the only party to raise this issue) stated:

> [t]he EIR must disclose the human health related effects of the Project's air pollution impacts. (CEQA Guidelines section 15126.2(a).) The EIR fails completely in this area. The EIR should be revised to disclose and determine the significance of TAC impacts, and of human health risks due to exposure to Project-related air emissions.

(AR 4602.)

In determining that the issue regarding the correlation between the Friant Ranch project's criteria air pollutants and adverse health impacts was adequately exhausted at the administrative level, the Court of Appeal improperly read the first two sentences of the City of Fresno's comment in isolation rather than in the context of the entire comment. *See Sierra Club v. County of Fresno* (2014) 172 Cal.Rptr.3d 271, 306. Although the comment first speaks generally in terms of "human health related effects" and "air pollution," it requests only that the EIR be revised to disclose "the significance of TACs" and the "human health risks due to exposure."

The language of this request in the third sentence of the comment is significant because, to an air pollution practitioner, the language would only have indicated only that a HRA for TACs was requested, and not a separate analysis of the health impacts associated with the project's criteria air pollutants. Fresno County clearly read the comment as a request to perform an HRA for TACs and limited its response accordingly. (AR 4602.)[17] The Air District submits that it would have read the City's comment in the same manner as the County because the City's use of the terms "human health risks" and "TACs" signal that an HRA for TACs is being requested. Indeed, the Air District was also concerned that an HRA be conducted, but understood that it was not possible to conduct such an analysis until the project entered the phase where detailed site specific information, such as the types of emission sources and the proximity of the sources to sensitive receptors became available. (AR 4553.)[18] The City of Fresno was apparently satisfied with the County's discussion of human health risks, as it did not raise the issue again when it commented on the final EIR. (AR 8944 – 8960.)

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[17] Appellants do not challenge the manner in which the County addressed TACs in the EIR. (Appellants' Answer Brief p. 28 fn. 7.)

[18] Appellants rely on the testimony of Air District employee, Dan Barber, as support for their position that the County should have conducted an analysis correlating the project's criteria air pollutant emissions with localized health impacts. (Appellants Answer Brief pp. 10-11; 28.) However, Mr. Barber's testimony simply reinforces the Air District's concern that a risk assessment (HRA) be conducted once the actual details of the project become available. (AR 8863.) As to criteria air pollutants, Mr. Barber's comments are aimed at the Air District's concern about the amount of emissions and the fact that the emissions will make it "more difficult for Fresno County and the Valley to reach attainment which means that the health of Valley residents maybe [sic] adversely impacted." Mr. Barber says nothing about conducting a separate analysis of the localized health impacts the project's emissions may have.

The Court of Appeal's holding, which incorrectly extrapolates a request for an HRA for TACs into a new analysis of the localized health impacts of the project's criteria air pollutants, highlights two additional errors in the Court's decision.

First, the Court of Appeal's holding illustrates why the Court should have applied the deferential substantial evidence standard of review to the issue of whether the EIR's air quality analysis was sufficient. The regulation of air pollution is a technical and complex field and the Court of Appeal lacked the expertise to fully appreciate the difference between TACs and criteria air pollutants and tools available for analyzing each type of pollutant.

Second, it illustrates that the Court likely got it wrong when it held that the issue regarding the criteria pollutant / localized health impact analysis was properly exhausted during the administrative process. In order to preserve an issue for the court, '[t]he "exact issue" must have been presented to the administrative agency....' [Citation.] *Citizens for Responsible Equitable Environmental Development v. City of San Diego*, (2011) 196 Cal.App.4th 515, 527 129 Cal.Rptr.3d 512, 521; *Sierra Club v. City of Orange* (2008) 163 Cal.App.4th 523, 535, 78 Cal.Rptr.3d 1, 13. "'[T]he objections must be sufficiently specific so that the agency has the

opportunity to evaluate and respond to them.' [Citation.]" *Sierra Club v. City of Orange*,163 Cal.App.4th at 536.[19]

As discussed above, the City's comment, while specific enough to request a commonly performed HRA for TACs, provided the County with no notice that it should perform a new type of analysis correlating criteria pollutant tonnages to specific human health effects. Although the parties have not directly addressed the issue of failure to exhaust administrative remedies in their briefs, the Air District submits that the Court should consider how it affects the issues briefed by the parties since "[e]xhaustion of administrative remedies is a jurisdictional prerequisite to maintenance of a CEQA action." *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1199, 22 Cal.Rptr.3d 203.

III. CONCLUSION

For all of the foregoing reasons, the Air District respectfully requests that the portion of the Court of Appeal's decision requiring an analysis correlating the localized human health impacts associated with an individual project's criteria air pollutant emissions be reversed.

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[19] *Sierra Club v. City of Orange*, is illustrative here. In that case, the plaintiffs challenged an EIR approved for a large planned community on the basis that the EIR improperly broke up the various environmental impacts by separate project components or "piecemealed" the analysis in violation of CEQA. In evaluating the defense that the plaintiffs had failed to adequately raise the issue at the administrative level, the Court held that comments such as *"the use of a single document for both a project-level and a program-level EIR [is] 'confusing',"* and *"[t]he lead agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project,"* were too vague to fairly raise the argument of piecemealing before the agency. *Sierra Club v. City of Orange*, 163 Cal.App.4th at 537.

correlating the localized human health impacts associated with an individual project's criteria air pollutant emissions be reversed.

Respectfully submitted,

Dated: April 2, 2015

Catherine T. Redmond
Attorney for Proposed Amicus Curiae

SAN JOAQUIN VALLEY
UNIFIED
AIR POLLUTION CONTROL
DISTRICT

CERTIFICATE OF WORD COUNT

Pursuant to Rule 8.204 of the California Rules of Court, I hereby certify that this document, based on the Word County feature of the Microsoft Word software program used to compose and print this document, contains, exclusive of caption, tables, certificate of word count, signature block and certificate of service, 3806 words.

Dated: April 2, 2015

Annette A. Ballatore-Williamson
District Counsel (SBN 192176)

Sierra Club et al, v. County of Fresno, et al
Supreme Court of California Case No.: S219783
Fifth District Court of Appeal Case No.: F066798
Fresno County Superior Court Case No.: 11CECG00726

PROOF OF SERVICE

I am over the age of 18 years and not a p[arty to the above-captioned action; that my business address is San Joaquin Valley Unified Air Pollution Control District located at 1990 E. Gettysburg Avenue, Fresno, California 93726.

On April 2, 2015, I served the document described below:

APPLICATION FOR LEAVE TO FILE AMICUS CURIAE BRIEF OF SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO

On all parties to this action at the following addresses and in the following manner:

PLEASE SEE ATTACHED SERVICE LIST

(XX) **(BY MAIL)** I caused a true copy of each document(s) to be laced in a sealed envelope with first-class postage affixed and placed the envelope for collection. Mail is collected daily at my office and placed in a United State Postal Service collection box for pick-up and delivery that same day.

( ) **(BY ELECTRONIC MAIL)** I caused a true and correct scanned image (.PDF file) copy to be transmitted via electronic mail transfer system in place at the San Joaquin Valley Unified Air Pollution Control District ("District"), originating from the undersigned at 1990 E. Gettysburg Avenue, Fresno, CA, to the address(es) indicated below.

( ) **(BY OVERNIGHT MAIL)** I caused a true and correct copy to be delivered via Federal Express to the following person(s) or their representative at the address(es) listed below.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that I executed this document on April 2, 2015, at Fresno, California.

Esthela Soto

SERVICE LIST

Sierra Club et al, v. County of Fresno, et al
Supreme Court of California Case No.: S219783
Fifth District Court of Appeal Case No.: F066798
Fresno County Superior Court Case No.: 11CECG00726

Sara Hedgpeth-Harris, Esq. LAW OFFICE OF SARA HEDGPETH-HARRIS 2125 Kern Street, Suite 301 Fresno, California 93721 Telephone: (559) 233-0907 Facsimile: (559) 272-6046 Email: sara.hedgpethharris@shh-law.com	Attorney for Plaintiffs and Appellants, Sierra Club, et al
Daniel C. Cederborg, Esq. Bruce B. Johnson, Jr., Esq. OFFICE OF THE FRESNO COUNTY COUNSEL 2220 Tulare Street, Suite 500 Fresno, California 93721 Telephone: (559) 600-3479 Facsimile: (559) 600-3480 Email: bjohnson@co.fresno.ca.us	Attorneys for Defendant and Respondent, County of Fresno
Bryan N. Wagner, Esq. WAGNER & WAGNER 7110 N. Fresno Street, Suite 340 Fresno, California 93720 Telephone: (559) 224-0871 Facsimile: (559) 224-0885 Email: bryan@wagnerandwagner.com	Attorneys for Real Party in Interest/Respondent Friant Ranch, L.P.
Clerk of the Court Superior Court of California County of Fresno 1130 'O' Street Fresno, California 93721 Telephone: (559) 457-1900	
Clerk of the Court Fifth District Court of Appeal 2424 Ventura Street Fresno, California 93721 Telephone: (559) 445-5491	

R. Tyson Sohagim, Esq. THE SOHAGI LAW GROUP 11999 San Vicente Blvd., Suite 150 Los Angeles, California 90049 Telephone: (310) 475-5700 Facsimile: (310) 475-5707 Email: tsohagi@sohagi.com	Attorney for Amici Curiae; League of California Cities, and the California State Association of Counties
Marcia L. Scully, Esq. General Counsel METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA Post Office Box 54153 Los Angeles, California 90054 Telephone: (213) 217-6115	Attorney for Amicus Curiae, The Metropolitan Water District of Southern CA
Amy Minteer, Esq. CHATEN-BROWN & CARSTENS LLP 2200 Pacific Coast Highway, Suite 318 Hermosa Beach, California 90254 Telephone: (310) 798-2400 Facsimile: (310) 798-2402 Email: ACM@CBCEarthlaw.com	Attorney for Amici Curiae, Association of Irritated Residents, Medical Advocates for Healthy Air, and Coalition for Clean Air
Shanda M. Beltran, Esq. General Counsel BUILDING INDUSTRY LEGAL DEFENSE FOUNDATION 17744 Sky Park Cr., Suite 170 Irvine, California 92614 Telephone: (949) 553-9500 Facsimile: (949) 769-8943 Email: sbeltran@biasc.org	Attorney for Amicus Curiae, Building Industry Legal Defense Foundation
Gene Talmadge, President CALIFORNIA ASSOCIATION OF ENVIRONMENTAL PROFESSIONALS 40747 Baranda Court Palm Desert, California 92260 Telephone: (760) 340-4499 Facsimile: (760) 674-2479	Attorney for Amicus Curiae, California Association of Environmental Professionals
Jennifer L. Hernandez, Esq. HOLLAND & KNIGHT LLP 50 California Street, Suite 2800 San Francisco, California 94111	On behalf of Amicus Curiae, CEQA Research Council

Telephone: (415) 743-6927 Facsimile: (415) 743-6910 Email: Jennifer.hernandez@hklaw.com	



SB 610 WATER SUPPLY ASSESSMENT UPDATE

Westlake WSA Update for the Parc West Development Project

PREPARED FOR:

City of Fresno
Development and Resource Management
2600 Fresno Street, Room 3065
Fresno, CA 93721

PREPARED BY:

Crawford & Bowen Planning, Inc.
113 N. Church Street, Suite 302
Visalia, CA 93291
Contact: Travis Crawford, AICP

September 2018

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APPENDIX A – Westlake Development Project Water Supply Assessment (2009); adopted in 2011

1.0 INTRODUCTION AND BACKGROUND

The City of Fresno is conducting an environmental review under the requirements of the California Environmental Quality Act (CEQA) for the proposed Parc West project in the City of Fresno, California. See Section 2.0 for a description of the project. This Water Supply Assessment (WSA) is an update to the previously-approved Westlake Development Project WSA that was adopted by the City of Fresno in 2011. This WSA Update will provide information for use in the CEQA analysis for the proposed Parc West project.

The Updated WSA has been prepared pursuant to the requirements of Senate Bill 610 (Costa; Chapter 643, Stats. 2001) ("SB 610"), which requires public water agencies, parties or purveyors that may supply water to certain proposed development projects to prepare a WSA for use in environmental documentation for such projects, pursuant to CEQA. This Updated WSA contains information from the City of Fresno 2015 Urban Water Management Plan (UWMP) which was adopted by the City of Fresno. A WSA is required for any "project" that is subject to CEQA and proposes, among other things, a residential development of more than 500 dwelling units.

PURPOSE OF UPDATING THE WESTLAKE WSA

The Project Applicant (Granville Homes) for the Westlake project has determined that the Westlake project is no longer viable and is pursuing a "scaled-down" project, known as "Parc West" on a portion of the same site as the Westlake project. Therefore, the "project" for this WSA Update is the abandonment of the Westlake Development project and the construction and operation of the Parc West project. This WSA Update will accommodate the scaled-down Parc West project and will utilize the information in the previous Westlake WSA to the extent practical, but will provide updated information where necessary and applicable. The entire previously-approved Westlake WSA is included as Appendix A.

DISPOSTION OF THE ADOPTED WESTLAKE WSA

This Updated WSA is intended to supersede the previously adopted Westlake WSA. Since the adopted Development Agreement conditions and maps for Westlake Development project are being formally abandoned and replaced by the Parc West project, so will the Westlake WSA. This Updated WSA will serve as a stand-alone document supporting only the Parc West project. Any future development of the remaining acreage of the Westlake Project (which is approximately 300 acres) will be subject to additional CEQA analysis and a subsequent WSA if the requirements for implementation of SB 610 are met if or when remaining acreage is to be developed.

2.0 PROJECT DESCRIPTION

PROJECT LOCATION AND SETTING

The proposed Parc West project will occupy only a portion of the previous Westlake Development project. Specifically, it is a 160-acre portion of the 430-acre Westlake site at the northwest corner of Ashlan Avenue and Grantland Avenue (See Figures 1 through 3). The site is within the City limits of Fresno (annexed in 2015) and occupies Assessor's Parcel Numbers 512-02-126 and 512-02-150S. The site is zoned RS-5: Single-Family Medium Density Residential and CC: Commercial Community (See Figure 4). The site is currently planted with relatively young almond trees but was previously vacant for several years. Surrounding land uses are as follows:

Surrounding Land Use and Zoning

Location	Existing Land Use	Roadway
North	Rural residential (outside City limits)	None existing. Planned for W. Gettysburg Ave.
South	Agricultural (almonds) – site of original Westlake project	None existing. Planned for W. Ashlan Ave.
West	Agricultural (outside City limits)	None existing. Planned for N. Garfield Ave.
East	Central Unified School District Complex (football stadium,	N. Grantland Ave.

DESCRIPTION OF PROPOSED PROJECT

As previously stated, the "project" for this WSA Update is the abandonment of the Westlake Development project and the construction and operation of the Parc West project. Parc West will include up to 844 single-family residential units and a 1.819-acre park / trail system. The project will be built out in phases, with Phase 1 generating 84 units. The general layout of the project is shown in Figure 3. For purposes of this WSA Update, it is assumed that no units would not be occupied until after 2020.

Although the Parc West project is proposed to occupy 160 acres of the previous Westlake Project, there will be an entirely new layout of the site; as the previously-approved Westlake maps will be abandoned and replaced with the proposed 844-unit Parc West map. Site access will occur

from N. Grantland Avenue and from the proposed W. Ashlan Avenue and N. Garfield Avenue extensions. Preliminary internal road circulation and layout are shown in Figure 3.

The project is proposed to be supported by the City of Fresno's municipal water supply system (pending the approval of this WSA Update) and its wastewater collection system (including the Grantland trunk sewer) and wastewater / treatment disposal facilities. The major service public utility is Pacific Gas and Electric.

In support of the Parc West project, the Applicant is seeking the following entitlements from the City of Fresno:

- General Plan Amendment: Medium Density Residential land use designation (5.0 – 12.0 DU/acre), Traffic Circulation Plan, Parks, Open Space and Trail Network.
- Rezoning: A 10-acre section originally intended for commercial development will be re-zoned RS-5 and will include removal of the previous Westlake Development Project conditions to be replaced with new conditions appropriate for the Parc West Development. The remaining acreage will remain RS-5 and will not require land use designation or zoning changes.
- Tentative Tract Map to create "super-pads" for future subdivisions.
- Community Facilities District for maintenance of the public green spaces.

COMPARISON OF WESTLAKE VS PARC WEST

The previous Westlake Development Project Water Supply Assessment adopted/approved by the City of Fresno included:

- 2,600 residential units on 430 acres
- 295,000 sq. ft. commercial component
- 55-acre man-made lake
- Public landscaping

This WSA Update for the new "scaled-down" project, known as Parc West on a portion of the same site as Westlake includes:

- 844 single-family residential units on 160 acres
- 1.819-acre park and trail system / public landscaping
- No commercial component

Figure 1
Aerial Map

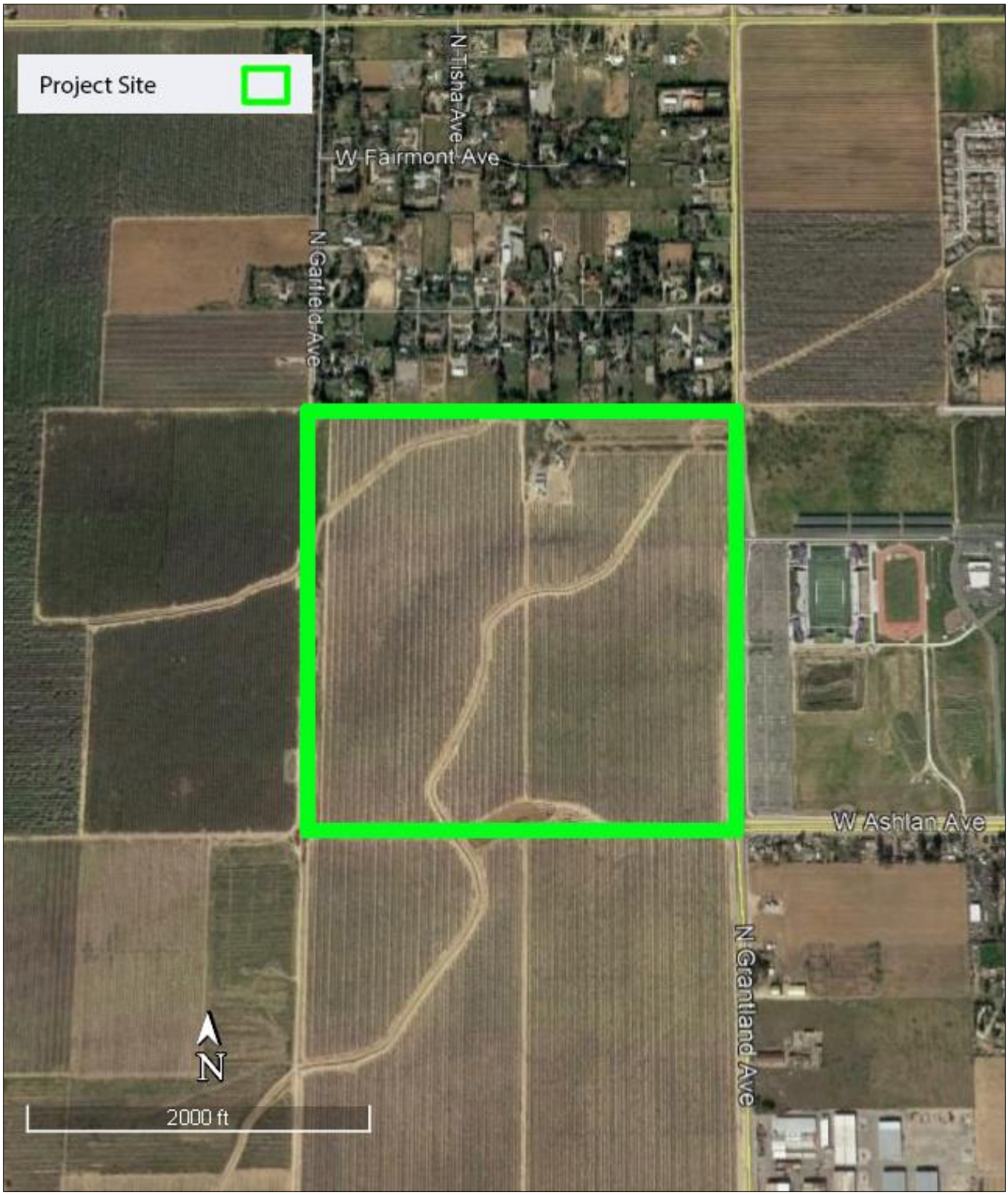


Figure 2
Parc West in Relation to Westlake

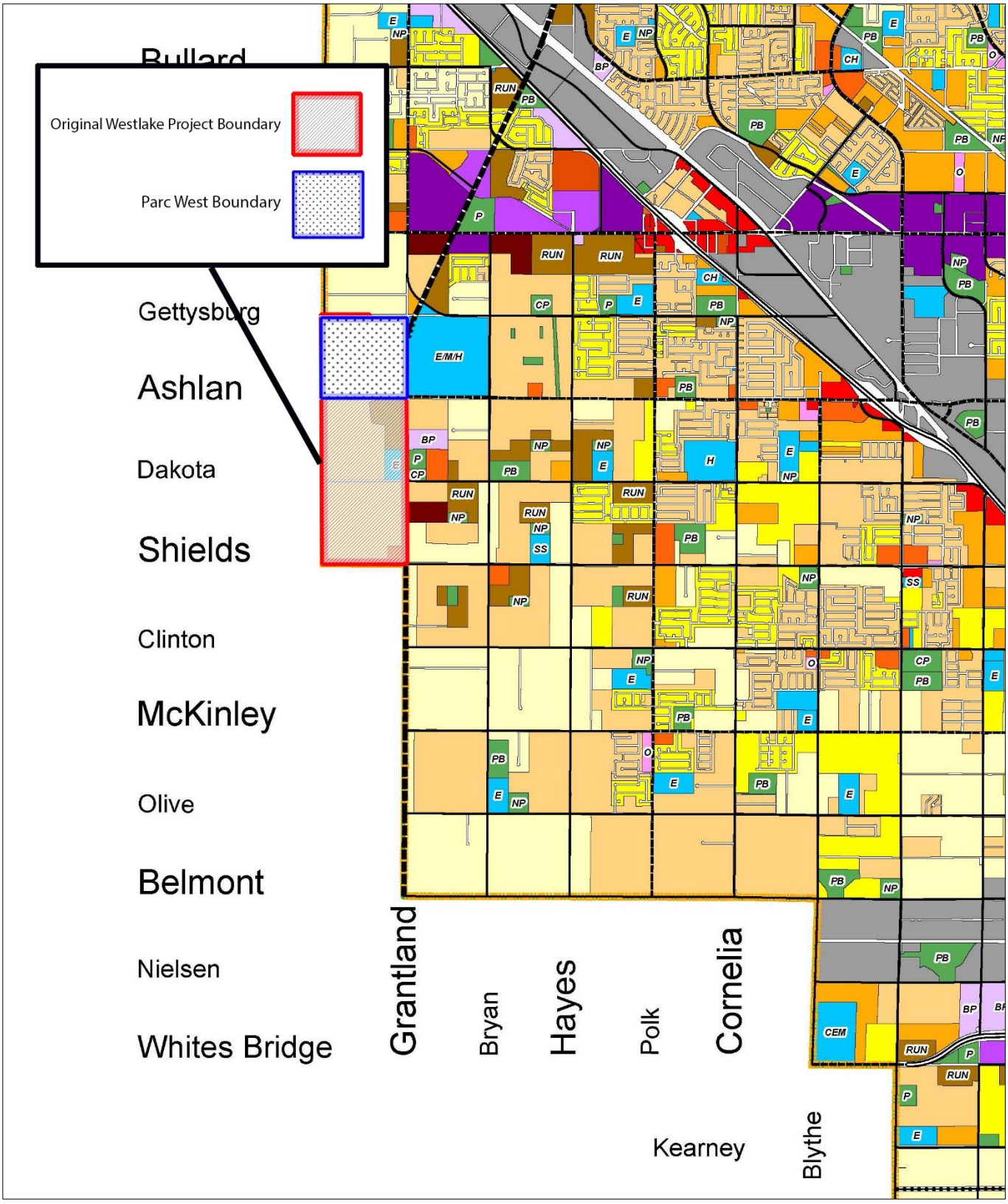
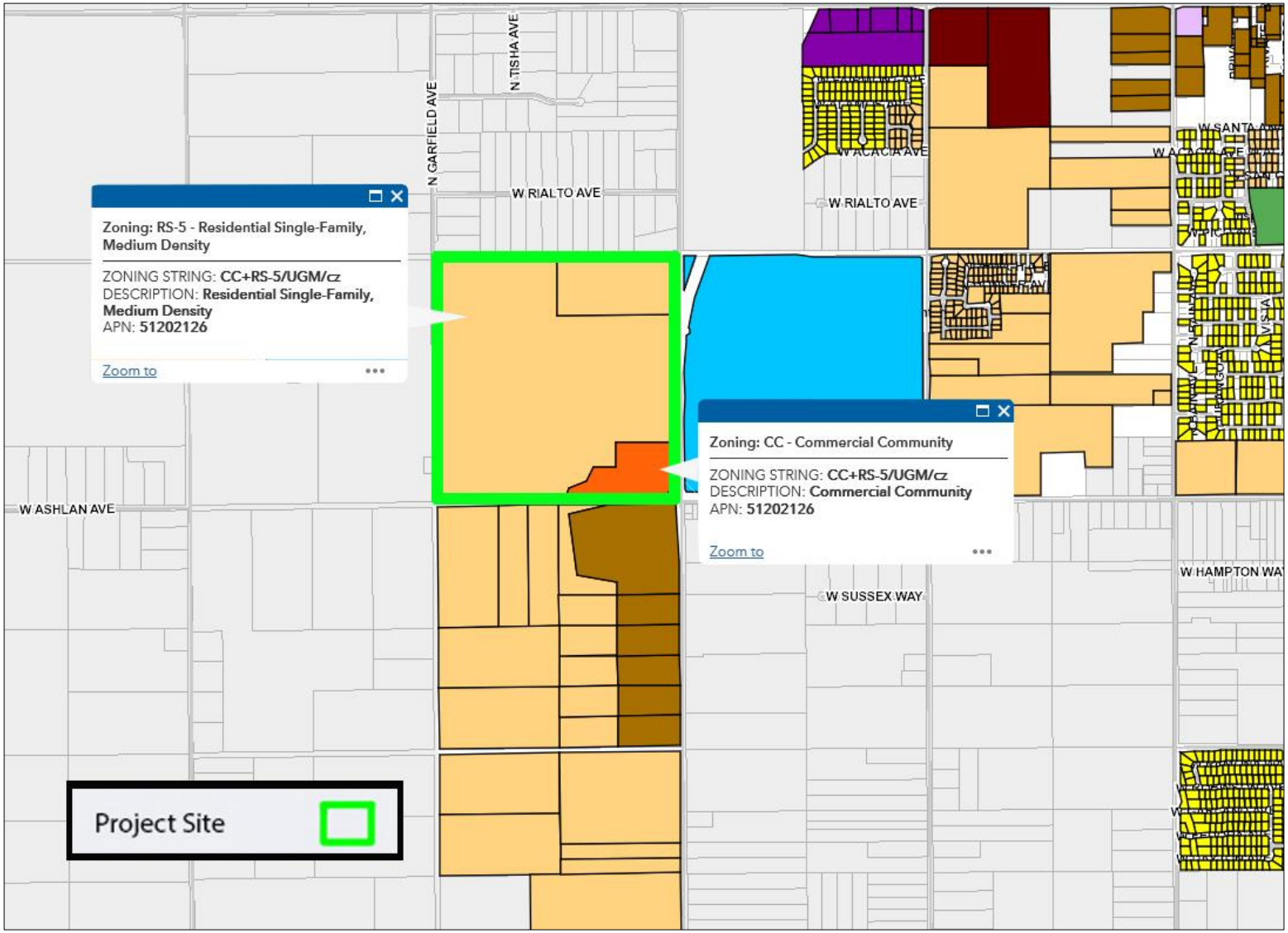


Figure 3
Parc West Preliminary Site Layout



Figure 4
Existing Zoning



2.0 PROJECT WATER DEMANDS

ASSUMPTIONS

Project water demand will be determined using the City's adopted 2015 Urban Water Management Plan (UWMP) methodologies and will be calculated on the basis of the following assumptions:

- Residential: 844 single-family units; historic water usages per capita adjusted for City Urban Water Management Plan assumptions regarding water conservation usage effects.
- Park/Trail: 1.819 acres of potentially irrigated public spaces. To be conservative, it is assumed that the entire public space acreage will be irrigated lawn. The previous Westlake WSA assumed irrigated lawn/open space would require 3.0 acre/feet/year of water.
- No units will be occupied until after 2020, therefore this analysis will use the UWMP 2020 target of 247 gallons per capita per day (GPCD), which is 80% of the City's 10-year baseline period (1999-2008) target of 309 GPCD and the confirmed 2020 target.[1]
- Average single-family household size according to the City's most recent Housing Element is 3.07 persons per unit. However, the previous Westlake WSA used 3.2 persons per dwelling unit, therefore, this analysis will use 3.2 persons per unit. With 844 units, this equates to approximately 2,700 persons (rounded).

PROJECT WATER DEMANDS

Residential: 844 dwelling units X 3.2 persons per dwelling unit = 2,700 persons X 247 GPCD = 666,900 total gallons per day X 365 days per year = 243,418,500 gallons per year (or ~747 acre/feet/year)

Park/Trail: 1.819 acres X 3.0 acre/feet/year = ~5.5 acre/feet/year

[1] City of Fresno 2015 UWMP, page 5-9.

Total Water Demand:	747 acre/feet/year for Residential
	5.5 acre/feet/year for Park/Trail
	752.5 acre/feet/year

COMPARISON TO WESTLAKE WATER DEMANDS

Projected water demand from the previous Westlake Project is shown in Table 1.

Table 1 – Previous Westlake Project Water Demand in acre/feet/year

	2013	2020
Residential, Single-Family	1,708	1,626
Residential, Multiple Family	241	229
Commercial	81	81
Lake	168	168
Open Space	39	39
Total	2,237	2,143

Source: Adopted Westlake WSA, page 3-3 (See Appendix A).

As shown in Table 1, the Westlake project was projected to use 2,143 acre/feet/year of water by year 2020. That total included single-family and multi-family residential units, commercial establishments, public open spaces and a 55-acre lake (taking into account lake fill, evaporation and other factors). The Parc West project only includes single-family residential units and parks/open space. Comparing the Westlake project to the proposed Parc West project (752.5 acre/feet/year), the Parc West project will use approximately 1,390.5 acre/feet/year less water than what was approved for the Westlake project.

COMPARISON TO "NO-PROJECT" / EXISTING WATER DEMANDS

The proposed 160-acre Parc West project is currently planted in almond trees. Water use requirements for almond trees can vary depending on location, amount of rainfall, irrigation methods, soil permeability and other factors. Some studies estimate that each acre of almonds uses 3 to 4 acre/feet/year[2] at full maturity. The Western Farm Press, which uses data collected

[2] http://www.slate.com/articles/technology/future_tense/2014/05/_10_percent_of_california_s_water_goes_to_almond_farming.html Accessed Sept. 2018.

from growers, estimates that the average water applied is 35.58 acre/inches or 2.97 acre/feet/acre.[3] A 2016 UC Davis study that analyzed costs associated with almond trees in the Central Valley estimated that within 5 years of being planted, almond orchards require approximately 52 acre/inches per year of water (this includes in-season rainfall) or 4.33 acre/feet/acre.[4]

For purposes of this WSA, it is assumed that once full maturity is achieved, the existing almonds on the site will require approximately 4 acre/feet/acre/year.

160 acres of almonds X 4 acre/feet/acre/year = 640 acre/feet/year

Comparing the 160 acres of almonds (640 acre/feet/year) to the 160 acres of the Parc West project (752.5 acre/feet/year), the Parc West project will use approximately 112.5 acre/feet/year more water than the existing almond orchard.

COMPARISON SUMMARY

- Previously approved 430-acre Westlake WSA: 2,143 acre/feet/year
- Existing 160-acre almond orchard water demand: 640 acre/feet/year
- Estimated 160-acre Parc West water demand: 752.5 acre/feet/year

Although this WSA Update is intended to only address water use demands from the proposed Parc West project, a useful comparison may be to include the balance of the acreage currently planted in almonds (300 acres). Utilizing the estimation of 4 acre/feet/acre/year of water for almonds, if Parc West is built out on 160 acres, and the remaining 300 acres is planted in almonds, the entire site would use approximately 1,953 acre/feet/year (160 acre Parc West = 752.5 acre/feet/year + 300 acres of almonds @ 4 acre/feet/acre/year = 1,200 acre/fee/year). This is approximately 190 acre/feet/year less than the Westlake project when taking into account the entire acreage.

[3] https://www.westernfarmpress.com/tree-nuts/8-facts-about-almonds-agriculture-and-drought. Accessed Sept. 2018.

[4] https://coststudyfiles.ucdavis.edu/uploads/cs_public/87/3c/873c1216-f21e-4e3e-8961-8ece2d647329/2016_almondsjv_south_final_10142016.pdf Accessed Sept. 2018.

CITY-WIDE FUTURE ESTIMATED WATER USE

The City's 2015 UWMP estimated future water demands based on land-use demand factors. The forecast period was based on a review of land-based unit demands factors for 2013 through 2015 and holding the City's General Plan land use acreages at buildout.[5] Projected water demands are shown in Table 2. As shown in the Table, overall water demands are projected to increase from 214,500 af/year in 2020 to 262,500 af/year in 2040, an approximately 22% increase. However, the increase in water use from single-family housing is projected to increase at a slower rate of approximately 13% over the same period from 81,200 af/year in 2020 to 92,100 af/year in 2040.

Table 2 – City-Wide Demands for Potable and Raw Water

Use Type	Additional Description *(as needed)*	Projected Water Use (af)				
		2020	2025	2030	2035	2040
Single Family		81,200	85,700	87,000	91,200	92,100
Multi-Family		23,000	25,100	26,800	28,900	30,400
Commercial	See Note 1	24,800	28,800	32,800	36,800	38,800
Industrial		6,600	6,900	6,400	6,600	6,900
Institutional/Governmental	See Note 1					
Landscape		11,200	11,700	12,200	12,700	13,100
Groundwater recharge/storage/banking	GW recharge	55,800	58,500	61,100	63,800	66,500
Saline water intrusion barrier						
Agricultural irrigation						
Wetlands or wildlife habitat						
Wholesale demand						
Other (define)	Travel Meters	200	200	200	200	200
Losses		11,700	12,700	13,200	14,100	14,500
Total		214,500	229,600	239,700	254,300	262,500

Notes:1. Institutional and Governmental water usage is included in Commercial.

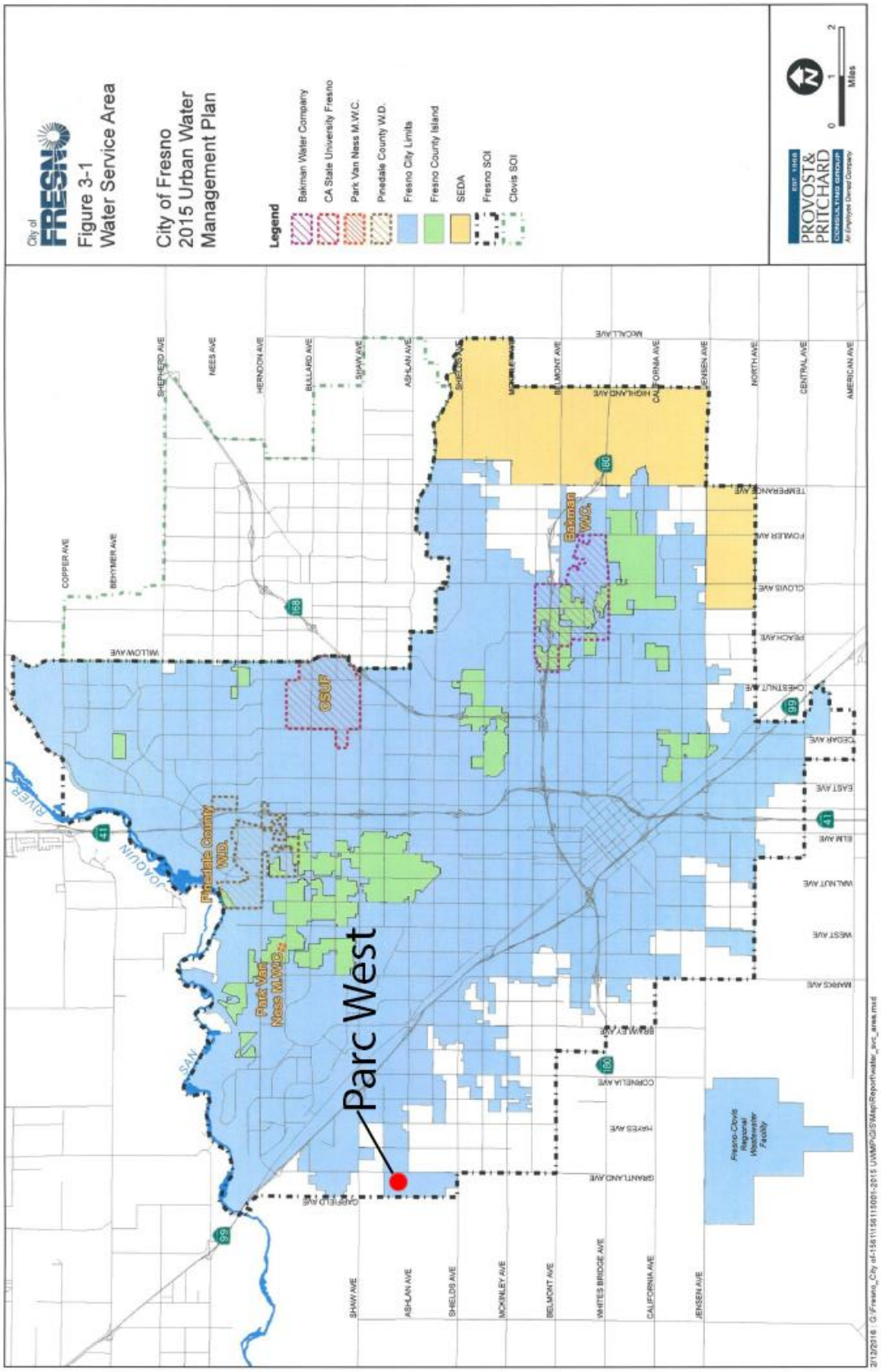
Source: Fresno 2015 UWMP Table 4-4, page 4-6

[5] City of Fresno 2015 UWMP, page 4-5.

3.0 INCLUSION IN ADOPTED URBAN WATER MANAGEMENT PLAN (Water Code Section 10910(C)(1))

The proposed Parc West project site is included in the land use / population area covered by the City's 2015 Urban Water Management Plan (UWMP). Figure 5 shows the location of the project site in relation to the Water Service Area boundaries covered by the 2015 UWMP. There is no evidence, in consideration of the calculated project water demand, that such demand exceeds that estimated in the UWMP. The adequacy of the water supply for the project will thus be analyzed on the basis of the analysis of the City's water supply in the adopted Urban Water Management Plan.

Figure 5
Fresno UWMP Boundaries



4.0 DRY YEAR WATER SUPPLY ADEQUACY (Water Code Section 10910(C)(4))

The following dry year water supply adequacy is excerpted from the adopted 2015 UWMP for the City-served area which includes the Parc West project.

AVERAGE YEAR

Average year water supplies are for the most part fairly stable for the City of Fresno. For average year conditions the combined surface water supplies from FID and the USBR are suitable to meet the operational needs of surface water treatment facilities (SWTF) and intentional recharge activities. The continuous operation of the SWTFs and the intentional recharge program permit the replenishment of the groundwater supply for a higher level of reliance in drier years. As the availability of supplies varies seasonally, such as surface water from FID, the City is able to meet demands utilizing groundwater supplies. As the City brings new recycled water production and distribution infrastructure online, the reliability of average supplies will become greater. Maintaining intentional recharge activities will ensure the groundwater supply will be very reliable. [6] Normal Year Supply and Demand is shown in Table 3. As shown in the table, total supply exceeds total demand in a normal year.

Table 3 – Normal Year Supply and Demand Comparison (DWR Table 7-2)

	2020	2025	2030	2035	2040
Supply totals (af) *(DWR Table 6-9)*	308,700	329,900	342,000	354,100	366,200
Demand totals (af) *(DWR Table 4-3)*	235,700	264,000	274,100	292,900	301,100
Difference (af)	73,000	65,900	67,900	61,200	65,100
Reported volumes are rounded to the nearest 100.					

Source: Fresno 2015 UWMP Table 7-5, page 7-9

[6] City of Fresno 2015 UWMP, page 7-4.

SINGLE DRY YEAR

With the 2012-2015 drought, the City of Fresno experienced the largest and most dramatic reduction to surface water supplies than it ever has historically. For the San Joaquin River supply from the CVP-Friant Division, the City received a zero allocation. From the FID agreement the City received an allocation of only 42,935 af. To stretch supplies intentional recharge operations were drastically reduced and exceptional water use restrictions were imposed to reduce water consumption. Through this combined approach of supply optimization and demand reduction the City was able to maintain satisfactory levels of service and did not have to over-pump the groundwater aquifer.

The supplies most susceptible to seasonal vulnerability are the surface water supplies, which for the FID supply is delivered consistent to recorded historic stream flow for the Kings River. The controlling factor for this supply is the daily calculated natural runoff versus the daily entitlement tables used to allocate the water as related to historic predam river flows. This established methodology, especially in dry years, will affect the availability and delivery to the City's facilities. The USBR supply, in years when water is available, has more flexibility in delivery through advanced scheduling with the Bureau.

The groundwater supply is virtually unaffected by seasonal variation and with continued intentional recharge program will remain very reliable supply. As was mentioned for average supplies, as the City adds new recycled water infrastructure to its portfolio it will be better equipped to manage the single dry year condition.[7] Single Dry Year Supply and Demand is shown in Table 4. As shown in the table, total supply exceeds total demand in a single year.

[7] City of Fresno 2015 UWMP, page 7-5

Table 4 – Single Dry Year Supply and Demand Comparison (DWR Table 7-3)

	2020	2025	2030	2035	2040
Supply totals[1] (af)	198,000	216,400	225,800	235,200	244,500
Demand totals[2] (af)	179,900	205,400	212,900	229,100	234,500
Difference (af)	18,100	11,000	12,900	6,100	10,000

[1] Supply Totals are derived in Table 7-7 for the Fourth Dry Year.
[2] Demand Totals are derived in Table 7-8 for the Fourth Dry Year.
[3] Reported volumes are rounded to the nearest 100.

Source: Fresno 2015 UWMP Table 7-6, page 7-9

MULTIPLE DRY YEAR PERIOD

The vulnerability of water supplies to the multiple-dry year condition has changed dramatically with the 2012-2015 drought as compared to past drought occurrences. The most significant vulnerability highlighted by this recent drought is the susceptibility of the San Joaquin River supply to the impacts of the drought beyond the immediate hydrologic region, and influenced by measures being taken to preserve the ecological health of the Delta region. As the State endured several years of dry periods, the lack of sufficient stored water in the northern portion of the state has affected the operations of state and federal projects' pumping water from the Delta. This in turn reduced the flows delivered to the Exchange Contractors causing them to call on their historic water right of San Joaquin River water for the first time in seventy years. The result of this chain reaction was that the USBR CVP-Friant Division contractors received no water allocations for two years (2014 and 2015). This was an unprecedented occurrence and has brought a heightened level of immediacy to completing capital infrastructure projects which will allow the City to fully execute and implement the water supply plan outlined in its MWRMP (2014). The need for the City to diversify its water supply portfolio and remain diligent in managing resources couldn't be made more apparent than it was through this historic drought period. Despite severe reductions of surface water supplies, sufficient good quality water was available to permit the NESWTF to operate. As mentioned in the previous section, there is some seasonal vulnerability with surface water availability in dry years which needs to be closely coordinated with surface water suppliers to minimize impacts to the City's SWTF operations. Groundwater supplies, with intentional recharge augmentation remain reliable in all hydrologic conditions. Multiple Dry Years Supply and Demand is shown in Table 5. As shown in the table, total supply exceeds total demand in multiple dry years. However, this takes into account water use

restrictions and conservation measures that would be implemented under a multi dry year scenario.

Table 5 – Multiple Dry Years Supply and Demand Comparison (DWR Table 7-4), af

		2020	2025	2030	2035	2040
First year	Supply totals	260,900	280,900	291,800	302,700	313,600
	Demand totals	213,800	217,800	229,300	229,100	234,500
	Difference	47,100	63,100	62,500	73,600	79,100
Second year	Supply totals	271,500	291,700	302,800	313,900	325,000
	Demand totals	225,100	229,200	240,900	231,800	241,400
	Difference	46,400	62,500	61,900	82,100	83,600
Third year	Supply totals	219,200	238,600	249,000	259,400	269,700
	Demand totals	179,900	205,400	212,900	229,100	234,500
	Difference	39,300	33,200	36,100	30,300	35,200
Fourth year	Supply totals	198,000	216,400	225,800	235,200	244,500
	Demand totals	179,900	205,400	212,900	229,100	234,500
	Difference	18,100	11,000	12,900	6,100	10,000
Note: Reported volumes are taken from Tables 7-7 & 7-8 and rounded to the nearest 100.						

Source: Fresno 2015 UWMP Table 7-9, page 7-12

REGIONAL SUPPLY RELIABILITY

According to the 2015 UWMP, the City of Fresno is in the midst of constructing significant infrastructure which will permit it to optimize the use of all regional supplies it has access to. A new 54 mgd surface water treatment facility (SESWTF; capable of 80 mgd with finish water filter rerating) is under construction which is slated for completion in FY 2018 and will permit the maximum use of surface water supplies available to the City. Completion of this project will allow the City to fully utilize surface water supplies in average years for both: treatment for direct potable use and replenishment of groundwater via intentional recharge.

The City is also expanding recycled water use and is presently constructing a 5 MGD tertiary wastewater treatment facility and associated transmission and distribution facilities. Also,

budgeted for FY 2018-19 is the design and construction of a 8 MGD satellite tertiary wastewater treatment facility to be located in southeast Fresno. This facility will enable the City to provide direct potable water offset to this region of the City and further stretch the use of pristine supplies for the best and most beneficial uses.

Upon completion of the projects presently under construction, and those already existing, the City will have transitioned from a system that relied 100% on groundwater to meet potable water demands in the Year 2000, to one that will be comprised of about 46% groundwater, 50% surface water, and 4% recycled water in the Year 2020. This transition demonstrates regional leadership in an area where water purveyors have relied almost entirely on groundwater for a century. The reversal away from the strict reliance on groundwater will permit the sustainable utilization of the groundwater system through preservation, replenishment, and sound resource management.[8]

[8] City of Fresno 2015 UWMP, page 7-12

5.0 WATER SUPPLY RIGHTS AND ENTITLEMENTS; HISTORIC WATER USAGE (Water Code Section 10910(A)(1) and 10910(D)(2))

The City of Fresno uses a combination of groundwater, surface water, storm water, wastewater/recycled water to meet current and future water demands. The following pages are extracted directly from the adopted 2015 UWMP (Pages 6-1 through 6-34) in satisfaction of these Code sections. This information is applicable to the entire City of Fresno municipal water service area, including the Parc West project site.

6 System Supplies

This chapter provides a description and quantification of each water supply used by the City. This discussion will address quantities available under normal water year conditions, water quality, and projects to meet future demands.

6.1 Groundwater

Groundwater has come to the forefront of the State's water supply concerns due to rapidly declining groundwater levels and storage, land subsidence, seawater intrusion, and degradation of groundwater quality. The severity of the issue ultimately led to legislature drafting three bills which were signed by the Governor on September 16, 2014, and laid the foundation of the Sustainable Groundwater Management Act (SGMA). As required by SGMA, each groundwater basin is to develop a Groundwater Sustainability Agency(ies) (GSA), and a Groundwater Sustainability Plan (GSP), and attain sustainability within twenty years. The statewide use of groundwater supplies will inevitably change over the next few years, as GSP guidelines are developed and GSA's create plans to fit their unique circumstances. The information provided in this 2015 UWMP is provided as the best available information known at the time of this plan preparation. It is acknowledged however, more refined information will be accumulated through monitoring and reporting for each GSA. As the GSA's incorporate and assimilate gathered data, they will employ adaptive management measures based on measured objectives. This process will be a continual one permitting the refinement of each agency's understanding of how their actions influence the groundwater basin. The City of Fresno is committed to the success of the SGMA, and anticipates new information will be forthcoming which may influence the values presented in this plan. The City reserves the right to make changes to the presented values in this plan and will do so through the submittal of an amendment to the DWR should changes in values be sufficient to warrant such a plan amendment.

6.1.1 Basin Description

Legal Requirements:

CWC 10631

(b) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater.

The California Department of Water Resources (DWR) has partitioned the State into ten major hydrologic regions (also referred to as "basins") and then further divided each basin into subbasins. In this manner DWR is better able to specifically address the individual basins and account for their unique characteristics in various reports prepared by them. As shown in the California Water Plan Update 2013[11] (2013 CWP), the City of Fresno is located in the Kings Subbasin (DWR Subbasin 5-22.08) which is in the greater Tulare Lake hydrologic region (DWR Basin 5.22), and also within the larger San Joaquin Valley Groundwater Basin. The Kings Subbasin covers approximately 1,530 square miles.

6.1.1.1 Basin Location

The Kings Subbasin, as depicted in the 2013 CWP, is generally bounded: on the north by the San Joaquin River; on the west by the Fresno Slough; on the south by the Kings River and Cottonwood Creek; and on the east by the Sierra foothills. DWR classified the Kings Basin as being in a state of critical overdraft in its Bulletin 118-80. Figure 6-1 shows the City's location relative to the Kings Subbasin boundaries.

6.1.1.2 Area Geology

The upper several hundred feet within the Kings Subbasin generally consists of highly permeable, coarse-grained deposits, which are termed older alluvium. Coarse-grained stream channel deposits, associated with deposits by the ancestral San Joaquin and Kings Rivers, underlie much of the northwest portions of the City. Additionally, a recent study completed in 2004 indicated the presence of a laterally extensive clay layer, at an average depth of approximately 250 feet below the ground surface, beneath most of the south and southeastern portions of the City.

Below the older alluvium to depths ranging from about 600 to 1,200 feet below ground surface, the finer-grained sediments of the Tertiary-Quaternary continental deposits are typically encountered. Substantial groundwater has been produced and utilized from these depths by the City; however, deeper deposits located in the southeastern and northern portions of the City have produced less groundwater.

There are also reduced deposits in the northern and eastern portions of the City, at depths generally below 700 or 800 feet, which are associated with high concentrations of iron, manganese, arsenic, hydrogen sulfide, and methane gas. Groundwater at these depths does not generally provide a significant source for municipal supply wells.

[11] California Water Plan Update 2013, Bulletin 160-13, Investing in Innovation & Infrastructure, Volume 1, Chapter 3, Pages 15 & 16, Department of Water Resources, 2013.

Figure 6-2 presents an idealized geologic cross-section that illustrates the general depth of various lithologic features within the Kings Subbasin near the City.

6.1.1.3 Aquifer Characteristics

Transmissivity indicates the ability of an aquifer to transmit groundwater, while the specific capacity indicates the ability of a particular well to produce that water; hence, any future groundwater wells should be located in areas of higher transmissivity. As part of the City's recent Metro Plan Update, aquifer test data (pump tests) were reviewed to evaluate available transmissivity and specific capacity data.

Table 6-1 summarizes the pump test data by general geographic location within the City (i.e., North, South, East, and West Fresno). As shown in Table 6-1, the northwestern and southwestern portions of the City have wells with higher transmissivities and higher specific capacities.

Table 6-1: Summary of Groundwater Pump Tests within the City of Fresno

Area of City	Date Range	Range of Pumping Rates, gpm	Range of Transmissivities, gpm/ft	Range of Specific Capacities, gpm/ft
North Fresno	1979 to 2005	500 to 2,450	10,000 to 179,000	6 to 57
Northwest Fresno	1969 to 1995	570 to 2,735	66,000 to 298,000	43 to 134
Southwest Fresno	1995 to 2006	1,510 to 2,515	57,000 to 369,000	26 to 92
Southeast Fresno	1987 to 2005	340 to 1,790	15,000 to 135,000	4 to 54
East Fresno	1987 to 2005	450 to 1,740	3,500 to 109,000	2 to 38

[1] All data from Kenneth D. Schmidt & Associates.

6.1.2 Groundwater Management

Legal Requirements:

CWC 10631

(b)…If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included In the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier…or any other specific authorization for groundwater management.

(2)…For basins that 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 urban water supplier has the legal right to pump under the order or decree.

As part of a partnership of local municipal water purveyors, irrigation districts, a flood control district, and the overlying county, the Fresno Area Regional Groundwater Management Plan (FARGMP) was prepared in conformance with AB3030 and SB 1938. The City of Fresno and the other participating agencies subsequently adopted the groundwater management plan in 2006 as detailed in Table 6-2.

Table 6-2: Fresno Area Regional Groundwater Management Plan Adopting Agencies

Agency	Adoption Date
Fresno Irrigation District	01/25/2006
Fresno Metropolitan Flood Control District	02/08/2006
City of Clovis	02/13/2006
Malaga County Water District	02/14/2006
City of Kerman	03/01/2006
Bakman Water Company	03/13/2006
City of Fresno	04/18/2006
County of Fresno	07/18/2006
Pinedale County Water District	09/20/2006
Garfield Water District	11/01/2006

The FARGMP boundaries generally coincide with the Fresno Irrigation District (FID), but also include a small area northeast of FID. The objectives of the FARGMP have been developed to monitor, protect, and sustain groundwater within the region. Specific objectives include the following:

- Preserve and enhance the existing quality of the area's groundwater;
- Correct the overdraft and stabilize groundwater levels at the highest practical beneficial levels;
- Preserve untreated groundwater as the primary source of domestic water;
- Maximize the available water supply, including conjunctive use of surface water and groundwater;
- Conserve the water resource for long-term beneficial use and assure an adequate supply for the future;
- Manage groundwater resources to the extent necessary to ensure reasonable, beneficial, and continued use of the resource;
- Monitor groundwater quality and quantity to provide the requisite information for establishing groundwater policies, goals, and recommended actions; and
- Improve coordination and consistency among agencies responsible for the monitoring and management of groundwater in the Plan Area.

Although FID led the development of the FARGMP, the October 2005 Memorandum of

Understanding between the participating agencies makes it clear that each participating agency retains authority and responsibility for groundwater management within its own jurisdiction. A copy of the FARGMP is provided in Appendix H of this UWMP.

6.1.3 Overdraft Conditions

Legal Requirements:

CWC 10608.12
(b)(2) For basins that have not been adjudicated, (provide) information as to whether the department has identified the basin or basins as over drafted or has projected that the basin will become over drafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

The Kings Sub-basin groundwater aquifer supplies the City, other municipalities, agriculture, and rural residential areas with a consistent source of water. According to the DWR 118-80 Bulletin, this sub-basin however has been classified as 'critically overdrafted' and the future of the groundwater basin has been projected to see continued overdraft conditions. Like much of the Kings Subbasin, groundwater levels beneath the City were relatively shallow at 25 feet below ground surface (ft bgs) in 1940[12] for example, prior to the start of World War II. After the war, the State, including the City, began growing at a rapid rate. For the period from 1959 to 1968 it was reported groundwater levels declined at a rate of 2.8 ft/yr (feet per year)[13]. The water supply utilized to meet the demands from this growth was groundwater which was readily available from the underlying seemingly abundant and productive aquifer. The City continued to rely on the groundwater aquifer for decades, monitoring groundwater levels continuously. Groundwater levels since 1990 have declined from less than 0.5 ft/yr in the southwest portion of the downtown area, to a rate of 1.5 ft/yr for northern and southern areas of town, to a maximum of 3 ft/yr in the northeastern area, adjacent to the City of Clovis. Figure 6-3 provides a depiction of the City's average depth to groundwater from 1980 through 2015.

The City is limited with its current surface water treatment capacities. Therefore, one of the primary objectives for the City is to maximize the use of available surface water treatment supplies to reduce overall reliance on groundwater and bring its use into balance by the year 2025. As has been mentioned earlier in the report, the City began operations of its first surface water treatment facility in 2004. Of noteworthy importance of trends shown in Figure 6-3 is the reduction to the rate of groundwater decline since

[12] Average groundwater depth for City wells as recorded on log entitled: Well Data Summary Sheet, Engineering Dept, Fresno City Water, 1940.
[13] Report on Water Resources City of Fresno, page 6-17, John Carollo Engineers, 1969.

Extracted Pages from the Fresno 2015 UWMP for the Parc West Water Supply Assessment

2004 when the NESWTF came online and when renewed focus on intentional groundwater recharge operations regained momentum. Figure 6-3 shows that around the 2004 timeframe groundwater levels stabilized and have since then generally held level over the last ten years.

Figure 6-3 also shows the monumental reduction seen in 2015 which is at a level that hasn't been seen since before 1984. To facilitate the further reduction of its reliance on groundwater the City has started construction on a new 80 mgd SWTF in southeast Fresno (SESWTF). The combination the NESWTF and SESWTF will maximize the use of available surface water and afford the City with greater water supply reliability, increase operational flexibility, and decrease the City's dependency on groundwater supplies.

6.1.4 Groundwater Quality

Groundwater within the Kings Subbasin generally meets primary and secondary drinking water standards for municipal water use, and is described as being a bicarbonate-type water, including calcium, magnesium, and sodium as the dominant ions. Generally, total dissolved solids (TDS) concentrations rarely exceed 600 mg/L, and typically range from 200 to 700 mg/L. However, the groundwater basin is threatened by chemical contaminants that affect the City's ability to fully use the groundwater basin resources without some type of wellhead treatment in certain areas. Many different types of chemical pollutants have contaminated portions of the Kings Subbasin underlying the City's water service area. Some of the major contaminant plumes include 1,2-Dibromo-3-Chloropropane (DBCP), ethylene dibromide (EDB), trichloropropane (TCP), other volatile organic compounds (VOCs) such as trichloroethylene (TCE) and tetrachloroethylene (PCE), methyl tertiary butyl ether (MTBE), nitrate, manganese, radon, chloride, and iron. The City has received settlements in a number of lawsuits related to these contaminants and has constructed wellhead treatment systems and implemented blending plans for a number of wells.

6.1.5 Estimated Groundwater Yield

As part of the preparation of a hydrologic groundwater and surface water model that was prepared for the Upper Kings Basin Integrated Regional Water Management Authority, the City contributed additional funding to the effort so the model would be more refined for its service area, and capable of assisting in the development of the City's 50-year water supply plan. The Kings Basin Integrated Groundwater and Surface Water Model[14] (IGSM) was completed in 2007 and provided outputs specific to the City

[14] The Integrated Groundwater and Surface Water Model prepared for the Kings Basin Integrated Regional Water Management Authority was developed by WRIME, 2007.

Sphere of Influence (SOI). The IGSM was developed and calibrated utilizing data for the period of 1964-2004. Building-off the calibrated IGSM, additional modeling was conducted in 2008 to evaluate the City's proposed water supply plan and its ability to attain the balanced use of groundwater by the year 2025. Based on the modeling efforts values were developed for the various natural elements of the underlying aquifer and enabled the estimation of the anticipated yield of the groundwater system within the City's SOI.

6.1.5.1 Natural Recharge

As a result of the IGSM effort, the long-term average deep percolation from rainfall and irrigation applied water for the period of 1964-2004 was found to be 42,700[15] af/yr for the entire SOI. The City's Metropolitan Water Resources Management Plan (MPWRMP) Phase 1 Report[16] states that as urbanization continues within the SOI the amount of deep percolation will decline. For 2005 it was estimated deep percolation would be about 37,000 af/yr, and will reduce annually ultimately declining to and remaining at 27,000 af/yr by 2025 and beyond. It should be noted that the ultimate 2025 value was based on the previous projected point for which the prior General Plan forecasted the SOI buildout. The new General Plan now anticipates SOI buildout will occur in 2056. Holding the 2005 value of 37,000 af/yr and extending the 27,000 af/yr to 2056, intermediate values were straight-line interpolated. Additionally, as cited in Chapter 3, the City currently covers 72,244 acres of the 100,249 acres within its SOI, representing 72% urbanization of the SOI, which would approximate the City's water system service area. However, to better account for the other water purveyors providing water service to small portions of City areas and County island areas within the SOI, a more detailed analysis was performed. Using GIS information, the total annexed City area was determined, excluding Bakman Water Company, Pinedale County Water District, and CSU Fresno, and then added in the County islands serviced by the City. This area compared to the overall SOI area yielded 71.5% coverage for the City's water service area of the SOI. The two values for all practical purposes are equal, warranting the 72% value used for calculating the proportionate coverage. Table 6-3 shows estimated deep percolation out through 2040.

6.1.5.2 Net Subsurface Inflow

Again utilizing information developed from the IGSM, average net subsurface inflow into the SOI was characterized as being 64,800 af annually for the period of 1964-2004. Applying the previously described 72% proportioning factor, developed SOI area to

[15] City of Fresno Metropolitan Water Resources Management Plan, Phase 1 Report, pg. 7-9, West Yost Associates,2007. Adopted by City Council in 2014.
[16] City of Fresno Metropolitan Water Resources Management Plan, Phase 1 Report, pg. 7-9, West Yost Associates, 2007. Adopted by City Council in 2014.

overall SOI area, approximately 46,700 af/yr would be attributed to the City's water service area. This value will increase in future years until the SOI is builtout, excluding areas associated to Bakman Water Company, Pinedale County Water District, and CSUF. Table 6-3 shows the estimated subsurface inflows for future years. The City has historically benefitted from the net subsurface inflows and requires these flows in perpetuity for replenishment necessary to maintain the safe and sustainable yield of the groundwater aquifer system.

6.1.5.3 Intentional Groundwater Recharge

The City has long made efforts towards offsetting the decline of groundwater levels and minimizing overdraft conditions through an active intentional recharge program that started in 1971[17]. Through cooperative agreements with the FMFCD and FID, the City has access to not only City owned basins, but also those of these two agencies. Utilizing available surface water supplies the City has typically been able to recharge approximately 50,000 af/yr for the period of 2000-2013; however, with the reduction in available surface water supplies intentional recharge declined to 34,700 af in 2014 and 19,800 af in 2015. The maximum annual recharge attained during this period was 62,000[18] af/yr in 2003. The City's MPWRMP (2014) outlined developing additional intentional recharge activities to attain a total of 75,100 af/yr. By attaining this level of intentional recharge the City would optimize the use of available supplies, and further improve groundwater conditions as declines in natural recharge are anticipated to occur within the SOI due to urbanization, as described earlier. The goal is to attain the additional new recharge at the time of SOI buildout as reflected in Table 6-3.

Table 6-3: Components to Groundwater Yield for Normal Years

Groundwater Component	Quantity (af/yr)					
	2015	2020	2025	2030	2035	2040
Natural Recharge	25,400	25,700	25,900	26,000	26,100	26,200
Net Subsurface Inflow	47,100	48,900	50,700	52,600	54,400	56,200
Safe Yield	72,500	74,600	76,600	78,600	80,500	82,400
Intentional Recharge	53,100	55,800	58,500	61,100	63,800	66,500
Total Estimated Groundwater Yield	125,600	130,400	135,100	139,700	144,300	148,900

Attainment of the projected additional recharge capacity will require new facilities which may be through either the individual efforts of the City or through the development of cooperative projects with agencies such as FMFCD and FID. A prime example of a

[17] City of Fresno Metropolitan Water Resources Management Plan, Phase 1 Report, Volume II of II, Appendix B Hydrogeologic Conditions in the FCMA, pg. 22. CH2MHill, January 1992.
[18] City of Fresno Recharge records spreadsheet "TotalFresnoRchge2000-2015a.xlxs."

cooperative project is the joint use of new storm water basins that are constructed to serve new city areas that are developed.

6.1.6 Historical Groundwater Pumping

Legal Requirements:

CWC 10631
(b)…If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included In the plan:

(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

The City of Fresno currently relies on a combination of surface water and groundwater supplies to meet the demands of its citizens and businesses within its service area. For many years, the needs of the community were solely met through the use of groundwater, but as time has passed the City has recognized the importance of preserving and maximizing groundwater supplies within the boundary of its SOI. A cone of depression has developed within the City and groundwater replenishment efforts have yet been able to offset the effect of groundwater extraction. The falling groundwater levels are evidence of overdraft. The volume of groundwater pumped by the City can be seen below in Table 6-4.

Table 6-4: Groundwater Volume Pumped (DWR Table 6-1)

Groundwater Type	Location or Basin Name	Groundwater – Volume Pumped (af/yr)				
		2011	2012	2013	2014	2015
Alluvial Basin	San Joaquin Groundwater Basin: Kings Subbasin	119,813	115,615	128,510	110,313	83,360
Total		119,813	115,615	128,510	110,313	83,360

As can be seen in the above table, the overall reliance on groundwater as a principle source of water has decreased over the years and is now supplemented with surface water. The substantial reductions in 2014 and 2015 are attributed to mandatory water reductions imposed by the State to protect limited supplies as the severe drought has continued. The shift in reliance away from groundwater supplies has allowed intentional recharge programs to be more effective and has reduced groundwater overdraft conditions that the City has historically experienced. To put this into perspective, the City had a high in groundwater pumping of 165,540 af in 2002, prior to the NESWTF

going online in 2004. Comparatively, groundwater production in 2015 has dropped to one-half of this value.

6.2 Surface Water

The City of Fresno has contracts for surface water supplies. Contracts for surface water supplies include the following:

- FID Agreement for Kings River water;
- USBR CVP – Friant Division Contract for San Joaquin River water.

The cumulative supply these contracts bring to the City provide the opportunity to construct surface water treatment facilities and optimize the use of these supplies. This conjunctive use approach continues the process of allowing the groundwater system to recover. Each of the surface water supplies is summarized in the following paragraphs.

6.2.1 Surface Water Supplies through FID Agreement

The Fresno Irrigation District is one of 28 agencies that receive an entitlement of water from the Kings River through the Kings River Water Association (KRWA). Water entitlements for KRWA contract members is determined based on a methodology that was initially developed in 1917-1919 to established entitlements for early claimed right's holders. The methodology was based on historic mean daily natural flow conditions at Piedra, which is approximately 3 miles downstream from the then yet to be build Pine Flat Dam, and "at the heart of Kings River uses, regulation, and stream control and storage."[19]

In May of 1976 the City of Fresno and FID executed an agreement that stipulated that as land is annexed to the City, the City will receive a pro rata share of FID's Kings River entitlement. The agreement was specific that FID's USBR Class 2 water was excluded and that the City could not store allocated water behind Pine Flat Dam. The pro rata share is based on the area annexed to the City, and within FID's boundaries, as compared to the total area of FID's water service area. The agreement stipulates the allocation amount will be reviewed each year by the two agencies to address new annexations to the City. So, as the City annexes new areas the allocation will increase. Utilizing GIS, there will be approximately 71,925 acres of land within the SOI and within FID's water service boundaries at SOI buildout, excluding Bakman Water Company, Pinedale County Water District, CSU Fresno, and County islands. Projected future percentages of water allocations available to the City are shown in Table 6-5 below.

[19] The Kings River Handbook, pg. 7, Kings River Water Association and Kings River Conservation District, Fourth Printing, June 2003.

Kings River Water made available through the agreement with FID is of extremely good quality as it originates as snowmelt from the high sierras and has not been detrimentally impacted.

Table 6-5: Projected Allocation of FID's Kings River Water for City of Fresno in Normal Years

Year	2010[1]	2015[1]	2020	2025	2030	2035	2040
Projected City Allocation, %	25.41%	25.94%	27.23%	28.51%	29.80%	31.09%	32.37%
Projected Water Quantity to City in Normal Year, af/yr	108,200	110,500	116,000	121,500	126,900	132,400	137,900
Actual Allocation for City, af	125,543	42,935	-	-	-	-	-

(1) Allocations for 2010 and 2015 were provided by FID. Allocation for all other years is based on interpolation between 2015 and SOI buildout at 2056. With General Plan Update SOI buildout has shifted from 2025 to 2056 as reflected here.
(2) Projected City Allocation (%) x 426,000 af/yr (estimated normal year diversion by FID, see discussion in Chapter 7).

6.2.2 Surface Water Supplies through USBR Contract

The City, through an agreement originally executed in January of 1961, secured a surface water supply from USBR CVP - Friant Division. This agreement, for an annual water supply of 60,000 af of Class 1 water, was last renewed in 2010 as a Section 9(d) Contract that provides water from the San Joaquin River in perpetuity. A copy of the renewed contract is provided in Appendix I of this UWMP. The USBR CVP - Friant Division facilities generally include: Friant Dam (Millerton Reservoir); the Friant-Kern Canal; and the Madera Canal. The Friant-Kern Canal is maintained and operated by the Friant Water Authority. The USBR water supply is a wholesale supply.

Construction of Friant Dam was completed in 1947 and began making diversions to the Friant-Kern Canal in 1949. Full operations of the CVP - Friant Division didn't commence until the Madera Canal was completed in 1951. Class 1 water was intended to be a supply that would be dependable in practically every year, regardless of the type of hydrologic water year. Class 2 water is essentially excess water available as determined by USBR and less reliable than Class 1 water. Class 1 water has historically been very reliable until the San Joaquin River Restoration Settlement and more recently by the restrictions on diversions from the Delta due to concerns over the declining health of Delta ecosystem. Restrictions on exports from the Delta have hindered the USBR from making deliveries to the Exchange Contractors[20] via the Delta-Mendota Canal. As a result of the reduced deliveries from the Delta, the Exchange Contractor's have called on their historic claim of water from the San Joaquin River, which was exchanged for the Delta-Mendota supply and enabled the CVP - Friant Division projects to be developed. As a subsequent result of the Exchange Contractor's

[20] The Exchange Contractors are the benefactors of the historic pre-1914 water rights established by Miller and Lux. These contracts include: Central California Irrigation District; San Luis Canal Company; Firebaugh Canal Water District; and Columbia Canal Company, per website http://www.sjrecwa.net/history.html on April 6, 2016.

calling on their historic right water supply, the CVP - Friant Division contractors have been faced with zero allocations of Class 1 water for the last two years. The impacts of these recent events on availability and reliability are discussed further in Chapter 7.

In addition to the Class 1 water available to the City, the USBR contract also makes available to the City water classified as: Recovered Water Account water; Section 215 water; unreleased restoration flows, unreleased recirculation flows, and uncontrolled season flows. The complexities of each water type are beyond the scope of this report, but are mentioned here to reflect the other water acquisition opportunities afforded the City through this contract.

The San Joaquin River water supply has excellent water quality as it originates from snowmelt from the high Sierras and has not been detrimentally impacted.

6.3 Storm Water

The Fresno-Clovis Metropolitan Area and surrounding rural environs are covered by the boundaries of the FMFCD which has primary responsibility for managing the local storm water flows. Most storm water in the City drains to urban storm water basins where the water is retained for the purpose of recharge, or pumped to local irrigation canals for conveyance away from the municipal areas. FMFCD's operation of storm water basins is predicated on maintaining storage capacity for rain events which limits the amount of storm water that is recharged during the rainy season. FMFCD estimates the amount of storm water that is recharged each wet season; however, recharge attained with the FMFCD basins largely occurs in May through October when limited storage capacity is required. Dry-season recharge is accomplished by diverting surface waters, from the Kings River and Millerton Reservoir, using City-allocated surface water. FMFCD estimates that storm water recharge in urban basins during the winter months may be from 7,800 af/yr to 22,200 af/yr[21]. It is difficult to verify these values however, as there is no physical measurement of storm water flows into the basins, and infiltration rates can vary with water elevation and degree of siltation in the basin. Historically, this infiltration has not been accounted for separately as it is considered an integral component of the cumulative elements that make up natural recharge as previously discussed in Section 6.1.5.1.

[21] Email correspondence from Brent Sunamoto on March 30, 2016, provided graphical representation of estimated storm water infiltration quantities for 2006-2014.

6.4 Wastewater and Recycled Water

Excerpt from recent City of Fresno City Council Agenda Item[22]:

"In 2009, the State of California adopted a recycled water policy establishing a mandate to increase the use of recycled water in California by 200,000 acre-feet per year by 2020 and by an additional 300,000 acre-feet per year by 2030. The Recycled Water Master Plan prepared by the Department of Public Utilities' Wastewater Management Division identifies opportunities to assist with compliance of this law by reducing groundwater pumping and replacing groundwater with recycled water for non-potable purposes (i.e. outdoor irrigation, dust control, fountains, etc.). The Division's long-term goal is to produce and deliver 25,000 acre-feet of recycled water to the City's service area to reduce groundwater over drafting. On April 11, 2013, the City Council adopted the Recycled Water Master Plan and associated environmental documents."

6.4.1 Recycled Water Coordination

Legal Requirements:

CWC 10633
The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.

As the State grapples with the current prolonged drought and dwindling water supplies, many water purveyors are dealing with the realization new supplies need to be developed. In June of 2014, the Fresno's City Council adopted the City's Metropolitan Water Resources Management Plan (MWRMP) that outlined the required infrastructure for the immediate-term, near-term, and long-term, which is needed to meet projected water demands. An instrumental component of this plan is the development of 25,000 af/yr of recycled water by the year 2025.

While the MWRMP was being prepared, the Wastewater Division began efforts on the development of the Recycle Water Master Plan (RWMP), which was adopted by the City Council in April of 2013. This plan outlines the development of projects to optimize the use of recycled water, which will be discussed later in this chapter.

The coordination with other water agencies and potential consumers within the planning area is inherently within the purview of the City's Department of Public Utilities (DPU) as this department provides both water and wastewater services. DPU has been on the forefront of numerous water supply preservation, enhancement, and development

[22] Report to the City Council, *Action Pertaining to the Recycled Water Transmission Main, Southwest Quadrant, Project SW1A*; City of Fresno, September 10, 2015.

projects and programs for decades. The concept of multiagency coordination is fully embraced by the department as is evident with the previously discussed joint agency agreements and the commitment to constructing new infrastructure to further develop new resources. The endeavor to develop recycled water as a resource was actually a requirement of a development in north Fresno, where the developer was conditioned to have a net zero impact on water resources. The fundamental component of this development was the construction and dedication of the North Fresno Wastewater Reclamation Facility to the City.

There are only a few agencies, besides the City, that have wastewater collection and treatment facilities within and immediately adjacent to the plan area. These agencies are as follows:

- City of Clovis
- Malaga County Water District
- Pinedale County Water District
- Pinedale Public Utility District

6.4.1.1 City of Clovis

The Fresno/Clovis Regional Wastewater Reclamation Facility (RWRF) was developed under a joint powers authority agreement executed in 1977 between the City of Fresno the City of Clovis, and the County of Fresno. Both of the cities contribute to the cost of operations and maintenances and capital expenditures for the RWRF based on formulas in the agreement. This facility provides service for most of Clovis' sewer flows.

The City of Clovis has recently constructed its own wastewater treatment facility that produces tertiary level effluent which is distributed in a dedicated purple pipe system within portions of its service area.

6.4.1.2 County of Fresno

The County of Fresno, like the City of Clovis, is a party to the Joint Power Authority for the RWRF, which provides treatment for flows from unincorporated areas encompassed by the City's service area.

6.4.1.3 Malaga County Water District

Malaga County Water District provides water and sewer service to an unincorporated county area of about 2.25 square miles, which covers a small portion of the City's SOI. The district provides wastewater collection and treatment for residential and non-residential customers.

6.4.1.4 Pinedale County Water District

Pinedale County Water District provides water, sewer, and solid waste service to an area of about 2 square miles, which service area covers an unincorporated county island and a portion of the City. The district provides wastewater collection to an area of

about 699 acres and diverts the flow to the City's collection system for treatment at the RWRF.

6.4.1.5 Pinedale Public Utility District

Pinedale Public Utility District provides wastewater, street lighting, street sweeping, and landscape maintenance. The district services an area of approximately 362 acres in the northern portion of the City, serving both an unincorporated county island and portions of the City. The collected wastewater is discharged to the City's collection system for treatment at the RWRF.

As the City is the primary responsible agency for wastewater collection and treatment for its annexed areas and certain County islands, it has taken the lead role of developing and implementing recycled water facilities to serve the same area.

6.4.2 Wastewater Collection, Treatment, and Disposal

Legal Requirements:

CWC 10633

(a) (Describe) the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

CWC 10633

(b) (Describe) the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

6.4.2.1 Wastewater Collected Within Service Area

The City of Fresno's wastewater collection system was originally developed in 1891 with the installation of a 24-inch outfall sewer that discharged to a 40 acre sewer farm located southwest of town. The amount of land and facilities at this location continued to be expanded as the City grew over the years. Today, the City's wastewater collection system consists of about 1,500 miles of pipes ranging in size from 4-inches in diameter to 84-inches in diameter. This collection system also utilizes 15 lift stations throughout the City, ranging in pumping capacity from 0.25 mgd to 2.2 mgd.

6.4.2.2 Wastewater Treatment and Discharge Within Service Area

The City is served by two wastewater treatment plants. Each of these facilities is briefly described in the following sections.

6.4.2.2.1 Fresno/Clovis Regional Wastewater Reclamation Facility

As mentioned above, the Fresno/Clovis RWRF has developed from what was once a sewer farm to what is now a state-of-the-art 80 mgd wastewater treatment facility. In

1966 the City of Fresno was appointed the sewering agency for the local metropolitan region and shortly after began long-range planning and construction of new facilities to handle increasing flows and regulatory requirements. The RWRF treats flows from not only the City, but also sewered County areas (some county areas remain unsewered), the City of Clovis, Pinedale County Water District, and Pinedale Public Utility District. Flows received at this facility range from a high of 80,800 af in 2006 to a recent low of 62,600 af in 2015. The RWRF was last expanded in 1998 and currently is rated at 80 mgd and treats received flows to secondary undisinfected levels. The effluent is discharged to percolation ponds, with some flow also being directed to irrigation of non-food crops. The discharged effluent is within the City boundaries and located just southwest of the metropolitan area. The treated effluent percolation ponds are within the City's SOI and hydrologic sphere that benefit the City's overall regional water budget. See Figure 6-1 for a depiction of the facility's location relative to the metropolitan area. The 2015 treated quantity from this facility is noted in Tables 6-6 and 6-7.

6.4.2.2.2 North Fresno Wastewater Reclamation Facility

The North Fresno Wastewater Reclamation Facility (NFWRF) was constructed as part of a residential, commercial, and golf course master planned development located in the northern portion of the City. As a condition of the planned community, the developer was required to construct a wastewater treatment facility that would produce tertiary level effluent that would be used within the development to ensure the overall project had a net zero impact on water resources. This facility is presently rated at 0.71 mgd (average monthly flow) and 1.07 mgd (maximum daily flow). This facility is expandable to 1.25 mgd (average monthly flow). The disinfected tertiary effluent from the plant is largely used to irrigate the Copper River Ranch Golf Course. Of the 203 af of wastewater treated in 2015, 62 af was used for irrigation of turf. The treated flows are noted in Tables 6-6 and 6-7.

Extracted Pages from the Fresno 2015 UWMP for the Parc West Water Supply Assessment

Parc West Development Project
SB 610 Westlake WSA Update

Table 6-6: Wastewater Collected Within Service Area in 2015 (DWR Table 6-2)

100	**Percentage of 2015 service area covered by wastewater collection system *(optional)***					
100	**Percentage of 2015 service area population covered by wastewater collection system *(optional)***					
Wastewater Collection			**Recipient of Collected Wastewater**			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected in 2015 (af)	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?	Is WWTP Operation Contracted to a Third Party?
Add additional rows as needed						
City of Fresno	Metered	62,552	City of Fresno	RWRF	Yes	No
City of Fresno	Metered	203	City of Fresno	NFWRF	Yes	No
Total Wastewater Collected from Service Area in 2015 (af):		62,755				
NOTES:						

Extracted Pages from the Fresno 2015 UWMP for the Parc West Water Supply Assessment

Parc West Development Project
SB 610 Westlake WSA Update

Table 6-7: Wastewater Treatment and Discharge Within Service Area in 2015 (DWR Table 6-3)

Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional)*	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	2015 volumes (af)			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
Add additional rows as needed										
RWRF	Treatment site	Onsite Percolation ponds		Percolation Ponds; irrigation of non-edible crops	Yes	Secondary, undisinfected	62,552	53,864	8,688	22,602
NFWRF	Treatment site	Onsite pond		Turf irrigation	No	Tertiary, disinfected	203	141	62	0
						Total	62,755	54,005	8,750	22,602
NOTES:										

6.4.3 Recycled Water System

Legal Requirements:

CWC 10633

(c) *(Describe) the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.*

6.4.3.1 Fresno/Clovis Wastewater Reclamation Facility

6.4.3.1.1 Undisinfected Secondary Level Recycled Water

As mentioned earlier in Section 6.4.2.2.1, the City's RWRF diverts a portion of the undisinfected secondary effluent to irrigate non-food crops grown adjacent to this facility. The practice of using the secondary effluent to irrigate non-food crops has been carried-out for decades and is expected to continue for the foreseeable future. The City owns nearly 3,300 acres of land for and around the RWRF, consisting of percolation ponds (1,750 acres) and other land available to farm non-food crops. The agricultural land directly receives the undisinfected secondary effluent and is applied to these crops. Table 6-8 provides the annual quantities of recycled water applied to these crops for the period from 2010-2015.

6.4.3.1.2 Soil Aquifer Treated Recycled Water

Located at the Fresno/Clovis RWRF is a series of 15 groundwater wells which are used to extract previously percolated effluent groundwater from beneath this facility. The extracted groundwater has the potential to be used for higher beneficial use if it can be demonstrated this water has attained a level of treatment satisfactory to meet disinfected tertiary levels. To substantiate to State regulatory agencies this was in fact the case for the operations at the City's RWRF, the City embarked on a joint project with the WateReuse Research Foundation. The culmination of this study is presented in a final report entitled "Demonstration of Filtration and Disinfection Compliance Through Soil-Aquifer Treatment"[23] which was completed in 2013. This study concluded, based on the documented sampled water quality data, that the extracted groundwater did in fact meet requirements for classification as disinfected tertiary level recycled water. The City has received preliminary acknowledgement from the SWRCB Division of Drinking Water the water meets the stated classification and the City is making plans for its use as part of its recycled water production and distribution system. The combined rated production yield of the fifteen wells, if run year-round, would be approximately 32,000 af/yr. The City plans to blend the recycled extraction well water with the disinfected tertiary level recycled water produced from the new 5 mgd wastewater reclamation to feed the new recycled water distribution system located in southwest Fresno. As new sales grow for the recycled water, additional recycled extraction well water will be utilized to feed this southwest recycled water system. It is anticipated soil aquifer treated recycled water wells will be incorporated into the recycled water system at a rate

[23] WateReuse Research Foundation, ISBN: 978-934183-92-2, 2013.

of two wells per five-year increment to align with future sales projections and demands for this water.

6.4.3.2 North Fresno Wastewater Reclamation Facility

As described earlier in Section 6.4.2.2.2, the City has an existing recycled water plant in the northern portion of the City that receives and treats sewer from the residential, commercial, and golf course planned community. The NFWRF was constructed in 2008 but wasn't fully operational until 2009 due to the inability to properly run at extremely low flow conditions. Subsequent modifications were made to the plant permitting it to run on a regular basis in 2010, with further modifications in 2014 for UV approval. This explains why there were no recorded flows in Table 6-8 for this facility. The disinfected tertiary effluent is conveyed in a dedicated pipeline to an adjacent golf course for irrigation purposes. The quantities used for irrigation purposes are shown in Table 6-8 for the period from 2010-2015.

Table 6-8: Recycled Water Used Within Service Area

Recycle Water Facility	Quantity (af/yr)					
	2010	2011	2012	2013	2014	2015
NFWRF	25	57	58	46	0	62
RWRF	9,591	10,072	8,655	9,406	10,245	8,688
Total	9,616	10,129	8,713	9,452	10,245	8,750

6.4.4 Recycled Water Beneficial Uses

Legal Requirements:

CWC 10633

(d) (Describe and quantify) the potential uses of recycled water, including but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement. Wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

CWC 10633

(e) (Describe) the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

In the development of the City's Recycled Water Master Plan (RWMP), an exhaustive analysis was performed to identify specific uses and customers for recycled water. The following sections review existing and future opportunities for the use of recycled water.

6.4.4.1 Current and Planned Uses of Recycled Water

At present, the City provides recycled water for the irrigation of non-food crops to land farmed immediately adjacent to the RWRF, and to a golf course adjacent to the

NFWRF. Recognizing the opportunity to expand uses and the market for recycled water, the City has proactively developed a RWMP to identify potential uses and users and analyze the most cost-effective production and distribution system to optimize this presently untapped market opportunity. Implementation of such a program would provide a direct potable water offset, and would stretch pristine groundwater and raw surface water resources for highest and most beneficial uses.

As outlined in the City's RWMP, the recommended planned major users considered in the selection of distribution system alignments include:

- Airport (Chandler),
- Artificial Lakes, make-up water
- Baseball Stadium, turf irrigation
- Cemeteries, turf irrigation
- City Hall & County Court House, turf irrigation
- Fairgrounds, turf irrigation
- Golf Courses, turf irrigation
- Highways, landscape irrigation
- Hospital, cooling and turf irrigation
- Industries, irrigation, boiler, cooling, wash water, process, toilet flushing
- Laundries, laundry washing
- Parks, turf irrigation
- Schools, turf irrigation
- Universities (public & private), turf irrigation

The cumulative demand from the identified existing water users amount to 9,780 af/yr and requires approximately 91 miles of transmission and distribution pipeline. The City has already started construction of conveyance pipeline and a 5 mgd tertiary treatment facility at the RWRF which should be complete by June of this year. Table 6-9 shows current and planned beneficial uses for recycled water.

In addition to the above noted urban orientated beneficial uses, the RWMP also considered groundwater recharge projects as another prime opportunity. The utilization of recycled water is slowly becoming more accepted by the public and regulatory agencies, and provides communities the opportunity to enhance groundwater replenishment with an essentially drought-proof source. There are conditions on the use of recycled water that need to be addressed, such as, blending requirements depending on the level of treatment of the recycled water, and demonstrating that travel time of the percolated recycled water is six months to the nearest drinking water well. The incorporation of groundwater recharge would provide the ability to utilize recycled water in the winter months when landscape irrigation demands are nearly diminished.

Recognizing the value of this opportunity, the City has budgeted funding to carry-out engineering and hydrogeologic studies for siting, permitting, and constructing a dedicated recharge basin for this purpose. Preliminarily, a recharge basin that had been designed for intentional recharge purposes is being considered to be repurposed for the use of recycled water recharge. Projected recharge utilization is shown in Table 6-9.

Lastly, another use for recycled water is the expansion of agricultural irrigation. The City already provides secondary effluent for restricted agricultural irrigation and could expand this market by increasing deliveries of secondary effluent and the newly reclassified tertiary equivalent water from the onsite extraction wells for irrigation purposes. Expanded agricultural irrigation is reflected in Table 6-9.

6.4.4.2 Planned Versus Actual Use of Recycled Water

Legal Requirements:

CWC 10633
(e) (Provide) a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

As previously reported in the 2010 UWMP, it was anticipated that 750 af/yr of recycled water would be produced and utilized from the NFWRF; however, as shown in Table 6-8 above, only 25 af/yr to 62 af/yr has been used. Infrastructure in this area is being considered for extension and in the future will allow for a higher use of the recycled water available from this facility.

Recycled water utilized adjacent to the RWRF was not previously included in the 2010 UWMP. It is anticipated that historic use of undisinfected secondary effluent for irrigation of non-food crops will continue for the foreseeable future.

Reported in Table 6-10 are the projected and actual quantities used for 2015.

Extracted Pages from the Fresno 2015 UWMP for the Parc West Water Supply Assessment

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Name of Agency Producing (Treating) the Recycled Water:			City of Fresno						
Name of Agency Operating the Recycled Water Distribution System:			City of Fresno						
Supplemental Water Added in 2015			0						
Source of 2015 Supplemental Water			N/A						
Beneficial Use Type		General Description of 2015 Uses	Level of Treatment	2015	2020	2025	2030	2035	2040 (opt)
Agricultural irrigation[1] (af)		Irrigate non-food crops	secondary	8,700	10,000	10,000	10,000	10,000	10,000
Agricultural irrigation[2] (af)		Irrigate limited food crops	tertiary equivalent		4,200	8,400	8,400	12,600	12,600
Landscape irrigation[3] (af)		Schools, cemeteries, parks	tertiary	62	4,300	7,200	7,200	7,200	7,200
Commercial use (af)		-	-	-	-	-	-	-	-
Industrial use[4] (af)		Laundries, boilers, cooling	tertiary		1,400	2,600	2,600	2,600	2,600
Recreational impoundment (af)		-	-	-	-	-	-	-	-
Groundwater recharge (IPR)[5] (af)			tertiary		1,300	6,200	6,200	6,200	6,200
Surface water augmentation (IPR) (af)		-	-	-	-	-	-	-	-
Direct potable reuse (af)		-	-	-	-	-	-	-	-
Other (af)	Type of Use	-	-	-	-	-	-	-	-
			Total (af)	8,762	21,200	34,400	34,400	38,600	38,600

IPR - Indirect Potable Reuse

(1) Applied recycled water is representative of long-term use of undisinfected secondary effluent from RWRF for irrigation of non-food crops adjacent to said facility.
(2) Recycled water is from recently reclassified extraction wells at RWRF (reclassified as tertiary equivalent) and will be applied to nearby limited food crops.
(3) Recycled water will be distributed to and applied to large landscaped turf areas as identified in the City of Fresno Recycled Water Master Plan.
(4) Recycled water will be distributed to and delivered to various industries as identified in the City of Fresno Recycled Water Master Plan.
(5) Recycled water will be delivered to permit approved facilities for blending with other sources and incorporated as part of the City's intentional groundwater recharge program.

Table 6-9: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area (DWR Table 6-4)

Table 6-10: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual (DWR Table 6-5)

Use Type		2010 Projection for 2015 (af)	2015 actual use (af)
Agricultural irrigation		-	8,700
Landscape irrigation (excludes golf courses)			
Golf course irrigation		750	62
Commercial use			
Industrial use			
Recreational impoundment			
Groundwater recharge (IPR)			
Surface water augmentation (IPR)			
Direct potable reuse			
Other	Required for this use		
Total		750	8,762

6.4.5 Actions to Encourage and Optimize Future Recycled Water Use

Legal Requirements:

CWC 10633

(f) (Describe the)actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

CWC 10633

(g) (Provide a) plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

As identified in the RWMP, it is imperative that the City adopt an ordinance to establish recycled water policy and criteria for its use within the City's SOI. The focus of the ordinance would be to accomplish the following:

- Establish Administrative Authority
- Establish approved uses of recycled water
- Define areas of potential eligibility for recycled water service
- Specify mandatory and voluntary uses of recycled water, depending on user classifications
- Require installation of transmission and distribution infrastructure
- Encourage the use of voluntary retrofits for existing users that may not be addressed in the ordinance

- Require the City of Fresno to prepare Rules and Regulations
- Provide enforcement and severability clauses

On July 14, 2014, the Recycled Water Ordinance was adopted by the City Council laying the foundation for the expanded use of recycled water within the City.

Efforts to further the use of recycled water include the requirement that new developments within planned major recycled water distribution mains to install purple pipe. Then, as the City's capital projects construct distribution infrastructure, these segments will be in-place to facilitate connections to new customers and reduce program costs by avoiding digging up new street improvements and disruption to vehicular traffic.

The initial leg of the recycled water distribution system from the RWRF is presently under construction and will pass in proximity to CalTrans highway irrigation infrastructure. City staff has had conversations with CalTrans and they have expressed interest in utilizing recycled water for landscape irrigation purposes. The City is continuing to coordinate with CalTrans to identify connection points and flow requirements to meet highway irrigation demands.

Table 6-11: Methods to Expand Future Recycled Water Use (DWR Table 6-6)

Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use (af)
Build Infrastructure	RWRF Tertiary Plant	FY16	5,600
Build Infrastructure	Satellite Plant near FYI[1]	FY18-FY19	9,000
		Total	14,600

[1] FYI – Fresno Yosemite International Airport

6.5 Desalinated Water Opportunities

Legal Requirements:

CWC 10631

(h) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

As the City is located in the central San Joaquin Valley, seawater desalination is not applicable to the City. Additionally, the groundwater that exists within the immediate area of the City is not brackish in nature and does not require desalination treatment. As long-range planning efforts continue to ensure an adequate water supply is available for existing and new demands, the City will explore options that may include some sort

of cost sharing arrangement with another agency that would yield a pro rata beneficial exchange supply for the City. It is possible that such an arrangement may occur should the need arise.

6.6 Exchanges or Transfers

Legal Requirements:

CWC 10631

(a) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

6.6.1 Exchange and Transfer Opportunities

The City has an existing exchange agreement with FID that allows the City to pump groundwater, which was developed through the percolation of treated wastewater, into FID's canals. This water is transported through the FID canals and is delivered to downstream customers. In exchange, FID will apply surface water from its Kings River entitlement or its Class 2 USBR water to agricultural areas east of the metropolitan area. The agreement is structured such that FID will provide 0.46 af for every 1 af of groundwater that the City pumps into FID's delivery canals. As a future opportunity for an exchange, the City could renegotiate the terms of this arrangement and receive the exchange water directly for use at the surface water treatment facilities or for recharge purposes.

The City has in the past been a recipient party to water transfers which permitted new services to be provided for areas outside the City's service area. The transferred surface water supply in this case was from a party located in the nearby Garfield Water District whose well was going dry. The transfer of a like amount of water to be supplied to the new service was a crucial element to ensure existing rate payers were not burdened with negative supply impacts due to the new connection. This approach will be followed as the City's water system is extended to serve Disadvantaged Communities.

6.6.2 Emergency Interties

The Cities of Fresno and Clovis have entered in to an agreement for a joint project to construct an intertie pipeline between their two systems, which will permit the conveyance of water supplies from one system to another. The intertie is composed of a dedicated 1.5 mile long 16-inch diameter pipeline that starts at the southern edge of the City of Clovis, at the Gould Canal and Leonard Avenue, and then runs south to East Shields Avenue, and then west towards the City to North Locan Avenue, connecting to

a booster pump and valve station. Under normal operating system pressures flow from the City of Clovis can be conveyed to the City of Fresno without a booster pump and simply controlled by automated valves. The intertie is also capable of conveying water from Fresno to Clovis with the use of a booster pump, which is needed due to the elevation difference between the two systems. The 16-inch diameter pipeline was sized to permit transferring water at a rate up to 3,500 gpm. Construction of the intertie was just recently completed with equipment programming underway. The intertie is anticipated to be operational by June 2016.

6.7 Future Water Projects

Legal Requirements:

CWC 10631

(g) …The urban water supplier shall include a detailed description of expected future water projects and programs…that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

At this time the City is in the midst of carrying-out one of the largest and most ambitious capital improvement programs in its history. As outlined in its MWRMP (2014), and reported in the 2010 UWMP, the City's future for a safe, reliable, and sustainable water supply was envisioned to consist of expanded water conservation, expanded surface water treatment, expanded recycled water treatment, and expanded groundwater recharge.

6.7.1 Expand Water Conservation Program

As of January 2013, the City completed the installation of nearly 110,000 single-family residential water meters. Completion of this project has seen the benefit of reduced demands from this sector of water users. Efforts will continue with tracking water use and working with residents to address excessive water utilization and to encourage reduced water use. Completion of the meter installation project has seen marked improvement in reduced water consumption. Education, outreach, and enforcement remain a significant focus for current and future efforts.

6.7.2 Expand Surface Water Treatment Capacity

A key component to the success of the City's ability to reverse the long time overreliance on groundwater is to construct additional surface water treatment facilities which will allow it to optimize the use of available surface water supplies. In

conformance with the objectives and timeline established in the MWRMP (2014), the City has purchased land, designed the facility and associated large diameter transmission pipelines, and has recently awarded a contract for the construction of the 80 mgd SESWTF. Initially this facility will operate at a permitted capacity of 54 mgd, but with the subsequent rerating of the finish filters will be capable of operating at a rated capacity of 80 mgd. This project, including the construction of the transmission pipelines, is slated for completion in Fiscal Year 2018.

The NESWTF is presently sized at a 30 mgd capacity. As growth within the City increases demands, this facility will be expanded by another 30 mgd for a total capacity of 60 mgd. The timing for this expansion is anticipated to occur by approximately 2035; however, the City will monitor system demands and adjust the schedule for this project as is required to meet projected water system demands and maintain the sustainable use of available water resources.

6.7.3 Expand Recycled Water Treatment Capacity

Another key component of the MWRMP (2014) was the incorporation of 25,000 af of recycled water into the City's water portfolio by the year 2025. The attainment of such a lofty goal requires the initiation of planning, designing, and construction of substantial infrastructure. To that end, the City has completed the development of the recycled water master plan, the adoption of a recycled water ordinance, designed, and initiated construction of a second tertiary level wastewater treatment facility capable of producing 5 mgd. This effort is budgeted for further expansion with the design of another tertiary level reclamation facility to be constructed in the FY18-FY19 timeframe.

6.7.4 Expand Groundwater Recharge Capacity

Lastly, with the acknowledgement the groundwater aquifer is and will remain an integral resource for the City, it will be working on the development of either new dedicated intentional recharge facilities and/or joint projects for basins with the FMFCD, and potentially the FID. Land has already been acquired for a new recharge facility in west Fresno, and design is substantially complete. It is anticipated this facility will be constructed by the end of FY17 and will be capable of recharging approximately 1,200 af/yr. The target for recharge expansion is to ultimately attain an annual rate of 75,100 af/yr, which would optimize use of available surface water supplies in normal years.

Table 6-12: Expected Future Water Supply Projects or Programs (DWR Table 6-7)

Name of Future Projects or Programs	Joint Project with other agencies?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Agency (af)
	Yes or No	*Agency Name*				
Expansion of Tertiary Recycled Water Treatment Capacity	No	n/a	-	2016 & 2021	Average Year Single Dry Year Multi-Dry Year	14,600
Expansion of Surface Water Treatment Capacity	No	n/a	-	2018 & 2035	Average Year Single Dry Year Multi-Dry Year	103,000[1]
Expansion of Groundwater Recharge Program	No	n/a	-	Ongoing	Average Year Single Dry Year	See Note 2.

(1) Expansion of surface water treatment capacity does not directly provide a new supply, but allows the City to utilize the supply for direct use rather than just for groundwater recharge purposes.
(2) Expansion of groundwater recharge program does not directly provide a new supply, but allows the City to utilize the surface water supplies to make groundwater use sustainable.

6.8 Summary of Existing and Planned Sources of Water

Legal Requirements:

CWC 10631

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision 10631(a).

(4) (Provide a) detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

A summary of the above discussed existing and planned sources of water are provided in Tables 6-13 and 6-14 below.

Table 6-13: Water Supplies – Actual (DWR Table 6-8)

Water Supply	Additional Detail on Water Supply	2015		
		Actual Volume (af)	Water Quality	Total Right or Safe Yield *(af)*
Groundwater		83,360	Drinking Water	72,500[1]
Surface Water – USBR CVP		0	Raw Water	60,000
Surface Water – FID Contract		41,525	Raw Water	101,200
NFWRF[2]		203	Recycled Water	203
Purchased[3]		3,000	Raw Water	0
Total		128,088		233,903

[1] Provided value is the Safe Yield. Higher pumping volumes are permissible by accounting for intentional recharge volumes.
[2] This volume is dependent on facility operation and subsequent expansion.
[3] This water is a onetime purchase and has no associated right.

Extracted Pages from the Fresno 2015 UWMP for the Parc West Water Supply Assessment

Parc West Development Project
SB 610 Westlake WSA Update

Table 6-14: Water Supplies – Projected (DWR Table 6-9)

Water Supply	Additional Detail on Water Supply	Projected Water Supply *(af)*									
		2020		2025		2030		2035		2040 *(opt)*	
		Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*
Groundwater[1]	Kings Subbasin	130,400		135,100		139,700		144,300		148,900	
Surface Water[2]	FID – Agmt.	106,200		111,200		116,200		121,200		126,200	
Surface Water[3]	USBR - CVP	52,600		52,600		52,600		52,600		52,600	
Recycled[4]	Tertiary, disinfected	7,000		16,000		16,000		16,000		16,000	
Recycled[5]	Secondary, undisinfected	10,000		10,000		10,000		10,000		10,000	
Recycled[6]	Tertiary, disinfected	2,500		5,000		7,500		10,000		12,500	
Total		308,700	0	329,900	0	342,000	0	354,100	0	366,200	0

(1) The value for "Reasonably Available Volume" includes the Safe Yield which increases as the City's SOI expands as discussed in Sections 6.1.5.1 & 6.1.5.2 and in Table 6-3. Additionally, this value includes water from prior year(s) operation of intentional recharge as shown in Table 6-3 for the same year.
(2) The City's surface water supply from FID grows as the City's annexed city limits expand as discussed in Section 6.2.1.
(3) The City's USBR CVP Friant Division contract is for 60,000 af of Class 1 water. The 52,600 af/yr value is the historic average allocated value for the City per Figure 7-2 (rounded to nearest 100).
(4) The 2020 value of 7,000 af/yr is based on the RWRF's 5 mgd facility; the subsequent increase to 16,000 af/yr reflects the satellite WRF (8 mgd) being constructed and operational shortly after 2025.
(5) The annual 10,000 af is the current amount presently directed to farm irrigation of non-food crops adjacent to the RWRF.
(6) The City recently had extraction wells at the RWRF reclassified as providing "soil aquifer treated" recycled water. The projected values reflect the incorporation of this water into the flows returned to the metropolitan area and used for purposes as shown in Table 6-9.

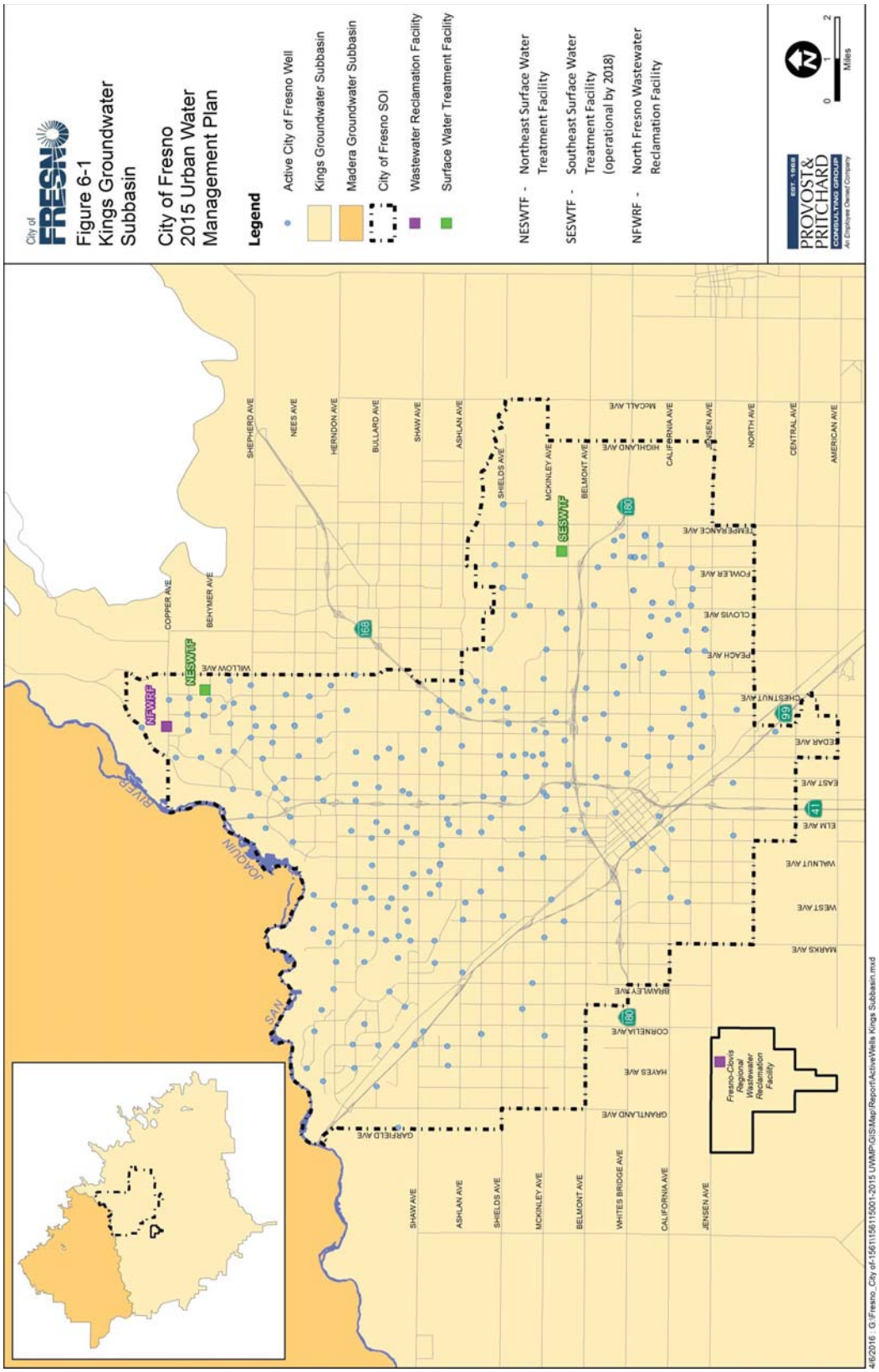


Figure 6-1: Kings Groundwater Subbasin

Extracted Pages from the Fresno 2015 UWMP for the Parc West Water Supply Assessment

Parc West Development Project
SB 610 Westlake WSA Update

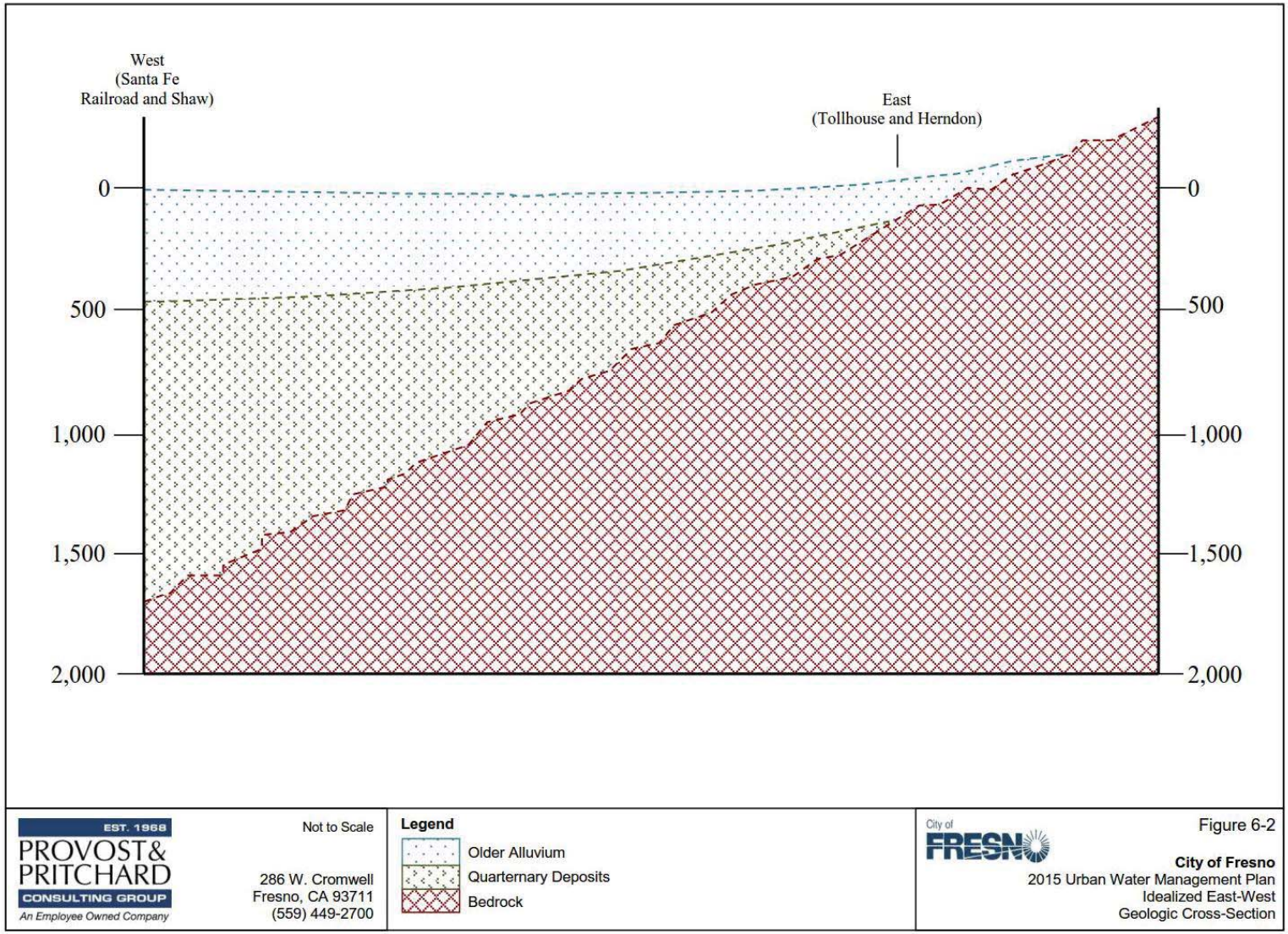


Figure 6-2: Idealized East-West Geologic Cross-Section

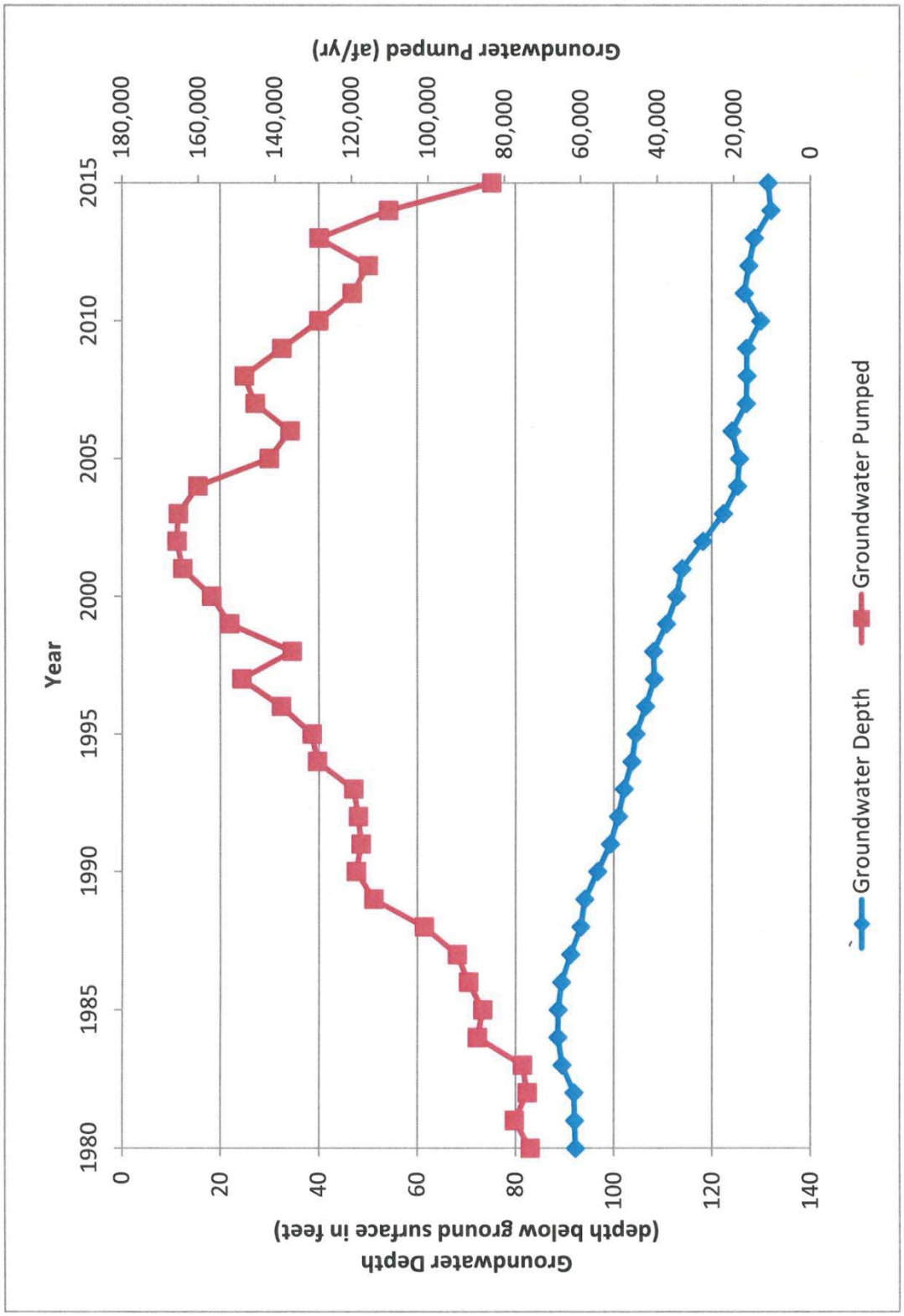


Figure 6-3: Historic Average Groundwater Depth and Groundwater Pumped

6.0 CONTINGENCY ANALYSIS APPLICABILITY (Government Code Section 66473.7 (2)(b)

The City's adopted 2015 Urban Water Management Plan provides a full spectrum of Water Shortage Contingency Plan measures (Chapter 8, pages 8-1 through 8-14). These measures, applicable to the entire City of Fresno municipal water service area, are fully applicable to the project and protective of the adequacy of the project's water supply.

8 Water Shortage Contingency Planning

Water purveyor planning for possible water supply shortages has become an increasingly important subject in light of the drought conditions over the last several years. The City of Fresno has had a Water Shortage Contingency Plan (WSCP) in place for many years; the following discussion modifies the WSCP to allow for a more streamlined approach in the eventuality of more drought conditions in the coming years.

This chapter includes a discussion regarding measures that may be taken during water shortage conditions. The WSCP is the primary focus of the chapter; however, discussion is also presented concerning minimum water supplies needed for the City.

The City initially developed a WSCP in 1993, which was adopted in 1994, in response to the 1991 Assembly Bill 11X, which mandated all water purveyors with more than 3,000 connections develop a WSCP. The WSCP was revised as part of the 2005 UWMP Update and adopted by the City in 2008.

The WSCP is being further refined in this 2015 UWMP, but is still based on the original 1994 plan. The revisions are intended to streamline the plan's usefulness and enable the City to manage the necessary conservation measures to be enacted if a water shortage condition exists. The updated WSCP will be reviewed and adopted in conjunction with this 2015 UWMP.

The WSCP consists of four stages allowing the City to ultimately reduce its water demand to a level commensurate with the water supplies available to a maximum reduction of 50 percent. Financial impacts of a water shortage will also be discussed at the end of the chapter.

8.1 Stages of Action

Legal Requirements:

> ***CWC 10632*** *(a)(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.*

The City's WSCP includes a staged plan to reduce water demands based on the type of water shortage the City is experiencing. Any water shortage, whether long or short term may trigger any stage of the plan to enable the City to manage its water supply responsibly and provide, at a minimum, for the health and safety of its residents.

The stages are constructed to provide for a range of water shortages from 10 to 50 percent. Stage 1 is triggered at a 10 percent reduction in water supply, Stage 2 at 10-25 percent, Stage 3 at 25-35 percent, and Stage 4 is triggered at a 35-50 percent reduction in supply. The stages and specific conditions effecting water supply are discussed in more detail in Table 8-1.

Any stage listed within the WSCP may be enacted by the City Manager as deemed appropriate based on water shortage conditions.

Table 8-1: Stages of Water Shortage Contingency Plan

Stage	Percent Supply Reduction	Water Supply Condition
1	10%	Stage 1 of the Water Shortage Contingency Plan may be triggered by any of the following conditions: • In the second of two consecutive years, the volume of surface water available to the City through USBR and FID is projected to be less than the long-term average and the reduction in supply, averaged over the consecutive years, is equal to 10% or greater, or • Groundwater contamination conditions exists (DDW required the City to shut down wells) or a large-scale infrastructure failure occurs that results in a 10% loss in water production capacity, or • Localized groundwater cones of depression develop exceeding historic low water levels and, to avoid possible litigation with responsible parties of point source contaminant plumes, the City must shut down existing wells that result in a 10% loss in groundwater production capacity, or • A combination of the above mentioned circumstances or a disaster reduced the City's overall water supply or production capabilities by 10% or more. • After having been in a Stage 2 classification, the following water year results in a declaration by the jurisdictional authority in determining entitlements for the respective surface water supply of normal or above normal water deliveries; or the original trigger for a previous higher stage classification has been rectified to a point that is consistent with the above conditions for this stage.
2	10 - 25%	Stage 2 of the Water Shortage Contingency Plan may be triggered by any of the following conditions: • In the third of three consecutive years, the projected volume of surface water available to the City through USBR or FID is less than the long term average and the reduction in supply, averaged over the three consecutive years equals 10% or greater, or • The volume of surface water available to the City through FID is reduced by 25% of the long-term average, or • The volume of surface water available to the City through USBR is reduced by 25% of the long-term average, or • One-year change in average groundwater level in 30 key City wells exceeds 3 feet or two-year change in average groundwater level in 30 key City wells exceeds 6 feet and exceeds historic low groundwater levels, or • Groundwater contamination condition exists (DDW requires the City to shut down wells) or a large-scale infrastructure failure occurs that results in a 25% loss in water production capacity, or • A combination of the above mentioned circumstances or disaster reduces the City's overall water supply or production capabilities by 25% or more. • After having been in a Stage 3 classification, the following water year results in a declaration by the jurisdictional authority in determining entitlements for the respective surface water supply of normal or above normal water deliveries on the Friant-Kern system; or the original trigger for a previous higher stage classification has been rectified to a point that is consistent with the above conditions for this stage.
3	25 to 35%	Stage 3 of the Water Shortage Contingency Plan may be triggered by any of the following conditions: • In the fourth of four consecutive years, the projected volume of surface water available to the City through USBR or FID is less than the long term average and the reduction in supply, averaged over the four consecutive years equals 10% or greater, or • The volume of surface water available to the City through FID is reduced by 35% of the long-term average, or • The volume of surface water available to the City through USBR is reduced by 35% of the long-term average, or • One-year change in average groundwater level in 30 key City wells exceeds 5 feet or two-year change in average groundwater level in 30 key City wells exceeds 10 feet and exceeds historic low groundwater levels, or • Groundwater contamination condition exists (DDW requires the City to shut down wells) or a large-scale infrastructure failure occurs that results in a 35% loss in water production capacity, or • A combination of the above mentioned circumstances or disaster reduces the City's overall water supply or production capabilities by 35% or more. • After having been in a Stage 4 classification, the following water year results in a declaration by the jurisdictional authority in determining entitlements for the respective surface water supply of normal or above normal water deliveries on the Friant-Kern system; or the original trigger for a previous higher stage classification has been rectified to a point that is consistent with the above conditions for this stage.
4	35 - 50%	Stage 4 of the Water Shortage Contingency Plan may be triggered by any of the following conditions: • In the fifth of five consecutive years, the projected volume of surface water available to the City through USBR or FID is less than the long term average and the reduction in supply, averaged over the five consecutive years equals 10% or greater, or • The volume of surface water available to the City through FID is reduced by 50% of the long-term average, or • The volume of surface water available to the City through USBR is reduced by 50% of the long-term average, or • One-year change in average groundwater level in 30 key wells exceeds 7.5 feet or two-year change in average groundwater level in 30 key City wells exceeds 12 feet and exceeds historic low groundwater levels, or • Groundwater contamination condition exists (DDW requires the City to shut down wells) or a large-scale infrastructure failure occurs that results in a 50% loss in water production capacity, or • A combination of the above mentioned circumstances or disaster reduces the City's overall water supply or production capabilities by 50% or more.

8.2 Prohibitions on End Uses

Legal Requirements:

> ***CWC 10632*** *(a)(4) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.*
>
> *(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.*
>
> ***CWC 10632*** *(b) Commencing with the urban water management plan update due July 1, 2016, for purposes of developing the water shortage contingency analysis pursuant to subdivision (a), the urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.*
>
> ***Health and Safety Code Section 115921***
>
> *As used in this article the following terms have the following meanings:*
>
> *(a) "Swimming Pool" or "Pool" means any structure intended for swimming or recreational bathing that contains water over 18 inches deep. "Swimming Pool" includes in-ground and aboveground structures and includes, but is not limited to, hot tubs, spas, portable spas, and non-portable wading pools.*

The City of Fresno has adopted a set of restrictions on water usage that help promote water conservation and overall water usage reduction. The City Municipal Code contains sections on water and wastewater conservation that are to take place under normal water supply conditions. These water conservation measures will be discussed below and can be seen in Table 8-2.

Regulations in place under normal water supply conditions encourage smart water use and help the City manage their water supply. Some of those regulations include year round outdoor water schedule, turf type restrictions, turf irrigation methods, willful or negligent water wasting, flood irrigating, washing hardscape with potable water, and frequent draining of pools. Additional details of these regulations can be found in Section 6-520(a) of the City's Municipal Code.

All of the above restrictions are mandated year round by the City and must be observed. In addition to the restrictions on water usage that are mandated by the City year round, an additional list has been created that has extended the prohibitions that exist during a period of water shortage. These prohibitions correlate with the different stages of water reduction that were discussed in the preceding section. The stage that each of the prohibitions is associated with is referenced on the left hand side of Table 8-2. It should be noted that all prohibitions listed for Stage 1 will apply to Stage 2, likewise, all restrictions that apply to Stages 1-3 will also be applied to Stage 4.

One other mechanism that is used to reduce overall water loss is to reduce the overall system pressure by approximately 5 psi. Reducing the overall water pressure helps minimize leaks and any water waste that may occur. The SCADA system that the City has adopted can be used to change the zone pressure settings.

Table 8-2 lists all of the restrictions that are applicable to the Water Use Reduction Plan and the consequences associated with not complying with these restrictions can be seen as well.

Table 8-2: Restrictions and Prohibitions on End Uses

Stage	Restrictions and Prohibitions	Additional Explanation or Reference	Penalty, Charge or Other Enforcement
1-3	Landscape - Limit landscape irrigation to specific times	Stage 1: Summer – 3 days/wk; Winter – 1 day/wk Stage 2: Summer – 2 days/wk; Winter – 1 day/wk Stage 3: Summer – 1 days/wk; Winter – 1 day/wk	Yes See Section 8.3
1-3	Other	Prohibit car washing except with a bucket only (a hose equipped with a shut off nozzle may be used for a quick rinse)	Yes See Section 8.3
1-4	Other - Prohibit use of potable water for washing hard surfaces	Prohibit use of potable water to wash sidewalks, walkways, driveways, parking lots, open ground or other hard surfaced areas except where necessary for public health or safety.	Yes See Section 8.3
4	Landscape - Prohibit certain types of landscape irrigation	Prohibit outdoor irrigation year-round	Yes See Section 8.3
4	Other	Prohibit car washing	Yes See Section 8.3
4	CII - Restaurants may only serve water upon request	No restaurant, hotel, café, cafeteria, or other public place where food is sold is served or offered for sale, shall serve drinking water to any customer unless expressly requested.	No
4	Water Features - Restrict water use for decorative water features, such as fountains	Prohibit use of potable water to clean, fill or maintain decorative fountains, lakes, or ponds unless such water is reclaimed.	Yes See Section 8.3
4	Other - Prohibit use of potable water for construction and dust control	Prohibit use of potable water for construction, compaction, dust control, street or parking lot sweeping, building wash down where non-potable or recycled water is sufficient.	Yes See Section 8.3
4	Other	Prohibit use of potable water for sewer system maintenance or fire protection training without prior approval by the City Manager.	No
4	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Prohibit allowing potable water to escape from breaks within the customer's plumbing system for more than twenty-four (24) hours after the customer is notified or discovers the break	Yes See Section 8.3
4	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Prohibit washings cars, boats, trailers, aircraft, or other vehicles except to wash such vehicles at commercial or fleet vehicle washing facilities using water recycling equipment	Yes See Section 8.3
4	Pools and Spas - Require covers for pools and spas	Require covers for swimming pools when not in use	No
4	Other	Prohibit Use of Outdoor Misters	No

8.3 Penalties, Charges, Other Enforcement of Prohibitions

Legal Requirements:

CWC 10632 *(a)(6) Penalties or charges for excessive use, where applicable.*

The City has penalties for violation of the water use restrictions that were mentioned above in Table 8-2. The fines noted in Table 8-2 are based on City Municipal Code, Section 6-520(e) and are discussed in further specific detail in the below Table 8-3.

Table 8-3: Penalties for Water Wastage

Incident	Penalty Fee	Deferral Conditions
1	$45	Fee shall be deferred for a period of two years conditioned upon the customer not having a fourth incident of water wastage within a two-year period. If the customer does not have such fourth incident of water wastage within two years such deferral shall become permanent. However, such fee shall be due and owing by the customer if a fourth incident of water wastage occurs within two years.
2	$45	Fee shall be deferred for customers who attend a course in water conservation. The deferral shall be conditioned upon the customer's successful completion of a water conservation course provided by the Department of Public Utilities and the customer not having a third incident of water wastage within a two-year period. The deferred fee shall be collected if a third incident of water wastage occurs within a two-year period.
3	$45 plus fee from 2nd violation	A customer shall have the option of submitting proof of implementation of retrofit measures of no less value than the fee imposed for such third incident of water wastage in lieu of that fee. Retrofit measures of a value less than that fee shall be credited toward payment of the fee.
4	$45 plus fee from 1st violation	None
After 4	$45 per incident	None

If a customer has more than four incidents of water wastage within a two-year period, the City may implement any or all of the following measures:

- Require the customer to get a landscape evaluation, lawn water audit, and water budget, as appropriate, in order to learn efficient water use. This work shall be completed at the customer's expense by landscape irrigation auditors certified by the Irrigation Association.
- Require a customer to repair any defects in the watering system of such customers within fourteen days of notice by the City to repair.

- Installation by the City of flow restrictors or termination of water service for exterior use.
- Termination of all water service to a customer unless in the opinion of the Director of Public Utilities such termination would result in an unreasonable risk to the health and safety of persons.
- Require restoration of water service after termination be contingent on an agreement by the customer to adhere to the provisions of Section 6-520(e) of the City's Municipal Code.

8.4 Consumption Reduction Methods

Legal Requirements:

> ***CWC 10632*** *(a)(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.*

The City of Fresno is employing a variety of different techniques to encourage community members to be more involved and educated about water conservation. The following section will discuss the measures taken to ensure that the overall consumption is reduced. The primary methods being employed by the City are as follows:

- Expanded Public Information Campaign
- Improved Customer Billing
- Increased Meter Frequency Reading
- Rebate Programs
- Landscape Irrigation Efficiency Programs
- Decreased Line Flushing
- Reduced System Water Loss
- Increased Water Waste Patrols

8.4.1 Categories of Consumption Reduction Methods

The water consumption reduction methods discussed in the preceding section can be seen and are discussed in detail in Table 8-4 below.

Table 8-4: Stages of WSCP – Consumption Reduction Methods (DWR Table 8-3)

Stage	Consumption Reduction Methods by Water Supplier	Additional Explanation or Reference
1	Expand Public Information Campaign	The City of Fresno has placed a lot of emphasis on doing community outreach that includes classroom presentations, outreach educational information, and water tours.
1	Improve Customer Billing	The City of Fresno has designated new water meter rates so that consumers who are using less water will see savings in their water bills, while those using more will have a larger water bill.
1	Offer Water Use Surveys	The City of Fresno uses water leak surveys to all community members.
1	Provide Rebates on Plumbing Fixtures and Devices	The City offers rebates on a variety of plumbing fixtures that are high-efficiency such as washers, toilets, and urinals.
1	Provide Rebates for Landscape Irrigation Efficiency	The City offers rebates for Micro Irrigation Conversions, Soil Moisture Sensors, Smart Irrigation Controller, and Rain Sensors to improve efficiencies.
1	Provide Rebates for Turf Replacement	The City provides rebates for community members who wish to replace their turf with a drought resistant garden.
2	Decrease Line Flushing	The City decreases the frequency and duration of water system flushing maintenance activities.
2	Reduce System Water Loss	The City increases efforts to correct water system losses, including repairing leaks and eliminating illicit connections.
2	Increase Water Waste Patrols	The City conducts more frequent patrols to discourage water wasting and correct water wasting practices in the community.
3	Increase Frequency of Meter Reading	The City may increase frequency of meter reading to better track services that may have leaks or unusually high water consumption
4	Moratorium or Net Zero Demand Increase on New Connections	The City will temporarily limit or ban new water service connections within the service area.

8.5 Determining Water Shortage Reductions

Legal Requirements:

> ***CWC 10632*** *(a)(9) A mechanism for determining and actual reductions in water use pursuant to the urban water shortage contingency analysis.*

The City of Fresno has assessed its overall water reduction by evaluating the water usage trends that were discussed in SBX7-7 in conjunction with the AWWA water loss calculator. See Chapters 5 and 4, respectively, for additional information.

The overall decrease of water use per capita and compliance with the 2015 Interim Water Conservation target indicate that the reduction measures have been effective in the community. Future water savings from conservation measures will be similarly determined through meter reading data from production and consumption meters.

8.6 Revenue and Expenditure Impacts

Legal Requirements:

> ***CWC 10632*** *(a)(7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.*

The City has completed its metering program and all water service connections are now metered resulting in 100 percent of the City's revenues from water charges being derived from the City's established metered water rates based on actual water consumption.

The mandatory conservation measures implemented in 2012 through 2015 as a result of implementing the WSCP and Executive Orders issued in 2013, 2014 and 2015 resulted in a decrease of water consumption and the related revenues. The mandatory conservation goal for the City in 2015 was 28%. As the City worked to meet the conservation goal, its revenue reductions were less than the 28% water reduction mandate. This is explained by the fact that the City has a two component water rate structure that includes the fixed 'water meter service charge' for all service connections and a volumetric based 'water quantity charge.' Therefore, the reduction in revenues was affected by a lesser percentage than the overall total reduction in water use.

8.6.1 Drought Rate Structures and Surcharges

At present the City does not have in place a drought rate structure. The City has however just hired a consultant to review existing water rates and, if appropriate, develop new future water rates. As an additional task to this effort, the consultant will review, develop, and recommend a drought rate structure for the City's consideration. With such a rate structure in place, should a water shortage take place, the City will be able to institute an alternate water rate structure that may apply and change depending on the stage of drought that the community is experiencing. At this time there are no details as to how the rate structure will be developed, but conceptually each of the four stages specified in the WSCP would have a water rate increase associated with it.

The use of this type of structure during a drought will minimize expenditure impacts that are incurred during a drought. The effects of the decrease in revenue due to the drought, with a corresponding increase in expenditure, will allow for the City to function without going into debt.

8.6.2 Use of Financial Reserves

The City of Fresno Water System maintains two reserve funding sources that can be used to meet a portion of the utility's revenue requirements during emergency or drought conditions. They are as follows:

- Water Operating Reserves – This is a cash set aside in the Water Enterprise Fund that provides a "rainy day savings account" for unexpected cash flow shortages and large unexpected expenses or losses. Normally, these reserves are not intended to be used to make up income shortfalls. However, in an emergency situation, they can be transferred to the Water Rate Stabilization Fund (see below) for transfer back to the Water Enterprise Fund to meet revenue requirements, including debt coverage ratios.

- Water Rate Stabilization Fund - Indentures from previous bond issuances required the establishment of the Water Rate Stabilization Fund. These funds can be drawn on to meet a portion of the utility's revenue requirements through unexpected low-revenue periods and may be applied to debt coverage ratios calculations to help avoid technical default of bond covenants and loan agreements.

In addition, the City maintains funding in the Emergency Reserve Fund for the purpose of meeting unforeseen emergencies (see Section 1212 of the City's Municipal Code for more information). This funding may be used by an affirmative vote of at least five

members of the City Council upon presentation of a statement declaring the reason for use of the funding. This funding would be used only if the Water System reserves were insufficient to meet revenue requirements.

8.6.3 Other Measures

If the funding mentioned above is not sufficient to compensate for loss of revenue during a water shortage, the City may elect to temporarily suspend components of its operations and maintenance activities.

8.7 Resolution or Ordinance

Legal Requirements:

> ***CWC 10632*** *(a)(8) A draft water shortage contingency resolution or ordinance.*

The City's updated WSCP was developed in conjunction with the City's 2015 UWMP and will be approved with the 2015 UWMP approval. The resolution providing the Mayor or City Manager with authority to enact each stage of the WSCP is included in Appendix B of this document. A draft resolution to implement the WSCP is provided in Appendix K.

8.8 Catastrophic Supply Interruption

Legal Requirements:

> ***CWC 10632*** *(a)(3) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.*

In addition to responding to drought conditions, the City's WSCP can be used to respond to emergency or catastrophic conditions that impact the availability of the City's water supplies, and/or the ability to deliver water within the City's service area. Potential events are listed below:

- Loss of Surface Water Supply
- Loss of Groundwater Supply
- Area-Wide Electrical Power Failure
- Natural Disaster – Earthquake or Flood

In the event of a supply interruption, there are several measures that could be taken that would mitigate the overall negative impacts of a water shortage. The following discussion indicates possible events and counteractions to maintain water service to the service area.

The City has an agreement with the City of Clovis that discusses an intertie system between the two cities that could be used by either entity during an emergency. Completion of construction of this intertie is anticipated in Fiscal Year 2017. Activation of the intertie with the City of Clovis would supplement the City's water supply.

The City also cooperates with the County of Fresno's Office of Emergency Services and the WSCP is included in the County's Disaster Plan. The goal during any emergency scenario is to maintain water supply such that the health and safety of the community is protected.

In the event of contamination, either of the surface or ground water supplies, the non-impacted water supply could be utilized more heavily or the intertie with the City of Clovis could be activated. Additionally, overall demand reduction, and the use of other wells or treated surface water would help meet demands.

If a regional power outage were to occur, the City could utilize backup power generators to operate wells. This measure in conjunction with demand reduction could supply sufficient water for health and safety purposes. The City has more than 35 wells with backup power sources. The City has budgeted for the installation of a backup generator for the NESWTF. The new SESWTF, currently under construction, will also be equipped with a backup power generator.

If a natural disaster occurs, in addition to the actions discussed above, the City would isolate any areas of the system that were compromised for emergency repairs and potentially use of the intertie with the City of Clovis. Implementing the WSCP could also occur to reduce demands.

8.9 Minimum Supply Next Three Years

Legal Requirements:

> ***CWC 10632*** *(a)(2) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.*

As discussed in Chapter 4, the City currently has the following sources of supply:

- Groundwater,

- Surface water from FID (Kings River),
- Surface water from the USBR (CVP-Friant Division, San Joaquin River),
- Recycled water supply from the RWRF and North Fresno WRF.

The driest historical three-year period was 2013, 2014, and 2015, which is the latter part of the 2012-2015 drought. This has been the driest three consecutive hydrologic years in the last one-hundred years. For purposes of this evaluation, it has been assumed that the minimum water supply for the next three years is based on these three consecutive years of severe drought water supply conditions. Under these conditions, surface water deliveries from FID and USBR would be reduced significantly. Table 8-5 presents the estimated minimum water supply for the next three years.

Table 8-5: Minimum Supply Next Three Years (DWR Table 8-4)

Available Water Supply	Multiple Dry Year Supply, af/yr		
	Year 2016	Year 2017	Year 2018
Groundwater[1]	126,600	127,500	128,500
Surface Water – FID[2]	81,200	67,300	47,100
Surface Water – USBR[3]	37,200	0	0
Recycled – RWRF Tertiary[4]	7,000	7,000	7,000
Recycled – RWRF Secondary[4]	10,000	10,000	10,000
Recycled – Extraction Wells, Tertiary[4]	2,500	2,500	2,500
Total	264,500	214,300	195,100

(1) Groundwater Supply based on interpolation for specific years using data taken from Table 6-3.
(2) FID surface water allocation entitlement based on interpolation for specific years using data taken from Table 6-5 and applying percentage reductions from Table 7-1.
(3) USBR surface water supply values taken from Table 7-2 for second, third, and fourth year multiple dry year supplies.
(4) Recycled water supply values taken from Table 7-7 for second, third, and fourth year multiple dry year supplies.

The minimum supplies shown above for the next three years are adequate to meet projected demands for similar multiple dry years conditions as shown in Table 7-9 for 2020 for the second, third, and fourth years of an extended dry period.

7.0 ASSESSMENT FINDINGS

It is concluded that the City of Fresno water system has sufficient capacity to supply the Parc West project and other projected demands within the City's service area through the year 2040. Therefore, it is recommended that the City of Fresno Water Division approve this assessment and forward the report to the City of Fresno Planning Division for inclusion in the CEQA documentation for the proposed Parc West project.

APPENDIX A – ADOPTED WESTLAKE DEVELOPMENT WATER SUPPLY ASSESSMENT

Traffic Impact Analysis

Parc West

Located on the Northwest Quadrant of Grantland Avenue and Ashlan Avenue

In the City of Fresno, California

Prepared for:

Parc West Development, Inc.
1396 West Herndon, Suite 101
Fresno, CA 93711

September 6, 2019

Project No. 004-067

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

Traffic Engineering, Transportation Planning, & Parking Solutions

Traffic Impact Analysis

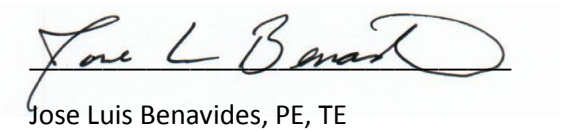
For the Parc West Project located on the Northwest Quadrant of Grantland Avenue and Ashlan Avenue

In the City of Fresno, CA

September 6, 2019

This Traffic Impact Analysis 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

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Introduction and Summary

Introduction

This report describes a Traffic Impact Analysis (TIA) prepared by JLB Traffic Engineering, Inc. (JLB) for the proposed Parc West (Project) located on the northwest quadrant of Grantland Avenue and Ashlan Avenue in the City of Fresno. The Project proposes to develop up to 844 single-family residential units and a 1.819-acre neighborhood park on approximately 160 acres. Based on information provided to JLB, approximately 11 acres of the Project site generally located at the northwest corner of Grantland Avenue and Ashlan Avenue will undergo a General Plan Amendment to modify the land use from Community Commercial to Medium-Density Residential. Figure 1 shows the location of the proposed Project site relative to the surrounding roadway network.

The purpose of this 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 on-going planning process. The TIA primarily focused on evaluating traffic conditions at study intersections and segments that may potentially be impacted by the proposed Project. The Scope of Work was prepared via consultation with City of Fresno, County of Fresno 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) policy of the City of Fresno, County of Fresno and Caltrans.

Existing Traffic Conditions

- JLB conducted a search of the Statewide Integrated Traffic Records System (SWITRS) and the Transportation Injury Mapping System (TIMS) to review collision reports for the most recent five-year period (January 1, 2013 to December 31, 2017). The majority of the collisions reported were located within the influence zone of the intersection of Shaw Avenue and Grantland Avenue and took place prior to its signalization. Therefore, the signalization of the intersection of Shaw Avenue and Grantland Avenue should reduce the number and severity of broadside collisions. At the remaining study intersections and segments, the number of correctable collisions experienced is considered less than significant.
- At present, the intersection of Bryan Avenue and Ashlan Avenue exceeds its LOS threshold during the AM peak period. To improve the LOS at this intersection, it is recommended that a new lane be accommodated while retaining the existing traffic controls. Additional details as to the recommended lane geometrics for the intersection of Bryan Avenue and Ashlan Avenue under this scenario are found within the body of this Report.
- At present, all study segments operate at an acceptable LOS.

Existing plus Project (Phase I) Traffic Conditions

- A review of the Project access point to be constructed under Phase I indicates that it is located at a point that minimizes traffic operational impacts to the existing roadway network.
- The proposed Project under Phase I is estimated to generate a maximum of 793 daily trips, 62 AM peak hour trips and 83 PM peak hour trips.
- Under this scenario, the intersection of Bryan Avenue and Ashlan Avenue is projected to exceed its LOS threshold during the AM peak period. To improve the LOS at this intersection, it is recommended that a new lane be accommodated while retaining the existing traffic controls. Additional details as to the recommended lane geometrics for the intersection of Bryan Avenue and Ashlan Avenue under this scenario are found within the body of this Report.
- Under this scenario, all study segments are projected to operate at an acceptable LOS.

Existing plus Project (Phase I & Phase II) Traffic Conditions

- A review of the Project access point to be constructed under Phase II indicates that it is located at a point that minimizes traffic operational impacts to the existing roadway network.
- The proposed Project under Phase II is estimated to generate a maximum of 3,597 daily trips, 282 AM peak hour trips and 377 PM peak hour trips.
- Under this scenario, the intersection of Bryan Avenue and Ashlan Avenue is projected to exceed its LOS threshold during the AM peak period. To improve the LOS at this intersection, it is recommended that a new lane be accommodated while retaining the existing traffic controls. Additional details as to the recommended lane geometrics for the intersection of Bryan Avenue and Ashlan Avenue under this scenario are found within the body of this Report.
- Under this scenario, all study segments are projected to operate at an acceptable LOS.

Existing plus Project (Buildout) Traffic Conditions

- A review of the Project driveway to be constructed under buildout indicates that it is located at a point that minimizes traffic operational impacts to the existing roadway network.
- At buildout, the proposed Project is estimated to generate a maximum of 7,968 daily trips, 625 AM peak hour trips and 836 PM peak hour trips.
- It is recommended that the Project implement a Class II Bike Lane along its frontages to Grantland Avenue, Gettysburg Avenue and Ashlan Avenue.
- Under this scenario, the intersections of Grantland Avenue and Gettysburg Avenue and Bryan Avenue and Ashlan Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at these intersections, it is recommended that new lanes be accommodated while retaining their traffic control mechanism. Additional details as to the recommended lane geometrics and traffic controls for these intersections under this scenario are found within the body of this Report.
- Under this scenario, all study segments are projected to operate at an acceptable LOS.

Near Term plus Project (Buildout) Traffic Conditions

- The total trip generation for the Near Term Projects is 49,295 daily trips, 4,317 AM peak hour trips and 4,846 PM peak hour trips.
- Under this scenario, the intersections of Grantland Avenue and Barstow Avenue, Grantland Avenue and Shaw Avenue, Bryan Avenue and Shaw Avenue, Hayes Avenue and Shaw Avenue, Grantland Avenue and Gettysburg Avenue, Grantland Avenue and Ashlan Avenue and Bryan Avenue and Ashlan Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at these intersections, it is recommended that various measures be implemented such as the addition of lanes and modification of traffic control mechanisms. At several of these intersections, signalization is recommended. Additional details as to the recommended lane geometrics and traffic controls for these intersections under this scenario are found within the body of this Report.
- Under this scenario, all study segments are projected to operate at an acceptable LOS.

Cumulative Year 2035 No Project Traffic Conditions

- Under this scenario, the intersections of Grantland Avenue and Barstow Avenue, Grantland Avenue and Shaw Avenue, Veterans Boulevard and Shaw Avenue, Bryan Avenue and Shaw Avenue, Hayes Avenue and Shaw Avenue, Grantland Avenue and Gettysburg Avenue, Veterans Boulevard and Gettysburg Avenue, Bryan Avenue and Gettysburg Avenue, Grantland Avenue and Ashlan Avenue, Bryan Avenue and Ashlan Avenue, Polk Avenue and Ashlan Avenue, Grantland Avenue and Dakota Avenue and Grantland Avenue and Shields Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at these intersections, various measures such as the addition of lanes and modification of their traffic control mechanisms are recommended. At several of these intersections, signalization is recommended. Additional details as to the recommended lane geometrics and traffic controls for these intersections under this scenario are found within the body of this Report.
- Under this scenario, the segments of Shaw Avenue between Veterans Boulevard and Hayes Avenue and the segments of Grantland Avenue between Veterans Boulevard and Shields Avenue are projected to operate at an unacceptable LOS. To improve the LOS of these segments, it is recommended that new lanes be accommodated.

Cumulative Year 2035 plus Project Traffic Conditions

- Under this scenario, the intersections of Grantland Avenue and Barstow Avenue, Grantland Avenue and Shaw Avenue, Veterans Boulevard and Shaw Avenue, Bryan Avenue and Shaw Avenue, Hayes Avenue and Shaw Avenue, Grantland Avenue and Gettysburg Avenue, Veterans Boulevard and Gettysburg Avenue, Bryan Avenue and Gettysburg Avenue, Grantland Avenue and Ashlan Avenue, Bryan Avenue and Ashlan Avenue, Polk Avenue and Ashlan Avenue, Grantland Avenue and Dakota Avenue and Grantland Avenue and Shields Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at these intersections, it is recommended that various measures be implemented such as the addition of lanes and modification of their traffic control mechanisms. At several of these intersections, signalization is recommended. Additional details as to the recommended lane geometrics and traffic controls for these intersections under this scenario are found within the body of this Report.
- Under this scenario, the segments of Shaw Avenue between Veterans Boulevard and Hayes Avenue and the segments of Grantland Avenue between Veterans Boulevard and Shields Avenue are projected to operate at an unacceptable LOS. To improve the LOS of these segments, it is recommended that new lanes be accommodated.

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 contribute its equitable fair share as listed in Table XXIV for the future improvements necessary to maintain an acceptable LOS.

Scope of Work

The TIA primarily focused on evaluating traffic conditions at study intersections and segments that may potentially be impacted by the proposed Project. On June 26, 2018, a Draft Scope of Work for the preparation of a Traffic Impact Analysis for this Project was provided to the City of Fresno, County of Fresno and Caltrans for their review and comment. Any comments to the Draft Scope of Work were to be provided by July 16, 2018.

On Wednesday, July 18, 2018, the City of Fresno responded to the Draft Scope of Work. The City of Fresno requested that the intersections of Grantland Avenue and Barstow Avenue, Gettysburg Avenue and Bryan Avenue, Cornelia Avenue and Ashlan Avenue, and Grantland Avenue and Dakota Avenue be included in the analysis. In addition, the City of Fresno requested that a Collision Analysis be prepared for all existing study intersections and segments. On the same day, the County of Fresno responded to the Draft Scope of Work. The County of Fresno requested that the intersection of Garfield Avenue and Shaw Avenue and the segment of Garfield Avenue between Shaw Avenue and Gettysburg Avenue be added to the analysis if the Project will have access to Garfield Avenue. On Tuesday, July 24, 2018, Caltrans approved the Draft Scope of Work as presented.

Based on the comments received, this TIA includes the analysis of the additional intersections and segment as requested by the City of Fresno and County of Fresno, along with the addition of the Collision Analysis for all existing study intersections and segments. The Draft Scope of Work and the comments received from the lead agency and responsible agencies are included in Appendix A.

Study Facilities

The existing peak hour turning movement and segment volume counts were conducted at the study intersections and segments between September 2017 and September 2018, while schools in the vicinity of the proposed Project were in session. The intersection turning movement counts included pedestrian volumes. The traffic counts for the existing study intersections and segments are contained in Appendix B. The existing intersection turning movement volumes, intersection geometrics and traffic controls are illustrated in Figure 2.

Study Intersections

1. Grantland Avenue / Barstow Avenue
2. Garfield Avenue / Shaw Avenue
3. Grantland Avenue / Shaw Avenue
4. Veterans Boulevard / Shaw Avenue
5. Bryan Avenue / Shaw Avenue
6. Hayes Avenue / Shaw Avenue
7. Grantland Avenue / Gettysburg Avenue
8. Veterans Boulevard / Gettysburg Avenue
9. Bryan Avenue / Gettysburg Avenue
10. Parc West Drive / Ashlan Avenue
11. Grantland Avenue / Ashlan Avenue
12. Bryan Avenue / Ashlan Avenue
13. Hayes Avenue / Ashlan Avenue
14. Polk Avenue / Ashlan Avenue
15. Cornelia Avenue / Ashlan Avenue
16. Grantland Avenue / Dakota Avenue
17. Grantland Avenue / Shields Avenue

Study Segments

1. Shaw Avenue between Grantland Avenue and Veterans Boulevard
2. Shaw Avenue between Veterans Boulevard and Bryan Avenue
3. Shaw Avenue between Bryan Avenue and Hayes Avenue
4. Garfield Avenue between Shaw Avenue and Gettysburg Avenue
5. Grantland Avenue between Shaw Avenue and Veterans Boulevard
6. Grantland Avenue between Veterans Boulevard and Gettysburg Avenue (West Leg)
7. Grantland Avenue between Gettysburg Avenue (West Leg) and Ashlan Avenue
8. Grantland Avenue between Ashlan Avenue and Dakota Avenue
9. Grantland Avenue between Dakota Avenue and Shields Avenue
10. Ashlan Avenue between Grantland Avenue and Bryan Avenue
11. Ashlan Avenue between Bryan Avenue and Hayes Avenue
12. Ashlan Avenue between Hayes Avenue and Polk Avenue

Project Only Trips to State Facilities

1. State Route 99 / Shaw Avenue
2. State Route 99 / Ashlan Avenue

Study Scenarios

Existing Traffic Conditions

This scenario evaluates the Existing Traffic Conditions based on existing traffic volumes and roadway conditions from traffic counts and field surveys conducted between September 2017 and September 2018.

Existing plus Project (Phase I) Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Existing plus Project (Phase I) Traffic Conditions. The Existing plus Project (Phase I) traffic volumes were obtained by adding the Project Only Trips (Phase I) to the Existing Traffic Conditions scenario. The Project Only Trips (Phase I) to the study facilities were developed based on existing travel patterns, the Fresno COG Project (Phase I) Select Zone, the existing roadway network, engineering judgment, data provided by the developer, knowledge of the study area, existing residential and commercial densities, and the City of Fresno 2035 General Plan Circulation Element in the vicinity of the Project. The Fresno COG Models for the Project Select Zone are contained in Appendix C.

Existing plus Project (Phase I & Phase II) Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Existing plus Project (Phase I & Phase II) Traffic Conditions. The Existing plus Project (Phase I & Phase II) traffic volumes were obtained by adding the Project Only Trips (Phase II) to the Existing plus Project (Phase I) Traffic Conditions scenario. The Project Only Trips (Phase II) to the study facilities were developed based on existing travel patterns, the Fresno COG Project Select Zones, the existing roadway network, engineering judgment, data provided by the developer, knowledge of the study area, existing residential and commercial densities, and the City of Fresno 2035 General Plan Circulation Element in the vicinity of the Project.

Existing plus Project (Buildout) Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Existing plus Project (Buildout) Traffic Conditions. The Existing plus Project (Buildout) traffic volumes were obtained by adding the Project Only Trips (Buildout) to the Existing Traffic Conditions scenario. The Project Only Trips (Buildout) to the study facilities were developed based on existing travel patterns, the Fresno COG Project (Buildout) Select Zone, the existing roadway network, engineering judgment, data provided by the developer, knowledge of the study area, existing residential and commercial densities, and the City of Fresno 2035 General Plan Circulation Element in the vicinity of the Project.

Near Term plus Project (Buildout) Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Near Term plus Project Traffic Conditions. The Near Term plus Project traffic volumes were obtained by adding the Near Term related trips to the Existing plus Project (Buildout) Traffic Conditions scenario. It should be noted that this scenario assumes that Gettysburg Avenue is built between Bryan Avenue and a point approximately 1,200 feet east of Bryan Avenue.

Cumulative Year 2035 No Project Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Cumulative Year 2035 No Project Traffic Conditions. The Cumulative Year 2035 No Project traffic volumes were obtained by subtracting the 2035 Project Only Trips from the Cumulative Year 2035 plus Project Traffic Conditions scenario.

Cumulative Year 2035 plus Project Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Cumulative Year 2035 plus Project Traffic Conditions. The Cumulative Year 2035 plus Project traffic volumes were obtained from the Fresno COG traffic model runs (Base Year 2018 and Cumulative Year 2035) and existing traffic counts. Under this scenario, the increment method, as recommended by the Model Steering Committee was utilized to determine the Cumulative Year 2035 plus Project traffic volumes. The Fresno COG Models are contained in Appendix C. It should be noted that by the year 2035, additional major streets and freeway interchanges will be implemented in the vicinity of the Project that will result in changes in travel patterns and volumes. Specifically, some of the traffic currently on Grantland Avenue between Barstow Avenue and Gettysburg Avenue is projected to shift to Veterans Boulevard between Barstow Avenue and Gettysburg Avenue causing a reduction in traffic volumes on Grantland Avenue between Barstow Avenue and Gettysburg Avenue. In addition, this scenario assumes that Gettysburg Avenue is built between Bryan Avenue and Hayes Avenue and that Dakota Avenue is built east of Grantland Avenue. The 2035 Project Only Trips to the study facilities were developed based on the potential changes to the roadway network, engineering judgment, knowledge of the study area, existing residential and commercial densities, and the City of Fresno 2035 General Plan Circulation Element in the vicinity of the Project.

Level of Service Analysis Methodology

Level of Service (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 *2010 Highway Capacity Manual* (HCM) is the standard reference published by the Transportation Research Board and contains the specific criteria and methods to be used in assessing LOS. U-turn movements were analyzed using HCM 2000 methodologies and would yield more accurate results for the reason that HCM 2010 methodologies do not allow the analysis of U-turns. Synchro software was used to define LOS in this study. Details regarding these calculations are included in Appendix D.

Criteria of Significance

The 2035 City of Fresno General Plan has established various degrees of acceptable LOS on its major streets, which are dependent on four (4) Traffic Impact Zones (TIZ) within the City. The standard LOS threshold for TIZ I is LOS F, that for TIZ II is LOS E, that for TIZ III is LOS D, and that for TIZ IV is LOS E. Additionally, the 2035 MEIR made findings of overriding consideration to allow a lower LOS threshold than that established by the underlying TIZ's. For those cases in which a LOS criterion for a roadway segment differs from that of the underlying TIZ, such criteria are identified in the roadway description. As all study facilities fall within TIZ III, LOS D is used to evaluate the potential significance of LOS impacts to intersections and segments within this TIA pursuant to the City of Fresno 2035 General Plan.

The County of Fresno has established LOS C 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 SOI of a City, the LOS criteria of the City are the criteria of significance used in this report. LOS C is used to evaluate the potential significance of LOS impacts to Fresno County intersections and segments that fall outside the City of Fresno SOI. In this case, all study facilities fall within the City of Fresno SOI, therefore, the City of Fresno LOS is utilized.

Caltrans endeavors to maintain a target LOS at the transition between LOS C and D on State highway facilities consistent with the *Caltrans Guide for the Preparation of Traffic Impact Studies* dated December 2002. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. In this TIA, however, all study facilities fall within the City of Fresno. Therefore, the City of Fresno LOS thresholds are utilized.

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.

- Yellow time consistent with the California Manual of Uniform Traffic Control Devices (CA MUTCD) based on approach speeds
- 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 and 2.0 seconds added
- All new or modified signals utilize protective left-turn phasing – unless otherwise stated
- A 3 percent heavy vehicle factor
- The number of observed pedestrians at existing intersections was utilized under all study scenarios
- An average of 3 pedestrian calls per hour at signalized intersections
- An average of 10 pedestrian calls per hour per at the intersections of Grantland Avenue and Gettysburg Avenue, Veterans Boulevard and Gettysburg Avenue, Bryan Avenue and Gettysburg Avenue, Grantland Avenue and Ashlan Avenue and Bryan Avenue and Ashlan Avenue
- At existing intersections, the observed approach Peak Hour Factor (PHF) is utilized in the Existing, Existing plus Project (Phase I), Existing plus Project (Phase I & Phase II), Existing plus Project (Buildout) and Near Term plus Project (Buildout) scenarios
- For the Cumulative Year 2035 scenarios, the following PHF's were utilized to reflect school traffic operations and an increase in future traffic volumes. As roadways start to reach their saturated flow rates, PHF's tend to increase to 0.90 or higher. The PHF's were established based on historical traffic counts collected by JLB for intersections in proximity of school sites.
  - For the intersections of Grantland Avenue and Gettysburg Avenue, Bryan Avenue and Gettysburg Avenue, Grantland Avenue and Ashlan Avenue, and Bryan Avenue and Ashlan Avenue, the following PHF's were utilized:
    - A PHF of 0.86 during the AM peak
    - A PHF of 0.90 during the PM peak
  - A PHF of 0.92, or the existing PHF if higher, is utilized for all other 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.

Grantland Avenue is an existing north-south two-lane divided arterial adjacent to the proposed Project. In this area, Grantland Avenue extends south of Parkway Drive through the southern limits of the City of Fresno SOI. The City of Fresno 2035 General Plan Circulation Element designates Grantland Avenue as a two-lane arterial between Parkway Drive and Shaw Avenue, a four-lane collector between Shaw Avenue and Gettysburg Avenue, and a four-lane super arterial between Gettysburg Avenue and Belmont Avenue.

Barstow Avenue is an existing east-west two-lane undivided collector in the vicinity of the proposed Project. In this area, Barstow Avenue exists between Garfield Avenue and Bryan Avenue. The City of Fresno 2035 General Plan Circulation Element designates Barstow Avenue as a two-lane collector between Garfield Avenue and Veterans Boulevard and a four-lane collector between Veterans Boulevard and the future north leg of Hayes Avenue.

Garfield Avenue is an existing north-south two-lane undivided collector in the vicinity of the proposed Project. In this area, Garfield Avenue extends south of Parkway Drive to a point approximately a half a mile south of Shaw Avenue. The City of Fresno 2035 General Plan Circulation Element designates Garfield Avenue as a two-lane collector between Parkway Drive and Shields Avenue.

Shaw Avenue is an existing east-west two-lane undivided arterial in the vicinity of the proposed Project. In this area, Shaw Avenue extends through the City of Fresno easterly beyond the City of Clovis and westerly beyond Garfield Avenue into the County of Fresno. The City of Fresno 2035 General Plan Circulation Element designates Shaw Avenue as a two-lane arterial between Garfield Avenue and Grantland Avenue, a four-lane arterial between Grantland Avenue and Cornelia Avenue, and a six-lane arterial east of Cornelia Avenue. Furthermore, the City of Fresno 2035 General Plan Circulation Element acknowledged that Shaw Avenue would exceed LOS D as a four-lane and six-lane facility between State Route 99 and Jennifer Avenue. However, City Council made the appropriate findings to designate LOS F as the criteria of significance for Shaw Avenue as a four-lane facility between State Route 99 and Golden State Boulevard and a six-lane facility between Golden State Boulevard and Jennifer Avenue. Additionally, the City of Fresno 2035 General Plan Circulation Element acknowledged that Shaw Avenue would exceed LOS D as a six-lane facility between Woodrow Avenue and Chestnut Avenue. However, City Council made appropriate findings to designate LOS E as the criteria of significance for Shaw Avenue as a six-lane facility between Woodrow Avenue and Chestnut Avenue.

Veterans Boulevard is planned as a six-lane divided super arterial in the vicinity of the proposed Project. Veterans Boulevard will ultimately connect to State Route 99 and Herndon Avenue to the north and Grantland Avenue to the south. The City of Fresno 2035 General Plan Circulation Element designates Veterans Boulevard as a six-lane super arterial between its future connection with Grantland Avenue and Gettysburg Avenue to its future connection with Herndon Avenue and Polk Avenue. Furthermore, the City of Fresno 2035 General Plan Circulation Element acknowledged that Veterans Boulevard would exceed LOS D as a six-lane facility between Barstow Avenue and Bryan Avenue. However, City Council made appropriate findings to designate LOS E as the criteria of significance for Veterans Boulevard as a six-lane facility between Barstow Avenue and Bryan Avenue.

Bryan Avenue is an existing north-south two- to three-lane divided collector in the vicinity of the proposed Project. In this area, Bryan Avenue exists between Shaw Avenue and McKinley Avenue. The City of Fresno 2035 General Plan Circulation Element designates Bryan Avenue as a two-lane collector between Shaw Avenue and Belmont Avenue.

Hayes Avenue is an existing north-south two- to three-lane undivided collector in the vicinity of the proposed Project. In this area, Hayes Avenue extends south of Shaw Avenue through the City of Fresno SOI. The City of Fresno 2035 General Plan Circulation Element designates Hayes Avenue as a two-lane collector between Shaw Avenue and Belmont Avenue.

Gettysburg Avenue is a future east-west two-lane divided collector adjacent to proposed Project. In this area, Gettysburg Avenue exists for 1,300 feet west of Bryan Avenue. The City of Fresno 2035 General Plan Circulation Element designates Gettysburg Avenue as a two-lane collector divided by a two-way left-turn lane between its future connection with Grantland Avenue and Veterans Boulevard and Weber Avenue. West of Grantland Avenue, Gettysburg Avenue will exist as a two-lane roadway within the proposed Project site.

Ashlan Avenue is an existing east-west two-lane divided arterial in the vicinity of the proposed Project. In this area, Ashlan Avenue extends east of Grantland Avenue through the eastern limits of the City of Fresno SOI. The City of Fresno 2035 General Plan Circulation Element designates Ashlan Avenue as a four-lane divided arterial between Grantland Avenue and Fruit Avenue and east of Maroa Avenue and a two-lane collector between Fruit Avenue and Maroa Avenue. Furthermore, the City of Fresno 2035 General Plan Circulation Element acknowledged that Ashlan Avenue would exceed LOS D as a four-lane facility between Milburn Avenue and Blythe Avenue. However, City Council made the appropriate findings to designate LOS E as the criteria of significance for Ashlan Avenue as a four-lane facility between Milburn Avenue and Blythe Avenue. Additionally, the City of Fresno 2035 General Plan Circulation Element acknowledged that Ashlan Avenue would exceed LOS D as a four-lane facility between State Route 99 and Marty Avenue. However, City Council made appropriate findings to designate LOS F as the criteria of significance for Ashlan Avenue as a four-lane facility between State Route 99 and Marty Avenue.

Polk Avenue is an existing north-south two- to four-lane arterial in the vicinity of the proposed Project. In this area, Polk Avenue extends south of Parkway Drive to Olive Avenue. The City of Fresno 2035 General Plan designates Polk Avenue as a four-lane divided arterial between Shaw Avenue and Belmont Avenue.

Cornelia Avenue is an existing north-south two-lane collector in the vicinity of the proposed Project. In this area, Cornelia Avenue extends south of Parkway Drive to Belmont Avenue. The City of Fresno 2035 General Plan designates Cornelia Avenue as a two-lane collector throughout the City of Fresno SOI.

Dakota Avenue is a future east-west two-lane collector in the vicinity of the proposed Project. In this area, Dakota Avenue exists between Hayes Avenue and State Route 99. The City of Fresno 2035 General Plan Circulation Element designates Dakota Avenue as a two-lane collector between Grantland Avenue and State Route 99.

Shields Avenue is an existing east-west two-lane undivided arterial in the vicinity of the proposed Project. In this area, Shields Avenue extends west of Marks Avenue through the western limits of the City of Fresno SOI. The City of Fresno 2035 General Plan Circulation Element designates Shields Avenue as a two-lane collector west of State Route 99 through the City of Fresno SOI.

State Route 99 is an existing six-lane freeway near the vicinity of the proposed Project. State Route 99 traverses the City of Fresno in a northwest-southeast direction and serves as the principal connection to various metropolitan areas within the Central San Joaquin Valley.

Traffic Signal Warrants

Eight-hour and four-hour traffic signal warrants, as appropriate, were prepared for the unsignalized intersections in the Existing Traffic Conditions scenario. These warrants are found in Appendix M. These warrants were prepared pursuant to the CA MUTCD guidelines for the preparation of traffic signal warrants. Under this scenario, the intersections of Hayes Avenue and Shaw Avenue and Polk Avenue and Ashlan Avenue satisfy both of the signal warrants. Based on the signal warrant and engineering judgement, signalization of these intersections is not recommended, especially since these intersections operate at an acceptable LOS during both peak periods. It is worth noting that the CA MUTCD states "satisfaction of a signal warrant or warrants shall not in itself require the installation of a traffic signal." Therefore, it is recommended that prior to the installation of a traffic signal, investigation of CA MUTCD warrants 4 and 7, as applicable, be conducted for these intersections.

Collision Analysis

JLB conducted a search of the Statewide Integrated Traffic Records System (SWITRS) and the Transportation Injury Mapping System (TIMS) to review collision reports for the most recent five-year period (January 1, 2013 to December 31, 2017). 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 CHP staff and members of its Allied Agencies throughout California can request various types of statistical reports in an electronic format." The TIMS "has been developed over the past five-plus years by SafeTREC to provide quick, easy and free access to California crash data that has been geocoded by SafeTREC to make it easy to map out crashes." All collision reports found in SWITRS and TIMS between January 1, 2013 and December 21, 2017 were included in the analysis, however, any duplicate reports were excluded from the analysis. Collision data for each study intersection and segment are contained in Appendix E.

In the five-year period, a total of 49 collisions were reported within the influence zone of the existing study intersections. Table I summarizes the total number of collisions reported at each existing study intersection, the type of collision, the severity of the collision, the type of violation, and whether the collision involved another motor vehicle, a pedestrian or a fixed object. Based on the collision data recorded during the five-year period, all existing study intersections have experienced a relatively low average number of collisions per year with one exception. The exception is that at the intersection of Grantland Avenue and Shaw Avenue experienced 18 total collisions during the five-year period – the highest number of reported collisions when compared all existing study intersections. The type of collisions at the intersection of Grantland Avenue and Shaw Avenue included 14 broadsides, three (3) hit object, and one (1) head-on. Furthermore, the type of violations included nine (9) traffic signals and signs, six (6) failures to yield the right of way, one (1) unsafe speed, (1) improper turning movement, and one (1) driving under the influence. It is worth mentioning that majority of the broadside collisions occurred during the year 2013. Furthermore, the intersection of Grantland Avenue and Shaw Avenue was signalized in 2017. After thorough review of the data contained within the collision reports for the five-year analysis period, the signalization of the intersection of Shaw Avenue and Grantland Avenue should reduce the number and severity of broadside collisions. At the remaining study intersections, JLB was unable to reach a conclusion that would explain any justification for the modification of lane geometrics or traffic controls. As a result, the number of correctable collisions experienced at the remaining existing study intersections is considered less than significant.

In the five-year period, a total of 43 collisions were reported within the existing study segments. Table II summarizes the total number of collisions reported at each existing study segment, the type of collision, the severity of the collision, the type of violation, and whether the collision involved another motor vehicle, a pedestrian or a fixed object. Based on the collision data recorded during the five-year period, all existing study segments have experienced a relatively low average number of collisions per year with one exception. The exception is that for the segment of Shaw Avenue between Grantland Avenue and Bryan Avenue, which experienced 20 collisions during the five-year period – the highest number of reported collisions when compared all existing study segments. The type of collisions on the segment of Shaw Avenue between Grantland Avenue and Bryan Avenue included 14 broadsides, four (4) hit object, one (1) rear end, one (1) head-on, and one (1) sideswipe. Furthermore, the type of violations included nine (9) traffic signals and signs, seven (7) failures to yield the right of way, three (3) unsafe speed, (1) improper turning movement, and one (1) driving under the influence. It is worth mentioning that majority of the broadside collisions occurred during the year 2013 and these were also within the influence zone of the intersection of Shaw Avenue and Grantland Avenue. The signalization of the intersection of Shaw Avenue and Grantland Avenue should reduce the number and severity of broadside collisions on Shaw Avenue between Grantland Avenue and Bryan Avenue. After thorough review of the data contained within the collision reports for the five-year analysis period, JLB was unable to reach a conclusion that would explain any justification for the modification of lane geometrics or traffic controls at the remaining existing study segments. As a result, the number of correctable collisions experienced at the remaining existing study segments is considered less than significant.

Table I: Five-Year Intersection Collision Analysis

ID	Intersection	Number of Collisions	Type of Collision					Severity					Type of Violation						Motor Vehicle Involved with...		
			Broadside	Rear End	Head-On	Object	Sideswipe	Fatal	Severe Injury	Other Visible Injury	Complaint of Pain Injury	Property Damage Only	Traffic Signals & Signs	Right of Way	Unsafe Speed	Improper Turning	Driving Under Influence	Pedestrian Violation	Pedestrian	Other Motor Vehicle	Fixed Object
1	Grantland Avenue / Barstow Avenue	1	1	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	1	-
2	Garfield Avenue / Shaw Avenue	3	1	2	-	-	-	-	-	-	3	-	1	-	2	-	-	-	-	3	-
3	Grantland Avenue / Shaw Avenue	18	14	-	1	3	-	-	1	5	5	7	9	6	1	1	1	-	-	15	3
5	Bryan Avenue / Shaw Avenue	1	-	-	-	1	-	-	-	-	-	1	-	-	1	-	-	-	-	-	1
6	Hayes Avenue / Shaw Avenue	8	1	1	1	5	-	-	-	2	4	2	1	-	2	3	2	-	-	3	5
9	Bryan Avenue / Gettysburg Avenue	2	21	-	-	-	-	-	-	1	-	1	-	1	-	1	-	-	-	2	-
11	Grantland Avenue / Ashlan Avenue	2	2	-	-	-	-	-	1	-	-	1	-	2	-	-	-	-	-	2	-
12	Bryan Avenue / Ashlan Avenue	2	2	-	-	-	-	-	-	-	2	-	-	-	-	-	2	-	1	1	-
13	Hayes Avenue / Ashlan Avenue	3	1	2	-	-	-	1	-	-	1	1	-	-	1	-	2	-	-	2	-
14	Polk Avenue / Ashlan Avenue	2	-	1	-	-	1	-	-	-	-	2	1	-	1	-	-	-	-	2	-
15	Cornelia Avenue / Ashlan Avenue	4	2	-	2	-	-	-	-	1	3	-	2	-	-	1	-	1	1	3	-
17	Grantland Avenue / Shields Avenue	3	1	1	-	1	-	-	-	2	1	-	-	1	1	1	-	-	-	2	1

Table II: Five-Year Segment Collision Analysis

ID	Segment	Limits	Number of Collisions	Type of Collision					Severity					Type of Violation						Motor Vehicle Involved with...		
				Broadside	Rear End	Head-On	Object	Sideswipe	Fatal	Severe Injury	Other Visible Injury	Complaint of Pain Injury	Property Damage Only	Traffic Signals & Signs	Right of Way	Unsafe Speed	Improper Turning	Driving Under Influence	Pedestrian Violation	Pedestrian	Other Motor Vehicle	Fixed Object
1	Shaw Avenue	Grantland Avenue and Veterans Boulevard	20	14	1	1	3	1	-	1	6	6	7	9	7	2	1	1	-	-	17	3
2	Shaw Avenue	Veterans Boulevard and Bryan Avenue	-	-	-	-	1	-	-	-	-	-	1	-	-	1	-	-	-	-	-	1
3	Shaw Avenue	Bryan Avenue and Hayes Avenue	9	1	1	1	6	-	-	-	5	2	2	1	-	2	4	2	-	-	3	6
4	Garfield Avenue	Shaw Avenue and Gettysburg Avenue	4	1	2	1	-	-	-	1	1	2	-	1	-	2	-	-	1	1	3	-
5	Grantland Avenue	Shaw Avenue and Gettysburg Avenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Ashlan Ave	Hayes Ave and Polk Ave	5	1	3	-	1	-	2	-	-	1	2	1	1	1	-	2	-	-	5	-
7	Grantland Avenue	Gettysburg Avenue and Ashlan Avenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Grantland Avenue	Ashlan Avenue and Dakota Avenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Grantland Avenue	Dakota Avenue and Shields Avenue	3	1	1	-	1	-	-	2	-	1	-	-	1	1	1	-	-	-	2	1
10	Ashlan Avenue	Grantland Avenue and Bryan Avenue	3	3	-	-	-	-	-	1	-	1	1	-	2	-	-	1	-	-	3	-
11	Ashlan Avenue	Bryan Avenue and Hayes Avenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	Ashlan Avenue	Hayes Avenue and Polk Avenue	4	-	3	-	1	-	2	-	-	-	2	-	1	1	-	2	-	-	4	-

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 III presents a summary of the Existing peak hour LOS at the study intersections, while Table IV presents a summary of the Existing LOS for the study segments.

At present, the intersection of Bryan Avenue and Ashlan Avenue exceeds its LOS threshold during the AM peak period. To improve the LOS at this intersection, it is recommended that the following improvements be considered for implementation.

- Bryan Avenue / Ashlan Avenue
  - Modify the westbound through-right lane to a through lane; and
  - Add a westbound right-turn lane.

At present, all study segments operate at an acceptable LOS.

Table III: Existing Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM Peak Hour*		*PM Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Grantland Avenue / Barstow Avenue	Two-Way Stop	18.2	C	17.0	C
2	Garfield Avenue / Shaw Avenue	Two-Way Stop	19.8	C	12.2	B
3	Grantland Avenue / Shaw Avenue	Signalized	52.6	D	20.2	C
4	Veterans Boulevard / Shaw Avenue	Does Not Exist	N/A	N/A	N/A	N/A
5	Bryan Avenue / Shaw Avenue	One-Way Stop	14.3	B	15.6	C
6	Hayes Avenue / Shaw Avenue	One-Way Stop	17.7	C	19.6	C
7	Grantland Avenue / Gettysburg Avenue	One-Way Stop	10.7	B	10.5	B
8	Veterans Boulevard / Gettysburg Avenue	Does Not Exist	N/A	N/A	N/A	N/A
9	Bryan Avenue / Gettysburg Avenue	One-Way Stop	13.1	B	9.8	A
10	Parc West Drive / Ashlan Avenue	Does Not Exist	N/A	N/A	N/A	N/A
11	Grantland Avenue / Ashlan Avenue	One-Way Stop	11.4	B	10.7	B
12	Bryan Avenue / Ashlan Avenue	All-Way Stop	**38.3**	**E**	8.5	A
		All-Way Stop (Improved)	24.0	C	8.6	A
13	Hayes Avenue / Ashlan Avenue	All-Way Stop	7.6	A	8.5	A
14	Polk Avenue / Ashlan Avenue	All-Way Stop	9.1	A	13.0	B
15	Cornelia Avenue / Ashlan Avenue	Signalized	52.1	D	23.3	C
16	Grantland Avenue / Dakota Avenue	Does Not Exist	N/A	N/A	N/A	N/A
17	Grantland Avenue / Shields Avenue	All-Way Stop	10.0	A	8.4	A

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.

Table IV: Existing Segment LOS Results

ID	*Segment*	*Limits*	*Lanes*	*24-hour Volume*	*LOS*
1	Shaw Avenue	Grantland Avenue and Veterans Boulevard	2	9,530	C
2	Shaw Avenue	Veterans Boulevard and Bryan Avenue	2	9,530	C
3	Shaw Avenue	Bryan Avenue and Hayes Avenue	2	9,884	C
4	Garfield Avenue	Shaw Avenue and Gettysburg Avenue	2	159	C
5	Grantland Avenue	Shaw Avenue and Veterans Boulevard	2	3,964	C
6	Grantland Avenue	Veterans Boulevard and Gettysburg Avenue (WL)	DNE	DNE	DNE
7	Grantland Avenue	Gettysburg Avenue (WL) and Ashlan Avenue	2	4,434	C
8	Grantland Avenue	Ashlan Avenue and Dakota Avenue	2	3,093	C
9	Grantland Avenue	Dakota Avenue and Shields Avenue	2	3,093	C
10	Ashlan Avenue	Grantland Avenue and Bryan Avenue	3	2,418	B
11	Ashlan Avenue	Bryan Avenue and Hayes Avenue	2	4,202	B
12	Ashlan Avenue	Hayes Avenue and Polk Avenue	2	3,861	B

Note: LOS = Level of Service per the Florida Roadway Segment LOS Tables

Parc West - City of Fresno
Vicinity Map

Figure 1



LEGEND

- # = STUDY INTERSECTION
- = FUTURE STREET
- = STUDY SEGMENT

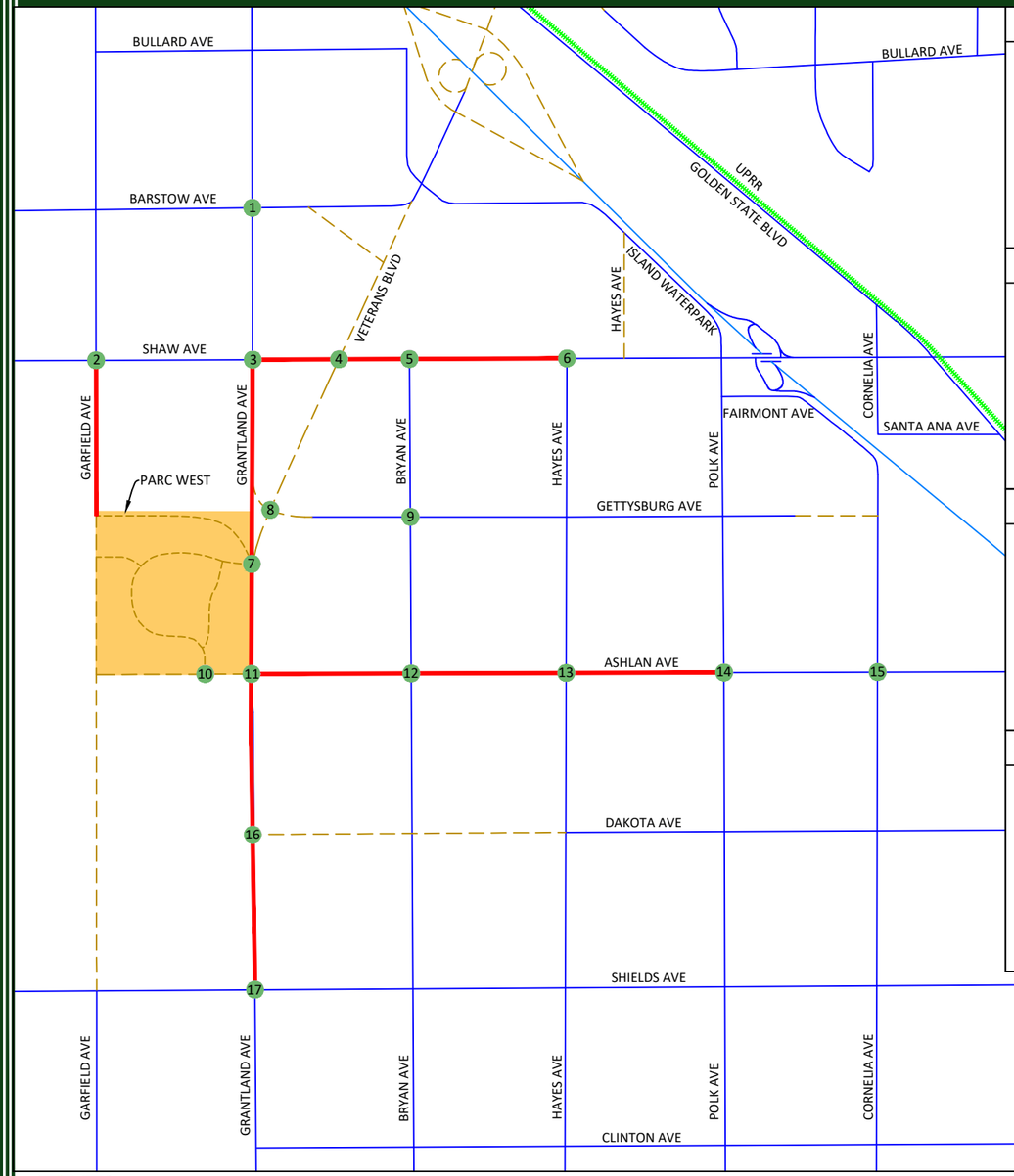
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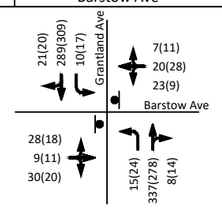
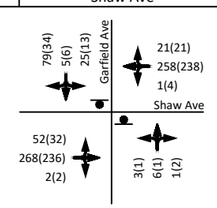
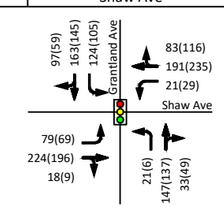
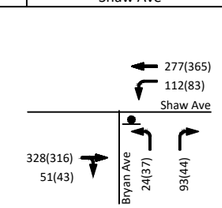
JLB TRAFFIC ENGINEERING, INC.
516 W. Shaw Ave., Ste. 103, Fresno, CA 93704
PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

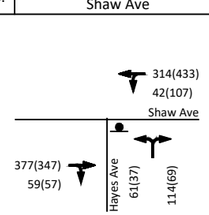
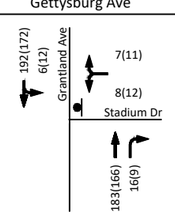
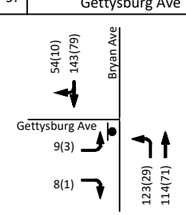
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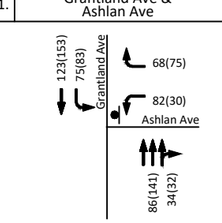
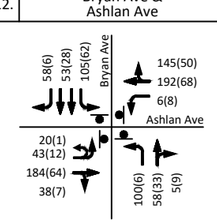
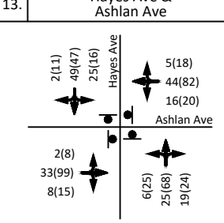
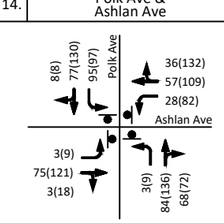
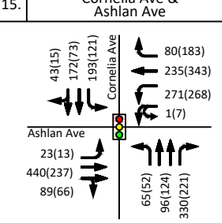
Parc West - City of Fresno
Existing - Traffic Volumes, Geometrics and Controls

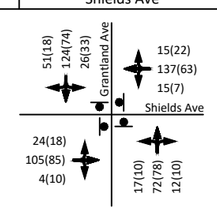
Figure 2



1. Grantland Ave & Barstow Ave	2. Garfield Ave & Shaw Ave	3. Grantland Ave & Shaw Ave	4. Veterans Blvd & Shaw Ave	5. Bryan Ave & Shaw Ave
			DOES NOT EXIST	

6. Hayes Ave & Shaw Ave	7. Grantland Ave & Gettysburg Ave	8. Veterans Blvd & Gettysburg Ave	9. Bryan Ave & Gettysburg Ave	10. Parc West Dr & Ashlan Ave
		DOES NOT EXIST		DOES NOT EXIST

11. Grantland Ave & Ashlan Ave	12. Bryan Ave & Ashlan Ave	13. Hayes Ave & Ashlan Ave	14. Polk Ave & Ashlan Ave	15. Cornelia Ave & Ashlan Ave
				

16. Grantland Ave & Dakota Ave	17. Grantland Ave & Shields Ave
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LEGEND

- (#) = STUDY INTERSECTION
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Existing plus Project (Phase I) Traffic Conditions

Project Description (Phase I)

The Project proposes to develop up to 844 single-family residential units and a 1.819-acre park on approximately 160 acres. Although the Project (Buildout) will construct a total of 844 single-family residential units and a 1.819-acre park, the Project (Phase I) will only construct 84 single-family residential units on 14.41 acres. The Project (Phase I) is anticipated to be constructed at what will be the southwest corner of Grantland Avenue and the west leg of Gettysburg Avenue. Figure 3 illustrates the latest Project (Phase I) Site Plan.

Project Access (Phase I)

Based on information provided by the developer, access to and from the Project site under Phase I will be from one (1) point located on the west side of Grantland Avenue directly across from the Deran Koligian Stadium access driveway located approximately 1,750 feet north of Ashlan Avenue. This access point is proposed to be a full access. JLB analyzed the location of the proposed access point relative to the existing local roads and driveways in the Project's vicinity. A review of the Project access point to be constructed under Phase I indicates that it is located at a point that minimizes traffic operational impacts to the existing roadway network.

Trip Generation (Phase I)

Trip generation rates for the proposed Project under Phase I were obtained from the 10th Edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE). Table V presents the trip generation for the proposed Project (Phase I) with trip generation rates for 84 Single-Family Detached Housing. The proposed Project under Phase I is estimated to generate a maximum of 793 daily trips, 62 AM peak hour trips and 83 PM peak hour trips.

Table V: Project (Phase I) 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)	84	d.u.	9.44	793	0.74	25	75	15	47	62	0.99	63	37	52	31	83
Total Project Trips				**793**				**15**	**47**	**62**				**52**	**31**	**83**

Note: d.u. = Dwelling Units

Trip Distribution (Phase I)

The trip distribution assumptions were developed based on existing travel patterns, the Fresno COG Project (Phase I) Select Zone, the existing roadway network, engineering judgement, data provided by the developer, knowledge of the study area, existing residential and commercial densities, and the City of Fresno 2035 General Plan Circulation Element in the vicinity of the Project. Figure 4 illustrates the Project Only Trips to the study intersections under Phase I.

Traffic Signal Warrants

Peak hour traffic signal warrants, as appropriate, were prepared for the unsignalized intersections in the Existing plus Project (Phase I) Traffic Conditions scenario. These warrants are found in Appendix M. The effects of right-turning traffic from the minor approach onto the major approach were taken into account using engineering judgement pursuant to the CA MUTCD guidelines for the preparation of traffic signal warrants. Under this scenario, the intersections of Hayes Avenue and Shaw Avenue and Bryan Avenue and Ashlan Avenue satisfy the peak hour signal warrant during the AM peak period only, while the intersection of Polk Avenue and Ashlan Avenue satisfies the peak hour signal warrant during the PM peak period only. Based on the signal warrants and engineering judgement, signalization of these intersections is not recommended, especially since these intersections are projected to operate at an acceptable LOS during both peak periods. It is worth noting that the CA MUTCD states "satisfaction of a signal warrant or warrants shall not in itself require the installation of a traffic signal." Therefore, it is recommended that prior to the installation of a traffic signal, investigation of CA MUTCD warrants 4 and 7, as applicable, be conducted for these intersections.

Existing plus Project (Phase I) Roadway Network

The Existing plus Project (Phase I) 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 (Phase I) will construct a portion of Gettysburg Avenue west of Grantland Avenue and that the intersection of Grantland Avenue and Gettysburg Avenue is controlled by a two-way stop on Gettysburg Avenue. Finally, this scenario assumes that the Project (Phase I) will build its frontage improvements to Grantland Avenue. Figure 5 illustrates the assumed intersection geometrics and traffic controls for this intersection under this scenario.

Results of Existing plus Project (Phase I) Level of Service Analysis

The Existing plus Project (Phase I) Traffic Conditions scenario assumes that a portion of Gettysburg Avenue exists west of Grantland Avenue. Figure 5 illustrates the Existing plus Project (Phase I) turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Existing plus Project (Phase I) Traffic Conditions scenario are provided in Appendix G. Table VI presents a summary of the Existing plus Project (Phase I) peak hour LOS at the study intersections, while Table VII presents a summary of the Existing plus Project (Phase I) LOS for the study segments.

Under this scenario, the intersection of Bryan Avenue and Ashlan Avenue is projected to exceed its LOS threshold during the AM peak period. To improve the LOS at this intersection, it is recommended that the following improvements be implemented.

- Bryan Avenue / Ashlan Avenue
  - Modify the westbound through-right lane to a through lane; and
  - Add a westbound right-turn lane.

Under this scenario, all study segments are projected to operate at an acceptable LOS.

Table VI: Existing plus Project (Phase I) Intersection LOS Results

ID	Intersection	Intersection Control	AM Peak Hour		PM Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Grantland Avenue / Barstow Avenue	Two-Way Stop	18.5	C	17.3	C
2	Garfield Avenue / Shaw Avenue	Two-Way Stop	19.8	C	12.2	B
3	Grantland Avenue / Shaw Avenue	Signalized	21.3	C	20.4	C
4	Veterans Boulevard / Shaw Avenue	Does Not Exist	N/A	N/A	N/A	N/A
5	Bryan Avenue / Shaw Avenue	One-Way Stop	14.4	B	15.6	C
6	Hayes Avenue / Shaw Avenue	One-Way Stop	17.9	C	19.8	C
7	Grantland Avenue / Gettysburg Avenue	Two-Way Stop	11.6	B	11.7	B
8	Veterans Boulevard / Gettysburg Avenue	Does Not Exist	N/A	N/A	N/A	N/A
9	Bryan Avenue / Gettysburg Avenue	One-Way Stop	13.1	B	9.8	A
10	Parc West Drive / Ashlan Avenue	Does Not Exist	N/A	N/A	N/A	N/A
11	Grantland Avenue / Ashlan Avenue	One-Way Stop	11.9	B	10.9	B
12	Bryan Avenue / Ashlan Avenue	All-Way Stop	**41.9**	**E**	8.7	A
		All-Way Stop (Mitigated)	28.0	D	8.8	A
13	Hayes Avenue / Ashlan Avenue	All-Way Stop	7.7	A	8.7	A
14	Polk Avenue / Ashlan Avenue	All-Way Stop	9.3	A	13.5	B
15	Cornelia Avenue / Ashlan Avenue	Signalized	43.0	D	23.4	C
16	Grantland Avenue / Dakota Avenue	Does Not Exist	N/A	N/A	N/A	N/A
17	Grantland Avenue / Shields Avenue	All-Way Stop	10.1	B	8.4	A

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.

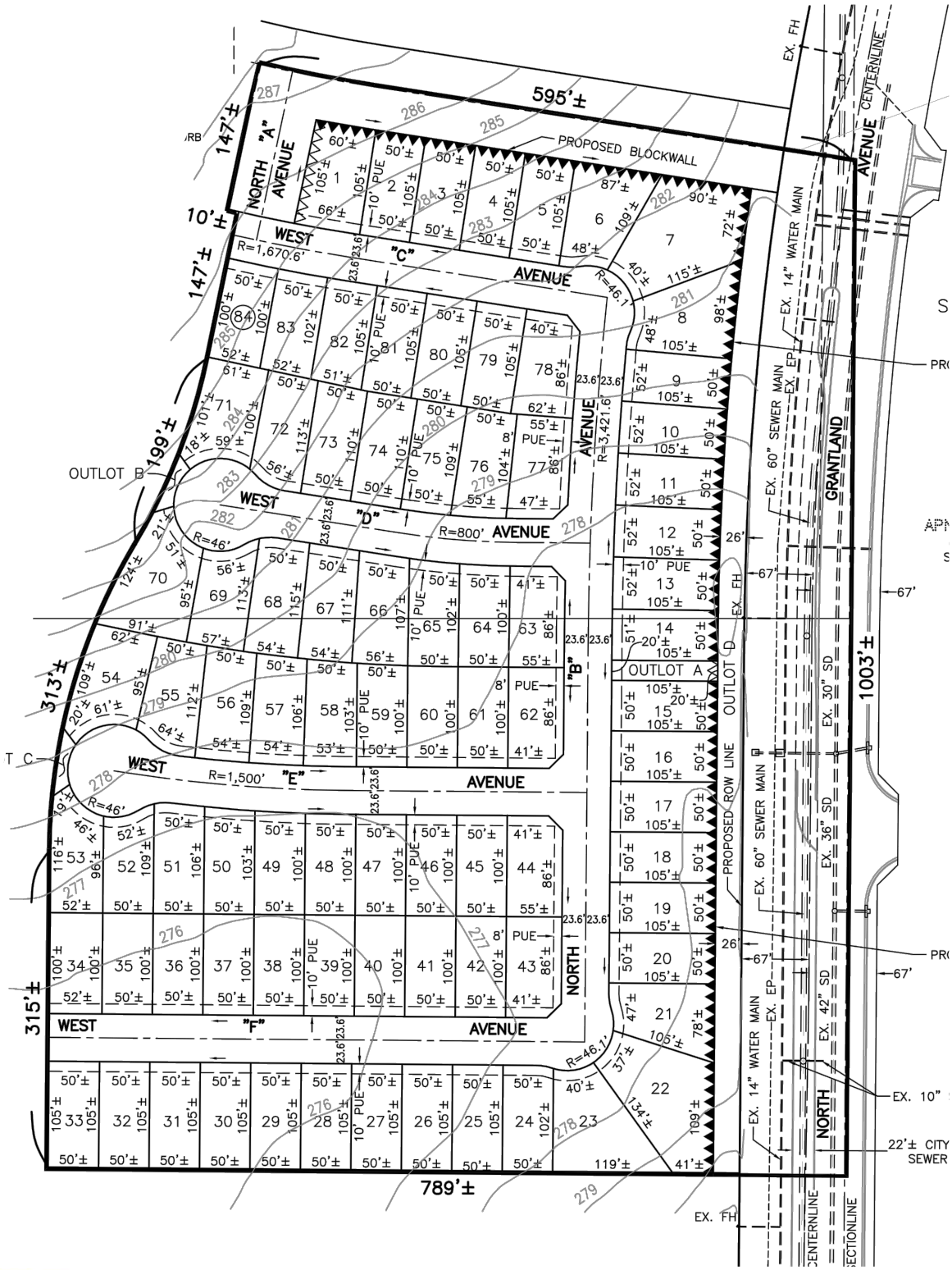
Table VII: Existing plus Project (Phase I) Segment LOS Results

ID	Segment	Limits	Lanes	24-hour Volume	LOS
1	Shaw Avenue	Grantland Avenue and Veterans Boulevard	2	9,620	C
2	Shaw Avenue	Veterans Boulevard and Bryan Avenue	2	9,603	C
3	Shaw Avenue	Bryan Avenue and Hayes Avenue	2	9,953	C
4	Garfield Avenue	Shaw Avenue and Gettysburg Avenue	2	159	C
5	Grantland Avenue	Shaw Avenue and Veterans Boulevard	2	4,200	C
6	Grantland Avenue	Veterans Boulevard and Gettysburg Avenue (WL)	DNE	DNE	DNE
7	Grantland Avenue	Gettysburg Avenue (WL) and Ashlan Avenue	2	4,984	C
8	Grantland Avenue	Ashlan Avenue and Dakota Avenue	2	3,199	C
9	Grantland Avenue	Dakota Avenue and Shields Avenue	2	3,193	C
10	Ashlan Avenue	Grantland Avenue and Bryan Avenue	3	2,862	B
11	Ashlan Avenue	Bryan Avenue and Hayes Avenue	2	4,557	B
12	Ashlan Avenue	Hayes Avenue and Polk Avenue	2	4,168	B

Note: LOS = Level of Service per the Florida Roadway Segment LOS Tables

Parc West - City of Fresno
Project Site Plan (Phase I)

Figure 3



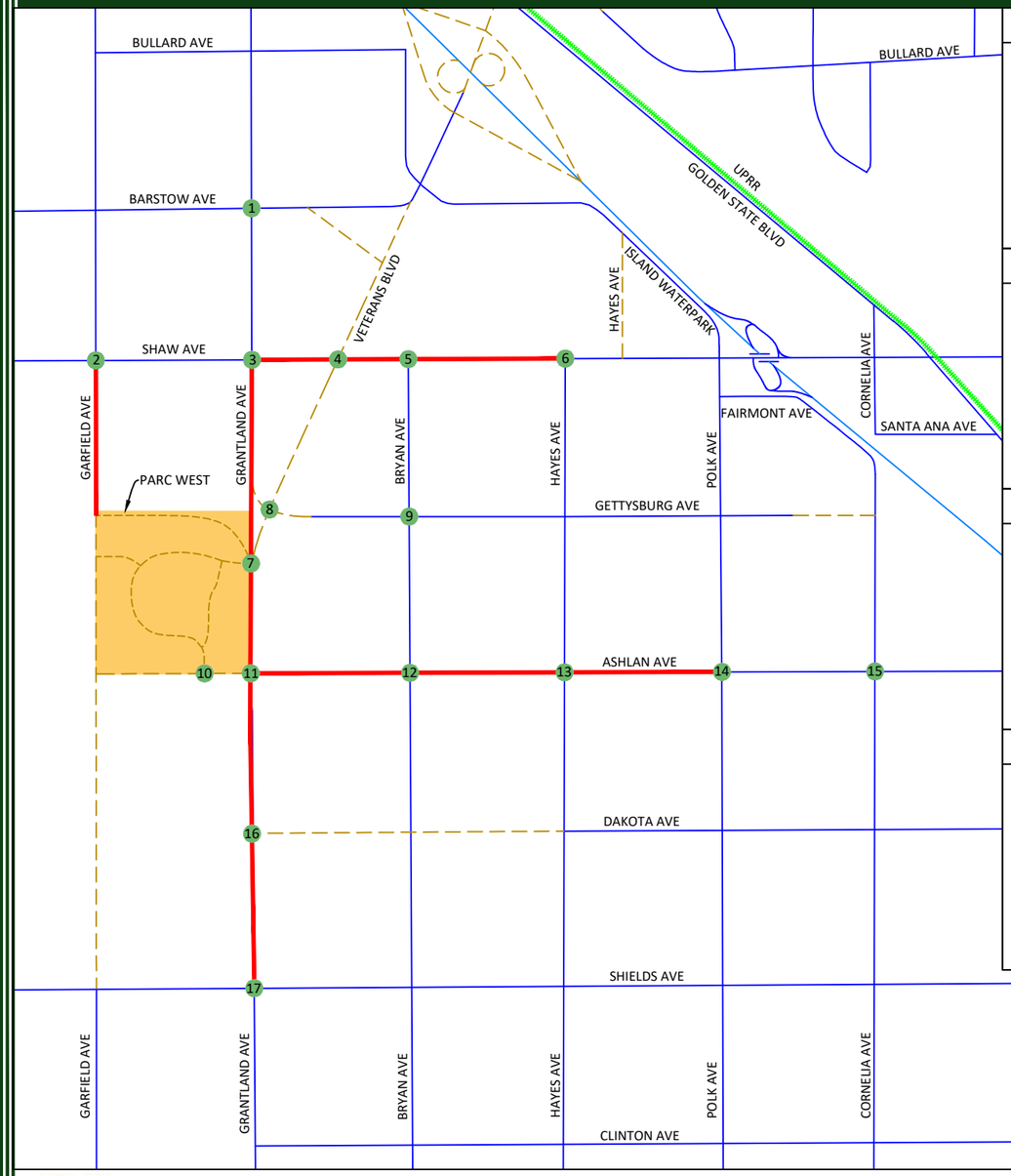
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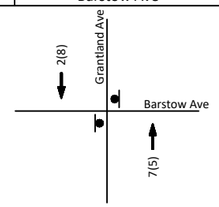
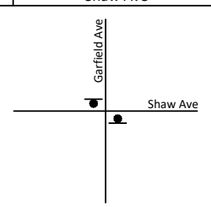
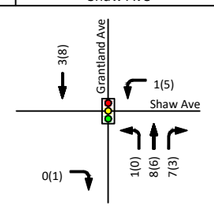
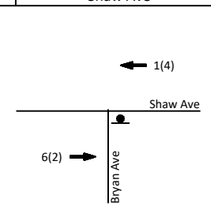
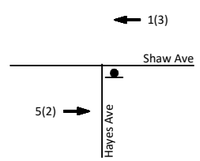
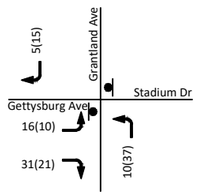
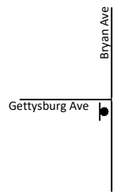
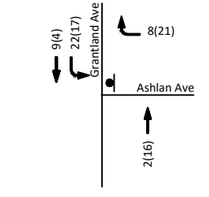
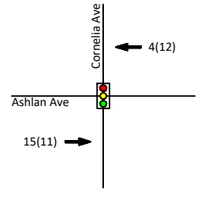
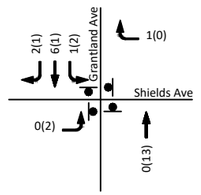
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Not To Scale

Parc West - City of Fresno
2018 Project Only Trips (Phase I)

Figure 4



1. Grantland Ave & Barstow Ave	2. Garfield Ave & Shaw Ave	3. Grantland Ave & Shaw Ave	4. Veterans Blvd & Shaw Ave	5. Bryan Ave & Shaw Ave
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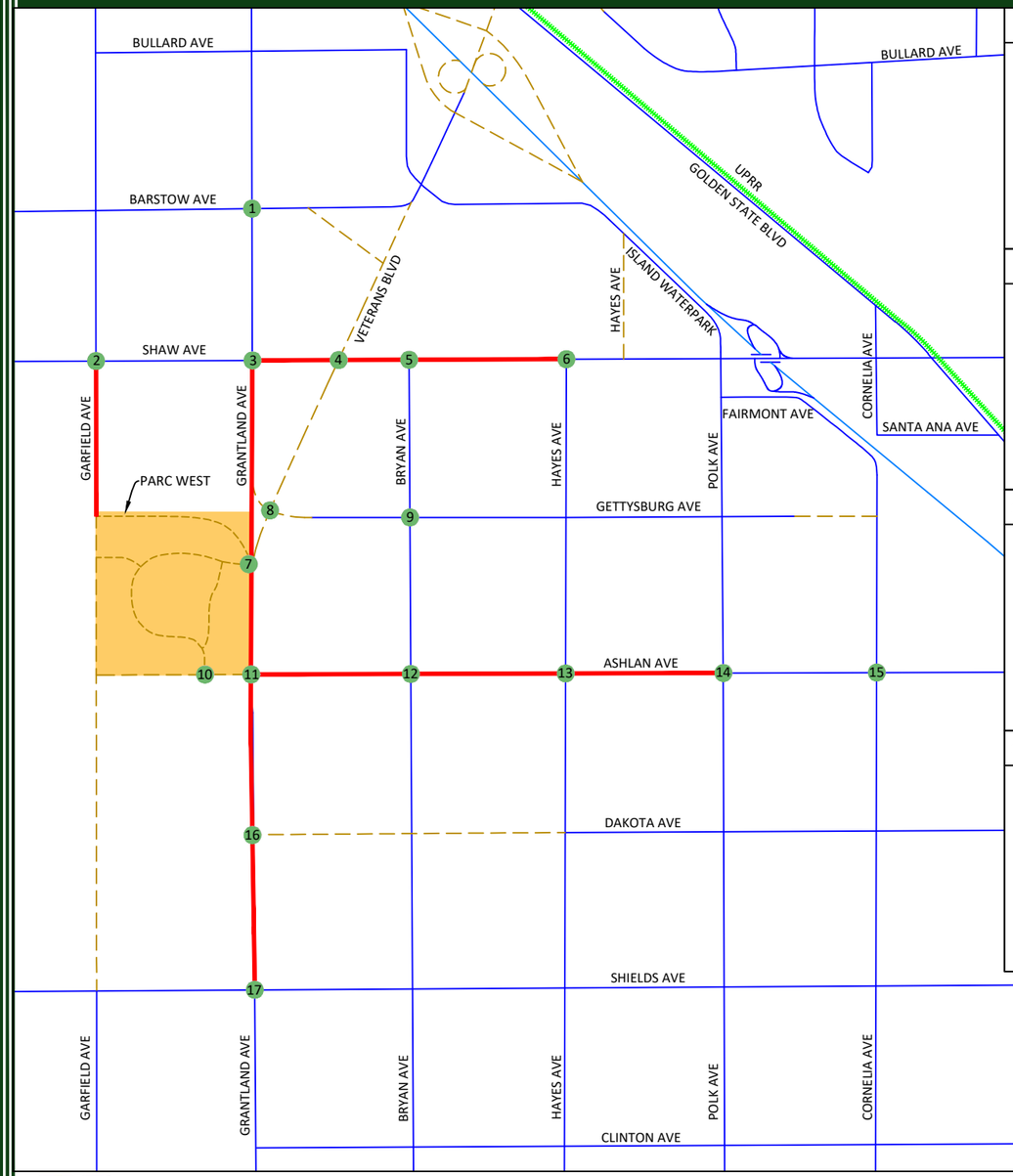
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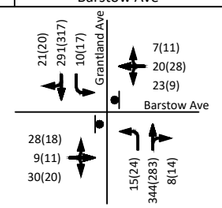
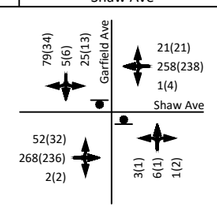
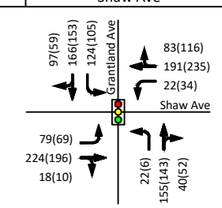
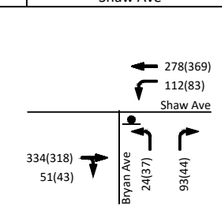
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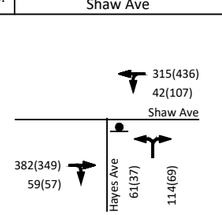
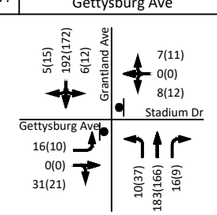
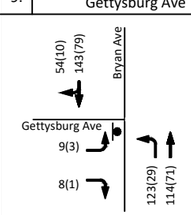
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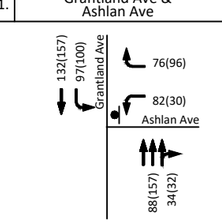
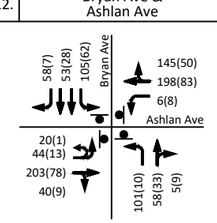
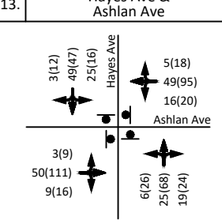
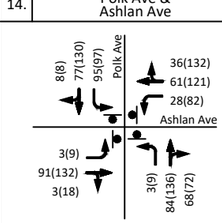
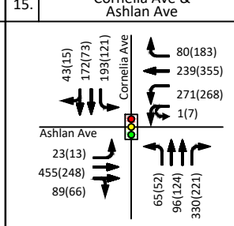
Parc West - City of Fresno
Existing plus Project (Phase I) - Traffic Volumes, Geometrics and Controls

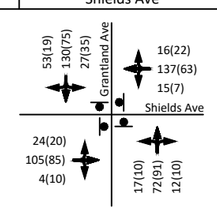
Figure 5



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Existing plus Project (Phase I & Phase II) Traffic Conditions

Project Description (Phase II)

The Project proposes to develop up to 844 single-family residential units and a 1.819-acre park on approximately 160 acres. Although the Project (Buildout) will construct a total of 844 single-family residential units and a 1.819-acre park, the Project (Phase II) will only construct 381 single-family residential units. The Project (Phase II) is anticipated to be constructed at what will be the northwest quadrant of Grantland Avenue and Ashlan Avenue, adjacent to the Project (Phase I). At the time of preparation of this TIA, a site plan for the Project Phase II was not available.

Project Access (Phase II)

Based on information provided by the developer, access to and from the Project site under Phase I and Phase II will be from two (2) points. In addition to the proposed full access point described under Phase I, the Project under Phase II proposes to have access to Ashlan Avenue. Access to Ashlan Avenue will be off the proposed Parc West Drive located approximately 600 feet west of Grantland Avenue and is proposed to be controlled by a single-lane roundabout. Furthermore, it is assumed that Ashlan Avenue is built as a two-lane undivided collector for approximately 600 feet west of Grantland Avenue and that the intersection of Grantland Avenue and Ashlan Avenue is controlled by a two-way stop on Ashlan Avenue. JLB analyzed the location of the proposed access points relative to the existing local roads and driveways in the Project's vicinity. A review of the Project access point to be constructed under Phase II indicates that it is located at a point that minimizes traffic operational impacts to the existing roadway network.

Trip Generation (Phase II)

Trip generation rates for the proposed Project under Phase II were obtained from the 10th Edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE). Table VIII presents the trip generation for the proposed Project (Phase II) with trip generation rates for 381 Single-Family Detached Housing. The proposed Project under Phase II is estimated to generate a maximum of 3,597 daily trips, 282 AM peak hour trips and 377 PM peak hour trips.

Table VIII: Project (Phase II) 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) – Phase II	381	d.u.	9.44	3,597	0.74	25	75	71	211	282	0.99	63	37	238	139	377
Total Project Trips				**3,597**				**71**	**211**	**282**				**238**	**139**	**377**

Note: d.u. = Dwelling Units

Trip Distribution (Phase II)

The trip distribution assumptions were developed based on existing travel patterns, the Fresno COG Project (Phase I and Buildout) Select Zone, the existing roadway network, engineering judgement, data provided by the developer, knowledge of the study area, existing residential and commercial densities, and the City of Fresno 2035 General Plan Circulation Element in the vicinity of the Project. Figure 6 illustrates the Project Only Trips to the study intersections under Phase II.

Traffic Signal Warrants

Peak hour traffic signal warrants, as appropriate, were prepared for the unsignalized intersections in the Existing plus Project (Phase I & Phase II) Traffic Conditions scenario. These warrants are found in Appendix M. The effects of right-turning traffic from the minor approach onto the major approach were taken into account using engineering judgement pursuant to the CA MUTCD guidelines for the preparation of traffic signal warrants. Under this scenario, the intersections of Hayes Avenue and Shaw Avenue and Bryan Avenue and Ashlan Avenue satisfy the peak hour signal warrant during the AM peak period only, while the intersection of Polk Avenue and Ashlan Avenue satisfies the peak hour signal warrant during the PM peak period only. Based on the signal warrants and engineering judgement, signalization of these intersections is not recommended, especially since these intersections are projected to operate at an acceptable LOS during both peak periods. It is worth noting that the CA MUTCD states “satisfaction of a signal warrant or warrants shall not in itself require the installation of a traffic signal.” Therefore, it is recommended that prior to the installation of a traffic signal, investigation of CA MUTCD warrants 4 and 7, as applicable, be conducted for these intersections.

Existing plus Project (Phase I & Phase II) Roadway Network

The Existing plus Project (Phase I & Phase II) Traffic Conditions scenario assumes the same roadway geometrics and traffic controls as those assumed in the Existing plus Project (Phase I) Traffic Conditions scenario with a few exceptions. This scenario assumes that the intersection of Parc West Drive and Ashlan Avenue is controlled by a single-lane roundabout. Moreover, this scenario assumes that the Project (Phase II) will construct Ashlan Avenue as a two-lane undivided collector for approximately 600 feet west of Grantland Avenue and that the intersection of Grantland Avenue and Ashlan Avenue is controlled by a two-way stop on Ashlan Avenue. Figure 7 illustrates the assumed intersection geometrics and traffic controls for these intersections under this scenario.

Results of Existing plus Project (Phase I & Phase II) Level of Service Analysis

The Existing plus Project (Phase I & Phase II) Traffic Conditions scenario assumes that that a portion of Gettysburg Avenue exists west of Grantland Avenue and that a portion of Ashlan Avenue exists west of Grantland Avenue. Figure 7 illustrates the Existing plus Project (Phase I & Phase II) turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Existing plus Project (Phase I & Phase II) Traffic Conditions scenario are provided in Appendix H. Table IX presents a summary of the Existing plus Project (Phase I & Phase II) peak hour LOS at the study intersections, while Table X presents a summary of the Existing plus Project (Phase I & Phase II) LOS for the study segments.

Under this scenario, the intersection of Bryan Avenue and Ashlan Avenue is projected to exceed its LOS threshold during the AM peak period. To improve the LOS at this intersection, it is recommended that the following improvements be implemented.

- Bryan Avenue / Ashlan Avenue
  - Modify the westbound through-right lane to a through lane; and
  - Add a westbound right-turn lane.

Under this scenario, all study segments are projected to operate at an acceptable LOS.

Table IX: Existing plus Project (Phase I & Phase II) Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM Peak Hour*		*PM Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Grantland Avenue / Barstow Avenue	Two-Way Stop	20.4	C	19.5	C
2	Garfield Avenue / Shaw Avenue	Two-Way Stop	21.0	C	12.4	B
3	Grantland Avenue / Shaw Avenue	Signalized	25.2	C	23.3	C
4	Veterans Boulevard / Shaw Avenue	Does Not Exist	N/A	N/A	N/A	N/A
5	Bryan Avenue / Shaw Avenue	One-Way Stop	16.2	C	17.5	C
6	Hayes Avenue / Shaw Avenue	One-Way Stop	20.7	C	23.1	C
7	Grantland Avenue / Gettysburg Avenue	Two-Way Stop	15.3	C	17.1	C
8	Veterans Boulevard / Gettysburg Avenue	Does Not Exist	N/A	N/A	N/A	N/A
9	Bryan Avenue / Gettysburg Avenue	One-Way Stop	13.1	B	9.6	A
10	Parc West Drive / Ashlan Avenue	Roundabout	4.0	A	4.1	A
11	Grantland Avenue / Ashlan Avenue	One-Way Stop	14.2	B	16.4	C
12	Bryan Avenue / Ashlan Avenue	All-Way Stop	**49.3**	**E**	9.0	A
		All-Way Stop (Mitigated)	33.6	D	9.0	A
13	Hayes Avenue / Ashlan Avenue	All-Way Stop	7.8	A	8.8	A
14	Polk Avenue / Ashlan Avenue	All-Way Stop	9.4	A	14.0	B
15	Cornelia Avenue / Ashlan Avenue	Signalized	43.2	D	23.5	C
16	Grantland Avenue / Dakota Avenue	Does Not Exist	N/A	N/A	N/A	N/A
17	Grantland Avenue / Shields Avenue	All-Way Stop	10.9	B	9.0	A

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.

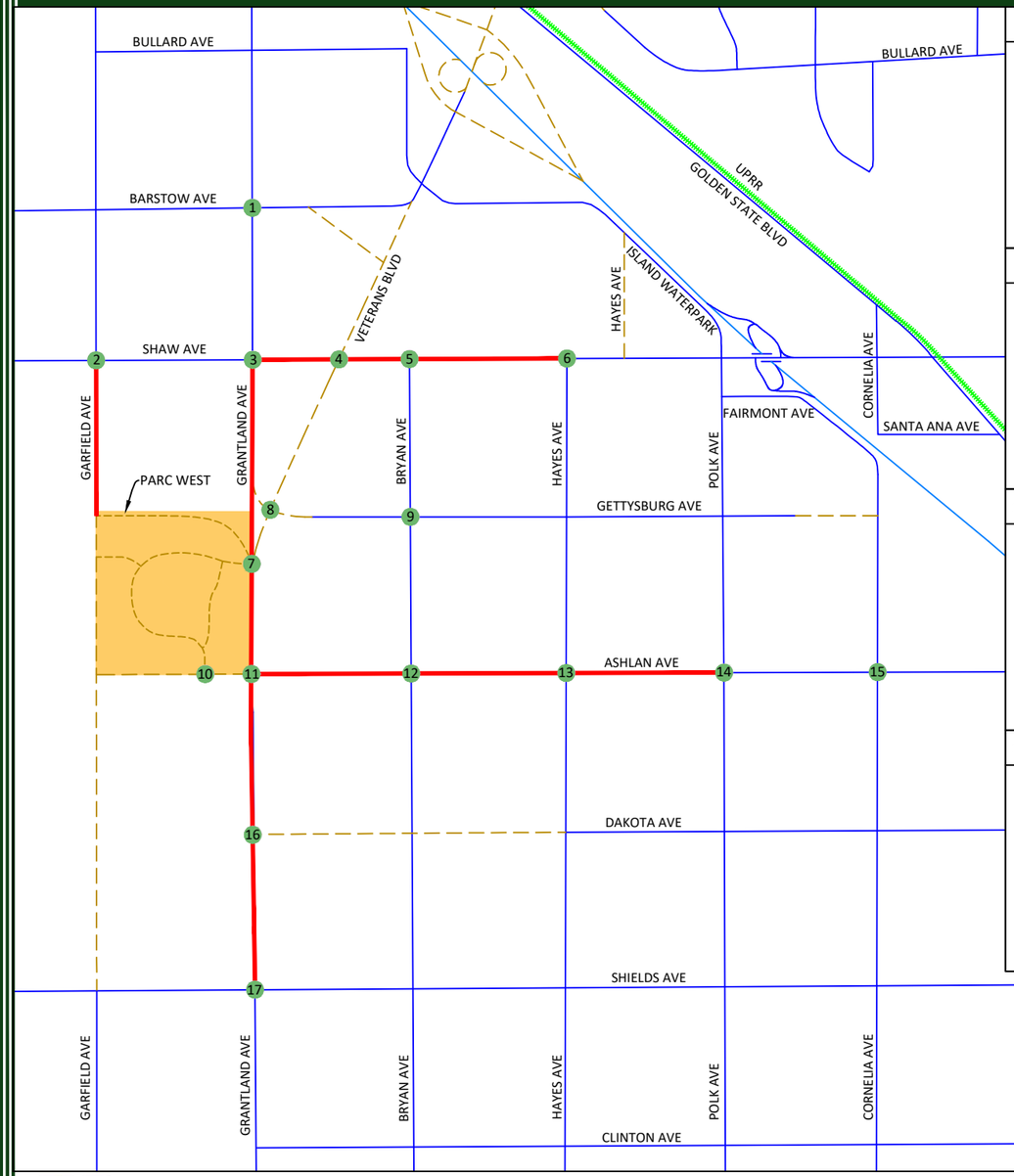
Table X: Existing plus Project (Phase I & Phase II) Segment LOS Results

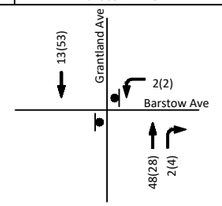
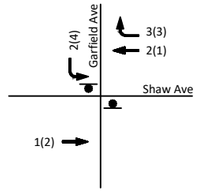
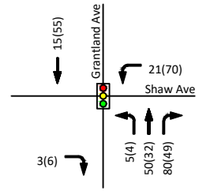
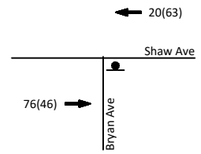
ID	*Segment*	*Limits*	*Lanes*	*24-hour Volume*	*LOS*
1	Shaw Avenue	Grantland Avenue and Veterans Boulevard	2	10,810	C
2	Shaw Avenue	Veterans Boulevard and Bryan Avenue	2	10,793	C
3	Shaw Avenue	Bryan Avenue and Hayes Avenue	2	11,043	C
4	Garfield Avenue	Shaw Avenue and Gettysburg Avenue	2	159	C
5	Grantland Avenue	Shaw Avenue and Veterans Boulevard	2	6,360	C
6	Grantland Avenue	Veterans Boulevard and Gettysburg Avenue (WL)	DNE	DNE	DNE
7	Grantland Avenue	Gettysburg Avenue (WL) and Ashlan Avenue	2	6,444	C
8	Grantland Avenue	Ashlan Avenue and Dakota Avenue	2	4,209	C
9	Grantland Avenue	Dakota Avenue and Shields Avenue	2	4,173	C
10	Ashlan Avenue	Grantland Avenue and Bryan Avenue	3	3,402	B
11	Ashlan Avenue	Bryan Avenue and Hayes Avenue	2	4,927	B
12	Ashlan Avenue	Hayes Avenue and Polk Avenue	2	4,408	B

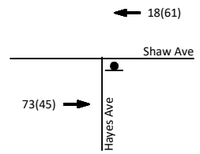
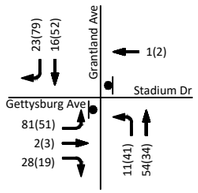
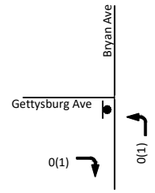
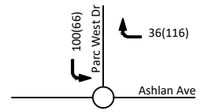
Note: LOS = Level of Service per the Florida Roadway Segment LOS Tables

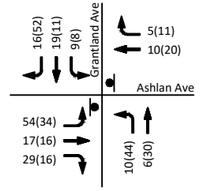
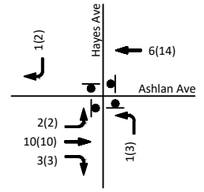
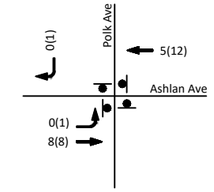
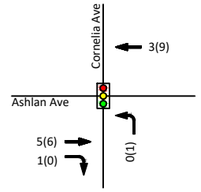
Parc West - City of Fresno
Project Only Trips (Phase II)

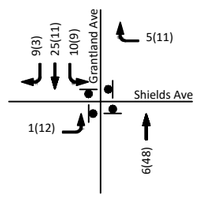
Figure 6



1. Grantland Ave & Barstow Ave	2. Garfield Ave & Shaw Ave	3. Grantland Ave & Shaw Ave	4. Veterans Blvd & Shaw Ave	5. Bryan Ave & Shaw Ave
			DOES NOT EXIST	

6. Hayes Ave & Shaw Ave	7. Grantland Ave & Gettysburg Ave	8. Veterans Blvd & Gettysburg Ave	9. Bryan Ave & Gettysburg Ave	10. Parc West Dr & Ashlan Ave
		DOES NOT EXIST		

11. Grantland Ave & Ashlan Ave	12. Bryan Ave & Ashlan Ave	13. Hayes Ave & Ashlan Ave	14. Polk Ave & Ashlan Ave	15. Cornelia Ave & Ashlan Ave
				

16. Grantland Ave & Dakota Ave	17. Grantland Ave & Shields Ave
DOES NOT EXIST	

LEGEND

- (#) = STUDY INTERSECTION
- = FUTURE STREET
- = STUDY SEGMENT
- XX = AM PROJECT ONLY TRIPS
- (XX) = PM PROJECT ONLY TRIPS
- = STOP SIGN
- = SIGNALIZED INTERSECTION
- = ROUNDABOUT

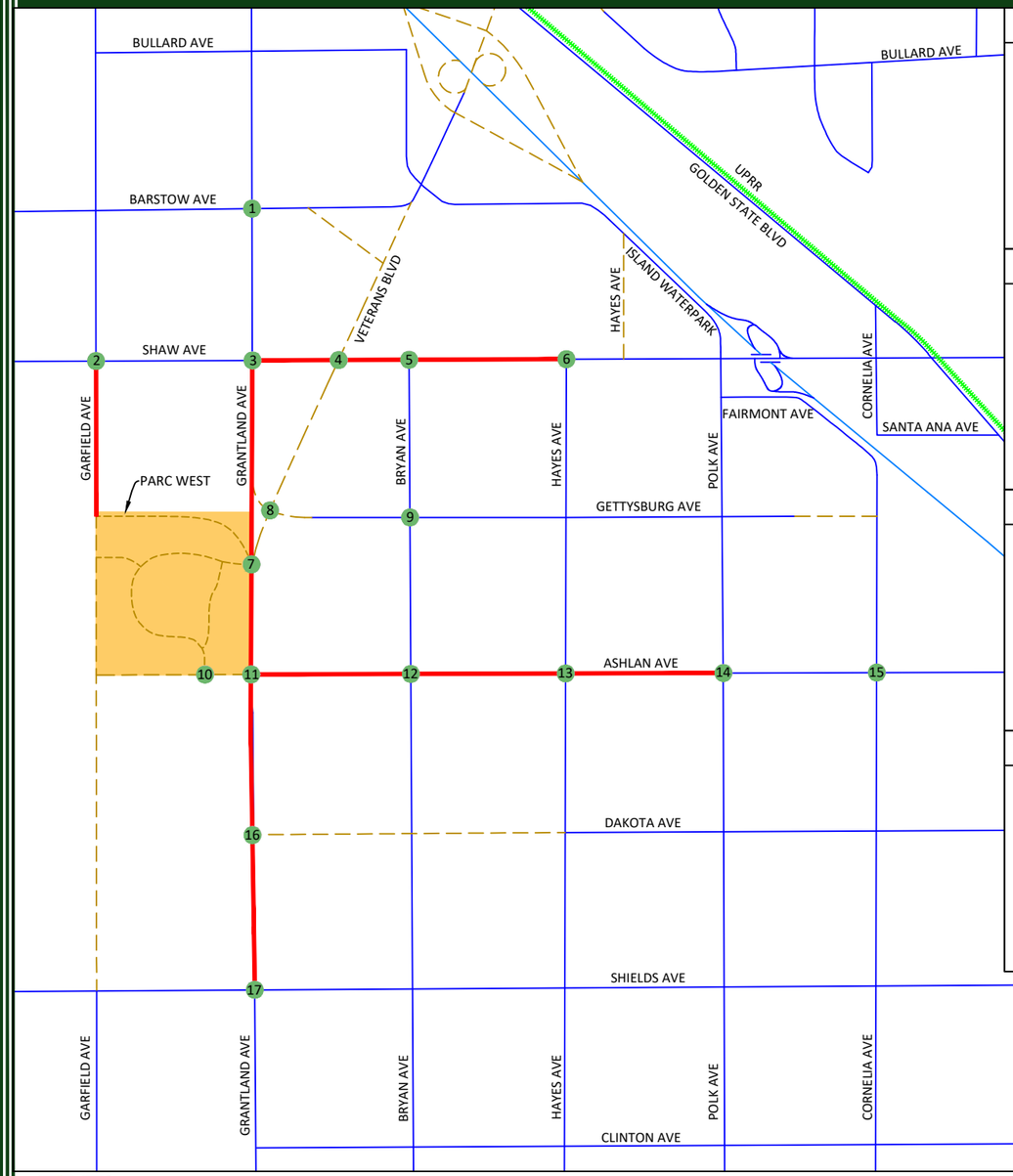
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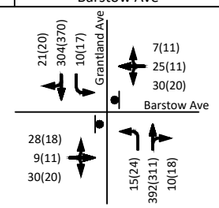
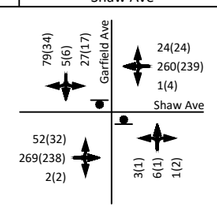
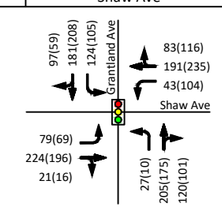
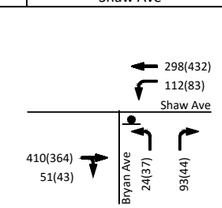
JLB TRAFFIC ENGINEERING, INC.
516 W. Shaw Ave., Ste. 103, Fresno, CA 93704
PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

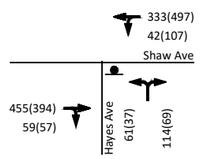
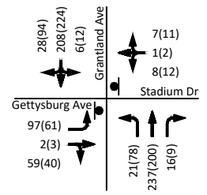
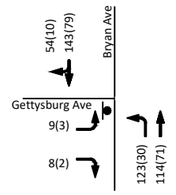
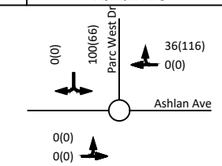
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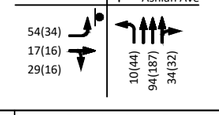
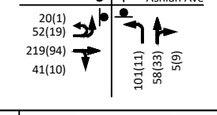
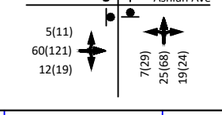
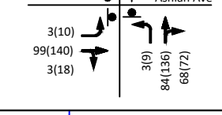
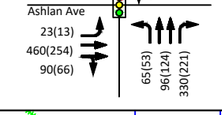
Parc West - City of Fresno
Existing plus Project (Phase I & Phase II) - Traffic Volumes, Geometrics and Controls

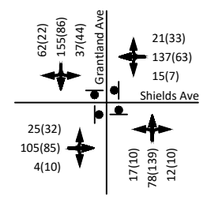
Figure 7



1. Grantland Ave & Barstow Ave	2. Garfield Ave & Shaw Ave	3. Grantland Ave & Shaw Ave	4. Veterans Blvd & Shaw Ave	5. Bryan Ave & Shaw Ave
			DOES NOT EXIST	

6. Hayes Ave & Shaw Ave	7. Grantland Ave & Gettysburg Ave	8. Veterans Blvd & Gettysburg Ave	9. Bryan Ave & Gettysburg Ave	10. Parc West Dr & Ashlan Ave
		DOES NOT EXIST		

11. Grantland Ave & Ashlan Ave	12. Bryan Ave & Ashlan Ave	13. Hayes Ave & Ashlan Ave	14. Polk Ave & Ashlan Ave	15. Cornelia Ave & Ashlan Ave
				

16. Grantland Ave & Dakota Ave	17. Grantland Ave & Shields Ave
DOES NOT EXIST	

LEGEND

- # = STUDY INTERSECTION
- = FUTURE STREET
- = STUDY SEGMENT
- XX = AM PEAK HOUR TRIPS
- (XX) = PM PEAK HOUR TRIPS
- = STOP SIGN
- = SIGNALIZED INTERSECTION
- = ROUNDABOUT

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

(004-067) 9/05/2019 - JR/MA

Existing plus Project (Buildout) Traffic Conditions

Project Description (Buildout)

The Project proposes to develop up to 844 single-family residential units and a 1.819-acre park on approximately 160 acres located on the northwest quadrant of Grantland Avenue and Ashlan Avenue.

Project Access (Buildout)

Based on information provided by the developer, access to and from the Project site under buildout will be from three (3) points. In addition to the proposed full access points described under Phase I and Phase II, the Project proposes to have access to Garfield Avenue. Access to Garfield Avenue will be off the future Gettysburg Avenue extension between Garfield Avenue and Grantland Avenue and is proposed to be full access. JLB analyzed the location of the proposed access points relative to the existing local roads and driveways in the Project's vicinity. A review of the Project driveway to be constructed under buildout indicates that it is located at a point that minimizes traffic operational impacts to the existing roadway network.

Trip Generation (Buildout)

Trip generation rates for the proposed Project under buildout were obtained from the 10th Edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE). Table XI presents the trip generation for the proposed Project (Buildout) with trip generation rates for Single-Family Detached Housing. At buildout, the proposed Project is estimated to generate a maximum of 7,968 daily trips, 625 AM peak hour trips and 836 PM peak hour trips. However, assuming that the proposed Project does not undergo a General Plan Amendment, the anticipated trip generation for the Project site would be higher. Table XII presents the trip generation for the proposed Project with trip generation rates for Single-Family Detached Housing (assuming the same density that is proposed by the Project) and Shopping Center (assuming a 0.25 floor-to-area ratio), consistent with the City of Fresno 2035 General Plan. Based on this, the proposed Project site has the potential to generate a maximum of 12,225 daily trips, 704 AM peak hour trips, and 1,263 PM peak hour trips. Compared to the land use consistent with the City of Fresno 2035 General Plan, the proposed Project is estimated to yield less traffic by 4,257 daily trips, 79 AM peak hour trips and 427 PM peak hour trips. The difference in trip generation is summarized in Table XIII.

Table XI: Proposed Project (Buildout) Trip Generation (General Plan Amendment)

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)	844	d.u.	9.44	7,967	0.74	25	75	156	469	625	0.99	63	37	527	309	836
Public Park (411)	1.819	acre	0.78	1	0.02	59	41	0	0	0	0.11	55	45	0	0	0
Total Project Trips				**7,968**				**156**	**469**	**625**				**527**	**309**	**836**

Note: d.u. = Dwelling Units

Table XII: Proposed Project Site Trip Generation (Consistent with 2035 General Plan)

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)	792	d.u.	9.44	7,477	0.74	25	75	147	440	586	0.99	63	37	494	290	784
Shopping Center (820)	125.780	k.s.f.	37.75	4,748	0.94	62	38	73	45	118	3.81	48	52	230	249	479
Total Project Trips				**12,225**				**220**	**485**	**704**				**724**	**539**	**1,263**

Note: d.u. = Dwelling Units
k.s.f. = Thousand Square Feet

Table XIII: Difference in Trip Generation

	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Proposed Project (Buildout) Trip Generation (General Plan Amendment)	7,968	156	469	625	527	309	836
Proposed Project Site Trip Generation (Consistent with the 2035 General Plan)	12,225	220	485	704	724	539	1,263
Difference in Trip Generation	**-4,257**	**-64**	**-16**	**-79**	**-197**	**-230**	**-427**

Trip Distribution (Buildout)

The trip distribution assumptions were developed based on existing travel patterns, the Fresno COG Project (Buildout) Select Zone, the existing roadway network, engineering judgment, data provided by the developer, knowledge of the study area, existing residential and commercial densities, and the City of Fresno 2035 General Plan Circulation Element in the vicinity of the Project. Figure 8 illustrates the Project Only Trips to the study intersections under buildout.

Bikeways

Currently, Class II Bike Lanes exist in the vicinity of the proposed Project site along Grantland Avenue, Ashlan Avenue, Bryan Avenue, and Cornelia Avenue. The City of Fresno 2017 Active Transportation Plan recommends that Class II Bike Lanes be implemented on: 1) Grantland Avenue between Parkway Drive and Belmont Avenue, 2) Shaw Avenue between Grantland Avenue and Polk Avenue, 3) Bryan Avenue between Shaw Avenue and Belmont Avenue, 3) Hayes Avenue between Shaw Avenue and Belmont Avenue, 4) Polk Avenue between Shaw Avenue and Belmont Avenue, 5) Gettysburg Avenue between Grantland Avenue/Veterans Boulevard and Cornelia Avenue, 6) Cornelia Avenue between Gettysburg Avenue and Belmont Avenue, 7) Ashlan Avenue east of Grantland Avenue, and 8) Shields Avenue east of Grantland Avenue. Furthermore, the City of Fresno 2017 Active Transportation Plan recommends that Class I Bike Paths be implemented on the west side of Veterans Boulevard between Herndon Avenue and Grantland Avenue/Gettysburg Avenue and on the east side of Grantland Avenue between Veterans Boulevard/Gettysburg Avenue and Belmont Avenue. Therefore, it is recommended that the Project implement a Class II Bike Lane along its frontages to Grantland Avenue, Gettysburg Avenue and Ashlan Avenue.

Transit

Fresno Area Express (FAX) is the transit operator in the City of Fresno. At present, there are no FAX transit routes that operate in the vicinity of the proposed Project. The closest is FAX Route 9, which runs on Cornelia Avenue and Ashlan Avenue, approximately 2.07 miles to the east of the proposed Project. Route 9 operates at 30-minute intervals on weekdays and weekends and its nearest stop to the Project site is located on the east side of Cornelia Avenue approximately 125 feet north of Ashlan Avenue. This route provides a direct connection to Forestiere Underground Gardens, Fig Garden Shopping Center, Fashion Fair, Fresno State and Vinland Park. 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 Central Unified School District (CUSD). The Central Unified School District provides transportation for students who live in excess of an established radius zone. The zone is a radius of 1.00 mile for grades Kindergarten through 6th and 2.00 miles for grades 7th through 12th.

Based on the attendance area boundaries at the time of the preparation of this TIA, elementary school students would attend Harvest Elementary School located on the southwest corner of Bryan Avenue and Gettysburg Avenue. Harvest Elementary School is located 0.45 and 1.10 miles from the nearest and farthest future home on the Project. Therefore, it is anticipated that the majority of elementary school students will need to walk, bike or be driven to school.

The most direct path from the Project to the Harvest Elementary School campus can begin from the intersection of Grantland Avenue and Ashlan Avenue. Currently, the intersection of Grantland Avenue and Ashlan Avenue is controlled by a one-way stop on Ashlan Avenue and contains a marked crosswalk on the westbound approach of Ashlan Avenue. It is anticipated that with the construction of the Project the intersection of Grantland Avenue and Ashlan Avenue will be controlled by a two-way stop on Ashlan Avenue and contain marked crosswalks on the eastbound and westbound approaches of Ashlan Avenue. Students would proceed to cross Grantland Avenue along the north side of Ashlan Avenue and then head east along the north side of Ashlan Avenue toward the intersection of Bryan Avenue and Ashlan Avenue. Once here, students can proceed north along the west side of Bryan Avenue until reaching a campus entrance.

Based on the attendance area boundaries at the time of the preparation of this TIA, middle school students would attend Glacier Point Middle School located on the northwest quadrant of Bryan Avenue and Ashlan Avenue. Glacier Point Middle School is located 0.44 and 1.00 miles from the nearest and farthest future home on the Project. Therefore, it is anticipated that middle school students will need to walk, bike or be driven to school.

The most direct path from the Project to the Glacier Point Middle School campus would begin from the intersection of Grantland Avenue and Ashlan Avenue. Currently, the intersection of Grantland Avenue and Ashlan Avenue is controlled by a one-way stop on Ashlan Avenue and contains a marked crosswalk on the westbound approach of Ashlan Avenue. It is anticipated that with the construction of the Project the intersection of Grantland Avenue and Ashlan Avenue will be controlled by a two-way stop on Ashlan Avenue and contain marked crosswalks on the eastbound and westbound approaches of Ashlan Avenue. Students would proceed to cross Grantland Avenue along the north side of Ashlan Avenue and then head east along the north side of Ashlan Avenue until reaching a campus entrance.

Based on information from the Central Unified School District, 9th grade high school students would be provided with bus transportation to Central High School (West Campus) generally located at the northwest quadrant of McKinley Avenue and Dickenson Avenue. To a large degree, the majority of 10th through 12th grade high school students would attend Central High School (East Campus) located at the northwest corner of Dakota Avenue and Cornelia Avenue. Central High School (East Campus) is located 2.00 and 2.60 miles away from the nearest and farthest future home on the Project. Therefore, it is anticipated that 10th through 12th grade high school students will be bussed from the Project to school.

Traffic Signal Warrants

Peak hour traffic signal warrants, as appropriate, were prepared for the unsignalized intersections in the Existing plus Project (Buildout) Traffic Conditions scenario. These warrants are found in Appendix M. The effects of right-turning traffic from the minor approach onto the major approach were taken into account using engineering judgement pursuant to the CA MUTCD guidelines for the preparation of traffic signal warrants. Under this scenario, the intersections of Hayes Avenue and Shaw Avenue and Bryan Avenue and Ashlan Avenue satisfy the peak hour signal warrant during the AM peak period only, the intersection of Grantland Avenue and Gettysburg Avenue satisfies the peak hour signal warrant during both peak periods, and the intersection of Polk Avenue and Ashlan Avenue satisfies the peak hour signal warrant during the PM peak period only. Based on the signal warrants and engineering judgement, signalization of these intersections is not recommended. It is worth noting that the CA MUTCD states “satisfaction of a signal warrant or warrants shall not in itself require the installation of a traffic signal.” Therefore, it is recommended that prior to the installation of a traffic signal, investigation of CA MUTCD warrants 4 and 7, as applicable, be conducted for these intersections.

Existing plus Project (Buildout) Roadway Network

The Existing plus Project (Buildout) Traffic Conditions scenario assumes the same roadway geometrics and traffic controls as those assumed in the Existing plus Project (Phase I & Phase II) Traffic Conditions scenario with a few exceptions. This scenario assumes that the Project (Buildout) will construct Garfield Avenue as a two-lane undivided collector north of the Ashlan Avenue alignment and that Ashlan Avenue will exist between Garfield Avenue and Grantland Avenue. Figure 9 illustrates the assumed intersection geometrics and traffic controls for these intersections under this scenario.

Results of Existing plus Project (Buildout) Level of Service Analysis

The Existing plus Project (Buildout) Traffic Conditions scenario assumes that Gettysburg Avenue exists between Garfield Avenue and Grantland Avenue, that Ashlan Avenue exists between Garfield Avenue and Grantland Avenue, and that Garfield Avenue exists between Gettysburg Avenue and Ashlan Avenue. Figure 9 illustrates the Existing plus Project (Buildout) turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Existing plus Project (Buildout) Traffic Conditions scenario are provided in Appendix I. Table XIV presents a summary of the Existing plus Project (Buildout) peak hour LOS at the study intersections, while Table XV presents a summary of the Existing plus Project (Buildout) LOS for the study segments.

Under this scenario, the intersections of Grantland Avenue and Gettysburg Avenue and Bryan Avenue and Ashlan Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at these intersections, it is recommended that the following improvements be implemented.

- Grantland Avenue / Gettysburg Avenue
  - Modify the southbound left-through-right lane to a left-through lane; and
  - Add a southbound right-turn lane.
- Bryan Avenue / Ashlan Avenue
  - Modify the westbound through-right lane to a through lane; and
  - Add a westbound right-turn lane.

Under this scenario, all study segments are projected to operate at an acceptable LOS.

Table XIV: Existing plus Project (Buildout) Intersection LOS Results

ID	Intersection	Intersection Control	AM Peak Hour		PM Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Grantland Avenue / Barstow Avenue	Two-Way Stop	23.2	C	22.7	C
2	Garfield Avenue / Shaw Avenue	Two-Way Stop	21.3	C	14.2	B
3	Grantland Avenue / Shaw Avenue	Signalized	35.9	D	31.8	C
4	Veterans Boulevard / Shaw Avenue	Does Not Exist	N/A	N/A	N/A	N/A
5	Bryan Avenue / Shaw Avenue	One-Way Stop	18.6	C	20.5	C
6	Hayes Avenue / Shaw Avenue	One-Way Stop	25.5	D	28.6	D
7	Grantland Avenue / Gettysburg Avenue	Two-Way Stop	28.4	D	**35.5**	**E**
		Two-Way Stop (Mitigated)	26.2	D	27.9	D
8	Veterans Boulevard / Gettysburg Avenue	Does Not Exist	N/A	N/A	N/A	N/A
9	Bryan Avenue / Gettysburg Avenue	One-Way Stop	13.0	B	9.5	A
10	Parc West Drive / Ashlan Avenue	Roundabout	4.9	A	5.2	A
11	Grantland Avenue / Ashlan Avenue	Two-Way Stop	16.4	C	24.6	C
12	Bryan Avenue / Ashlan Avenue	All-Way Stop	**51.2**	**F**	9.1	A
		All-Way Stop (Mitigated)	35.0	D	9.1	A
13	Hayes Avenue / Ashlan Avenue	All-Way Stop	7.8	A	8.9	A
14	Polk Avenue / Ashlan Avenue	All-Way Stop	9.3	A	14.1	B
15	Cornelia Avenue / Ashlan Avenue	Signalized	42.7	D	23.9	C
16	Grantland Avenue / Dakota Avenue	Does Not Exist	N/A	N/A	N/A	N/A
17	Grantland Avenue / Shields Avenue	All-Way Stop	11.9	B	9.5	A

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.

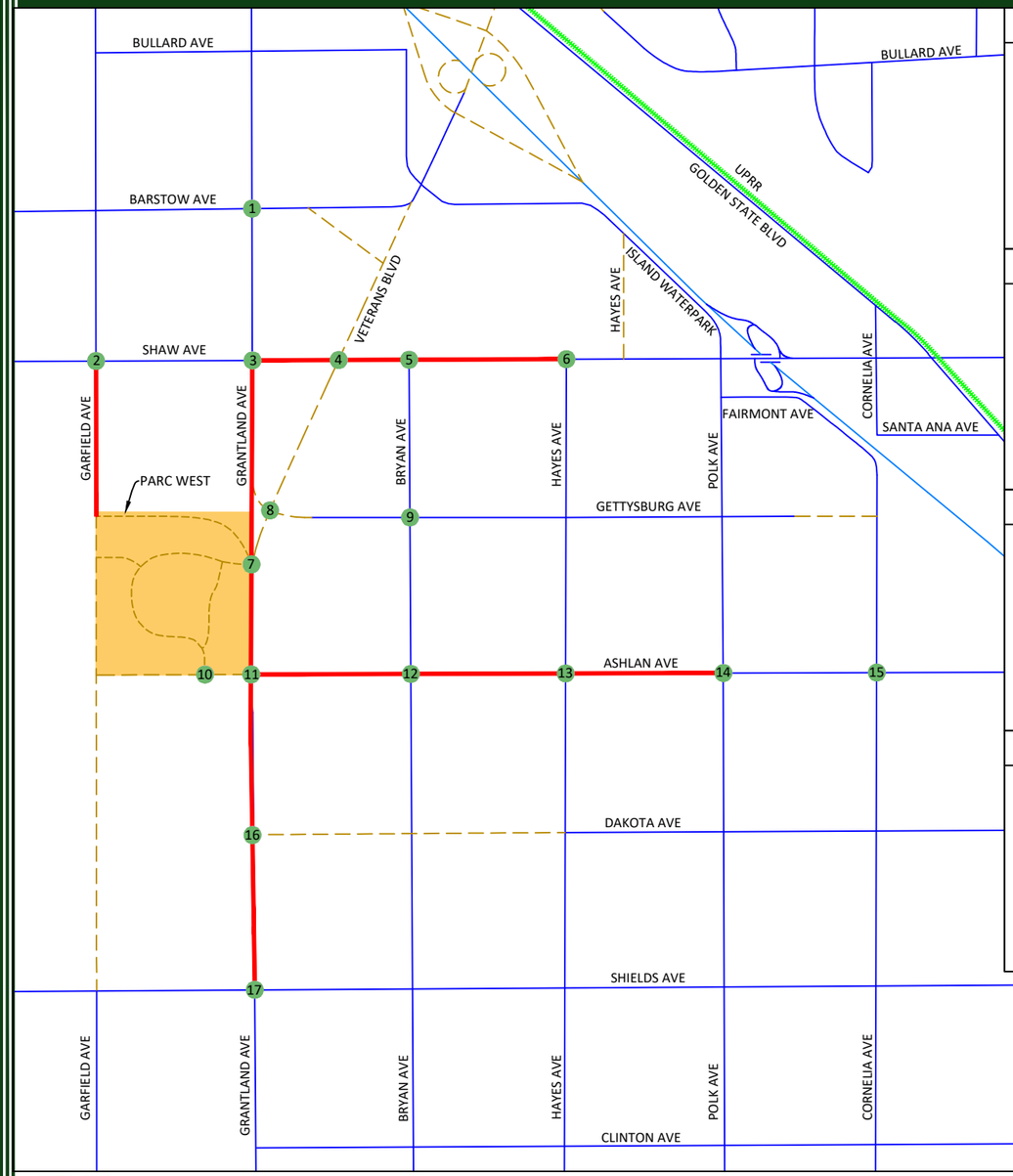
Table XV: Existing plus Project (Buildout) Segment LOS Results

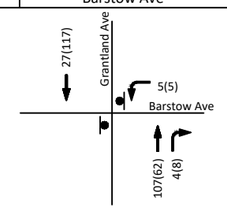
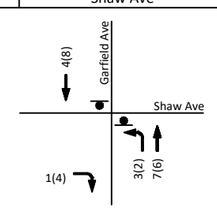
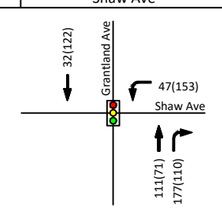
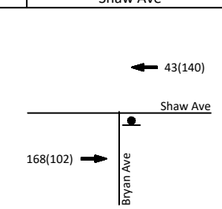
ID	Segment	Limits	Lanes	24-hour Volume	LOS
1	Shaw Avenue	Grantland Avenue and Veterans Boulevard	2	12,388	C
2	Shaw Avenue	Veterans Boulevard and Bryan Avenue	2	12,214	C
3	Shaw Avenue	Bryan Avenue and Hayes Avenue	2	12,554	C
4	Garfield Avenue	Shaw Avenue and Gettysburg Avenue	2	367	C
5	Grantland Avenue	Shaw Avenue and Veterans Boulevard	2	8,675	C
6	Grantland Avenue	Veterans Boulevard and Gettysburg Avenue (WL)	DNE	DNE	DNE
7	Grantland Avenue	Gettysburg Avenue (WL) and Ashlan Avenue	2	9,559	C
8	Grantland Avenue	Ashlan Avenue and Dakota Avenue	2	4,711	C
9	Grantland Avenue	Dakota Avenue and Shields Avenue	2	4,711	C
10	Ashlan Avenue	Grantland Avenue and Bryan Avenue	3	3,665	B
11	Ashlan Avenue	Bryan Avenue and Hayes Avenue	2	4,954	B
12	Ashlan Avenue	Hayes Avenue and Polk Avenue	2	4,395	B

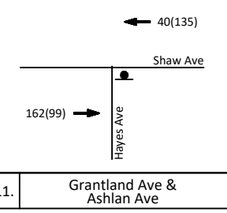
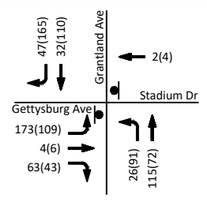
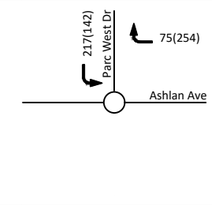
Note: LOS = Level of Service per the Florida Roadway Segment LOS Tables

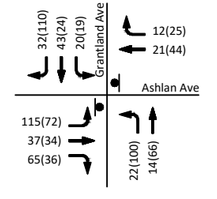
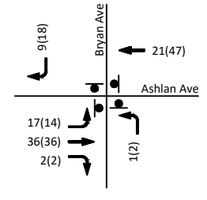
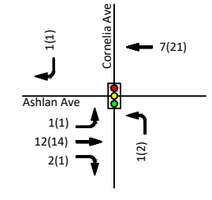
Parc West - City of Fresno
Project Only Trips (Buildout)

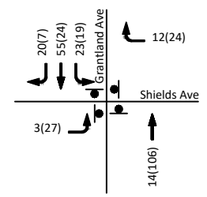
Figure 8



1. Grantland Ave & Barstow Ave	2. Garfield Ave & Shaw Ave	3. Grantland Ave & Shaw Ave	4. Veterans Blvd & Shaw Ave	5. Bryan Ave & Shaw Ave
			DOES NOT EXIST	

6. Hayes Ave & Shaw Ave	7. Grantland Ave & Gettysburg Ave	8. Veterans Blvd & Gettysburg Ave	9. Bryan Ave & Gettysburg Ave	10. Parc West Dr & Ashlan Ave
		DOES NOT EXIST		

11. Grantland Ave & Ashlan Ave	12. Bryan Ave & Ashlan Ave	13. Hayes Ave & Ashlan Ave	14. Polk Ave & Ashlan Ave	15. Cornelia Ave & Ashlan Ave
				

16. Grantland Ave & Dakota Ave	17. Grantland Ave & Shields Ave
DOES NOT EXIST	

LEGEND

- (#) = STUDY INTERSECTION
- = FUTURE STREET
- = STUDY SEGMENT
- XX = AM PROJECT ONLY TRIPS
- (XX) = PM PROJECT ONLY TRIPS
- = STOP SIGN
- = SIGNALIZED INTERSECTION
- = ROUNDABOUT

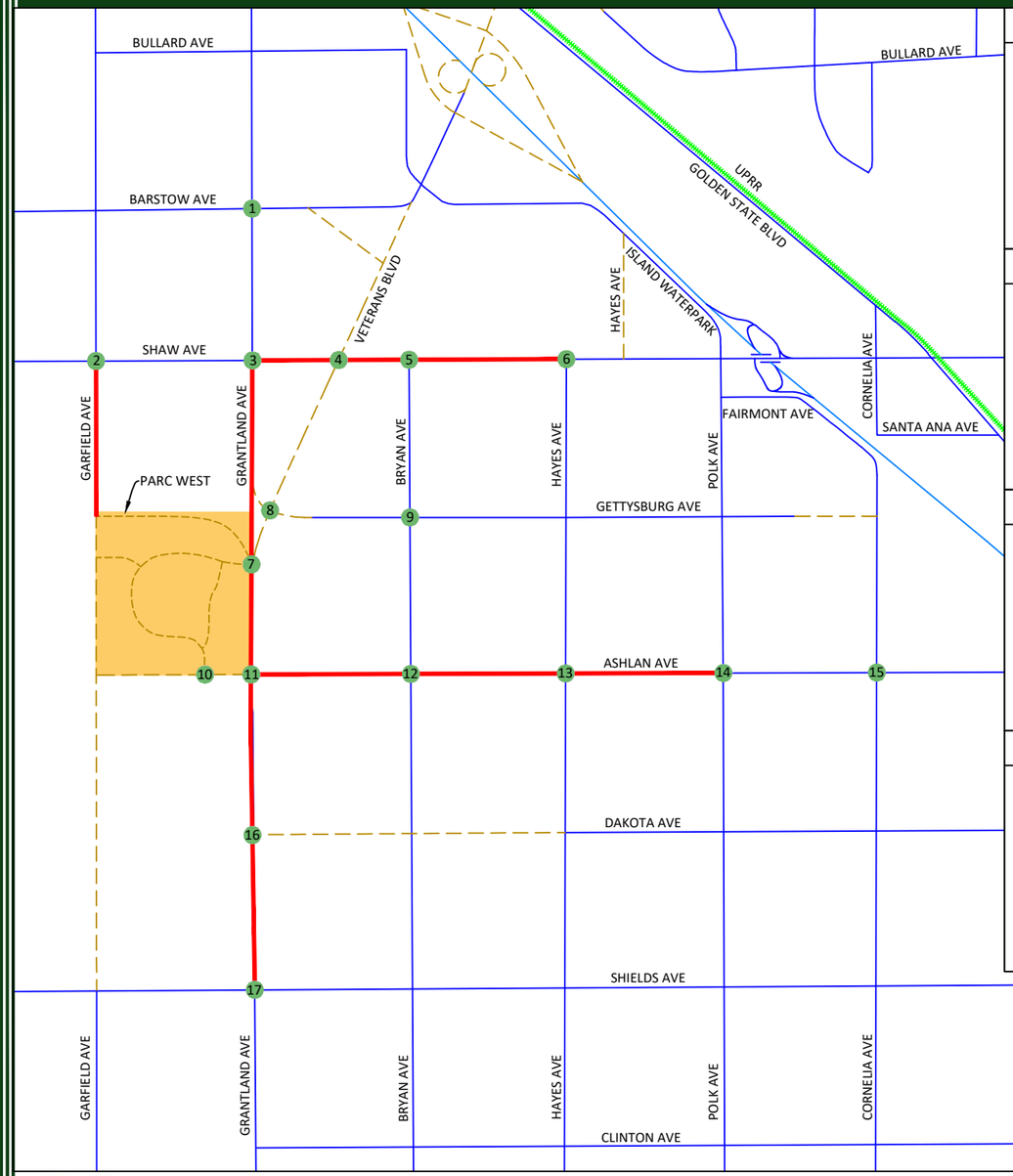
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516 W. Shaw Ave., Ste. 103, Fresno, CA 93704
PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

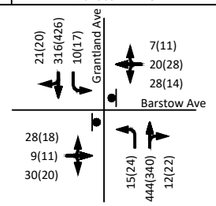
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Parc West - City of Fresno
Existing plus Project (Buildout) - Traffic Volumes, Geometrics and Controls

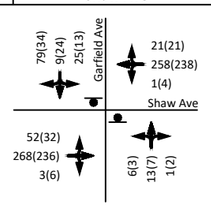
Figure 9



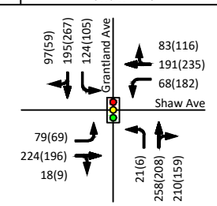
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2. Garfield Ave & Shaw Ave



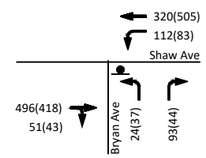
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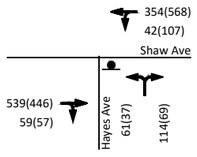
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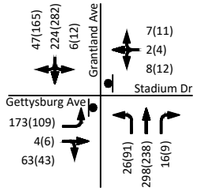
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6. Hayes Ave & Shaw Ave



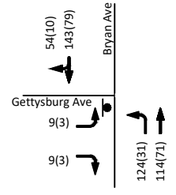
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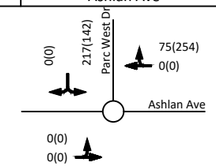
8. Veterans Blvd & Gettysburg Ave

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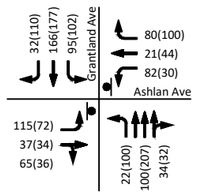
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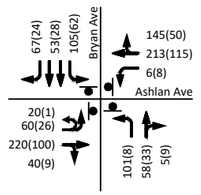
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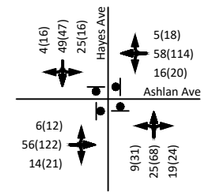
11. Grantland Ave & Ashlan Ave



12. Bryan Ave & Ashlan Ave



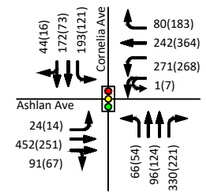
13. Hayes Ave & Ashlan Ave



14. Polk Ave & Ashlan Ave



15. Cornelia Ave & Ashlan Ave



16. Grantland Ave & Dakota Ave

DOES NOT EXIST

17. Grantland Ave & Shields Ave

LEGEND

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

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Near Term plus Project (Buildout) Traffic Conditions

Description of Approved and Pipeline Projects

Approved and Pipeline Projects consist of developments that are either under construction, built but not fully occupied, are not built but have final site development review (SDR) approval, or for which the lead agency or responsible agencies have knowledge of. The City of Fresno, County of Fresno and Caltrans staff were consulted throughout the preparation of this TIA regarding approved and/or known projects that could potentially impact the study intersections. JLB staff conducted a reconnaissance of the surrounding area to confirm the Near Term Projects. Subsequently, it was agreed that the projects listed in Table XVI were approved, near approval, or in the pipeline within the proximity of the proposed Project.

The trip generation listed in Table XVI is that which is anticipated to be added to the streets and highways by these projects between the time of the preparation of this report and five years after buildout of the proposed Project. As shown in Table XVI, the total trip generation for the Near Term Projects is 49,295 daily trips, 4,317 AM peak hour trips and 4,846 PM peak hour trips. Figure 10 illustrates the location of the approved, near approval, or pipeline projects and their combined trip assignment to the study intersections and segments under the Near Term plus Project (Buildout) Traffic Conditions scenario.

Traffic Signal Warrants

Peak hour traffic signal warrants, as appropriate, were prepared for the unsignalized intersections in the Near Term plus Project (Buildout) Traffic Conditions scenario. These warrants are found in Appendix M. The effects of right-turning traffic from the minor approach onto the major approach were taken into account using engineering judgement pursuant to the CA MUTCD guidelines for the preparation of traffic signal warrants. Under this scenario, the intersections of Grantland Avenue and Barstow Avenue, Bryan Avenue and Shaw Avenue, Hayes Avenue and Shaw Avenue, Grantland Avenue and Gettysburg Avenue, Grantland Avenue and Ashlan Avenue and Bryan Avenue and Ashlan Avenue satisfy the peak hour signal warrant during both peak periods, the intersections of Hayes Avenue and Ashlan Avenue and Polk Avenue and Ashlan Avenue satisfy the peak hour signal warrant during the PM peak period only, and the intersection of Grantland Avenue and Shields Avenue satisfies the peak hour signal warrant during the AM peak period only. Based on the signal warrants and engineering judgement, signalization of the intersections of Grantland Avenue and Barstow Avenue, Bryan Avenue and Shaw Avenue, Hayes Avenue and Shaw Avenue, Grantland Avenue and Gettysburg Avenue, Grantland Avenue and Ashlan Avenue and Bryan Avenue and Ashlan Avenue is recommended. However, signalization of the intersections of Hayes Avenue and Ashlan Avenue, Polk Avenue and Ashlan Avenue and Grantland Avenue and Shields Avenue is not recommended, especially since these intersections are projected to operate at an acceptable LOS during both peak periods. It is worth noting that the CA MUTCD states “satisfaction of a signal warrant or warrants shall not in itself require the installation of a traffic signal.” Therefore, it is recommended that prior to the installation of a traffic signal, investigation of CA MUTCD warrants 4 and 7, as applicable, be conducted for these intersections.

Table XVI: Near Term Projects' Trip Generation

Approved Project Location	*Approved or Pipeline Project Name*	*Daily Trips*	*AM Peak Hour*	*PM Peak Hour*
A	TT 5479[1]	1,152	90	121
B	TT 5493[1]	2,303	181	242
C	TT 5537[1]	378	30	40
D	TT 5538[1]	878	69	92
E	TT 5586[1]	699	55	73
F	TT 5599 (portion of)[1]	396	31	42
G	TT 5631[1]	142	11	15
H	TT 5756[1]	963	75	101
I	TT 5766[1]	170	13	18
J	TT 6056[2]	1,190	94	125
K	TT 6090[1]	330	26	35
L	TT 6091[1]	76	6	8
M	TT 6139[1]	963	75	101
N	TT 6162[1]	765	60	80
O	TT 6199[2]	1,104	87	116
P	TT 6215[2]	935	73	98
Q	Westbridge Apartments[3]	1,318	83	101
R	Riverside Apartments[1]	1,214	92	117
S	Herndon and Van Buren Mixed-Use Development[2]	5,372	357	419
T	EL Paseo Commercial Development[1]	10,908	710	992
U	Herndon and Riverside Commercial Development[2]	1,897	134	139
V	Shaw and 99 Mixed-Use Development[3]	2,425	232	237
W	Johnny Quik Food Store[3]	2,833	202	215
X	Jack-in-the-Box[2]	1,284	118	84
Y	Dakota and Grantland (Single-Family Housing)[3]	1,699	133	178
Z	Clinton Avenue (Single-Family Housing)[3]	1,982	155	208
AA	Clinton and Blythe Commercial Development[1]	1,815	93	153
AB	Koligian High School[1]	4,104	1,032	696
Total Approved and Pipeline Project Trips		**49,295**	**4,317**	**4,846**

Note: 1 = Trip Generation prepared by JLB Traffic Engineering, Inc. based on readily available information
2 = Trip Generation based on JLB Traffic Engineering, Inc. Traffic Impact Analysis Report
3 = Trip Generation based on Precision Civil Engineering, Inc. Traffic Impact Analysis Report

Near Term plus Project (Buildout) Roadway Network

The Near Term plus Project (Buildout) Traffic Conditions scenario assumes the same roadway geometrics and traffic controls as those assumed in the Existing plus Project (Buildout) Traffic Conditions scenario with one exception. For purposes of this TIA, it is assumed that Gettysburg Avenue is built as a two-lane collector divided by a two-way left-turn lane for approximately 1,200 feet east of Bryan Avenue and that the intersection of Bryan Avenue and Gettysburg Avenue is controlled by a two-way stop on Gettysburg Avenue. Figure 11 illustrates the assumed intersection geometrics and traffic controls for this intersection under this scenario.

Results of Near Term plus Project (Buildout) Level of Service Analysis

The Near Term plus Project (Buildout) Traffic Conditions scenario assumes that Gettysburg Avenue exists between Garfield Avenue and Grantland Avenue, that Ashlan Avenue exists between Garfield Avenue and Grantland Avenue, that Garfield Avenue exists between Gettysburg Avenue and Ashlan Avenue, and that Gettysburg Avenue exists east of Bryan Avenue. Figure 11 illustrates the Near Term plus Project (Buildout) turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Near Term plus Project (Buildout) Traffic Conditions scenario are provided in Appendix J. Table XVII presents a summary of the Near Term plus Project (Buildout) peak hour LOS at the study intersections, while Table XVIII presents a summary of the Near Term plus Project (Buildout) LOS for the study segments.

Under this scenario, the intersections of Grantland Avenue and Barstow Avenue, Grantland Avenue and Shaw Avenue, Bryan Avenue and Shaw Avenue, Hayes Avenue and Shaw Avenue, Grantland Avenue and Gettysburg Avenue, Grantland Avenue and Ashlan Avenue and Bryan Avenue and Ashlan Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at these intersections, it is recommended that the following improvements be implemented.

- Grantland Avenue / Barstow 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;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Shaw Avenue
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound right-turn lane;
  - Modify the northbound through-right lane to a through lane;
  - Add a northbound right-turn lane;
  - Modify the traffic signal to implement overlap phasing of the westbound right-turn with the southbound left-turn phase; and
  - Modify the traffic signal to accommodate the added lanes.

- Bryan Avenue / Shaw Avenue
  - Signalize the intersection with protective left-turn phasing on all approaches.
- Hayes Avenue / Shaw Avenue
  - Add a westbound left-turn lane;
  - Modify the westbound left-through lane to a through lane;
  - Modify the northbound left-right lane to a left-turn lane;
  - Add a northbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Gettysburg Avenue
  - Add a westbound left-turn lane;
  - Modify the westbound left-through-right lane to a through-right lane;
  - Add a southbound left-turn lane;
  - Modify the southbound left-through-right lane to a through lane;
  - Add a second southbound through lane with a receiving lane south of Gettysburg Avenue;
  - Add a southbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Ashlan Avenue
  - Modify the northbound through-right lane to a right-turn lane; and
  - Signalize the intersection with protective left-turn phasing on all approaches.
- Bryan Avenue / Ashlan Avenue
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound right turn lane; and
  - Signalize the intersection with protective left-turn phasing on all approaches.

It should be noted that between the Existing Traffic Conditions and the Near Term plus Project (Buildout) Traffic Conditions scenarios, the Project accounts for 13.9 percent of the daily trips, 12.6 percent of the AM peak hour trips and 14.7 percent of the PM peak hour trips of growth in traffic, while the rest can be attributable to the Near Term Projects. Therefore, one can deduce that the majority of the mitigation measures presented under this scenario may not be necessary immediately upon completion of the proposed Project (Buildout). However, if all of the Near Term Projects are completed close to the completion date of the proposed Project (Buildout), the detailed recommended improvements presented under this scenario may be necessary in order to improve the LOS to the City's target LOS threshold.

Under this scenario, all study segments are projected to operate at an acceptable LOS.

Table XVII: Near Term plus Project (Buildout) Intersection LOS Results

ID	Intersection	Intersection Control	AM Peak Hour		PM Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Grantland Avenue / Barstow Avenue	Two-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Mitigated)	20.1	C	17.0	B
2	Garfield Avenue / Shaw Avenue	Two-Way Stop	23.0	C	13.6	B
3	Grantland Avenue / Shaw Avenue	Signalized	**99.6**	**F**	**74.9**	**E**
		Signalized (Mitigated)	41.8	D	48.5	D
4	Veterans Boulevard / Shaw Avenue	Does Not Exist	N/A	N/A	N/A	N/A
5	Bryan Avenue / Shaw Avenue	One-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Mitigated)	41.8	D	22.6	C
6	Hayes Avenue / Shaw Avenue	One-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Mitigated)	32.7	C	28.3	C
7	Grantland Avenue / Gettysburg Avenue	Two-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Mitigated)	46.5	D	40.9	D
8	Veterans Boulevard / Gettysburg Avenue	Does Not Exist	N/A	N/A	N/A	N/A
9	Bryan Avenue / Gettysburg Avenue	Two-Way Stop	24.9	C	13.8	B
10	Parc West Drive / Ashlan Avenue	Roundabout	4.9	A	5.3	A
11	Grantland Avenue / Ashlan Avenue	Two-Way Stop	**>120.0**	**F**	**112.9**	**F**
		Signalized (Mitigated)	53.2	D	27.1	C
12	Bryan Avenue / Ashlan Avenue	All-Way Stop	**>120.0**	**F**	13.3	B
		Signalized (Mitigated)	41.2	D	31.7	C
13	Hayes Avenue / Ashlan Avenue	All-Way Stop	10.1	B	14.2	B
14	Polk Avenue / Ashlan Avenue	All-Way Stop	11.4	B	28.7	D
15	Cornelia Avenue / Ashlan Avenue	Signalized	53.9	D	25.3	C
16	Grantland Avenue / Dakota Avenue	Does Not Exist	N/A	N/A	N/A	N/A
17	Grantland Avenue / Shields Avenue	All-Way Stop	20.8	C	12.1	B

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.

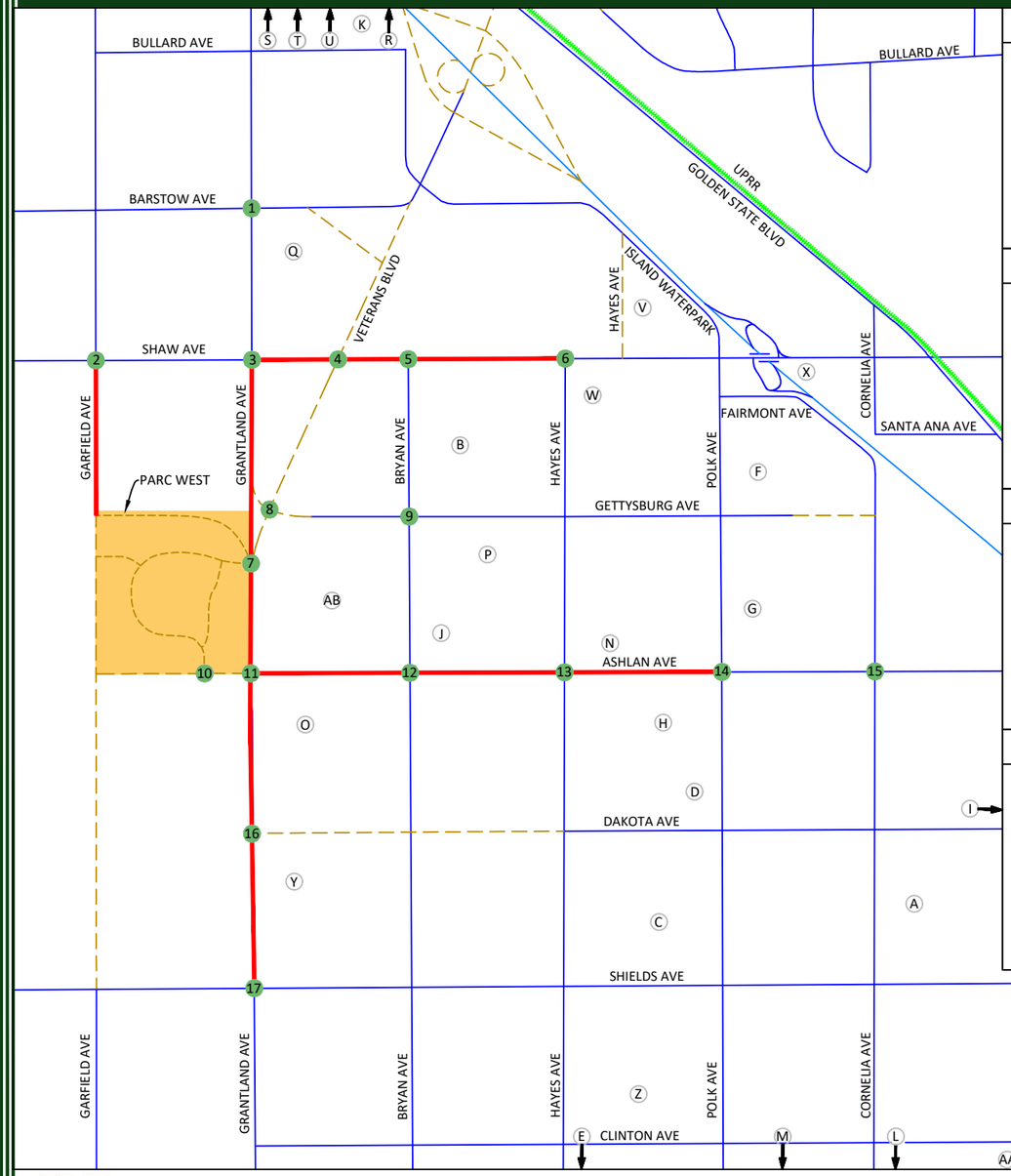
Table XVIII: Near Term plus Project (Buildout) Segment LOS Results

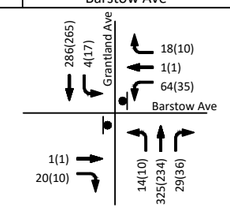
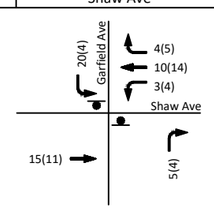
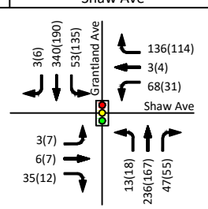
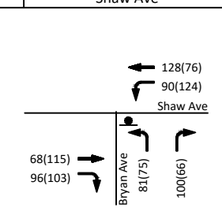
ID	*Segment*	*Limits*	*Lanes*	*24-hour Volume*	*LOS*
1	Shaw Avenue	Grantland Avenue and Veterans Boulevard	2	16,118	D
2	Shaw Avenue	Veterans Boulevard and Bryan Avenue	2	15,944	D
3	Shaw Avenue	Bryan Avenue and Hayes Avenue	2	16,804	D
4	Garfield Avenue	Shaw Avenue and Gettysburg Avenue	2	367	C
5	Grantland Avenue	Shaw Avenue and Veterans Boulevard	2	16,065	D
6	Grantland Avenue	Veterans Boulevard and Gettysburg Avenue (WL)	DNE	DNE	DNE
7	Grantland Avenue	Gettysburg Avenue (WL) and Ashlan Avenue	2	13,919	D
8	Grantland Avenue	Ashlan Avenue and Dakota Avenue	2	8,141	C
9	Grantland Avenue	Dakota Avenue and Shields Avenue	2	8,141	C
10	Ashlan Avenue	Grantland Avenue and Bryan Avenue	3	8,475	C
11	Ashlan Avenue	Bryan Avenue and Hayes Avenue	2	7,714	C
12	Ashlan Avenue	Hayes Avenue and Polk Avenue	2	6,595	B

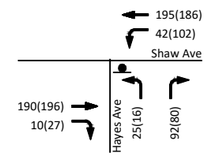
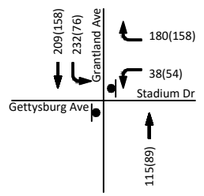
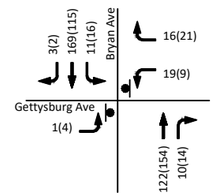
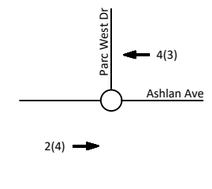
Note: LOS = Level of Service per the Florida Roadway Segment LOS Tables

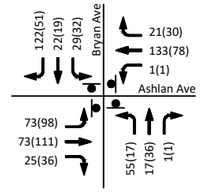
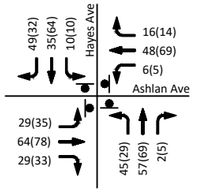
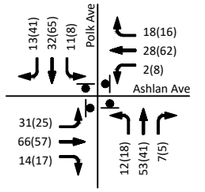
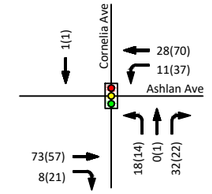
Parc West - City of Fresno
Near Term Projects' Trip Assignment

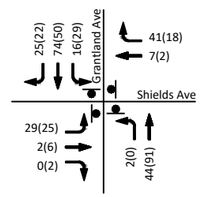
Figure 10



1. Grantland Ave & Barstow Ave	2. Garfield Ave & Shaw Ave	3. Grantland Ave & Shaw Ave	4. Veterans Blvd & Shaw Ave	5. Bryan Ave & Shaw Ave
			DOES NOT EXIST	

6. Hayes Ave & Shaw Ave	7. Grantland Ave & Gettysburg Ave	8. Veterans Blvd & Gettysburg Ave	9. Bryan Ave & Gettysburg Ave	10. Parc West Dr & Ashlan Ave
		DOES NOT EXIST		

11. Grantland Ave & Ashlan Ave	12. Bryan Ave & Ashlan Ave	13. Hayes Ave & Ashlan Ave	14. Polk Ave & Ashlan Ave	15. Cornelia Ave & Ashlan Ave
				

16. Grantland Ave & Dakota Ave	17. Grantland Ave & Shields Ave
DOES NOT EXIST	

LEGEND

- # = STUDY INTERSECTION
- = FUTURE STREET
- = STUDY SEGMENT
- XX = AM NEAR TERM TRIPS
- (XX) = PM NEAR TERM TRIPS
- = STOP SIGN
- = SIGNALIZED INTERSECTION
- = ROUNDABOUT
- X = NEAR TERM PROJECT LOCATION

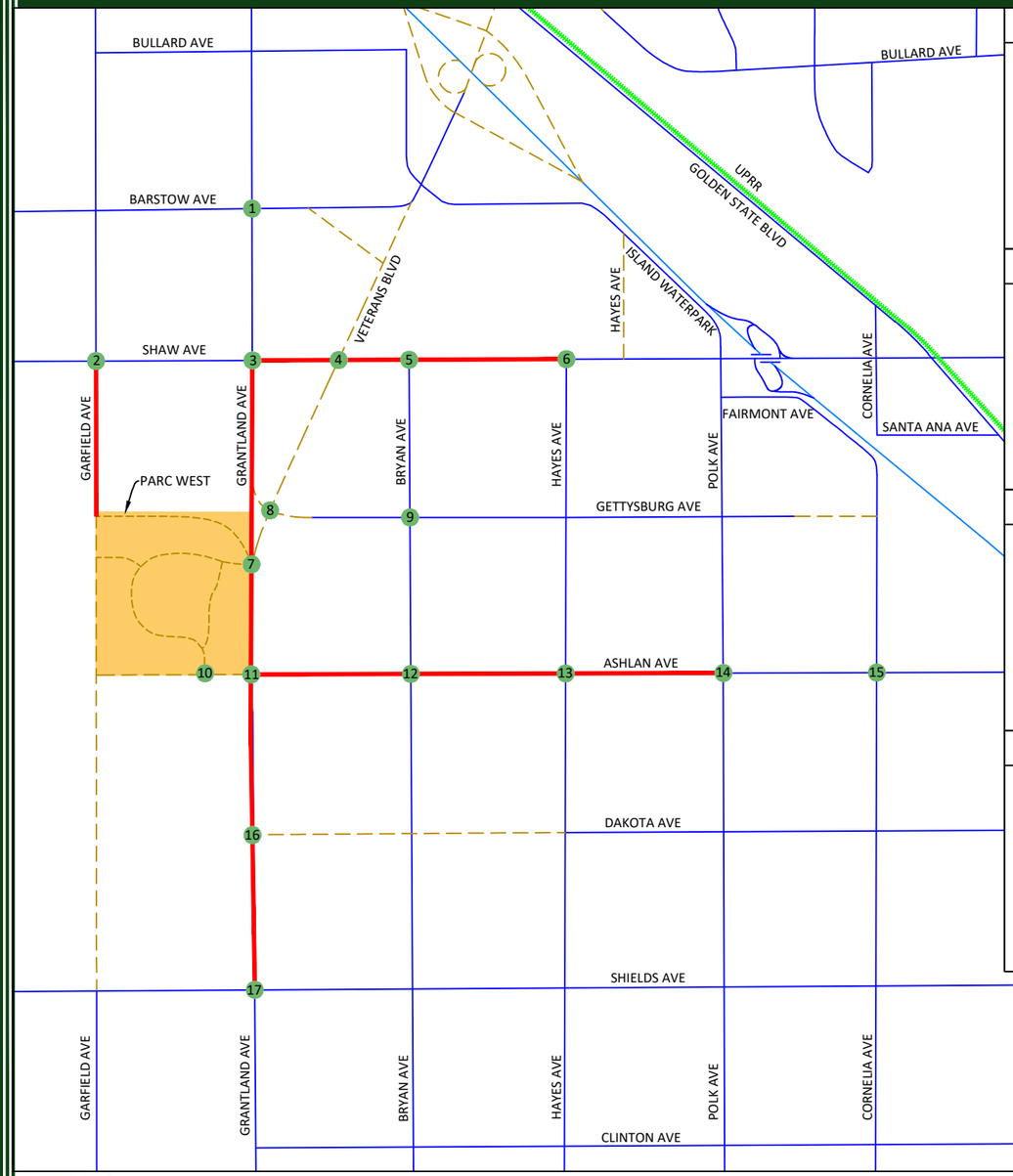
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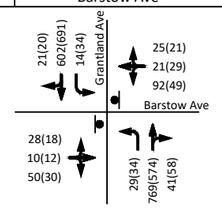
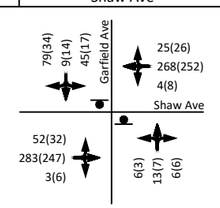
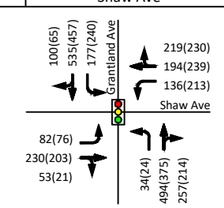
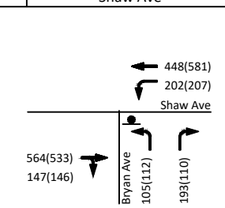
JLB TRAFFIC ENGINEERING, INC.
516 W. Shaw Ave., Ste. 103, Fresno, CA 93704
PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

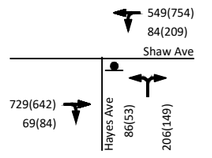
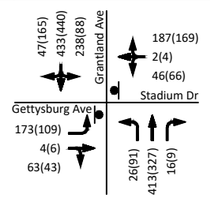
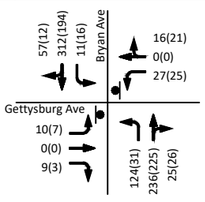
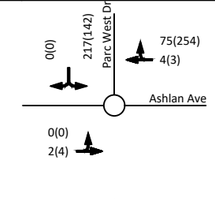
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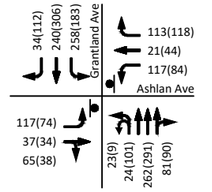
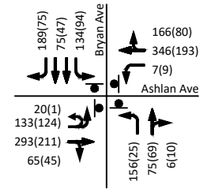
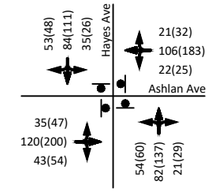
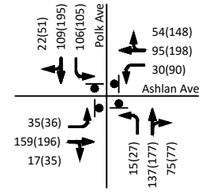
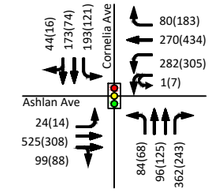
Parc West - City of Fresno
Near Term plus Project (Buildout) - Traffic Volumes, Geometrics and Controls

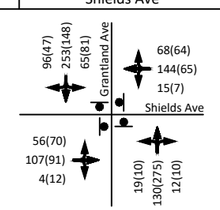
Figure 11



1. Grantland Ave & Barstow Ave	2. Garfield Ave & Shaw Ave	3. Grantland Ave & Shaw Ave	4. Veterans Blvd & Shaw Ave	5. Bryan Ave & Shaw Ave
			DOES NOT EXIST	

6. Hayes Ave & Shaw Ave	7. Grantland Ave & Gettysburg Ave	8. Veterans Blvd & Gettysburg Ave	9. Bryan Ave & Gettysburg Ave	10. Parc West Dr & Ashlan Ave
		DOES NOT EXIST		

11. Grantland Ave & Ashlan Ave	12. Bryan Ave & Ashlan Ave	13. Hayes Ave & Ashlan Ave	14. Polk Ave & Ashlan Ave	15. Cornelia Ave & Ashlan Ave
				

16. Grantland Ave & Dakota Ave	17. Grantland Ave & Shields Ave
DOES NOT EXIST	

LEGEND

- # = STUDY INTERSECTION
- = FUTURE STREET
- = STUDY SEGMENT
- XX = AM PEAK HOUR TRIPS
- (XX) = PM PEAK HOUR TRIPS
- = STOP SIGN
- = SIGNALIZED INTERSECTION
- = ROUNDABOUT

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

(004-067) 9/05/2019 - JR/MA

Cumulative Year 2035 No Project Traffic Conditions

Traffic Signal Warrants

Peak hour traffic signal warrants, as appropriate, were prepared for the unsignalized intersections in the Cumulative Year 2035 No Project Traffic Conditions scenario. These warrants are found in Appendix M. The effects of right-turning traffic from the minor approach onto the major approach were taken into account using engineering judgement pursuant to the CA MUTCD guidelines for the preparation of traffic signal warrants. Under this scenario, the intersections of Grantland Avenue and Barstow Avenue, Bryan Avenue and Shaw Avenue, Hayes Avenue and Shaw Avenue, Grantland Avenue and Gettysburg Avenue, Bryan Avenue and Gettysburg Avenue, Grantland Avenue and Ashlan Avenue, Bryan Avenue and Ashlan Avenue, Hayes Avenue and Ashlan Avenue, Polk Avenue and Ashlan Avenue, Grantland Avenue and Dakota Avenue and Grantland Avenue and Shields Avenue satisfy the peak hour signal warrant during both peak periods, while the intersection of Garfield Avenue and Shaw Avenue satisfies the peak hour signal warrant during the AM peak period only. Based on the signal warrants and engineering judgement, signalization of the intersections of Grantland Avenue and Barstow Avenue, Bryan Avenue and Shaw Avenue, Hayes Avenue and Shaw Avenue, Grantland Avenue and Gettysburg Avenue, Bryan Avenue and Gettysburg Avenue, Grantland Avenue and Ashlan Avenue, Bryan Avenue and Ashlan Avenue, Polk Avenue and Ashlan Avenue, Grantland Avenue and Dakota Avenue, and Grantland Avenue and Shields Avenue is recommended. However, signalization of the intersections of Garfield Avenue and Shaw Avenue and Hayes Avenue and Ashlan Avenue is not recommended, especially since these intersections are projected to operate at an acceptable LOS during both peak periods. It is worth noting that the CA MUTCD states "satisfaction of a signal warrant or warrants shall not in itself require the installation of a traffic signal." Therefore, it is recommended that prior to the installation of a traffic signal, investigation of CA MUTCD warrants 4 and 7, as applicable, be conducted for these intersections.

Cumulative Year 2035 No Project Roadway Network

The Cumulative Year 2035 No Project Traffic Conditions scenario assumes the existing roadway geometrics and traffic controls will remain in place with a few exceptions. For purposes of this TIA, it is assumed that Gettysburg Avenue is built as a two-lane collector divided by a two-way left-turn lane between Bryan Avenue and Hayes Avenue and that the intersection of Bryan Avenue and Gettysburg Avenue is controlled by a two-way stop on Gettysburg Avenue. Additionally, it is assumed that Veterans Boulevard is built as a two-lane divided arterial between Grantland Avenue and Gettysburg Avenue and a four-lane divided super arterial north of Gettysburg Avenue toward its connection to Herndon Avenue. Moreover, it is assumed that the intersections of Veterans Boulevard and Shaw Avenue and Veterans Boulevard and Gettysburg Avenue are signalized with protective left-turn phasing in all directions. In addition, it is assumed that Dakota Avenue is built as a two-lane collector divided by a two-way left-turn lane east of Grantland Avenue and that the intersection of Grantland Avenue and Dakota Avenue is controlled by a one-way stop on Dakota Avenue. Figure 12 illustrates the assumed intersection geometrics and traffic controls for these intersections under this scenario.

Results of Cumulative Year 2035 No Project Level of Service Analysis

The Cumulative Year 2035 No Project Traffic Conditions scenario assumes that Gettysburg Avenue exists between Bryan Avenue and Hayes Avenue, that Veterans Boulevard exists north of Grantland Avenue and that Dakota Avenue exists east of Grantland Avenue. Figure 12 illustrates the Cumulative Year 2035 No Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Cumulative Year 2035 No Project Traffic Conditions scenario are provided in Appendix K. Table XIX presents a summary of the Cumulative Year 2035 No Project peak hour LOS at the study intersections, while Table XX presents a summary of the Cumulative year 2035 No Project LOS for the study segments.

Under this scenario, the intersections of Grantland Avenue and Barstow Avenue, Grantland Avenue and Shaw Avenue, Veterans Boulevard and Shaw Avenue, Bryan Avenue and Shaw Avenue, Hayes Avenue and Shaw Avenue, Grantland Avenue and Gettysburg Avenue, Veterans Boulevard and Gettysburg Avenue, Bryan Avenue and Gettysburg Avenue, Grantland Avenue and Ashlan Avenue, Bryan Avenue and Ashlan Avenue, Polk Avenue and Ashlan Avenue, Grantland Avenue and Dakota Avenue and Grantland Avenue and Shields Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at these intersections, it is recommended that the following improvements be considered for implementation.

- Grantland Avenue / Barstow 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;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Shaw Avenue
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound trap right-turn lane;
  - Add a second southbound left-turn lane with a receiving lane east of Grantland Avenue;
  - Modify the traffic signal to implement overlap phasing of the westbound right-turn with the southbound left-turn phase;
  - Prohibit southbound to northbound U-turn movements; and
  - Modify the traffic signal to accommodate the added lanes.

- Veterans Boulevard / Shaw Avenue
  - Modify the eastbound through-right lane to a through lane;
  - Add a second eastbound through lane with a receiving lane east of Veterans Boulevard;
  - Add an eastbound right-turn lane;
  - Modify the westbound through-right lane to a through lane;
  - Add a second westbound through lane with a receiving lane west of Veterans Boulevard;
  - Add a westbound right-turn lane;
  - Add a third northbound through lane with a receiving lane north of Shaw Avenue;
  - Add a third southbound through lane with a receiving lane south of Shaw Avenue;
  - Modify the traffic signal to implement overlap phasing of the westbound right-turn with the southbound left-turn phase;
  - Prohibit southbound to northbound U-turn movements; and
  - Modify the traffic signal to accommodate the added lanes.
- Bryan Avenue / Shaw Avenue
  - Modify the eastbound through-right lane to a through lane;
  - Add a second eastbound through lane with a receiving lane east of Bryan Avenue;
  - Add an eastbound right-turn lane;
  - Add a second westbound through lane with a receiving lane west of Bryan Avenue;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Hayes Avenue / Shaw Avenue
  - Add a westbound left-turn lane;
  - Modify the westbound left-through lane to a through lane;
  - Modify the northbound left-right lane to a left-turn lane;
  - Add a northbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Gettysburg Avenue
  - Add a second northbound through lane with a receiving lane north of Gettysburg Avenue;
  - Add a southbound left-turn lane;
  - Modify the southbound left-through lane to a through lane;
  - Add a second southbound through lane with a receiving lane south of Gettysburg Avenue;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.

- Veterans Boulevard /Gettysburg Avenue
  - Modify the eastbound through-right lane to a through lane;
  - Add an eastbound right-turn lane;
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound right-turn lane;
  - Add second and third northbound through lanes with receiving lanes north of Gettysburg Avenue;
  - Add a second southbound through lane with a receiving lane south of Gettysburg Avenue; and
  - Modify the traffic signal to accommodate the added lanes.
- Bryan Avenue and Gettysburg Avenue
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound right-turn lane;
  - Modify the northbound through-right lane to a through lane;
  - Add a northbound right-turn lane;
  - Modify the southbound through-right lane to a through lane;
  - Add a southbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Ashlan Avenue
  - Modify the northbound through-right lane to a right-turn lane;
  - Add a second southbound through lane with a receiving lane south of Ashlan Avenue;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Bryan Avenue / Ashlan Avenue
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lane.
- Polk Avenue / Ashlan Avenue
  - Modify the northbound through-right lane to a through lane;
  - Add a northbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lane.
- Grantland Avenue / Dakota Avenue
  - Modify the northbound right-turn lane to a through-right lane with a receiving lane north of Dakota Avenue;
  - Add a second southbound through lane with a receiving lane south of Dakota Avenue;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.

- Grantland Avenue / Shields 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 lane;
  - Add a westbound right-turn lane;
  - Add a northbound left-turn lane;
  - Modify the northbound left-through-right lane to a through lane;
  - Add a northbound through-right lane with a receiving lane north of Shields Avenue;
  - Add a southbound left-turn lane;
  - Modify the southbound left-through-right lane to a through lane;
  - Add a southbound through-right lane with a receiving lane south of Shields Avenue;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.

Under this scenario, the segments of Shaw Avenue between Veterans Boulevard and Hayes Avenue and the segments of Grantland Avenue between Veterans Boulevard and Shields Avenue are projected to operate at an unacceptable LOS. To improve the LOS of these segments, it is recommended that the following improvements be considered for implementation.

- Shaw Avenue between Veterans Boulevard and Bryan Avenue
  - Modify Shaw Avenue to accommodate two lanes in each direction
- Shaw Avenue between Bryan Avenue and Hayes Avenue
  - Modify Shaw Avenue to accommodate two lanes in each direction
- Grantland Avenue between Veterans Boulevard and Gettysburg Avenue (WL)
  - Modify Grantland Avenue to accommodate two lanes in each direction
- Grantland Avenue between Gettysburg Avenue (WL) and Ashlan Avenue
  - Modify Grantland Avenue to accommodate two lanes in each direction
- Grantland Avenue between Ashlan Avenue and Dakota Avenue
  - Modify Grantland Avenue to accommodate two lanes in each direction
- Grantland Avenue between Dakota Avenue and Shields Avenue
  - Modify Grantland Avenue to accommodate two lanes in each direction

Table XIX: Cumulative Year 2035 No Project Intersection LOS Results

ID	Intersection	Intersection Control	AM Peak Hour		PM Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Grantland Avenue / Barstow Avenue	Two-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Improved)	31.5	C	19.4	B
2	Garfield Avenue / Shaw Avenue	Two-Way Stop	28.1	D	26.9	D
3	Grantland Avenue / Shaw Avenue	Signalized	49.9	D	**71.6**	**E**
		Signalized (Improved)	50.1	D	49.7	D
4	Veterans Boulevard / Shaw Avenue	Signalized	**>120.0**	**F**	**112.6**	**F**
		Signalized (Improved)	48.2	D	53.1	D
5	Bryan Avenue / Shaw Avenue	Two-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Improved)	20.3	C	25.3	C
6	Hayes Avenue / Shaw Avenue	One-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Improved)	18.0	B	26.6	C
7	Grantland Avenue /Gettysburg Avenue	One-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Improved)	44.4	D	14.6	B
8	Veterans Boulevard / Gettysburg Avenue	Signalized	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Improved)	50.0	D	53.6	D
9	Bryan Avenue / Gettysburg Avenue	Two-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Improved)	46.1	D	21.1	C
10	Parc West Drive / Ashlan Avenue	Does Not Exist	N/A	N/A	N/A	N/A
11	Grantland Avenue / Ashlan Avenue	Two-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Improved)	24.5	C	21.2	C
12	Bryan Avenue / Ashlan Avenue	All-Way Stop	**111.3**	**F**	**44.1**	**E**
		Signalized (Improved)	29.3	C	27.9	C
13	Hayes Avenue / Ashlan Avenue	All-Way Stop	20.7	C	18.2	C
14	Polk Avenue / Ashlan Avenue	All-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Improved)	38.0	D	36.2	D
15	Cornelia Avenue / Ashlan Avenue	Signalized	41.0	D	29.8	C
16	Grantland Avenue / Dakota Avenue	One-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Improved)	15.2	B	16.6	B
17	Grantland Avenue / Shields Avenue	All-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Improved)	54.5	D	43.8	D

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

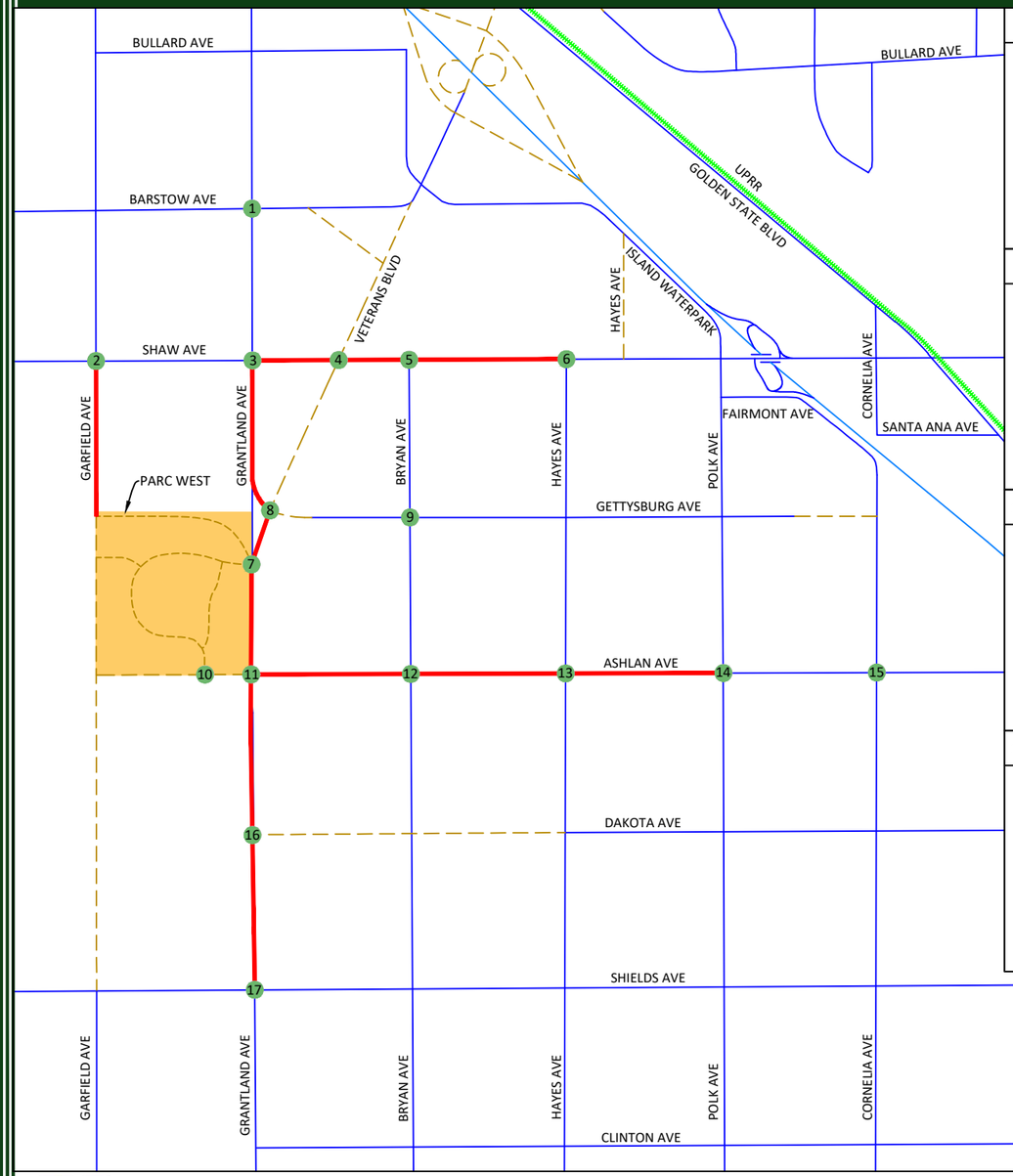
Table XX: Cumulative Year 2035 No Project Segment LOS Results

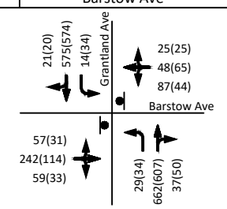
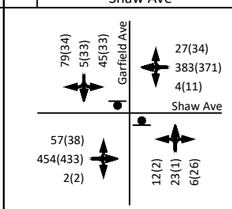
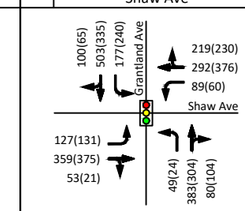
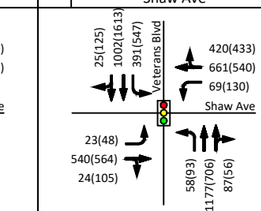
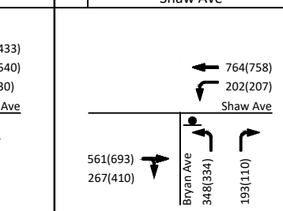
ID	*Segment*	*Limits*	*Lanes*	*24-hour Volume*	*LOS*
1	Shaw Avenue	Grantland Avenue and Veterans Boulevard	2	14,750	D
2	Shaw Avenue	Veterans Boulevard and Bryan Avenue	2	22,700	**F**
			4 (Improved)		C
3	Shaw Avenue	Bryan Avenue and Hayes Avenue	2	19,290	**F**
			4 (Improved)		C
4	Garfield Avenue	Shaw Avenue and Gettysburg Avenue	2	750	C
5	Grantland Avenue	Shaw Avenue and Veterans Boulevard	2	11,570	C
6	Grantland Avenue	Veterans Boulevard and Gettysburg Avenue (WL)	2	26,410	**F**
			4 (Improved)		C
7	Grantland Avenue	Gettysburg Avenue (WL) and Ashlan Avenue	2	23,040	**F**
			4 (Improved)		C
8	Grantland Avenue	Ashlan Avenue and Dakota Avenue	2	22,210	**F**
			4 (Improved)		C
9	Grantland Avenue	Dakota Avenue and Shields Avenue	2	24,080	**F**
			4 (Improved)		C
10	Ashlan Avenue	Grantland Avenue and Bryan Avenue	3	11,310	C
11	Ashlan Avenue	Bryan Avenue and Hayes Avenue	2	10,010	C
12	Ashlan Avenue	Hayes Avenue and Polk Avenue	2	7,860	C

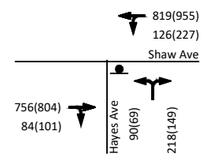
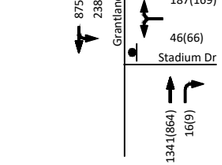
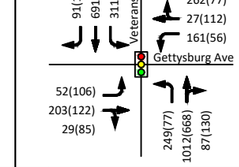
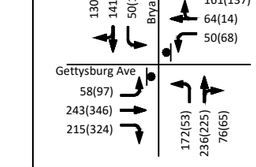
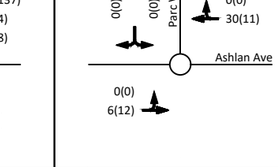
Note: LOS = Level of Service per the Florida Roadway Segment LOS Tables

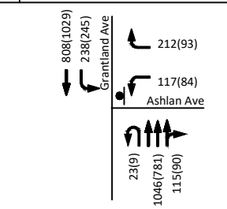
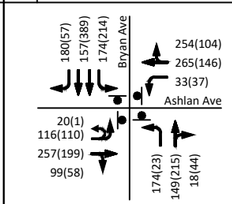
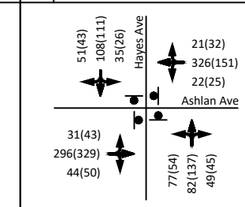
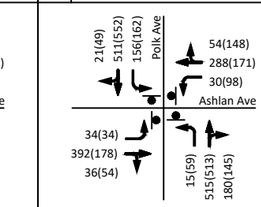
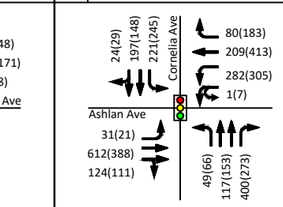
Parc West - City of Fresno
Cumulative Year 2035 No Project - Traffic Volumes, Geometrics and Controls

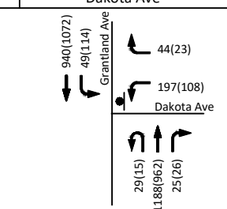
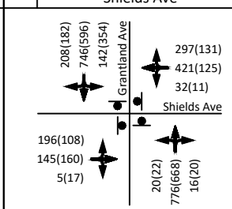
Figure 12



1. Grantland Ave & Barstow Ave	2. Garfield Ave & Shaw Ave	3. Grantland Ave & Shaw Ave	4. Veterans Blvd & Shaw Ave	5. Bryan Ave & Shaw Ave
				

6. Hayes Ave & Shaw Ave	7. Grantland Ave & Gettysburg Ave	8. Veterans Blvd & Gettysburg Ave	9. Bryan Ave & Gettysburg Ave	10. Parc West Dr & Ashlan Ave
				

11. Grantland Ave & Ashlan Ave	12. Bryan Ave & Ashlan Ave	13. Hayes Ave & Ashlan Ave	14. Polk Ave & Ashlan Ave	15. Cornelia Ave & Ashlan Ave
				

16. Grantland Ave & Dakota Ave	17. Grantland Ave & Shields Ave
	

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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

(004-067) 9/05/2019 - JR/MA

Cumulative Year 2035 plus Project (Buildout) Traffic Conditions

Traffic Signal Warrants

Peak hour traffic signal warrants, as appropriate, were prepared for the unsignalized intersections in the Cumulative Year 2035 plus Project (Buildout) Traffic Conditions scenario. These warrants are found in Appendix M. The effects of right-turning traffic from the minor approach onto the major approach were taken into account using engineering judgement pursuant to the CA MUTCD guidelines for the preparation of traffic signal warrants. Under this scenario, the intersections of Grantland Avenue and Barstow Avenue, Bryan Avenue and Shaw Avenue, Hayes Avenue and Shaw Avenue, Grantland Avenue and Gettysburg Avenue, Bryan Avenue and Gettysburg Avenue, Grantland Avenue and Ashlan Avenue, Bryan Avenue and Ashlan Avenue, Hayes Avenue and Ashlan Avenue, Polk Avenue and Ashlan Avenue, Grantland Avenue and Dakota Avenue and Grantland Avenue and Shields Avenue are projected to satisfy the peak hour signal warrant during both peak periods, while the intersection of Garfield Avenue and Shaw Avenue satisfies the peak hour signal warrant during the AM peak period only. Based on the signal warrants and engineering judgement, signalization of the intersections of Grantland Avenue and Barstow Avenue, Bryan Avenue and Shaw Avenue, Hayes Avenue and Shaw Avenue, Grantland Avenue and Gettysburg Avenue, Bryan Avenue and Gettysburg Avenue, Grantland Avenue and Ashlan Avenue, Bryan Avenue and Ashlan Avenue, Polk Avenue and Ashlan Avenue, Grantland Avenue and Dakota Avenue, and Grantland Avenue and Shields Avenue is recommended. However, signalization of the intersections of Garfield Avenue and Shaw Avenue and Hayes Avenue and Ashlan Avenue is not recommended, especially since these intersections are projected to operate at an acceptable LOS during both peak periods. It is worth noting that the CA MUTCD states “satisfaction of a signal warrant or warrants shall not in itself require the installation of a traffic signal.” Therefore, it is recommended that prior to the installation of a traffic signal, investigation of CA MUTCD warrants 4 and 7, as applicable, be conducted for these intersections.

Cumulative Year 2035 plus Project (Buildout) Roadway Network

The Cumulative Year 2035 plus Project (Buildout) Traffic Conditions scenario assumes the same roadway geometrics and traffic controls as those assumed in the Near Term plus Project (Buildout) Traffic Conditions scenario with a few exceptions. For purposes of this TIA, it is assumed that Veterans Boulevard is built as a two-lane divided arterial between Grantland Avenue and Gettysburg Avenue and a four-lane divided super arterial north of Gettysburg Avenue toward its connection to Herndon Avenue. Moreover, it is assumed that the intersections of Veterans Boulevard and Shaw Avenue and Veterans Boulevard and Gettysburg Avenue are signalized with protective left-turn phasing in all directions. In addition, it is assumed that Dakota Avenue is built as a two-lane collector divided by a two-way left-turn lane east of Grantland Avenue, and that the intersection of Grantland Avenue and Dakota Avenue is controlled by a one-way stop on Dakota Avenue. Considering the potential changes in the existing roadway network, it is projected that travel patterns and volumes may differ from what is anticipated for the immediate Project buildout. Therefore, Figure 13 illustrates the 2035 Project Only Trips (Buildout) to the study intersections. Figure 14 illustrates the assumed intersection geometrics and traffic controls for these intersections under this scenario.

Results of Cumulative Year 2035 plus Project (Buildout) Level of Service Analysis

The Cumulative Year 2035 plus Project (Buildout) Traffic Conditions scenario assumes that Gettysburg Avenue exists between Garfield Avenue and Grantland Avenue, that Ashlan Avenue exists between Garfield Avenue and Grantland Avenue, that Garfield Avenue exists between Gettysburg Avenue and Ashlan Avenue, that Gettysburg Avenue exists between Bryan Avenue and Hayes Avenue, that Gettysburg Avenue exists between Bryan Avenue and Hayes Avenue, that Veterans Boulevard exists north of Grantland Avenue and that Dakota Avenue exists east of Grantland Avenue. Figure 14 illustrates the Cumulative Year 2035 plus Project (Buildout) turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Cumulative Year 2035 plus Project (Buildout) Traffic Conditions scenario are provided in Appendix L. Table XXI presents a summary of the Cumulative Year 2035 plus Project (Buildout) peak hour LOS at the study intersections, while Table XXII presents a summary of the Cumulative year 2035 plus Project (Buildout) LOS for the study segments.

Under this scenario, the intersections of Grantland Avenue and Barstow Avenue, Grantland Avenue and Shaw Avenue, Veterans Boulevard and Shaw Avenue, Bryan Avenue and Shaw Avenue, Hayes Avenue and Shaw Avenue, Grantland Avenue and Gettysburg Avenue, Veterans Boulevard and Gettysburg Avenue, Bryan Avenue and Gettysburg Avenue, Grantland Avenue and Ashlan Avenue, Bryan Avenue and Ashlan Avenue, Polk Avenue and Ashlan Avenue, Grantland Avenue and Dakota Avenue and Grantland Avenue and Shields Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at these intersections, it is recommended that the following improvements be implemented.

- Grantland Avenue / Barstow 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;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Shaw Avenue
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound trap right-turn lane;
  - Add a second southbound left-turn lane with a receiving lane east of Grantland Avenue;
  - Modify the traffic signal to implement overlap phasing of the westbound right-turn with the southbound left-turn phase;
  - Prohibit southbound to northbound U-turn movements; and
  - Modify the traffic signal to accommodate the added lanes.

- Veterans Boulevard / Shaw Avenue
  - Modify the eastbound through-right lane to a through lane;
  - Add a second eastbound through lane with a receiving lane east of Veterans Boulevard;
  - Add an eastbound right-turn lane;
  - Modify the westbound through-right lane to a through lane;
  - Add a second westbound through lane with a receiving lane west of Veterans Boulevard;
  - Add a westbound right-turn lane;
  - Modify the northbound through-right lane to a through lane;
  - Add a third northbound through lane with a receiving lane north of Shaw Avenue;
  - Add a northbound right-turn lane;
  - Add a second southbound left-turn lane;
  - Add a third southbound through lane with a receiving lane south of Shaw Avenue;
  - Modify the traffic signal to implement overlap phasing of the westbound right-turn with the southbound left-turn phase;
  - Prohibit southbound to northbound U-turn movements; and
  - Modify the traffic signal to accommodate the added lanes.
- Bryan Avenue / Shaw Avenue
  - Modify the eastbound through-right lane to a through lane;
  - Add a second eastbound through lane with a receiving lane east of Bryan Avenue;
  - Add an eastbound right-turn lane;
  - Add a second westbound through lane with a receiving lane west of Bryan Avenue;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Hayes Avenue / Shaw Avenue
  - Add a westbound left-turn lane;
  - Modify the westbound left-through lane to a through lane;
  - Modify the northbound left-right lane to a left-turn lane;
  - Add a northbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Gettysburg Avenue
  - Add a westbound left-turn lane;
  - Modify the westbound left-through-right lane to a through-right lane;
  - Add second and third northbound through lanes with receiving lanes north of Gettysburg Avenue;
  - Add a southbound left-turn lane;
  - Modify the southbound left-through-right lane to a through lane;
  - Add a second southbound through lane with a receiving lane south of Gettysburg Avenue;
  - Add a southbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.

- Veterans Boulevard / Gettysburg Avenue
  - Modify the eastbound through-right lane to a through lane;
  - Add an eastbound right-turn lane;
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound right-turn lane;
  - Add second and third northbound through lanes with receiving lanes north of Gettysburg Avenue;
  - Add a second southbound through lane with a receiving lane south of Gettysburg Avenue;
  - Implement overlap phasing of the westbound right-turn with the southbound left-turn phase; and
  - Modify the traffic signal to accommodate the added lanes.
- Bryan Avenue and Gettysburg Avenue
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound right-turn lane;
  - Modify the northbound through-right lane to a through lane;
  - Add a northbound right-turn lane;
  - Modify the southbound through-right lane to a through lane;
  - Add a southbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Ashlan Avenue
  - Modify the northbound through-right lane to a right-turn lane;
  - Modify the southbound right-turn lane to a through-right lane with a receiving lane south of Ashlan Avenue;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Bryan Avenue / Ashlan Avenue
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lane.
- Polk Avenue / Ashlan Avenue
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound right-turn lane;
  - Modify the northbound through-right lane to a through lane;
  - Add a northbound right-turn lane;
  - Modify the southbound through-right lane to a through lane;
  - Add a southbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.

- Grantland Avenue / Dakota Avenue
  - Modify the northbound right-turn lane to a through-right lane with a receiving lane north of Dakota Avenue;
  - Add a second southbound through lane with a receiving lane south of Dakota Avenue;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Shields 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 lane;
  - Add a westbound right-turn lane;
  - Add a northbound left-turn lane;
  - Modify the northbound left-through-right lane to a through lane;
  - Add a northbound through-right lane with a receiving lane north of Shields Avenue;
  - Add a southbound left-turn lane;
  - Modify the southbound left-through-right lane to a through lane;
  - Add a second southbound through lane with a receiving lane south of Shields Avenue;
  - Add a southbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.

Under this scenario, the segments of Shaw Avenue between Veterans Boulevard and Hayes Avenue and the segments of Grantland Avenue between Veterans Boulevard and Shields Avenue are projected to operate at an unacceptable LOS. To improve the LOS of these segments, it is recommended that the following improvements be implemented.

- Shaw Avenue between Veterans Boulevard and Bryan Avenue
  - Modify Shaw Avenue to accommodate two lanes in each direction
- Shaw Avenue between Bryan Avenue and Hayes Avenue
  - Modify Shaw Avenue to accommodate two lanes in each direction
- Grantland Avenue between Veterans Boulevard and Gettysburg Avenue (WL)
  - Modify Grantland Avenue to accommodate two lanes in each direction
- Grantland Avenue between Gettysburg Avenue (WL) and Ashlan Avenue
  - Modify Grantland Avenue to accommodate two lanes in each direction
- Grantland Avenue between Ashlan Avenue and Dakota Avenue
  - Modify Grantland Avenue to accommodate two lanes in each direction
- Grantland Avenue between Dakota Avenue and Shields Avenue
  - Modify Grantland Avenue to accommodate two lanes in each direction

Table XXI: Cumulative Year 2035 plus Project (Buildout) Intersection LOS Results

ID	Intersection	Intersection Control	AM Peak Hour		PM Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Grantland Avenue / Barstow Avenue	Two-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Mitigated)	36.1	D	20.8	C
2	Garfield Avenue / Shaw Avenue	Two-Way Stop	30.6	D	29.3	D
3	Grantland Avenue / Shaw Avenue	Signalized	54.4	D	**62.5**	**E**
		Signalized (Mitigated)	47.8	D	46.3	D
4	Veterans Boulevard / Shaw Avenue	Signalized	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Mitigated)	39.1	D	53.2	D
5	Bryan Avenue / Shaw Avenue	Two-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Mitigated)	18.6	B	20.2	C
6	Hayes Avenue / Shaw Avenue	One-Way Stop	**>120.0**	**F**	**61.3**	**F**
		Signalized (Mitigated)	21.6	C	32.7	C
7	Grantland Avenue / Gettysburg Avenue	Two-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Mitigated)	50.3	D	35.3	D
8	Veterans Boulevard / Gettysburg Avenue	Signalized	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Mitigated)	43.6	D	32.7	C
9	Bryan Avenue / Gettysburg Avenue	Two-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Mitigated)	41.6	D	21.5	C
10	Parc West Drive / Ashlan Avenue	Roundabout	4.7	A	5.2	A
11	Grantland Avenue / Ashlan Avenue	Two-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Mitigated)	38.5	D	33.1	C
12	Bryan Avenue / Ashlan Avenue	All-Way Stop	**>120.0**	**F**	**53.9**	**F**
		Signalized (Mitigated)	30.3	C	28.9	C
13	Hayes Avenue / Ashlan Avenue	All-Way Stop	24.9	C	22.0	C
14	Polk Avenue / Ashlan Avenue	All-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Mitigated)	36.6	D	31.0	C
15	Cornelia Avenue / Ashlan Avenue	Signalized	39.8	D	30.6	C
16	Grantland Avenue / Dakota Avenue	One-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Mitigated)	19.0	B	16.4	B
17	Grantland Avenue / Shields Avenue	All-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Mitigated)	55.0	D	44.2	D

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

Table XXII: Cumulative Year 2035 plus Project (Buildout) Segment LOS Results

ID	*Segment*	*Limits*	*Lanes*	*24-hour Volume*	*LOS*
1	Shaw Avenue	Grantland Avenue and Veterans Boulevard	2	14,924	D
2	Shaw Avenue	Veterans Boulevard and Bryan Avenue	2	25,384	**F**
			4 (Mitigated)		C
3	Shaw Avenue	Bryan Avenue and Hayes Avenue	2	21,960	**F**
			4 (Mitigated)		C
4	Garfield Avenue	Shaw Avenue and Gettysburg Avenue	2	958	C
5	Grantland Avenue	Shaw Avenue and Veterans Boulevard	2	11,834	C
6	Grantland Avenue	Veterans Boulevard and Gettysburg Avenue (WL)	2	31,535	**F**
			4 (Mitigated)		D
7	Grantland Avenue	Gettysburg Avenue (WL) and Ashlan Avenue	2	28,165	**F**
			4 (Mitigated)		C
8	Grantland Avenue	Ashlan Avenue and Dakota Avenue	2	23,828	**F**
			4 (Mitigated)		C
9	Grantland Avenue	Dakota Avenue and Shields Avenue	2	25,698	**F**
			4 (Mitigated)		C
10	Ashlan Avenue	Grantland Avenue and Bryan Avenue	3	12,143	C
11	Ashlan Avenue	Bryan Avenue and Hayes Avenue	2	10,762	C
12	Ashlan Avenue	Hayes Avenue and Polk Avenue	2	8,394	C

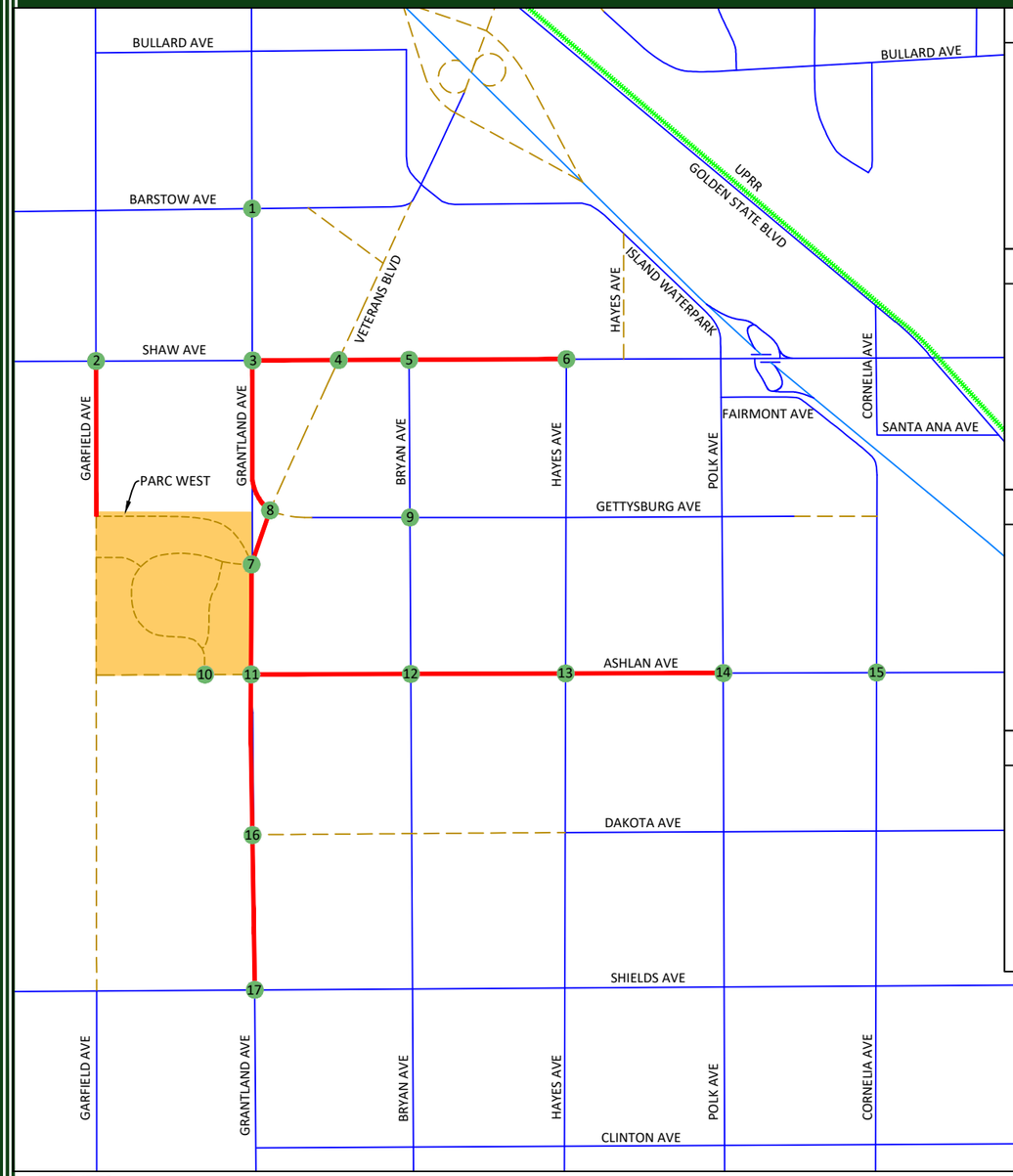
Note: LOS = Level of Service per the Florida Roadway Segment LOS Tables

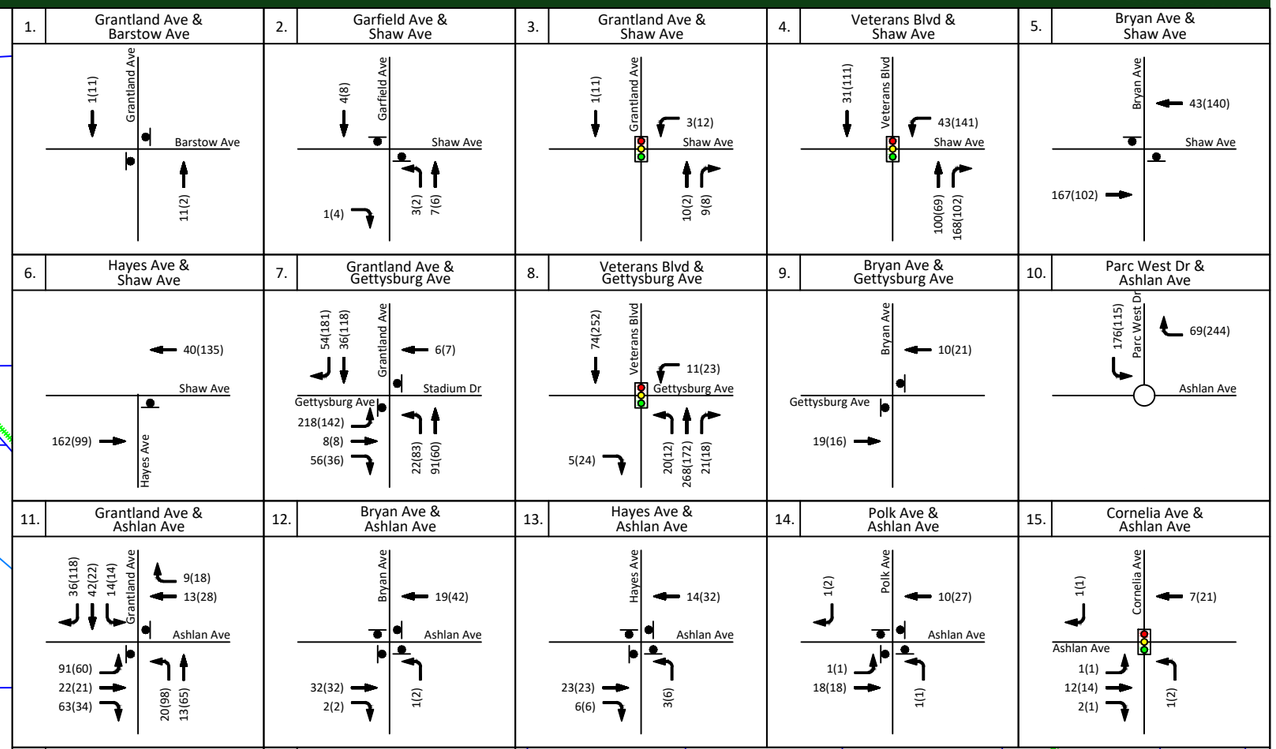
Project's Trip Assignment to Caltrans Facilities

The 2035 Project Only Trips (Buildout) to the interchange of State Route 99 at Shaw Avenue are illustrated in Figure 15, while the 2035 Project Only Trips (Buildout) to the interchange of State Route 99 at Ashlan Avenue are illustrated in Figure 16.

Parc West - City of Fresno
2035 Project Only Trips (Buildout)

Figure 13





LEGEND

- # = STUDY INTERSECTION
- = FUTURE STREET
- = STUDY SEGMENT
- XX = AM PROJECT ONLY TRIPS
- (XX) = PM PROJECT ONLY TRIPS
- = STOP SIGN
- = SIGNALIZED INTERSECTION
- = ROUNDABOUT

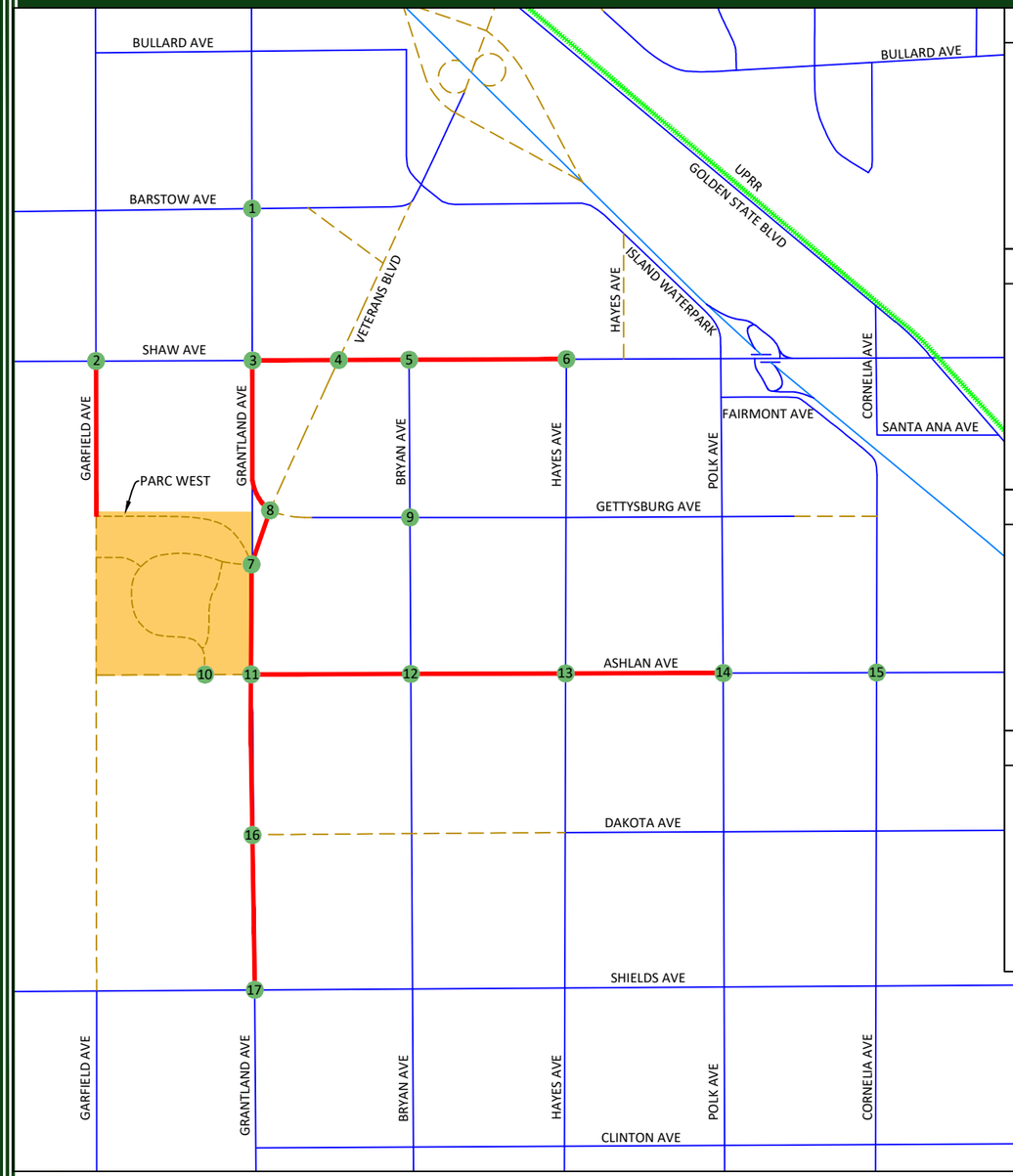
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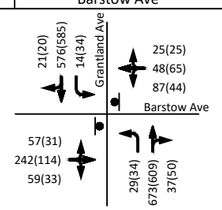
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Cumulative Year 2035 plus Project (Buildout) - Traffic Volumes, Geometrics and Controls

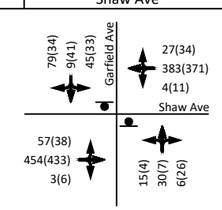
Figure 14



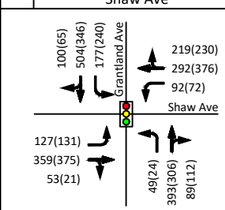
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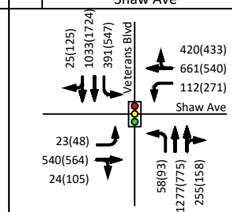
2. Garfield Ave & Shaw Ave



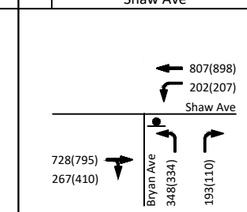
3. Grantland Ave & Shaw Ave



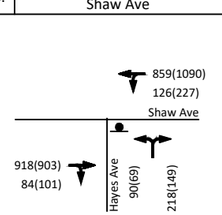
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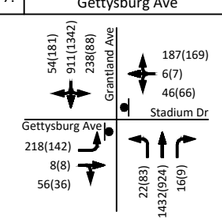
5. Bryan Ave & Shaw Ave



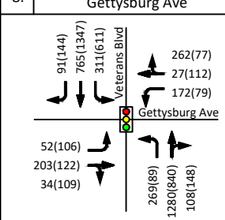
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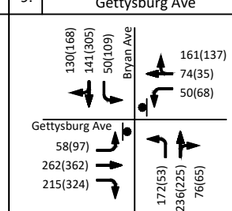
7. Grantland Ave & Gettysburg Ave



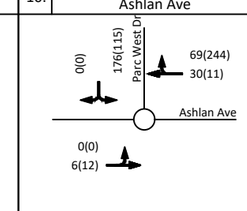
8. Veterans Blvd & Gettysburg Ave



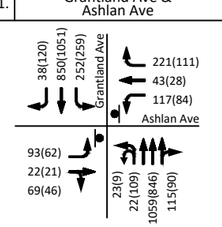
9. Bryan Ave & Gettysburg Ave



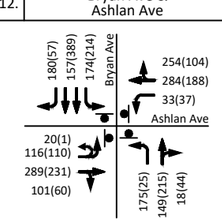
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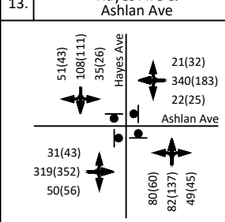
11. Grantland Ave & Ashlan Ave



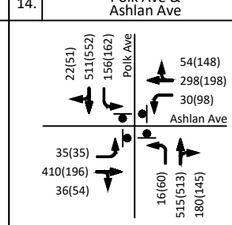
12. Bryan Ave & Ashlan Ave



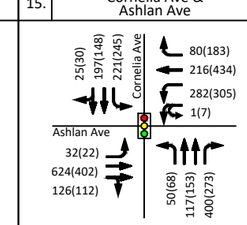
13. Hayes Ave & Ashlan Ave



14. Polk Ave & Ashlan Ave



15. Cornelia Ave & Ashlan Ave



16. Grantland Ave & Dakota Ave

17. Grantland Ave & Shields Ave

LEGEND

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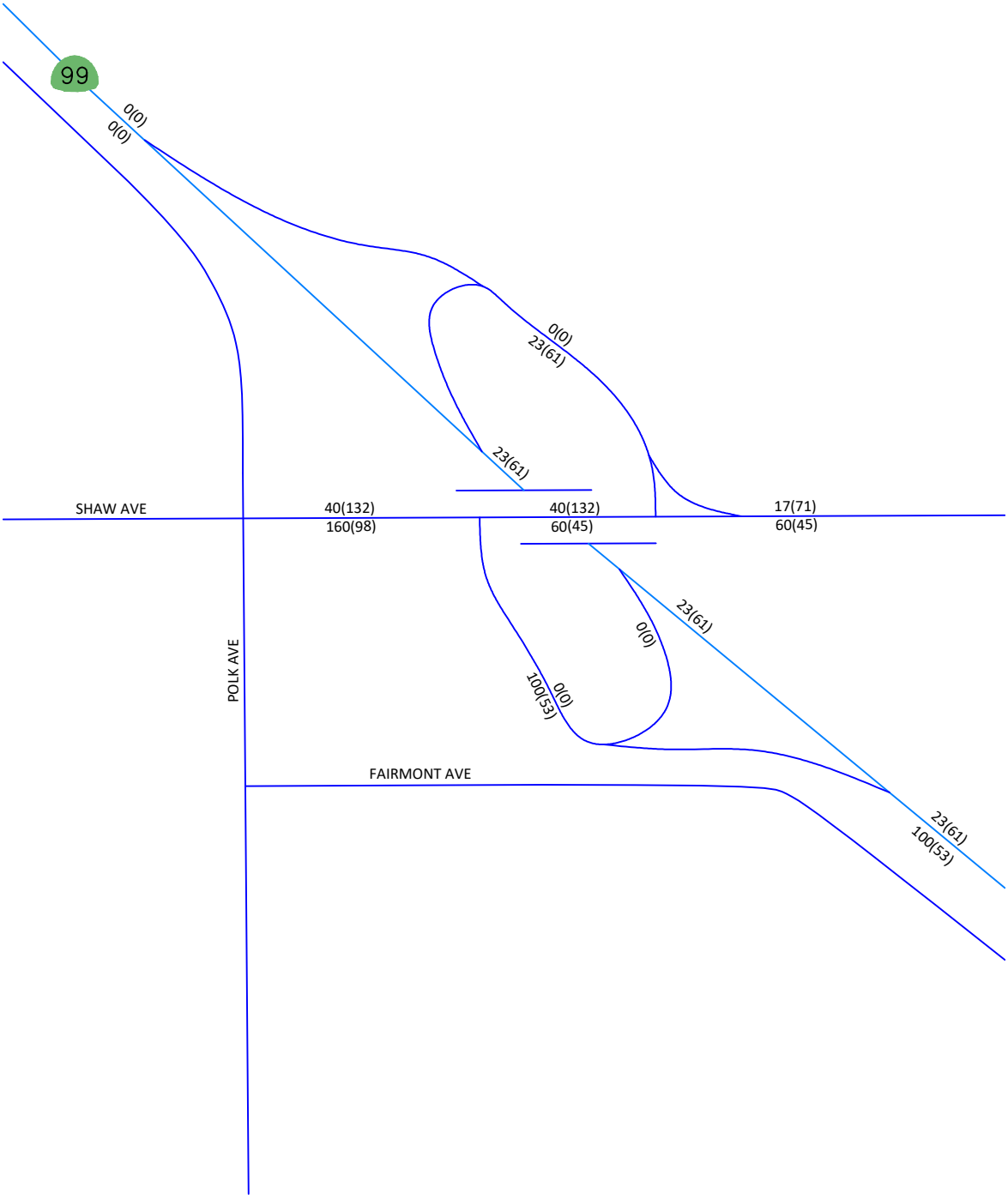
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Parc West - City of Fresno
State Route 99 at Shaw Avenue Interchange - 2035 Project Only Trips (Buildout)

Figure 15



LEGEND

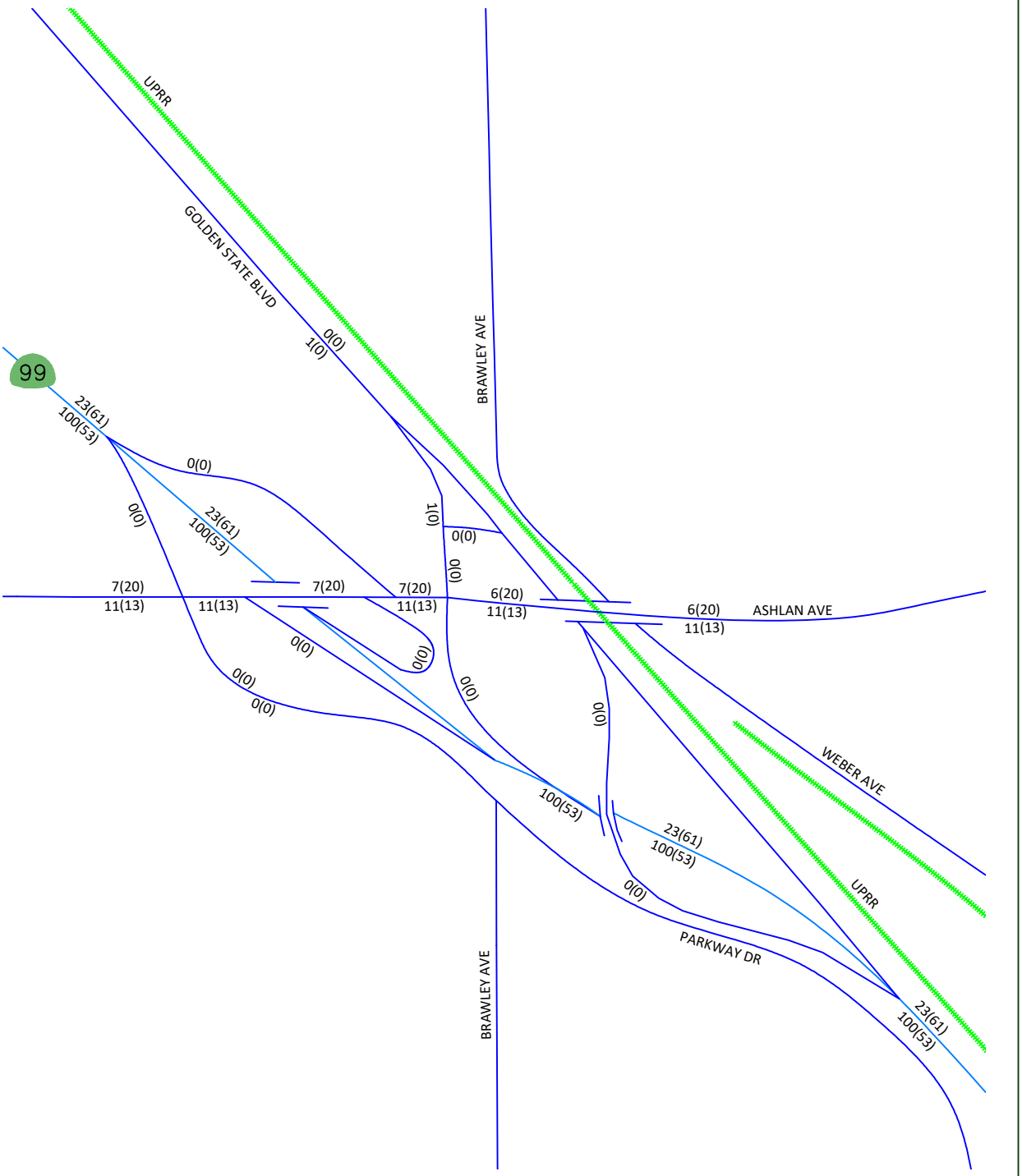
XX = AM PROJECT ONLY TRIPS
(XX) = PM PROJECT ONLY TRIPS

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Parc West - City of Fresno
State Route 99 at Ashlan Avenue Interchange - 2035 Project Only Trips (Buildout)

Figure 16



LEGEND

XX = AM PROJECT ONLY TRIPS
(XX) = PM PROJECT ONLY TRIPS

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Queuing Analysis

Table XXIII 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 Sim Traffic output information. Synchro provides both 50th and 95th percentile maximum queue lengths (in feet). According to the Synchro manual, "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." The queues shown on Table XXIII are the 95th percentile queue lengths for the respective lane movements.

The Highway Design Manual (HDM) provides guidance for determining deceleration lengths for the left-turn and right-turn lanes based on design speeds. Per the HDM criteria, "tapers for right-turn lanes are usually un-necessary since the 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." Therefore, a bay taper length pursuant to the Caltrans HDM would need to be added, as necessary, to the recommended storage lengths presented in Table XXIII.

Based on the SimTraffic output files and engineering judgement, it is recommended that the storage capacity for the following be considered for the Cumulative Year 2035 plus Project Traffic Conditions. While the City of Fresno does not have minimum storage length requirements for left-turn and right-turn lanes on major streets, it does prefer that these be set at 200 feet for left-turns and 75 feet for right-turns. At the remaining approaches of the study intersections, the greater of the existing storage capacity or the 200 feet left-turn and 75 feet right-turn lanes will be sufficient to accommodate the maximum queue.

- Grantland Avenue / Shaw Avenue
  - Consider setting the storage capacity of the southbound dual left-turn lanes to 250 feet.
- Veterans Boulevard / Shaw Avenue
  - Consider setting the storage capacity of the eastbound right-turn lane to 100 feet.
  - Consider setting the storage capacity of the westbound left-turn lane to 275 feet.
  - Consider setting the storage capacity of the westbound right-turn lane to 200 feet.
  - Consider setting the storage capacity of the northbound right-turn lane to 125 feet.
  - Consider setting the storage capacity of the southbound dual left-turn lanes to 375 feet.
- Bryan Avenue / Shaw Avenue
  - Consider setting the storage capacity of the eastbound right-turn lane to 150 feet.
  - Consider increasing the storage capacity of the northbound left-turn lane to 400 feet.
- Hayes Avenue / Shaw Avenue
  - Consider setting the storage capacity of the westbound left-turn lane to 375 feet.
  - Consider increasing the storage capacity of the northbound right-turn lane to 250 feet.
- Grantland Avenue / Gettysburg Avenue
  - Consider setting the storage capacity of the eastbound left-turn lane to 250 feet.
  - Consider setting the storage capacity of the southbound right-turn lane to 225 feet.

- Veterans Boulevard /Gettysburg Avenue
  - Consider setting the storage capacity of the eastbound right-turn lane to 125 feet.
  - Consider setting the storage capacity of the westbound right-turn lane to 200 feet.
  - Consider setting the storage capacity of the northbound left-turn lane to 375 feet.
  - While the projected storage demand for the southbound left-turn lane is anticipated to need nearly 700 feet during the PM peak period in the Cumulative Year 2035 plus Project Traffic Conditions scenario, it is recommended that the storage capacity of this movement be set based on studies specifically prepared by the development project(s) to be served by this movement such as that of the Koligian High School.
- Grantland Avenue / Ashlan Avenue
  - Consider setting the storage capacity of the northbound left-turn lane to 225 feet.
  - Consider setting the storage capacity of the northbound right-turn lane to 250 feet.
  - The existing storage capacity of the southbound left-turn lane is projected to exceed that available during the Cumulative Year 2035 plus Project Traffic Conditions scenario. However, it is recommended that this movement be monitored.
- Bryan Avenue / Ashlan Avenue
  - Consider setting the storage capacity of the westbound right-turn lane to 125 feet.
  - Consider increasing the storage capacity of the southbound left-turn lane to 175 feet.
- Polk Avenue / Ashlan Avenue
  - Consider increasing the storage capacity of the eastbound left-turn lane to 125 feet.
  - Consider increasing the storage capacity of the westbound left-turn lane to 150 feet.
  - Consider setting the storage capacity of the westbound right-turn lane to 100 feet.
  - Consider increasing the storage capacity of the northbound left-turn lane to 200 feet.
  - Consider setting the storage capacity of the northbound right-turn lane to 275 feet.
- Cornelia Avenue / Ashlan Avenue
  - The existing storage capacity of the westbound dual left-turn lanes is projected to exceed that available for the AM peak period in the Cumulative Year 2035 plus Project Traffic Conditions scenario. While there are no constraints to increasing the storage capacity of this movement, it is recommended that this movement be monitored.
  - Consider increasing the storage capacity of the northbound right-turn lane to 175 feet.
  - Consider increasing the storage capacity of the southbound left-turn lane to 250 feet.
- Grantland Avenue / Dakota Avenue
  - Consider setting the storage capacity of the westbound left-turn lane to 250 feet.
  - Consider setting the storage capacity of the southbound left-turn lane to 250 feet.
- Grantland Avenue / Shields Avenue
  - Consider setting the storage capacity of the eastbound left-turn lane to 225 feet.
  - Consider setting the storage capacity of the westbound right-turn lane to 375 feet.
  - Consider setting the storage capacity of the southbound left-turn lane to 375 feet.
  - Consider setting the storage capacity of the southbound right-turn lane to 200 feet.

Table XXIII: Queuing Analysis

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Existing plus Project (Phase I)		Existing plus Project (Phase I & Phase II)		Existing plus Project (Buildout)	
				AM	PM	AM	PM	AM	PM	AM	PM
1	Grantland Avenue / Barstow Avenue	EB Left	*	*	*	*	*	*	*	*	*
		EB Left-Thru-Right	>500	60	53	48	49	57	57	57	59
		EB Thru-Right	>500	*	*	*	*	*	*	*	*
		WB Left	*	*	*	*	*	*	*	*	*
		WB Left-Thru-Right	>500	47	45	53	49	58	56	57	61
		WB Thru-Right	>500	*	*	*	*	*	*	*	*
		NB Left	280	13	19	18	23	15	29	19	30
		NB Thru-Right	>500	*	*	*	*	0	7	7	7
		SB Left	250	19	21	22	9	16	8	17	26
		SB Thru-Right	>500	0	0	0	0	0	0	0	0
2	Garfield Avenue / Shaw Avenue	EB Left-Thru-Right	>500	57	21	39	37	61	22	43	24
		WB Left-Thru-Right	>500	0	0	17	8	7	0	0	0
		NB Left-Thru-Right	>500	26	14	32	16	39	23	43	33
		SB Left-Thru-Right	>500	58	39	45	42	68	49	54	52
3	Grantland Avenue / Shaw Avenue	EB Left	325	120	86	89	77	105	85	116	104
		EB Thru-Right	>500	166	108	145	132	157	130	162	169
		WB Left	325	51	52	43	69	76	105	90	201
		WB Thru	>500	*	*	*	*	*	*	*	*
		WB Thru-Right	>500	231	155	149	194	215	206	174	212
		WB Right	>500	*	*	*	*	*	*	*	*
		NB Left	175	50	28	71	25	60	22	51	34
		NB Thru	>500	*	*	*	*	*	*	*	*
		NB Thru-Right	>500	142	112	137	133	171	175	351	226
		NB Right	*	*	*	*	*	*	*	*	*
		SB Left	175	156	120	137	103	122	138	136	161
		SB Dual Lefts	*	*	*	*	*	*	*	*	*
		SB Thru-Right	>500	140	122	147	122	148	146	126	202

Note: * = Does not exist or is not projected to exist

Table XXIII: Queuing Analysis (cont.)

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Existing plus Project (Phase I)		Existing plus Project (Phase I & Phase II)		Existing plus Project (Buildout)	
				AM	PM	AM	PM	AM	PM	AM	PM
4	Veterans Boulevard / Shaw Avenue	EB Left	*	*	*	*	*	*	*	*	*
		EB Thru	>500	*	*	*	*	*	*	*	*
		EB Thru	>500	*	*	*	*	*	*	*	*
		EB Right	*	*	*	*	*	*	*	*	*
		WB Left	*	*	*	*	*	*	*	*	*
		WB Thru	>500	*	*	*	*	*	*	*	*
		WB Thru	>500	*	*	*	*	*	*	*	*
		WB Right	*	*	*	*	*	*	*	*	*
		NB Left	*	*	*	*	*	*	*	*	*
		NB Thru	>500	*	*	*	*	*	*	*	*
		NB Thru	>500	*	*	*	*	*	*	*	*
		NB Thru	>500	*	*	*	*	*	*	*	*
		NB Thru-Right	>500	*	*	*	*	*	*	*	*
		NB Right	*	*	*	*	*	*	*	*	*
		SB Left	*	*	*	*	*	*	*	*	*
		SB Dual Lefts	*	*	*	*	*	*	*	*	*
		SB Thru	>500	*	*	*	*	*	*	*	*
		SB Thru	>500	*	*	*	*	*	*	*	*
		SB Thru-Right	>500	*	*	*	*	*	*	*	*
5	Bryan Avenue / Shaw Avenue	EB Left	*	*	*	*	*	*	*	*	*
		EB Thru	>500	*	*	*	*	*	*	*	*
		EB Thru	>500	*	*	*	*	*	*	*	*
		EB Thru-Right	>500	*	*	*	*	*	*	*	*
		EB Right	*	*	*	*	*	*	*	*	*
		WB Left	250	59	43	45	45	54	43	52	53
		WB Thru	>500	*	*	*	*	*	*	*	*
		WB Thru	>500	*	*	*	*	*	*	*	*
		NB Left	275	46	44	33	51	33	52	50	58
		NB Right	>500	40	39	63	40	47	45	62	42
6	Hayes Avenue / Shaw Avenue	EB Thru-Right	>500	0	6	0	0	0	0	0	0
		WB Left	*	*	*	*	*	*	*	*	*
		WB Thru	>500	*	*	*	*	*	*	*	*
		WB Left-Thru	>500	61	77	52	110	46	77	67	121
		NB Left	>500	*	*	*	*	*	*	*	*
		NB Left-Right	>300	96	72	76	79	70	96	110	84
		NB Right	*	*	*	*	*	*	*	*	*

Note: * = Does not exist or is not projected to exist

Table XXIII: Queuing Analysis (cont.)

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Existing plus Project (Phase I)		Existing plus Project (Phase I & Phase II)		Existing plus Project (Buildout)	
				AM	PM	AM	PM	AM	PM	AM	PM
7	Grantland Avenue / Gettysburg Avenue	EB Left	*	*	*	30	25	52	53	86	53
		EB Thru-Right	*	*	*	33	43	48	41	47	35
		WB Left	250	*	*	*	*	*	*	*	*
		WB Left-Thru-Right	*	*	*	31	36	34	32	25	29
		WB Left-Right	>300	26	33	*	*	*	*	*	*
		WB Thru-Right	>500	*	*	*	*	*	*	*	*
		NB Left	*	*	*	0	16	9	29	18	35
		NB Thru	>500	*	*	*	*	*	*	*	*
		NB Thru	>500	*	*	*	*	*	*	*	*
		NB Thru	>500	*	*	*	*	*	*	*	*
		NB Right	530	0	0	0	0	0	0	0	0
		SB Left	*	*	*	*	*	*	*	*	*
		SB Left-Thru	>500	0	15	*	*	*	*	11	34
		SB Left-Thru-Right	>500	*	*	0	15	16	10	*	*
		SB Thru	>500	*	*	*	*	*	*	*	*
		SB Thru	>500	*	*	*	*	*	*	*	*
		SB Right	*	*	*	*	*	*	*	0	7
8	Veterans Boulevard / Gettysburg Avenue	EB Left	*	*	*	*	*	*	*	*	*
		EB Thru	>500	*	*	*	*	*	*	*	*
		EB Right	*	*	*	*	*	*	*	*	*
		WB Left	*	*	*	*	*	*	*	*	*
		WB Thru	>500	*	*	*	*	*	*	*	*
		WB Right	*	*	*	*	*	*	*	*	*
		NB Left	*	*	*	*	*	*	*	*	*
		NB Thru	>500	*	*	*	*	*	*	*	*
		NB Thru	>500	*	*	*	*	*	*	*	*
		NB Thru-Right	>500	*	*	*	*	*	*	*	*
		SB Left	*	*	*	*	*	*	*	*	*
		SB Thru	>500	*	*	*	*	*	*	*	*
		SB Thru	>500	*	*	*	*	*	*	*	*
		SB Right	*	*	*	*	*	*	*	*	*

Note: * = Does not exist or is not projected to exist

Table XXIII: Queuing Analysis (cont.)

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Existing plus Project (Phase I)		Existing plus Project (Phase I & Phase II)		Existing plus Project (Buildout)	
				AM	PM	AM	PM	AM	PM	AM	PM
9	Bryan Avenue / Gettysburg Avenue	EB Left	>500	16	9	19	10	18	14	14	10
		EB Thru	>500	*	*	*	*	*	*	*	*
		EB Right	>500	20	10	21	7	22	15	11	10
		WB Left	*	*	*	*	*	*	*	*	*
		WB Thru	>500	*	*	*	*	*	*	*	*
		WB Thru-Right	>500	*	*	*	*	*	*	*	*
		WB Right	*	*	*	*	*	*	*	*	*
		NB Left	250	43	8	37	21	47	8	42	0
		NB Thru	>500	*	*	*	*	*	*	*	*
		NB Right	*	*	*	*	*	*	*	*	*
		SB Left	*	*	*	*	*	*	*	*	*
		SB Thru	>500	*	*	*	*	*	*	*	*
		SB Thru-Right	>500	*	*	*	*	14	0	8	0
		SB Right	*	*	*	*	*	*	*	*	*
10	Ashlan Avenue / Project Driveway	EB Left-Thru	>500	*	*	*	*	*	*	*	*
		SB Left-Right	>300	*	*	0	0	14	17	35	17
11	Grantland Avenue / Ashlan Avenue	EB Left	*	*	*	*	*	44	34	65	57
		EB Thru-Right	>500	*	*	0	0	34	23	41	33
		WB Left	230	49	41	52	40	53	47	53	45
		WB Thru	>500	*	*	0	0	32	33	35	57
		WB Right	>500	48	44	37	39	53	37	41	37
		NB U-Left	*	*	*	*	*	*	23	15	43
		NB Thru	>500	*	*	*	*	*	*	*	*
		NB Thru	>500	*	*	*	*	*	*	*	*
		NB Thru-Right	>500	7	0	0	0	0	0	0	7
		NB Right	*	*	*	*	*	*	*	*	*
		SB Left	250	22	29	28	47	37	33	29	33
		SB Thru	>500	*	*	*	*	*	*	*	*
		SB Thru	>500	*	*	*	*	*	*	*	*
		SB Thru-Right	>500	*	*	*	*	*	*	*	*
		SB Right	*	*	*	*	*	*	*	0	4

Note: * = Does not exist or is not projected to exist

Table XXIII: Queuing Analysis (cont.)

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Existing plus Project (Phase I)		Existing plus Project (Phase I & Phase II)		Existing plus Project (Buildout)	
				AM	PM	AM	PM	AM	PM	AM	PM
12	Bryan Avenue / Ashlan Avenue	EB Left	250	45	29	49	32	50	26	49	39
		EB Thru-Right	>500	66	43	87	49	87	44	85	49
		WB Left	250	27	26	40	18	28	30	18	31
		WB Thru	>500	69	47	68	43	78	56	89	42
		WB Right	*	60	44	61	48	65	36	78	48
		NB Left	250	48	22	43	20	61	23	66	26
		NB Thru-Right	>500	49	40	51	41	54	51	51	49
		SB Left	150	*	*	*	*	*	*	*	*
		SB Left-Thru	>500	57	44	54	37	53	36	55	44
		SB Thru	>500	*	*	*	*	*	*	*	*
		SB Thru	>500	*	*	*	*	*	*	*	*
		SB Thru-Right	>500	47	20	39	21	47	27	48	36
		SB Right	150	*	*	*	*	*	*	*	*
13	Hayes Avenue / Ashlan Avenue	EB Left-Thru-Right	>500	41	46	43	48	47	47	41	53
		WB Left-Thru-Right	>500	41	55	38	53	56	50	45	42
		NB Left-Thru-Right	>500	44	60	48	48	45	56	42	54
		SB Left-Thru-Right	>500	51	49	51	50	54	52	45	58
14	Polk Avenue / Ashlan Avenue	EB Left	100	15	23	18	26	21	26	20	33
		EB Thru-Right	>500	44	55	41	66	56	63	42	50
		WB Left	125	38	51	43	69	39	53	36	60
		WB Thru	>500	*	*	*	*	*	*	*	*
		WB Thru-Right	>500	49	82	55	109	65	110	59	90
		WB Right	*	*	*	*	*	*	*	*	*
		NB Left	75	8	22	13	29	19	26	0	22
		NB Thru	>500	*	*	*	*	*	*	*	*
		NB Thru-Right	>500	51	78	64	79	61	76	54	76
		NB Right	*	*	*	*	*	*	*	*	*
		SB Left	275	51	53	56	58	58	55	44	54
		SB Thru	>500	*	*	*	*	*	*	*	*
		SB Thru-Right	>500	61	63	53	56	51	63	51	61
		SB Right	*	*	*	*	*	*	*	*	*

Note: * = Does not exist or is not projected to exist

Table XXIII: Queuing Analysis (cont.)

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Existing plus Project (Phase I)		Existing plus Project (Phase I & Phase II)		Existing plus Project (Buildout)	
				AM	PM	AM	PM	AM	PM	AM	PM
15	Cornelia Avenue / Ashlan Avenue	EB Left	250	63	43	60	33	48	32	57	37
		EB Thru	>500	178	80	175	92	174	79	196	78
		EB Thru-Right	>500	166	86	175	100	176	106	184	95
		WB Dual Lefts	275	228	496	557	530	545	290	490	514
		WB Thru	>500	163	523	1039	1292	1337	128	758	762
		WB Right	>500	30	72	32	65	27	46	38	62
		NB Left	100	95	64	78	79	94	72	77	71
		NB Thru	>500	67	71	72	65	65	60	72	66
		NB Thru	>500	62	58	95	67	60	62	70	67
		NB Right	80	136	80	133	69	129	88	103	78
		SB Left	150	176	148	172	133	191	128	177	105
		SB Thru	>500	166	92	128	103	190	67	141	74
		SB Thru-Right	>500	67	18	82	26	49	29	101	27
16	Grantland Avenue / Dakota Avenue	WB Left	*	*	*	*	*	*	*	*	*
		WB Right	*	*	*	*	*	*	*	*	*
		NB U-turn	*	*	*	*	*	*	*	*	*
		NB Thru	>500	*	*	*	*	*	*	*	*
		NB Thru-Right	>500	*	*	*	*	*	*	*	*
		SB Left	*	*	*	*	*	*	*	*	*
		SB Thru	>500	*	*	*	*	*	*	*	*
		SB Thru	>500	*	*	*	*	*	*	*	*
17	Grantland Avenue / Shields Avenue	EB Left	*	*	*	*	*	*	*	*	*
		EB Left-Thru-Right	>500	51	42	59	51	54	52	57	53
		EB Thru-Right	>500	*	*	*	*	*	*	*	*
		WB Left	*	*	*	*	*	*	*	*	*
		WB Thru	>500	*	*	*	*	*	*	*	*
		WB Left-Thru-Right	>500	54	50	60	54	56	55	58	55
		WB Right	*	*	*	*	*	*	*	*	*
		NB Left	*	*	*	*	*	*	*	*	*
		NB Left-Thru-Right	>500	49	48	54	52	49	57	50	74
		NB Thru	>500	*	*	*	*	*	*	*	*
		NB Thru-Right	>500	*	*	*	*	*	*	*	*
		SB Left	*	*	*	*	*	*	*	*	*
		SB Left-Thru-Right	>500	71	53	74	58	75	62	66	58
		SB Thru	>500	*	*	*	*	*	*	*	*
		SB Thru-Right	>500	*	*	*	*	*	*	*	*
		SB Right	*	*	*	*	*	*	*	*	*

Note: * = Does not exist or is not projected to exist

Table XXIII: Queuing Analysis (cont.)

ID	Intersection	Existing Queue Storage Length (ft.)		Near Term plus Project (Buildout)		Cumulative Year 2035 No Project		Cumulative Year 2035 plus Project	
				AM	PM	AM	PM	AM	PM
1	Grantland Avenue / Barstow Avenue	EB Left	*	47	53	77	47	83	47
		EB Left-Thru-Right	>500	*	*	*	*	*	*
		EB Thru-Right	>500	63	57	232	140	205	113
		WB Left	*	107	59	129	69	98	68
		WB Left-Thru-Right	>500	*	*	*	*	*	*
		WB Thru-Right	>500	55	70	97	89	87	92
		NB Left	280	54	61	58	54	52	69
		NB Thru-Right	>500	247	257	385	324	368	326
		SB Left	250	49	57	36	51	35	69
		SB Thru-Right	>500	184	319	339	251	231	275
2	Garfield Avenue / Shaw Avenue	EB Left-Thru-Right	>500	47	33	54	70	45	75
		WB Left-Thru-Right	>500	8	8	8	18	60	36
		NB Left-Thru-Right	>500	50	32	55	43	52	55
		SB Left-Thru-Right	>500	66	45	75	70	72	60
3	Grantland Avenue / Shaw Avenue	EB Left	325	123	111	289	243	244	180
		EB Thru-Right	>500	277	222	461	341	371	268
		WB Left	325	143	206	128	74	142	230
		WB Thru	>500	172	190	317	306	166	406
		WB Thru-Right	>500	*	*	*	*	*	*
		WB Right	>500	136	90	121	134	107	142
		NB Left	175	170	70	225	139	145	168
		NB Thru	>500	490	357	*	*	*	*
		NB Thru-Right	>500	*	*	413	398	358	476
		NB Right	*	335	225	*	*	*	*
		SB Left	175	284	314	*	*	*	*
		SB Dual Lefts	*	*	*	219	128	232	148
		SB Thru-Right	>500	476	487	497	366	534	292

Note: * = Does not exist or is not projected to exist

Table XXIII: Queuing Analysis (cont.)

ID	Intersection	Existing Queue Storage Length (ft.)		Near Term plus Project (Buildout)		Cumulative Year 2035 No Project		Cumulative Year 2035 plus Project	
				AM	PM	AM	PM	AM	PM
4	Veterans Boulevard / Shaw Avenue	EB Left	*	*	*	29	69	57	59
		EB Thru	>500	*	*	166	220	229	240
		EB Thru	>500	*	*	206	253	232	265
		EB Right	*	*	*	47	81	42	94
		WB Left	*	*	*	76	139	174	467
		WB Thru	>500	*	*	314	221	270	373
		WB Thru	>500	*	*	283	199	232	209
		WB Right	*	*	*	157	169	196	127
		NB Left	*	*	*	54	94	78	130
		NB Thru	>500	*	*	307	90	264	89
		NB Thru	>500	*	*	320	132	278	115
		NB Thru	>500	*	*	*	*	299	98
		NB Thru-Right	>500	*	*	351	134	*	*
		NB Right	*	*	*	*	*	119	54
		SB Left	*	*	*	374	429	*	*
		SB Dual Lefts	*	*	*	*	*	157	380
		SB Thru	>500	*	*	360	2167	207	645
		SB Thru	>500	*	*	292	2156	173	565
		SB Thru-Right	>500	*	*	151	1580	97	464
5	Bryan Avenue / Shaw Avenue	EB Thru	>500	*	*	174	180	255	193
		EB Thru	>500	*	*	154	134	198	148
		EB Thru-Right	>500	507	439	*	*	*	*
		EB Right	*	*	*	79	109	63	129
		WB Left	250	217	267	225	246	232	207
		WB Thru	>500	140	182	182	108	216	168
		WB Thru	>500			213	152	208	183
		NB Left	275	134	138	369	297	382	338
		NB Right	>500	135	77	369	120	80	56
6	Hayes Avenue / Shaw Avenue	EB Thru-Right	>500	364	332	560	431	719	773
		WB Left	*	124	218	172	269	232	373
		WB Thru	>500	172	211	228	304	253	214
		WB Left-Thru	>500	*	*	*	*	*	*
		NB Left	>500	116	97	106	118	195	96
		NB Left-Right	>300	*	*	*	*	*	*
		NB Right	*	163	119	198	174	239	181

Note: * = Does not exist or is not projected to exist

Table XXIII: Queuing Analysis (cont.)

ID	Intersection	Existing Queue Storage Length (ft.)		Near Term plus Project (Buildout)		Cumulative Year 2035 No Project		Cumulative Year 2035 plus Project	
				AM	PM	AM	PM	AM	PM
7	Grantland Avenue / Gettysburg Avenue	EB Left	*	163	132	*	*	249	198
		EB Thru-Right	*	69	41	*	*	115	53
		WB Left	250	62	76	*	*	70	135
		WB Left-Thru-Right	*	*	*	*	*	*	*
		WB Left-Right	>300	*	*	348	230	*	*
		WB Thru-Right	>500	122	129	*	*	135	118
		NB Left	*	54	103	*	*	49	141
		NB Thru	>500	347	240	442	114	280	139
		NB Thru	>500	*	*	472	126	279	153
		NB Thru	>500	*	*	*	*	313	185
		NB Right	530	13	9	25	8	10	5
		SB Left	*	213	113	315	153	216	104
		SB Left-Thru	>500	*	*	*	*	*	*
		SB Left-Thru-Right	>500	*	*	*	*	*	*
		SB Thru	>500	206	179	273	300	304	328
		SB Thru	>500	111	135	162	297	295	315
		SB Right	*	36	56	*	*	31	139
8	Veterans Boulevard / Gettysburg Avenue	EB Left	*	*	*	107	174	83	168
		EB Thru	>500	*	*	231	163	200	173
		EB Right	*	*	*	27	77	27	100
		WB Left	*	*	*	199	98	195	134
		WB Thru	>500	*	*	49	111	45	127
		WB Right	*	*	*	182	43	130	48
		NB Left	*	*	*	375	123	250	114
		NB Thru	>500	*	*	417	214	349	247
		NB Thru	>500	*	*	370	230	373	322
		NB Thru-Right	>500	*	*	400	284	402	375
		SB Left	*	*	*	329	427	257	697
		SB Thru	>500	*	*	310	1120	328	519
		SB Thru	>500	*	*	284	831	283	305
		SB Right	*	*	*	48	347	61	52

Note: * = Does not exist or is not projected to exist

Table XXIII: Queuing Analysis (cont.)

ID	Intersection	Existing Queue Storage Length (ft.)		Near Term plus Project (Buildout)		Cumulative Year 2035 No Project		Cumulative Year 2035 plus Project	
				AM	PM	AM	PM	AM	PM
9	Bryan Avenue / Gettysburg Avenue	EB Left	>500	19	7	100	128	76	97
		EB Thru	>500	*	*	248	223	238	235
		EB Right	>500	24	7	107	112	93	121
		WB Left	*	39	33	105	97	105	82
		WB Thru	>500	*	*	96	25	104	43
		WB Thru-Right	>500	30	34	*	*	*	*
		WB Right	*	*	*	74	56	55	54
		NB Left	250	55	19	194	78	159	75
		NB Thru	>500	*	*	186	173	179	163
		NB Right	*	*	*	39	48	39	42
		SB Left	*	19	14	77	100	71	93
		SB Thru	>500	*	*	116	175	77	196
		SB Thru-Right	>500	29	0	*	*	*	*
		SB Right	*	*	*	52	58	54	48
10	Ashlan Avenue / Project Driveway	EB Left-Thru	>500	0	0	0	0	0	7
		SB Left-Right	>300	25	22	*	*	14	18
11	Grantland Avenue / Ashlan Avenue	EB Left	*	156	108	*	*	143	105
		EB Thru-Right	>500	92	93	0	0	100	90
		WB Left	230	144	100	163	131	166	121
		WB Thru	>500	79	66	*	*	63	64
		WB Right	>500	54	51	76	46	113	57
		NB U-Left	*	78	130	42	40	206	197
		NB Thru	>500	180	187	425	183	469	330
		NB Thru	>500	88	118	452	215	459	339
		NB Thru-Right	>500	*	*	*	*	*	*
		NB Right	*	57	68	293	37	239	88
		SB Left	250	274	205	254	212	366	334
		SB Thru	>500	264	172	269	266	443	386
		SB Thru	>500	*	*	209	248	*	*
		SB Thru-Right	>500	*	*	*	*	385	371
		SB Right	*	9	57	*	*	*	*

Note: * = Does not exist or is not projected to exist

Table XXIII: Queuing Analysis (cont.)

ID	Intersection	Existing Queue Storage Length (ft.)		Near Term plus Project (Buildout)		Cumulative Year 2035 No Project		Cumulative Year 2035 plus Project	
				AM	PM	AM	PM	AM	PM
12	Bryan Avenue / Ashlan Avenue	EB Left	250	190	164	140	104	125	126
		EB Thru-Right	>500	133	125	232	163	299	234
		WB Left	250	30	27	51	45	52	67
		WB Thru	>500	282	105	206	107	231	137
		WB Right	*	83	47	104	66	124	67
		NB Left	250	210	45	147	30	160	46
		NB Thru-Right	>500	156	78	116	173	157	203
		SB Left	150	134	84	150	164	132	159
		SB Left-Thru	>500	*	*	*	*	*	*
		SB Thru	>500	94	66	91	184	121	152
		SB Thru	>500	45	0	39	127	48	105
		SB Thru-Right	>500	*	*	*	*	*	*
		SB Right	150	81	45	68	37	65	36
13	Hayes Avenue / Ashlan Avenue	EB Left-Thru-Right	>500	73	99	135	106	121	160
		WB Left-Thru-Right	>500	59	60	171	85	175	100
		NB Left-Thru-Right	>500	53	57	69	86	64	74
		SB Left-Thru-Right	>500	72	68	84	79	72	63
14	Polk Avenue / Ashlan Avenue	EB Left	100	43	44	109	85	119	51
		EB Thru-Right	>500	77	114	366	160	255	174
		WB Left	125	43	58	49	117	132	147
		WB Thru	>500	*	*	*	*	253	152
		WB Thru-Right	>500	83	155	305	215	*	*
		WB Right	*	*	*	*	*	42	83
		NB Left	75	33	47	67	141	94	180
		NB Thru	>500	*	*	392	362	419	360
		NB Thru-Right	>500	81	110	*	*	*	*
		NB Right	*	*	*	257	155	281	82
		SB Left	275	59	66	153	180	191	194
		SB Thru	>500	*	*	*	*	289	337
		SB Thru-Right	>500	52	110	236	347	*	*
		SB Right	*	*	*	*	*	22	33

Note: * = Does not exist or is not projected to exist

Table XXIII: Queuing Analysis (cont.)

ID	Intersection	Existing Queue Storage Length (ft.)		Near Term plus Project (Buildout)		Cumulative Year 2035 No Project		Cumulative Year 2035 plus Project	
				AM	PM	AM	PM	AM	PM
15	Cornelia Avenue / Ashlan Avenue	EB Left	250	58	37	58	52	67	54
		EB Thru	>500	213	107	196	176	238	178
		EB Thru-Right	>500	215	116	227	202	242	196
		WB Dual Lefts	275	236	340	563	588	573	482
		WB Thru	>500	152	214	2937	3406	2224	645
		WB Right	>500	28	46	2352	3462	684	48
		NB Left	100	89	93	83	89	84	75
		NB Thru	>500	66	73	79	73	76	72
		NB Thru	>500	63	64	127	64	105	84
		NB Right	80	126	95	158	107	144	108
		SB Left	150	212	106	210	238	205	204
		SB Thru	>500	220	63	155	243	162	167
		SB Thru-Right	>500	102	31	68	50	93	114
16	Grantland Avenue / Dakota Avenue	WB Left	*	*	*	248	126	227	154
		WB Right	*	*	*	66	40	66	48
		NB U-turn	*	*	*	70	39	72	61
		NB Thru	>500	*	*	351	158	367	260
		NB Thru-Right	>500	*	*	352	176	376	269
		SB Left	*	*	*	100	156	152	243
		SB Thru	>500	*	*	317	377	369	369
		SB Thru	>500	*	*	321	415	390	364
17	Grantland Avenue / Shields Avenue	EB Left	*	*	*	219	128	223	189
		EB Left-Thru-Right	>500	73	56	*	*	*	*
		EB Thru-Right	>500	*	*	160	176	116	158
		WB Left	*	*	*	74	30	151	45
		WB Thru	>500	*	*	347	175	419	176
		WB Left-Thru-Right	>500	61	51	*	*	*	*
		WB Right	*	*	*	204	64	365	101
		NB Left	*	*	*	143	47	77	46
		NB Left-Thru-Right	>500	66	94	*	*	*	*
		NB Thru	>500			338	258	296	294
		NB Thru-Right	>500			326	263	320	295
		SB Left	*	*	*	167	372	206	364
		SB Left-Thru-Right	>500	124	76	*	*	*	*
		SB Thru	>500	*	*	350	343	309	366
		SB Thru-Right	>500	*	*	397	267	327	281
		SB Right	*	*	*	*	*	179	161

Note: * = Does not exist or is not projected to exist

Project's Pro-Rata Fair Share of Future Transportation Improvements

The Project'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 XXIV. The Project's fair share percentage impacts were calculated pursuant to the Caltrans Guide for the Preparation of Traffic Impact Studies. The Project's pro-rata fair shares were calculated utilizing the Existing volumes, 2035 Project Only Trips (Buildout) and Cumulative Year 2035 plus Project (Buildout) volumes. Figure 2 illustrates the Existing traffic volumes, Figure 13 illustrates the 2035 Project Only Trips (Buildout), and Figure 14 illustrates the Cumulative Year 2035 plus Project (Buildout) traffic volumes. Since the critical peak period for the study facilities was determined to be during the PM peak, the PM peak volumes are utilized to determine the Project's pro-rata fair share.

It is recommended that the Project contribute its equitable fair share as listed in Table XXIV 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 funded projects, 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 mitigation measures.

This study does not provide construction costs for the recommended mitigation measures; therefore, if the recommended mitigation measures are implemented, it is recommended that the developer work with the City of Fresno to develop the estimated construction cost.

Table XXIV: Project's Fair Share of Future Roadway Improvements

ID	*Intersection*	*Existing Traffic Volumes (PM Peak)*	*Cumulative Year 2035 plus Project (Buildout) Traffic Volumes (PM Peak)*	*2035 Project Only Trips (Buildout) (PM Peak)*	*Project's Fair Share (%)*
1	Grantland Avenue / Barstow Avenue	759	1,644	13	1.47%
3	Grantland Avenue / Shaw Avenue	1,155	2,298	33	2.89%
4	Veterans Boulevard / Shaw Avenue	0	5,383	423	7.86%
5	Bryan Avenue / Shaw Avenue	888	2,754	242	12.97%
6	Hayes Avenue / Shaw Avenue	1,050	2,539	234	15.72%
7	Grantland Avenue / Gettysburg Avenue	382	3,055	635	23.76%
8	Veterans Boulevard / Gettysburg Avenue	0	3,784	501	13.24%
9	Bryan Avenue / Gettysburg Avenue	193	1,948	37	2.11%
11	Grantland Avenue / Ashlan Avenue	514	2,836	478	20.59%
12	Bryan Avenue / Ashlan Avenue	354	1,675	78	5.90%
14	Polk Avenue / Ashlan Avenue	923	2,212	49	3.80%
16	Grantland Avenue / Dakota Avenue	0	2,537	217	8.55%
17	Grantland Avenue / Shields Avenue	428	2,601	207	9.53%

Note: Project Fair Share = ((2035 Project Only Trips (Buildout)) / (Cumulative Year 2035 + Project (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) and the Transportation Injury Mapping System (TIMS) to review collision reports for the most recent five-year period (January 1, 2013 to December 31, 2017).
- The intersection of Grantland Avenue and Shaw Avenue experienced 18 total collisions during the five-year period – the highest number of reported collisions when compared all existing study intersections. The type of collisions at the intersection of Grantland Avenue and Shaw Avenue included 14 broadsides, three (3) hit object, and one (1) head-on. Furthermore, the type of violations included nine (9) traffic signals and signs, six (6) failures to yield the right of way, one (1) unsafe speed, (1) improper turning movement, and one (1) driving under the influence. It is worth mentioning that majority of the broadside collisions occurred during the year 2013. Furthermore, the intersection of Grantland Avenue and Shaw Avenue was signalized in 2017. After thorough review of the data contained within the collision reports for the five-year analysis period, the signalization of the intersection of Shaw Avenue and Grantland Avenue should reduce the number and severity of broadside collisions. At the remaining study intersections, the number of correctable collisions experienced at the remaining existing study intersections is considered less than significant.
- The segment of Shaw Avenue between Grantland Avenue and Bryan Avenue experienced 20 collisions during the five-year period – the highest number of reported collisions when compared all existing study segments. The type of collisions on the segment of Shaw Avenue between Grantland Avenue and Bryan Avenue included 14 broadsides, four (4) hit object, one (1) rear end, one (1) head-on, and one (1) sideswipe. Furthermore, the type of violations included nine (9) traffic signals and signs, seven (7) failures to yield the right of way, three (3) unsafe speed, (1) improper turning movement, and one (1) driving under the influence. It is worth mentioning that majority of the broadside collisions occurred during the year 2013 and these were also within the influence zone of the intersection of Shaw Avenue and Grantland Avenue. The signalization of the intersection of Shaw Avenue and Grantland Avenue should reduce the number and severity of broadside collisions on Shaw Avenue between Grantland Avenue and Bryan Avenue. After thorough review of the data contained within the collision reports for the five-year analysis period, the number of correctable collisions experienced at the remaining existing study segments is considered less than significant.
- At present, the intersection of Bryan Avenue and Ashlan Avenue exceeds its LOS threshold during the AM peak period. To improve the LOS at this intersection, it is recommended that the following improvements be considered for implementation.
  - Bryan Avenue / Ashlan Avenue
    - Modify the westbound through-right lane to a through lane; and
    - Add a westbound right-turn lane.
- At present, all study segments operate at an acceptable LOS.

Existing plus Project (Phase I) Traffic Conditions

- A review of the Project access point to be constructed under Phase I indicates that it is located at a point that minimizes traffic operational impacts to the existing roadway network.
- The proposed Project under Phase I is estimated to generate a maximum of 793 daily trips, 62 AM peak hour trips and 83 PM peak hour trips.
- Under this scenario, the intersection of Bryan Avenue and Ashlan Avenue is projected to exceed its LOS threshold during the AM peak period. To improve the LOS at this intersection, it is recommended that the following improvements be implemented.
  - Bryan Avenue / Ashlan Avenue
    - Modify the westbound through-right lane to a through lane; and
    - Add a westbound right-turn lane.
- Under this scenario, all study segments are projected to operate at an acceptable LOS.

Existing plus Project (Phase I & Phase II) Traffic Conditions

- A review of the Project access point to be constructed under Phase II indicates that it is located at a point that minimizes traffic operational impacts to the existing roadway network.
- The proposed Project under Phase II is estimated to generate a maximum of 3,597 daily trips, 282 AM peak hour trips and 377 PM peak hour trips.
- Under this scenario, the intersection of Bryan Avenue and Ashlan Avenue is projected to exceed its LOS threshold during the AM peak period. To improve the LOS at this intersection, it is recommended that the following improvements be implemented.
  - Bryan Avenue / Ashlan Avenue
    - Modify the westbound through-right lane to a through lane; and
    - Add a westbound right-turn lane.
- Under this scenario, all study segments are projected to operate at an acceptable LOS.

Existing plus Project (Buildout) Traffic Conditions

- A review of the Project driveway to be constructed under buildout indicates that it is located at a point that minimizes traffic operational impacts to the existing roadway network.
- At buildout, the proposed Project is estimated to generate a maximum of 7,968 daily trips, 625 AM peak hour trips and 836 PM peak hour trips. However, assuming that the proposed Project does not undergo a General Plan Amendment, the proposed Project site has the potential to generate a maximum of 12,225 daily trips, 704 AM peak hour trips, and 1,263 PM peak hour trips. Compared to the land use consistent with the City of Fresno 2035 General Plan, the proposed Project is estimated to yield less traffic by 4,257 daily trips, 79 AM peak hour trips and 427 PM peak hour trips.
- At buildout, the proposed Project is estimated to generate a maximum of 7,968 daily trips, 625 AM peak hour trips and 836 PM peak hour trips.
- It is recommended that the Project implement a Class II Bike Lane along its frontages to Grantland Avenue, Gettysburg Avenue and Ashlan Avenue.

- Under this scenario, the intersections of Grantland Avenue and Gettysburg Avenue and Bryan Avenue and Ashlan Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at these intersections, it is recommended that the following improvements be implemented.
  - Grantland Avenue / Gettysburg Avenue
    - Modify the southbound left-through-right lane to a left-through lane; and
    - Add a southbound right-turn lane.
  - Bryan Avenue / Ashlan Avenue
    - Modify the westbound through-right lane to a through lane; and
    - Add a westbound right-turn lane.
- Under this scenario, all study segments are projected to operate at an acceptable LOS.

Near Term plus Project (Buildout) Traffic Conditions

- The total trip generation for the Near Term Projects is 49,295 daily trips, 4,317 AM peak hour trips and 4,846 PM peak hour trips.
- Under this scenario, the intersections of Grantland Avenue and Barstow Avenue, Grantland Avenue and Shaw Avenue, Bryan Avenue and Shaw Avenue, Hayes Avenue and Shaw Avenue, Grantland Avenue and Gettysburg Avenue, Grantland Avenue and Ashlan Avenue and Bryan Avenue and Ashlan Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at these intersections, it is recommended that the following improvements be implemented.
  - Grantland Avenue / Barstow 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;
    - Signalize the intersection with protective left-turn phasing on all approaches; and
    - Modify the intersection to accommodate the added lanes.
  - Grantland Avenue / Shaw Avenue
    - Modify the westbound through-right lane to a through lane;
    - Add a westbound right-turn lane;
    - Modify the northbound through-right lane to a through lane;
    - Add a northbound right-turn lane;
    - Modify the traffic signal to implement overlap phasing of the westbound right-turn with the southbound left-turn phase; and
    - Modify the traffic signal to accommodate the added lanes.
  - Bryan Avenue / Shaw Avenue
    - Signalize the intersection with protective left-turn phasing on all approaches.

- Hayes Avenue / Shaw Avenue
  - Add a westbound left-turn lane;
  - Modify the westbound left-through lane to a through lane;
  - Modify the northbound left-right lane to a left-turn lane;
  - Add a northbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Gettysburg Avenue
  - Add a westbound left-turn lane;
  - Modify the westbound left-through-right lane to a through-right lane;
  - Add a southbound left-turn lane;
  - Modify the southbound left-through-right lane to a through lane;
  - Add a second southbound through lane with a receiving lane south of Gettysburg Avenue;
  - Add a southbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Ashlan Avenue
  - Modify the northbound through-right lane to a right-turn lane; and
  - Signalize the intersection with protective left-turn phasing on all approaches.
- Bryan Avenue / Ashlan Avenue
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound right turn lane; and
  - Signalize the intersection with protective left-turn phasing on all approaches.

- It should be noted that between the Existing Traffic Conditions and the Near Term plus Project (Buildout) Traffic Conditions scenarios, the Project accounts for 13.9 percent of the daily trips, 12.6 percent of the AM peak hour trips and 14.7 percent of the PM peak hour trips of growth in traffic, while the rest can be attributable to the Near Term Projects. Therefore, one can deduce that the majority of the mitigation measures presented under this scenario may not be necessary immediately upon completion of the proposed Project (Buildout). However, if all of the Near Term Projects are completed close to the completion date of the proposed Project (Buildout), the detailed recommended improvements presented under this scenario may be necessary in order to improve the LOS to the City's target LOS threshold.
- Under this scenario, all study segments are projected to operate at an acceptable LOS.

Cumulative Year 2035 No Project Traffic Conditions

- Under this scenario, the intersections of Grantland Avenue and Barstow Avenue, Grantland Avenue and Shaw Avenue, Veterans Boulevard and Shaw Avenue, Bryan Avenue and Shaw Avenue, Hayes Avenue and Shaw Avenue, Grantland Avenue and Gettysburg Avenue, Veterans Boulevard and Gettysburg Avenue, Bryan Avenue and Gettysburg Avenue, Grantland Avenue and Ashlan Avenue, Bryan Avenue and Ashlan Avenue, Polk Avenue and Ashlan Avenue, Grantland Avenue and Dakota Avenue and Grantland Avenue and Shields Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at these intersections, it is recommended that the following improvements be considered for implementation.
  - Grantland Avenue / Barstow 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;
    - Signalize the intersection with protective left-turn phasing on all approaches; and
    - Modify the intersection to accommodate the added lanes.
  - Grantland Avenue / Shaw Avenue
    - Modify the westbound through-right lane to a through lane;
    - Add a westbound trap right-turn lane;
    - Add a second southbound left-turn lane with a receiving lane east of Grantland Avenue;
    - Modify the traffic signal to implement overlap phasing of the westbound right-turn with the southbound left-turn phase;
    - Prohibit southbound to northbound U-turn movements; and
    - Modify the traffic signal to accommodate the added lanes.
  - Veterans Boulevard / Shaw Avenue
    - Modify the eastbound through-right lane to a through lane;
    - Add a second eastbound through lane with a receiving lane east of Veterans Boulevard;
    - Add an eastbound right-turn lane;
    - Modify the westbound through-right lane to a through lane;
    - Add a second westbound through lane with a receiving lane west of Veterans Boulevard;
    - Add a westbound right-turn lane;
    - Add a third northbound through lane with a receiving lane north of Shaw Avenue;
    - Add a third southbound through lane with a receiving lane south of Shaw Avenue;
    - Modify the traffic signal to implement overlap phasing of the westbound right-turn with the southbound left-turn phase;
    - Prohibit southbound to northbound U-turn movements; and
    - Modify the traffic signal to accommodate the added lanes.
  - Bryan Avenue / Shaw Avenue
    - Modify the eastbound through-right lane to a through lane;
    - Add a second eastbound through lane with a receiving lane east of Bryan Avenue;
    - Add an eastbound right-turn lane;

- Add a second westbound through lane with a receiving lane west of Bryan Avenue;
- Signalize the intersection with protective left-turn phasing on all approaches; and
- Modify the intersection to accommodate the added lanes.

- Hayes Avenue / Shaw Avenue
  - Add a westbound left-turn lane;
  - Modify the westbound left-through lane to a through lane;
  - Modify the northbound left-right lane to a left-turn lane;
  - Add a northbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Gettysburg Avenue/Stadium Drive
  - Add a second northbound through lane with a receiving lane north of Gettysburg Avenue;
  - Add a southbound left-turn lane;
  - Modify the southbound left-through lane to a through lane;
  - Add a second southbound through lane with a receiving lane south of Gettysburg Avenue;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Veterans Boulevard /Gettysburg Avenue
  - Modify the eastbound through-right lane to a through lane;
  - Add an eastbound right-turn lane;
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound right-turn lane;
  - Add second and third northbound through lanes with receiving lanes north of Gettysburg Avenue;
  - Add a second southbound through lane with a receiving lane south of Gettysburg Avenue; and
  - Modify the traffic signal to accommodate the added lanes.
- Bryan Avenue and Gettysburg Avenue
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound right-turn lane;
  - Modify the northbound through-right lane to a through lane;
  - Add a northbound right-turn lane;
  - Modify the southbound through-right lane to a through lane;
  - Add a southbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Ashlan Avenue
  - Modify the northbound through-right lane to a right-turn lane;
  - Add a second southbound through lane with a receiving lane south of Ashlan Avenue;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.

- Bryan Avenue / Ashlan Avenue
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lane.
- Polk Avenue / Ashlan Avenue
  - Modify the northbound through-right lane to a through lane;
  - Add a northbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lane.
- Grantland Avenue / Dakota Avenue
  - Modify the northbound right-turn lane to a through-right lane with a receiving lane north of Dakota Avenue;
  - Add a second southbound through lane with a receiving lane south of Dakota Avenue;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Shields 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 lane;
  - Add a westbound right-turn lane;
  - Add a northbound left-turn lane;
  - Modify the northbound left-through-right lane to a through lane;
  - Add a northbound through-right lane with a receiving lane north of Shields Avenue;
  - Add a southbound left-turn lane;
  - Modify the southbound left-through-right lane to a through lane;
  - Add a southbound through-right lane with a receiving lane south of Shields Avenue;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.

- Under this scenario, the segments of Shaw Avenue between Veterans Boulevard and Hayes Avenue and the segments of Grantland Avenue between Veterans Boulevard and Shields Avenue are projected to operate at an unacceptable LOS. To improve the LOS of these segments, it is recommended that the following improvements be considered for implementation.
  - Shaw Avenue between Veterans Boulevard and Bryan Avenue
    - Modify Shaw Avenue to accommodate two lanes in each direction
  - Shaw Avenue between Bryan Avenue and Hayes Avenue
    - Modify Shaw Avenue to accommodate two lanes in each direction
  - Grantland Avenue between Veterans Boulevard and Gettysburg Avenue (WL)
    - Modify Grantland Avenue to accommodate two lanes in each direction
  - Grantland Avenue between Gettysburg Avenue (WL) and Ashlan Avenue
    - Modify Grantland Avenue to accommodate two lanes in each direction

- Grantland Avenue between Ashlan Avenue and Dakota Avenue
  - Modify Grantland Avenue to accommodate two lanes in each direction
- Grantland Avenue between Dakota Avenue and Shields Avenue
  - Modify Grantland Avenue to accommodate two lanes in each direction

Cumulative Year 2035 plus Project Traffic Conditions

- Under this scenario, the intersections of Grantland Avenue and Barstow Avenue, Grantland Avenue and Shaw Avenue, Veterans Boulevard and Shaw Avenue, Bryan Avenue and Shaw Avenue, Hayes Avenue and Shaw Avenue, Grantland Avenue and Gettysburg Avenue, Veterans Boulevard and Gettysburg Avenue, Bryan Avenue and Gettysburg Avenue, Grantland Avenue and Ashlan Avenue, Bryan Avenue and Ashlan Avenue, Polk Avenue and Ashlan Avenue, Grantland Avenue and Dakota Avenue and Grantland Avenue and Shields Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at these intersections, it is recommended that the following improvements be implemented.
  - Grantland Avenue / Barstow 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;
    - Signalize the intersection with protective left-turn phasing on all approaches; and
    - Modify the intersection to accommodate the added lanes.
  - Grantland Avenue / Shaw Avenue
    - Modify the westbound through-right lane to a through lane;
    - Add a westbound trap right-turn lane;
    - Add a second southbound left-turn lane with a receiving lane east of Grantland Avenue;
    - Modify the traffic signal to implement overlap phasing of the westbound right-turn with the southbound left-turn phase;
    - Prohibit southbound to northbound U-turn movements; and
    - Modify the traffic signal to accommodate the added lanes.
  - Veterans Boulevard / Shaw Avenue
    - Modify the eastbound through-right lane to a through lane;
    - Add a second eastbound through lane with a receiving lane east of Veterans Boulevard;
    - Add an eastbound right-turn lane;
    - Modify the westbound through-right lane to a through lane;
    - Add a second westbound through lane with a receiving lane west of Veterans Boulevard;
    - Add a westbound right-turn lane;
    - Modify the northbound through-right lane to a through lane;
    - Add a third northbound through lane with a receiving lane north of Shaw Avenue;
    - Add a northbound right-turn lane;
    - Add a second southbound left-turn lane;
    - Add a third southbound through lane with a receiving lane south of Shaw Avenue;

- Modify the traffic signal to implement overlap phasing of the westbound right-turn with the southbound left-turn phase;
- Prohibit southbound to northbound U-turn movements; and
- Modify the traffic signal to accommodate the added lanes.

- Bryan Avenue / Shaw Avenue
  - Modify the eastbound through-right lane to a through lane;
  - Add a second eastbound through lane with a receiving lane east of Bryan Avenue;
  - Add an eastbound right-turn lane;
  - Add a second westbound through lane with a receiving lane west of Bryan Avenue;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Hayes Avenue / Shaw Avenue
  - Add a westbound left-turn lane;
  - Modify the westbound left-through lane to a through lane;
  - Modify the northbound left-right lane to a left-turn lane;
  - Add a northbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Gettysburg Avenue
  - Add a westbound left-turn lane;
  - Modify the westbound left-through-right lane to a through-right lane;
  - Add second and third northbound through lanes with receiving lanes north of Gettysburg Avenue;
  - Add a southbound left-turn lane;
  - Modify the southbound left-through-right lane to a through lane;
  - Add a second southbound through lane with a receiving lane south of Gettysburg Avenue;
  - Add a southbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Veterans Boulevard / Gettysburg Avenue
  - Modify the eastbound through-right lane to a through lane;
  - Add an eastbound right-turn lane;
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound right-turn lane;
  - Add second and third northbound through lanes with receiving lanes north of Gettysburg Avenue;
  - Add a second southbound through lane with a receiving lane south of Gettysburg Avenue;
  - Implement overlap phasing of the westbound right-turn with the southbound left-turn phase; and
  - Modify the traffic signal to accommodate the added lanes.

- Bryan Avenue and Gettysburg Avenue
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound right-turn lane;
  - Modify the northbound through-right lane to a through lane;
  - Add a northbound right-turn lane;
  - Modify the southbound through-right lane to a through lane;
  - Add a southbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Ashlan Avenue
  - Modify the northbound through-right lane to a right-turn lane;
  - Modify the southbound right-turn lane to a through-right lane with a receiving lane south of Ashlan Avenue;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Bryan Avenue / Ashlan Avenue
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lane.
- Polk Avenue / Ashlan Avenue
  - Modify the westbound through-right lane to a through lane;
  - Add a westbound right-turn lane;
  - Modify the northbound through-right lane to a through lane;
  - Add a northbound right-turn lane;
  - Modify the southbound through-right lane to a through lane;
  - Add a southbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.
- Grantland Avenue / Dakota Avenue
  - Modify the northbound right-turn lane to a through-right lane with a receiving lane north of Dakota Avenue;
  - Add a second southbound through lane with a receiving lane south of Dakota Avenue;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.

- Grantland Avenue / Shields 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 lane;
  - Add a westbound right-turn lane;
  - Add a northbound left-turn lane;
  - Modify the northbound left-through-right lane to a through lane;
  - Add a northbound through-right lane with a receiving lane north of Shields Avenue;
  - Add a southbound left-turn lane;
  - Modify the southbound left-through-right lane to a through lane;
  - Add a second southbound through lane with a receiving lane south of Shields Avenue;
  - Add a southbound right-turn lane;
  - Signalize the intersection with protective left-turn phasing on all approaches; and
  - Modify the intersection to accommodate the added lanes.

- Under this scenario, the segments of Shaw Avenue between Veterans Boulevard and Hayes Avenue and the segments of Grantland Avenue between Veterans Boulevard and Shields Avenue are projected to operate at an unacceptable LOS. To improve the LOS of these segments, it is recommended that the following improvements be implemented.
  - Shaw Avenue between Veterans Boulevard and Bryan Avenue
    - Modify Shaw Avenue to accommodate two lanes in each direction
  - Shaw Avenue between Bryan Avenue and Hayes Avenue
    - Modify Shaw Avenue to accommodate two lanes in each direction
  - Grantland Avenue between Veterans Boulevard and Gettysburg Avenue (WL)
    - Modify Grantland Avenue to accommodate two lanes in each direction
  - Grantland Avenue between Gettysburg Avenue (WL) and Ashlan Avenue
    - Modify Grantland Avenue to accommodate two lanes in each direction
  - Grantland Avenue between Ashlan Avenue and Dakota Avenue
    - Modify Grantland Avenue to accommodate two lanes in each direction
  - Grantland Avenue between Dakota Avenue and Shields Avenue
    - Modify Grantland Avenue to accommodate two lanes in each direction

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 contribute its equitable fair share as listed in Table XXIV for the future improvements necessary to maintain an acceptable LOS.

Study Participants

JLB Traffic Engineering, Inc. Personnel:

Jose Luis Benavides, PE, TE	Project Manager
Susana Maciel, EIT	Engineer I/II
Javier Rios	Engineer I/II
Jove Alcazar	Engineer I/II
Dennis Wynn	Sr. Engineering Technician

Persons Consulted:

Jeff Roberts	Parc West Development, Inc.
Jill Gormley, PE	City of Fresno
Harpreet Kooner	County of Fresno
Tong Xiong	County of Fresno
David Padilla	Caltrans
Kai Han, TE	Fresno COG
Lang Yu	Fresno COG

References

1. City of Fresno, *2035 General Plan*.
2. County of Fresno, *2000 General Plan*.
3. *Guide for the Preparation of Traffic Impact Studies*, Caltrans, dated December 2002.
4. *Trip Generation,* 10th Edition, Washington D.C., Institute of Transportation Engineers, 2017.
5. *2014 California Manual on Uniform Traffic Control Devices*, Caltrans, November 7, 2014.
6. City of Fresno, *Active Transportation Plan*, December 2016, adopted March 2, 2017.

Appendix A: Scope of Work

June 26, 2018

Mrs. Jill Gormley, P.E.
Traffic Engineer
City of Fresno
2600 Fresno Street
Fresno, CA 93721-3616

Via Email Only: Jill.Gormley@fresno.gov

Subject: ***Draft Scope of Work for the Preparation of a Traffic Impact Analysis Analysis for a General Plan Amendment in Support of the Parc West (Project) at the Northwest Corner of Ashlan Avenue and Grantland Avenue in the City of Fresno (JLB Project 004-067)***

Dear Mrs. Gormley,

JLB Traffic Engineering, Inc. (JLB) hereby submits this Draft Scope of Work for the preparation of a Traffic Impact Analysis (TIA) for the Project described below.

Parc West (Project) proposes to develop approximately 160 acres with residential uses. A portion of the Project site generally located at the northwest corner of Ashlan Avenue and Grantland Avenue will undergo a General Plan Amendment to change the existing Community Commercial zoning to Median Density Residential. Based on the latest information, the Project would include up to 844 single family residential units and a 1.819 acre park of which, Phase 1 will include 84 single family residential units.

The purpose of this TIA is to evaluate the potential on- 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. To evaluate the on- and off-site traffic impacts of the proposed Project, JLB proposes the following Draft Scope of Work.

Scope of Work

- Request a Fresno Council of Governments (Fresno COG) traffic forecast model run for the project (Select Zone Analysis) which will include the project and the streets to be analyzed. The Fresno COG traffic forecasting model will be used to forecast traffic volumes for the Base Year and Cumulative Year 2035 plus Project scenarios.
- JLB will obtain recent or schedule and conduct new traffic counts at the study facility(ies) as necessary.
- 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 conduct qualitative safe routes 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 qualitatively analyze existing and planned transit routes in the vicinity of the Project.

- JLB will qualitatively analyze existing and planned bikeways in the vicinity of the Project.
- JLB will forecast trip distribution based on turn count information, school boundaries and knowledge of the existing and planned circulation network in the vicinity of the Project.
- JLB will evaluate existing and forecasted levels of service (LOS) at the study intersection(s). JLB will use HCM 2010 methodologies within Synchro to perform this analysis for the AM and PM peak hours. JLB will identify the causes of poor LOS.
- 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) 8-hour and 4-hour signal warrants for unsignalized study intersections under the Existing Conditions Scenario.
- JLB will prepare California Manual on Uniform Traffic Control Devices (CA MUTCD) peak hour signal warrants for un-signalized study intersections under the Existing plus Project Phase 1, Near Term plus Project Buildout, Cumulative Year No Project and Cumulative Year plus Project Buildout scenarios.
- JLB will prepare a table with the Project's pro-rata fair share allocation to improvement measures identified (if any) which are not currently funded by an existing funding source.

Study Scenarios:

1. Existing traffic conditions;
2. Existing plus Project Phase 1 traffic conditions with proposed mitigation measures (if any);
3. Existing plus Project Buildout traffic conditions with proposed mitigation measures (if any);
4. Near Term plus Project Buildout traffic conditions with needed improvements (if any);
5. Cumulative Year 2035 No Project traffic conditions with proposed improvement measures (if any).
6. Cumulative Year 2035 plus Project Buildout conditions with proposed mitigation measures (if any).

Weekday peak hours to be analyzed:

1. 7 - 9 AM peak hour
2. 4 - 6 PM peak hour

Study Intersections:

1. Shaw Avenue / Grantland Avenue
2. Shaw Avenue / Veterans Boulevard (future)
3. Shaw Avenue / Bryan Avenue
4. Shaw Avenue / Hayes Avenue
5. Gettysburg Avenue / Veterans Boulevard (future)
6. Gettysburg Avenue / Grantland Avenue (future)
7. Ashlan Avenue / Park West Drive (future)
8. Ashlan Avenue / Grantland Avenue
9. Ashlan Avenue /Bryan Avenue
10. Ashlan Avenue / Hayes Avenue
11. Ashlan Avenue /Polk Avenue
12. Shields Avenue / Grantland Avenue

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- and right-turn lanes at all study intersections.

Study Segments:

1. Shaw Avenue between Grantland Avenue and Veterans Boulevard
2. Shaw Avenue between Veterans Boulevard and Bryan Avenue
3. Shaw Avenue between Bryan Avenue and Hayes Avenue
4. Ashlan Avenue between Grantland Avenue and Bryan Avenue
5. Ashlan Avenue between Bryan Avenue and Hayes Avenue
6. Ashlan Avenue between Hayes Avenue and Polk Avenue
7. Grantland Avenue between Shaw Avenue and Veterans Boulevard
8. Grantland Avenue between Veterans Boulevard and west leg of Gettysburg Avenue
9. Grantland Avenue between west leg of Gettysburg Avenue and Ashlan Avenue
10. Grantland Avenue between Ashlan Avenue and Dakota Avenue
11. Grantland Avenue between Dakota Avenue and Shields Avenue

Project Only Trip Assignment to State Facilities:

1. SR 99 / Shaw Avenue
2. SR 99 / Ashlan Avenue

Project Only Trip Generation

The trip generation rates for Phase 1 of the Proposed Project and Existing General Plan Land Use designations were obtained from the 10th Edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE). Table I presents Phase 1 Land Use Trip Generation. The Existing Land Use Trip Generation considers the construction of an 84-unit Single-Family Detached Housing on the General Plan Land Use zoning and density. Under Phase 1 the Project is estimated to generate a maximum of 793 daily trips, 62 AM peak hour trips and 83 PM peak hour trips.

Table I: Proposed Project Phase 1 Land Use 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)	84	d.u.	9.44	793	0.74	25	75	15	47	62	0.99	63	37	52	31	83
Total Project Trips				**793**				**15**	**47**	**62**				**52**	**31**	**83**

Note: d.u. = Dwelling Units

Table II presents the Proposed Project Buildout Land Use Trip Generation. At Buildout, the Project will include the construction of up to 844-unit Single-Family Detached Housing and a 1.819 acre Public Park. The proposed Project at Buildout is estimated to generate a maximum of 7,968 daily trips, 625 AM peak hour trips and 836 PM peak hour trips.

Table II: Proposed Project Buildout Land Use 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)	844	d.u.	9.44	7,967	0.74	25	75	156	469	625	0.99	63	37	527	309	836
Public Park (411)	1.819	acre	0.78	1	0.02	59	41	0	0	0	0.11	55	45	0	0	0
Total Project Trips				**7,968**				**156**	**469**	**625**				**527**	**309**	**836**

Note: d.u. = Dwelling Units

Near Term Projects to be Included

Based on our local knowledge of the study area, consultation with City of Fresno Planning & Development staff, JLB proposes to include projects in the vicinity of the proposed Project under the Near Term plus Project Analysis. The projects proposed to be included in the Near-Term Scenario are:

Project Name	General Location
1. TT 4983	NE Dakota Avenue and Cornelia Avenue
2. TT 5356	Ashlan Avenue between Polk Avenue and Cornelia Avenue
3. TT 5363	South of Veterans Boulevard and Barstow Avenue
4. TT 5443	Belmont Avenue between Cornelia Avenue and Hayes Avenue
5. TT 5444	Olive Avenue between Hayes Avenue and Cornelia Avenue
6. TT 5493 (portion of)	SE Shaw Avenue and Bryan Avenue
7. TT 5537	SW Polk Avenue and Dayton Avenue
8. TT 5538 (portion of)	SE Ashlan Avenue and Hayes Avenue
9. TT 5554	Olive Avenue between Hayes Avenue and Cornelia Avenue
10. TT 5586	Hayes Avenue between McKinley Avenue and Olive Avenue
11. TT 5597 (portion of)	NE of Barstow Avenue and Garfield Avenue
12. TT 5599 (portion of)	SE of Polk Avenue and Acacia Avenue
13. TT 5600 (portion of)	SW Barstow Avenue and Grantland Avenue
14. TT 5604	NE Shields Avenue and Hayes Avenue
15. TT 5608	NE Santa Ana Avenue and Hayes Avenue
16. TT 5631	Polk Avenue between Ashlan Avenue and Gettysburg Avenue
17. TT 5652 (portion of)	SE Bryan Avenue and Ashlan Avenue
18. Koligian Educational Center (portion of)	NE Ashlan Avenue and Grantland Avenue
19. TT 5680	SW McKinley Avenue and Hayes Avenue
20. TT 5695	Milburn Avenue between Andrews Avenue and Dakota Avenue
21. TT 5725	Ashlan Avenue between Cornelia Avenue and Blythe Avenue
22. TT 5756	Ashlan Avenue between Polk Avenue and Hayes Avenue
23. TT 5766	Ashlan Avenue between Blythe Avenue and Cornelia Avenue
24. TT 5808	Shaw Avenue between Hayes Avenue and Bryan Avenue
25. TT 5891 (portion of)	NW Ashlan Avenue and Hayes Avenue
26. TT 6056	SE Bryan Avenue and Gettysburg Avenue
27. TT 6090	Bullard Avenue between SR99 and Grantland Avenue
28. TT 6091	Cornelia Avenue between McKinley Avenue and Clinton Avenue
29. TT 6139	NE Olive Avenue and Polk Avenue
30. TT 6162	NE Hayes Avenue and Ashlan Avenue

31. TT 6198	NW of Shaw Avenue and Grantland Avenue
32. TT 6199	SE Ashlan Avenue and Grantland Avenue
33. El Paseo (portion of)	SE Herndon Avenue and Golden State
34. Jack in the Box	SW Shaw Avenue and Barcus Avenue
35. Johnny Quik Food Store	Shaw Avenue and Hayes Avenue
36. Commercial Development	SW Clinton Avenue and Blythe Avenue
37. Herndon and Van Buren Mixed-Use	NW Herndon Avenue and Van Buren Avenue
38. Herndon and Riverside Commercial	SE Herndon Avenue and Riverside Drive
39. Multi-Family Residential	SE Herndon Avenue and Riverside Drive
40. Residential Development	Clinton Avenue between Hayes Avenue and Polk Avenue
41. Residential Development	SE Grantland Avenue and Dakota Avenue
42. Shaw and 99 Mixed-Use	SE of Island Water Park
43. Westbridge Apartments	SE Barstow Avenue and Grantland Avenue

Other Near-Term Projects the City, County or Caltrans has knowledge and for which it is anticipated that said project(s) is/are projected to be whole or partially built by the Near Term Project Year 2020. City, County and Caltrans as appropriate would provide JLB with project details such as a project description, location, proposed land uses with breakdowns and type of residential units and amount of square footages for non-residential uses.

The above scope of work is based on our understanding of this Project and our experience with similar Traffic Impact Analysis Projects. In the absence of comments by July 16, 2018, it will be assumed that the above scope of work is acceptable to the agency(ies) that have not submitted any comments to the proposed TIA Scope of Work.

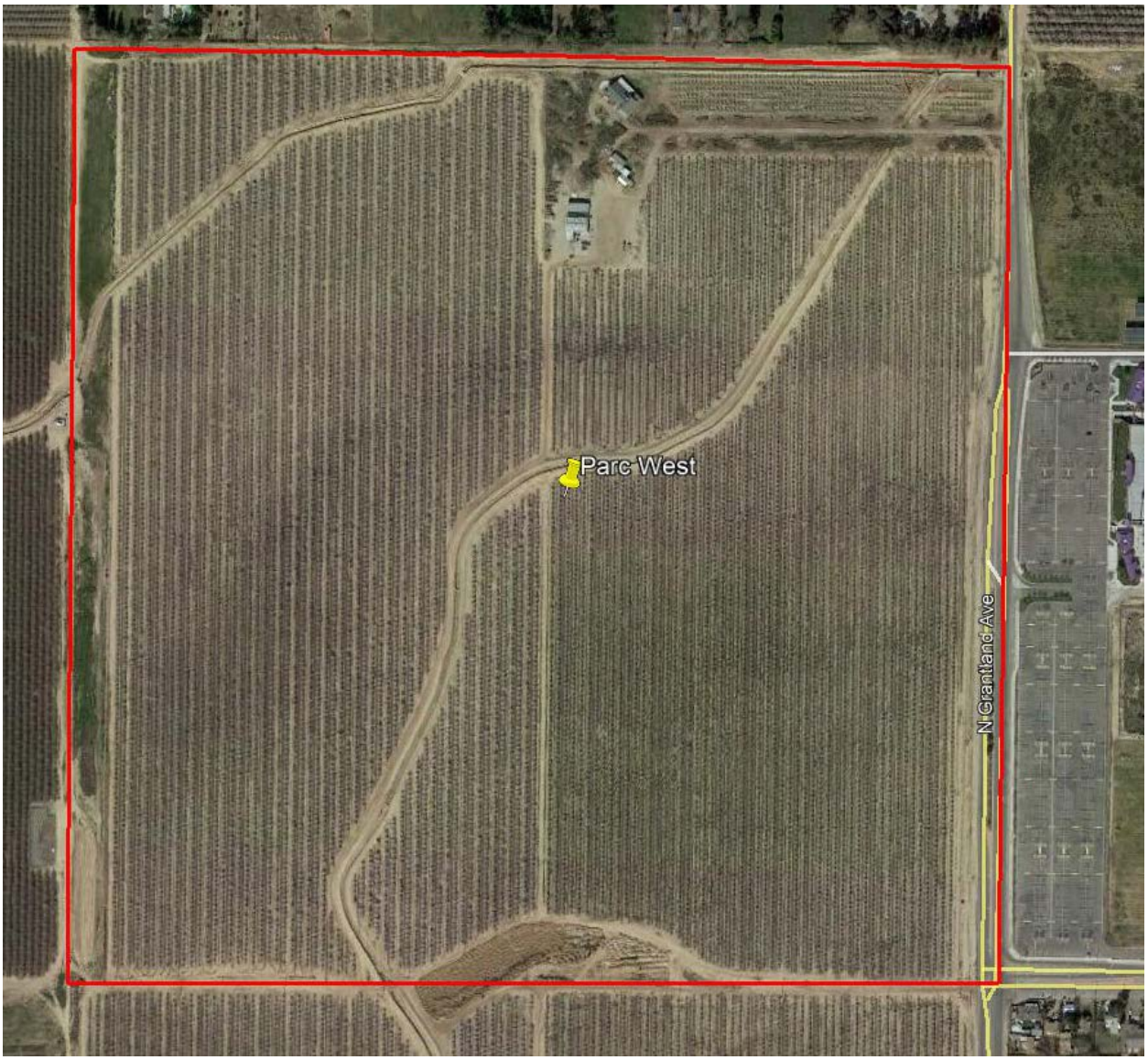
If you have any questions or require additional information, please contact me by phone at (559) 570-8991 or by e-mail at amiao@JLBtraffic.com.

Sincerely,

Alan Miao, EIT
Engineer I/II

cc: Harpreet Kooner, County of Fresno
Tong Xiong, County of Fresno
David Padilla, Caltrans
Jose Luis Benavides, JLB Traffic Engineering, Inc.

Exhibit A – Aerial



Jose Benavides

From: Jill Gormley <Jill.Gormley@fresno.gov>
Sent: Wednesday, July 18, 2018 11:54 AM
To: Jose Benavides
Cc: Kooner, Harpreet; Alan Miao; 'David Padilla'; Harmanjit Dhaliwal; Andrew Benelli; Xiong, Tong (PWP)
Subject: RE: Parc West Draft Scope of Work

Hi Jose,

Just to confirm – this project will require a general plan amendment? Who is the planner assigned to the project?

Please add the following intersections to the scope:

1. Gettysburg at Bryan
2. Barstow at Grantland
3. Ashlan at Cornelia
4. Dakota at Grantland

Also, please include a 5- year collision analysis at all intersections and along the segments using either TIMS and/or SWITRS data. The analysis should include the number of collisions, type, parties involved (vehicles, bikes, pedestrians) and severity.

Jill Gormley, TE
City Traffic Engineer / Traffic Operations & Planning Manager
City of Fresno, Public Works Department
2600 Fresno Street, 4th Floor
Fresno, CA 93721-3623
www.fresno.gov/publicworks/traffic-engineering

P: 559/621-8792
F: 559/457-1107

From: Jose Benavides [mailto:jbenavides@jlbtraffic.com]
Sent: Tuesday, July 10, 2018 5:16 PM
To: Xiong, Tong (PWP); Jill Gormley
Cc: Kooner, Harpreet; Alan Miao; 'David Padilla'
Subject: RE: Parc West Draft Scope of Work

Good afternoon Tong and Jill,

Attached you will find the select zone run for the Parc West development project in the City of Fresno. I am also attaching to this email the previously provided proposed draft scope of work for your review of the proposed study facilities.

Sincerely,

Jose Luis Benavides, P.E., T.E.
President

JLB Traffic Engineering, Inc.
Traffic Engineering, Transportation Planning and Parking Solutions
Certified Disadvantaged Business Enterprise (DBE) and Small Business Enterprise (SBE)

1300 E. Shaw Ave., Ste. 103
Fresno, CA 93710
Office: (559) 570-8991
Cell: (559) 694-6000
www.JLBtraffic.com

From: Xiong, Tong (PWP) <tonxiong@fresnocountyca.gov>
Sent: Friday, July 6, 2018 1:59 PM
To: Alan Miao <amiao@jlbtraffic.com>
Cc: Jose Benavides <jbenavides@jlbtraffic.com>; Kooner, Harpreet <HKooner@fresnocountyca.gov>
Subject: RE: Parc West Draft Scope of Work

Alan,

We are still reviewing your scope of work. However, In one of the e-mail, Jill from City of Clovis requested a select run. Is that available? We would like to see that too.

Thanks,

Tong Xiong
Design Division
559-600-4532

From: Alan Miao <amiao@jlbtraffic.com>
Sent: Friday, July 06, 2018 1:55 PM
To: Xiong, Tong (PWP) <tonxiong@fresnocountyca.gov>
Cc: Jose Benavides <jbenavides@jlbtraffic.com>
Subject: RE: Parc West Draft Scope of Work

Good afternoon Tong,

I just wanted to follow up with on whether there were any comments on the Draft Scope of Work for the Parc West Project, thank you.

Sincerely,

Alan Miao, EIT
Engineer I/II

JLB Traffic Engineering Inc.

From: Alan Miao
Sent: Wednesday, June 27, 2018 10:56 AM
To: Xiong, Tong (PWP) <tonxiong@fresnocountyca.gov>
Cc: Jose Benavides <jbenavides@jlbtraffic.com>
Subject: RE: TT 6199 Draft Scope of Work

Hi Tong,

The Project is the 160 acres in the northwest quadrant of Grantland Avenue at Ashlan Avenue. Of that 160 acres, Phase I will be TT 6212 which is 14 acres that is building 84 lots and will undergo a GPA. TT 6199 is a separate project that is located in the southeast quadrant of Grantland Avenue at Ashlan Avenue. I hope this helps clarify the TIS scope a bit. Please let me know if you have any other questions, thank you.

Sincerely,

Alan Miao, EIT
Engineer I/II
JLB Traffic Engineering Inc.

From: Xiong, Tong (PWP) <tonxiong@fresnocountyca.gov>
Sent: Wednesday, June 27, 2018 8:11 AM
To: Alan Miao <amiao@jlbtraffic.com>
Subject: RE: TT 6199 Draft Scope of Work

Alan,

I had a conflicting issue with the draft scoping document. This TIS scope seems to be talking about the 160 acres at the northwest corner of Grantland and Ashlan, and TT 6212, which needs a GPA, is only a 14-acre portion of the 160 acres. Also, we had previously received a traffic scope of work for TT6199 on 4/30/2018 from JLB. Can you clarify what this project is supposed to study? At this time, it is unclear to me.

Regards,

Tong Xiong
Design Division
559-600-4532

From: Alan Miao <amiao@jlbtraffic.com>
Sent: Tuesday, June 26, 2018 12:27 PM
To: Jill.Gormley@fresno.gov
Cc: Kooner, Harpreet <HKooner@fresnocountyca.gov>; Xiong, Tong (PWP) <tonxiong@fresnocountyca.gov>; dave_padilla@dot.ca.gov; Jose Benavides <jbenavides@jlbtraffic.com>
Subject: RE: TT 6199 Draft Scope of Work

County of Fresno

Internal Services Department (ISD) - IT Services

Service Desk 600-5900 (Help Desk)

CAUTION!!!

This email has been flagged as containing one or more attachments from an outside source.

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If you were not expecting to receive an email with attachments, please **DO NOT** open the file.

Forward the email to SPAM "SPAM@co.fresno.ca.us" and delete it.

Good morning,

Attached you will find the Draft Scope of Work for Parc West (Project). Please carefully review and send your comments to me. In the absence of comments by July 16, 2018, it will be assumed that the Scope of Work is acceptable to the agency(ies) that have not submitted comments. Thank you.

Sincerely,

Alan Miao, EIT
Engineer I/II

JLB Traffic Engineering Inc.
1300 E. Shaw Ave., Ste. 103
Fresno, CA 93710
Office: (559) 570-8991
www.JLBtraffic.com

Jose Benavides

From: Xiong, Tong (PWP) <tonxiong@fresnocountyca.gov>
Sent: Wednesday, July 18, 2018 1:28 PM
To: Jose Benavides; Jill Gormley (Jill.Gormley@fresno.gov)
Cc: Kooner, Harpreet; Alan Miao; 'David Padilla'; Daniele, Frank
Subject: RE: Parc West Draft Scope of Work

Jose,

Thanks for providing the Cumulative 2035 select zone run for project only trips. Fresno County Transportation Planning is generally in agreement with the contents of the proposed scope of work for the Parc West TIS. We do have a few questions.

1. Will the proposed development have access off of Garfield Avenue? Access location was not discussed in the scope of work and should be discussed.
2. Will there be access on Garfield Avenue, will the roadway tie into the existing Garfield Avenue north of the site (paved road). Garfield Avenue from slightly north of the Ghettysburg alignment to Shields Avenue is currently a dirt road.
    a) If there is access on Garfield, please include in the study:
        1) Roadway segment of Garfield Avenue from Gettysburg Avenue to Shaw Avenue
        2) Intersection of Garfield Avenue and Shaw Avenue
3. The select zone run showed trips going south on Garfield Avenue from Ashlan Avenue and going north on Garfield Avenue from Ghettysburg Avenue but no trips on Garfield between Ghettysburg and Ashlan. Please Clarify.

For segment analysis,
Segment LOS analysis should be based on Florida DOT LOS tables for roadway segments. Volumes used for analysis are peak hour directional volumes. Volume/ capacity (V/C) ratio should be calculated for each roadway segment. Increase in the V/C of more than 0.05 is considered a significant impact when comparing the With Project to No Project scenarios. If there is finding of significant impact, mitigation measures should be recommended to bring the significant impact to a less than significant impact level.

Regards,

Tong Xiong

Design Division
Department of Public Works and Planning
2220 Tulare Street, 7th Floor
Fresno, CA 93721
Tel: (559) 600-4532
E-mail: tonxiong@co.fresno.ca.us

Please consider the environment before printing this e-mail

From: Jose Benavides <jbenavides@jlbtraffic.com>
Sent: Tuesday, July 10, 2018 5:16 PM
To: Xiong, Tong (PWP) <tonxiong@fresnocountyca.gov>; Jill Gormley (Jill.Gormley@fresno.gov) <Jill.Gormley@fresno.gov>
Cc: Kooner, Harpreet <HKooner@fresnocountyca.gov>; Alan Miao <amiao@jlbtraffic.com>; 'David Padilla' <dave_padilla@dot.ca.gov>
Subject: RE: Parc West Draft Scope of Work

Good afternoon Tong and Jill,

Attached you will find the select zone run for the Parc West development project in the City of Fresno. I am also attaching to this email the previously provided proposed draft scope of work for your review of the proposed study facilities.

Sincerely,

Jose Luis Benavides, P.E., T.E.
President

JLB Traffic Engineering, Inc.

Traffic Engineering, Transportation Planning and Parking Solutions
Certified Disadvantaged Business Enterprise (DBE) and Small Business Enterprise (SBE)

1300 E. Shaw Ave., Ste. 103
Fresno, CA 93710
Office: (559) 570-8991
Cell: (559) 694-6000
www.JLBtraffic.com

From: Xiong, Tong (PWP) <tonxiong@fresnocountyca.gov>
Sent: Friday, July 6, 2018 1:59 PM
To: Alan Miao <amiao@jlbtraffic.com>
Cc: Jose Benavides <jbenavides@jlbtraffic.com>; Kooner, Harpreet <HKooner@fresnocountyca.gov>
Subject: RE: Parc West Draft Scope of Work

Alan,

We are still reviewing your scope of work. However, In one of the e-mail, Jill from City of Clovis requested a select run. Is that available? We would like to see that too.

Thanks,

Tong Xiong
Design Division
559-600-4532

From: Alan Miao <amiao@jlbtraffic.com>
Sent: Friday, July 06, 2018 1:55 PM
To: Xiong, Tong (PWP) <tonxiong@fresnocountyca.gov>

Cc: Jose Benavides <jbenavides@jlbtraffic.com>
Subject: RE: Parc West Draft Scope of Work

Good afternoon Tong,

I just wanted to follow up with on whether there were any comments on the Draft Scope of Work for the Parc West Project, thank you.

Sincerely,

Alan Miao, EIT
Engineer I/II
JLB Traffic Engineering Inc.

From: Alan Miao
Sent: Wednesday, June 27, 2018 10:56 AM
To: Xiong, Tong (PWP) <tonxiong@fresnocountyca.gov>
Cc: Jose Benavides <jbenavides@jlbtraffic.com>
Subject: RE: TT 6199 Draft Scope of Work

Hi Tong,

The Project is the 160 acres in the northwest quadrant of Grantland Avenue at Ashlan Avenue. Of that 160 acres, Phase I will be TT 6212 which is 14 acres that is building 84 lots and will undergo a GPA. TT 6199 is a separate project that is located in the southeast quadrant of Grantland Avenue at Ashlan Avenue. I hope this helps clarify the TIS scope a bit. Please let me know if you have any other questions, thank you.

Sincerely,

Alan Miao, EIT
Engineer I/II
JLB Traffic Engineering Inc.

From: Xiong, Tong (PWP) <tonxiong@fresnocountyca.gov>
Sent: Wednesday, June 27, 2018 8:11 AM
To: Alan Miao <amiao@jlbtraffic.com>
Subject: RE: TT 6199 Draft Scope of Work

Alan,

I had a conflicting issue with the draft scoping document. This TIS scope seems to be talking about the 160 acres at the northwest corner of Grantland and Ashlan, and TT 6212, which needs a GPA, is only a 14-acre portion of the 160 acres. Also, we had previously received a traffic scope of work for TT6199 on 4/30/2018 from JLB. Can you clarify what this project is supposed to study? At this time, it is unclear to me.

Regards,

Tong Xiong
Design Division

559-600-4532

From: Alan Miao <amiao@jlbtraffic.com>
Sent: Tuesday, June 26, 2018 12:27 PM
To: Jill.Gormley@fresno.gov
Cc: Kooner, Harpreet <HKooner@fresnocountyca.gov>; Xiong, Tong (PWP) <tonxiong@fresnocountyca.gov>; dave_padilla@dot.ca.gov; Jose Benavides <jbenavides@jlbtraffic.com>
Subject: RE: TT 6199 Draft Scope of Work

County of Fresno

Internal Services Department (ISD) - IT Services

Service Desk 600-5900 (Help Desk)

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Good morning,

Attached you will find the Draft Scope of Work for Parc West (Project). Please carefully review and send your comments to me. In the absence of comments by July 16, 2018, it will be assumed that the Scope of Work is acceptable to the agency(ies) that have not submitted comments. Thank you.

Sincerely,

Alan Miao, EIT
Engineer I/II

JLB Traffic Engineering Inc.
1300 E. Shaw Ave., Ste. 103
Fresno, CA 93710
Office: (559) 570-8991
www.JLBtraffic.com

Jose Benavides

From: Padilla, Dave@DOT <dave.padilla@dot.ca.gov>
Sent: Tuesday, July 24, 2018 8:30 AM
To: Jose Benavides
Subject: RE: Parc West DSOW

Good Morning Jose,

The SOW of is satisfactory. Please route us the TIA once you have completed.

Thank you

David Padilla, Associate Transportation Planner
Office of Planning & Local Assistance
1352 W. Olive Avenue
Fresno, CA 93778-2616
Office: (559) 444-2493, Fax: (559) 445-5875
District 6

From: Jose Benavides [mailto:jbenavides@jlbtraffic.com]
Sent: Monday, July 23, 2018 11:48 AM
To: Padilla, Dave@DOT <dave.padilla@dot.ca.gov>
Subject: Parc West DSOW

Good morning David,

Does Caltrans have any comments to the proposed scope of work for the Parc West Project in the City of Fresno? I assume that it does not, but I would rather hear from you.

Sincerely,

Jose Luis Benavides, P.E., T.E.
President

JLB Traffic Engineering, Inc.

Traffic Engineering, Transportation Planning and Parking Solutions
Certified Disadvantaged Business Enterprise (DBE) and Small Business Enterprise (SBE)

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Fresno, CA 93710
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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:
Yamabe and Horn Engineering, Inc.
2985 N. Burl, Suite 101
Fresno, CA 93727

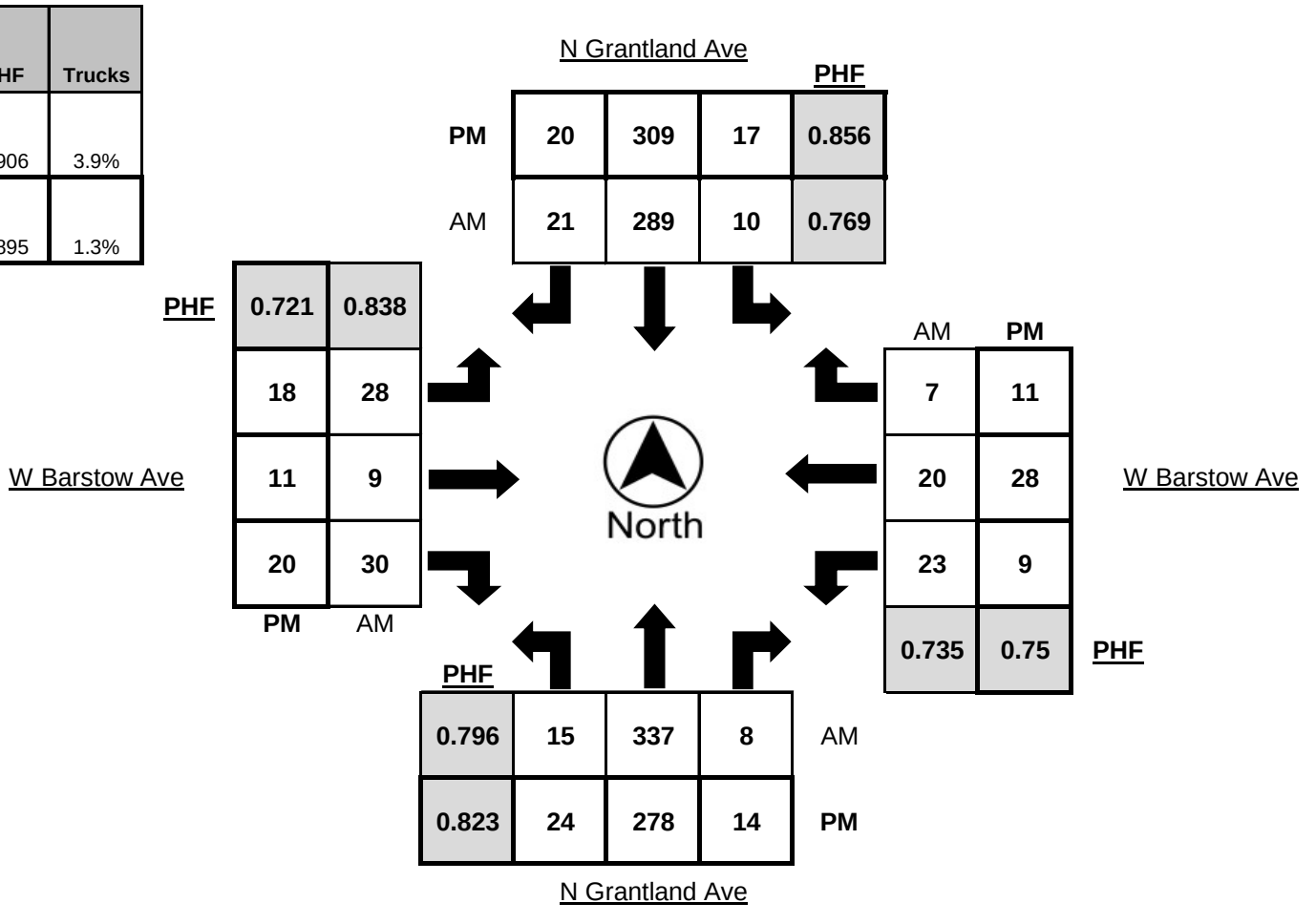
LOCATION Barstow Ave @ Grantland Ave
LATITUDE 36.8152
COUNTY Fresno
LONGITUDE -119.9165
COLLECTION DATE Tuesday, September 12, 2017
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	3	75	0	5	3	93	8	2	5	3	12	0	3	6	2	0
7:15 AM - 7:30 AM	5	105	3	3	2	71	5	0	11	1	6	1	4	4	3	2
7:30 AM - 7:45 AM	3	95	1	3	3	66	2	5	5	3	9	0	6	5	0	0
7:45 AM - 8:00 AM	4	62	4	5	2	59	6	2	7	2	3	2	10	5	2	1
8:00 AM - 8:15 AM	4	66	3	4	4	57	5	4	1	4	5	0	1	3	3	2
8:15 AM - 8:30 AM	2	81	0	3	5	58	11	6	6	2	11	1	3	1	3	1
8:30 AM - 8:45 AM	5	56	2	3	2	54	4	7	9	2	7	0	1	1	3	0
8:45 AM - 9:00 AM	0	37	0	1	0	34	5	2	2	3	1	0	1	2	2	0
TOTAL	**26**	**577**	**13**	**27**	**21**	**492**	**46**	**28**	**46**	**20**	**54**	**4**	**29**	**27**	**18**	**6**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	6	73	3	3	6	65	2	1	3	2	5	1	0	2	4	1
4:15 PM - 4:30 PM	6	78	7	1	5	63	3	0	5	3	3	1	4	0	3	2
4:30 PM - 4:45 PM	8	76	2	3	7	64	9	0	4	0	1	0	3	2	1	0
4:45 PM - 5:00 PM	8	63	4	2	2	74	11	4	3	1	3	0	1	4	5	0
5:00 PM - 5:15 PM	3	72	1	1	5	75	0	2	4	2	3	0	1	8	5	0
5:15 PM - 5:30 PM	6	52	5	1	4	71	7	2	1	1	4	0	3	7	0	0
5:30 PM - 5:45 PM	7	70	4	0	5	91	5	1	5	4	8	0	1	6	1	0
5:45 PM - 6:00 PM	8	84	4	1	3	72	8	2	8	4	5	0	4	7	5	0
TOTAL	**52**	**568**	**30**	**12**	**37**	**575**	**45**	**12**	**33**	**17**	**32**	**2**	**17**	**36**	**24**	**3**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	15	337	8	16	10	289	21	9	28	9	30	3	23	20	7	3
PHF	0.75	0.80	0.50		0.83	0.78	0.66		0.64	0.75	0.63		0.58	0.83	0.58	
5:00 PM - 6:00 PM	24	278	14	3	17	309	20	7	18	11	20	0	9	28	11	0
PHF	0.75	0.83	0.70		0.85	0.85	0.63		0.56	0.69	0.63		0.56	0.88	0.55	

	PHF	Trucks
AM	0.906	3.9%
PM	0.895	1.3%



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:
Yamabe and Horn Engineering, Inc.
2985 N. Burl, Suite 101
Fresno, CA 93727

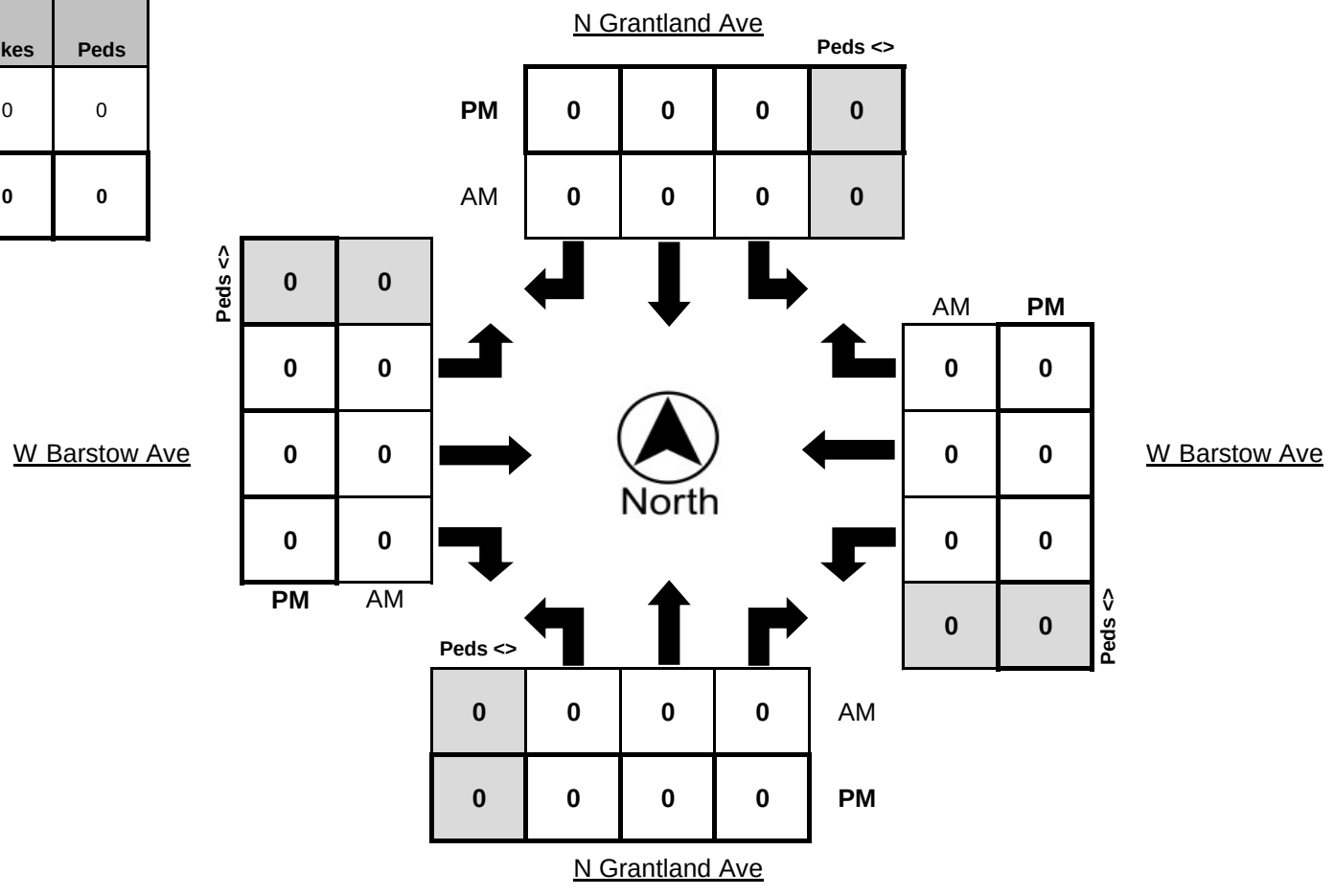
LOCATION Barstow Ave @ Grantland Ave
LATITUDE 36.8152
COUNTY Fresno
LONGITUDE -119.9165
COLLECTION DATE Tuesday, September 12, 2017
WEATHER Clear

	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	1	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	2	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	1
TOTAL	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**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	1	0	0	0	0	0	0	1	0
4:15 PM - 4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2	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	1	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**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**3**	**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
7:00 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	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

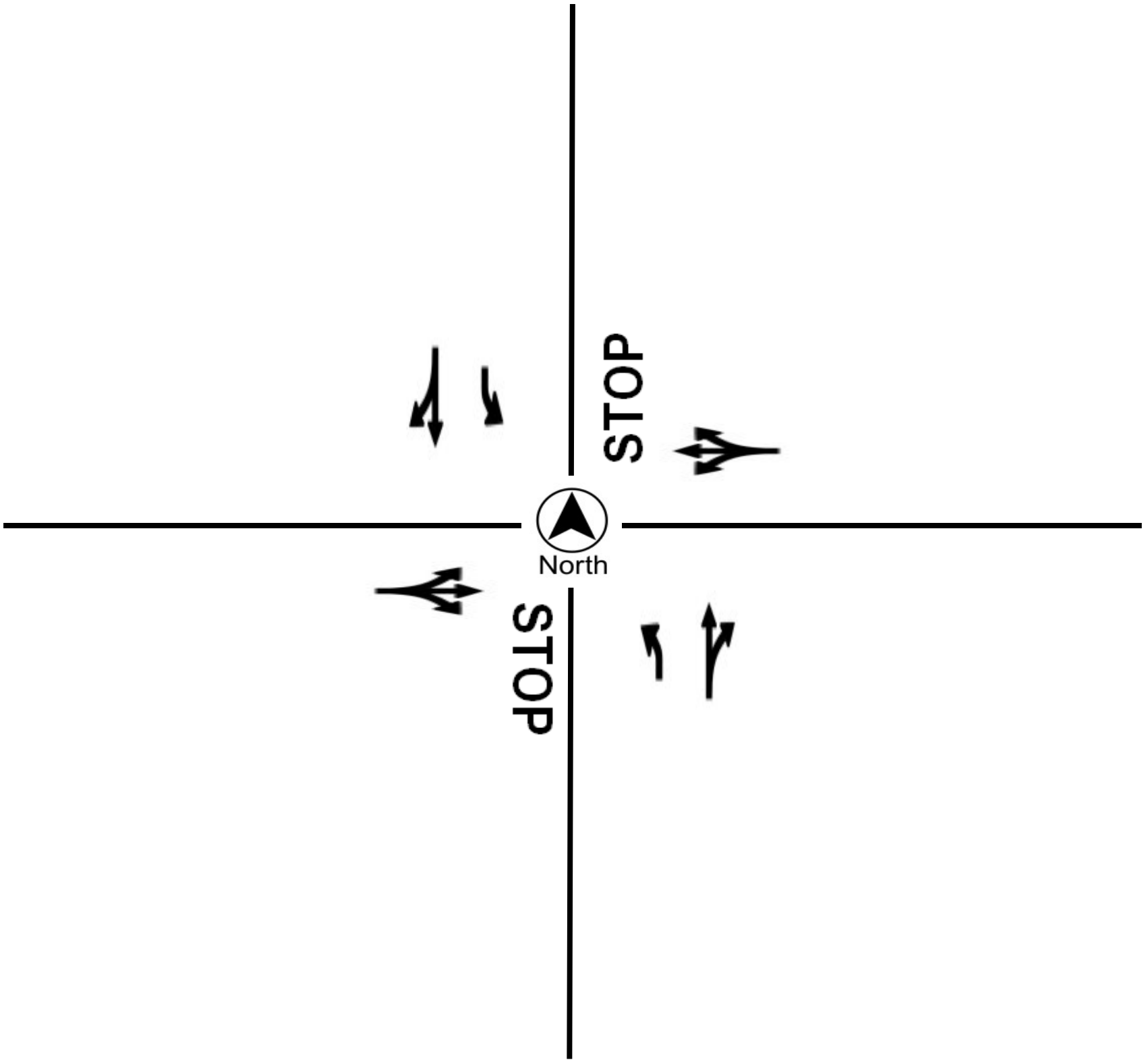
Turning Movement Report

Prepared For:

Yamabe and Horn Engineering, Inc.
2985 N. Burl, Suite 101
Fresno, CA 93727

LOCATION	Barstow Ave @ Grantland Ave	**N/S STREET**	N Grantland Ave / N Grantland Ave
COUNTY	Fresno	**E/W STREET**	W Barstow Ave / W Barstow Ave
COLLECTION DATE	Tuesday, September 12, 2017	**WEATHER**	Clear
CYCLE TIME	N/A	**CONTROL TYPE**	Two Way Stop

COMMENTS



LOCATION	Barstow Ave @ Grantland Ave	**LATITUDE**	36.8152
COUNTY	Fresno	**LONGITUDE**	-119.9165
COLLECTION DATE	Tuesday, September 12, 2017	**WEATHER**	Clear

APPROACH TOTALS	Northbound	Southbound	Eastbound	Westbound	TOTALS
	78	104	20	11	213
AM	113	78	18	11	**220**
	99	71	17	11	198
	70	67	12	17	166
				INTERSECTION TOTAL	797
				PHF	0.91

APPROACH TOTALS	Northbound	Southbound	Eastbound	Westbound	TOTALS
	76	80	9	14	179
PM	63	82	6	10	161
	81	101	17	8	207
	96	83	17	16	**212**
				INTERSECTION TOTAL	759
				PHF	0.90

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Turning Movement Report

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Fresno, CA 93727

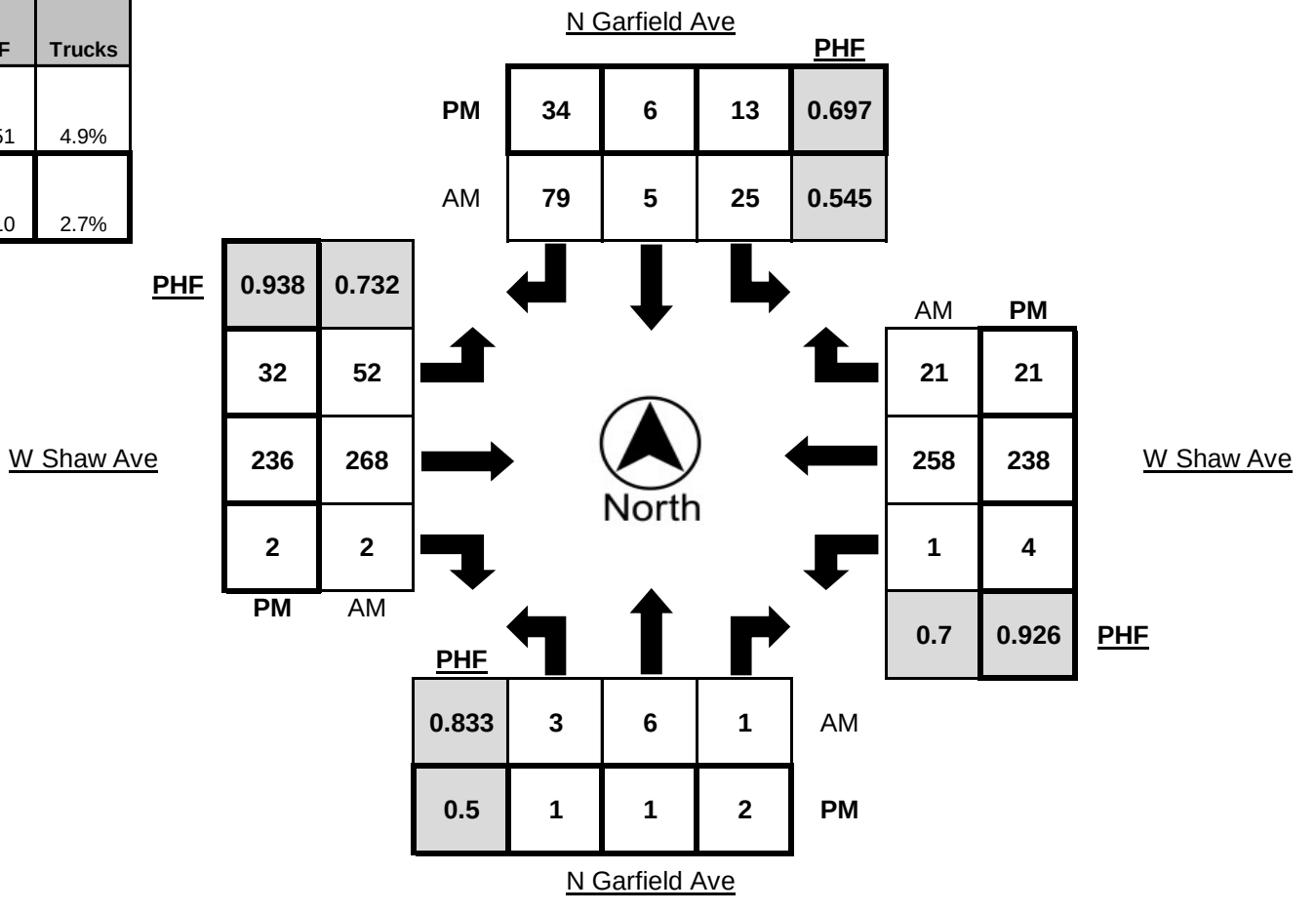
LOCATION Shaw Ave @ Garfield Ave
LATITUDE 36.8078
COUNTY Fresno
LONGITUDE -119.9255
COLLECTION DATE Tuesday, September 12, 2017
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	2	1	1	8	2	40	0	16	70	1	7	0	95	5	5
7:15 AM - 7:30 AM	1	2	0	0	8	0	10	1	17	92	1	6	1	59	3	5
7:30 AM - 7:45 AM	1	1	0	0	2	1	18	0	8	53	0	4	0	52	9	2
7:45 AM - 8:00 AM	1	1	0	0	7	2	11	0	11	53	0	1	0	52	4	3
8:00 AM - 8:15 AM	0	1	0	0	7	0	5	0	10	64	0	2	0	34	1	1
8:15 AM - 8:30 AM	0	0	0	0	7	2	13	0	3	49	0	1	0	40	4	1
8:30 AM - 8:45 AM	0	0	0	0	5	1	6	1	3	56	0	4	0	43	1	2
8:45 AM - 9:00 AM	0	0	1	0	2	1	5	0	6	59	0	3	1	27	0	1
TOTAL	**3**	**7**	**2**	**1**	**46**	**9**	**108**	**2**	**74**	**496**	**2**	**28**	**2**	**402**	**27**	**20**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	0	0	0	2	2	8	1	10	54	0	2	0	50	5	3
4:15 PM - 4:30 PM	0	0	1	0	3	0	11	0	8	58	0	1	0	69	5	3
4:30 PM - 4:45 PM	0	0	0	0	1	1	6	0	8	73	0	3	1	50	1	1
4:45 PM - 5:00 PM	0	0	2	0	3	1	9	0	6	58	1	2	0	56	6	2
5:00 PM - 5:15 PM	0	0	0	0	0	1	6	0	10	62	0	2	3	58	2	2
5:15 PM - 5:30 PM	1	1	0	0	5	1	13	0	8	61	1	1	1	62	8	0
5:30 PM - 5:45 PM	0	0	0	0	5	3	6	1	8	55	0	3	0	62	5	3
5:45 PM - 6:00 PM	0	0	0	0	3	0	8	0	2	54	0	1	1	67	6	1
TOTAL	**1**	**1**	**3**	**0**	**22**	**9**	**67**	**2**	**60**	**475**	**2**	**15**	**6**	**474**	**38**	**15**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	3	6	1	1	25	5	79	1	52	268	2	18	1	258	21	15
PHF	0.75	0.75	0.25		0.78	0.63	0.49		0.76	0.73	0.50		0.25	0.68	0.58	
4:45 PM - 5:45 PM	1	1	2	0	13	6	34	1	32	236	2	8	4	238	21	7
PHF	0.25	0.25	0.25		0.65	0.50	0.65		0.80	0.95	0.50		0.33	0.96	0.66	

	PHF	Trucks
AM	0.751	4.9%
PM	0.910	2.7%



Metro Traffic Data Inc.
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Hanford, CA 93230

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Turning Movement Report

Prepared For:
Yamabe and Horn Engineering, Inc.
2985 N. Burl, Suite 101
Fresno, CA 93727

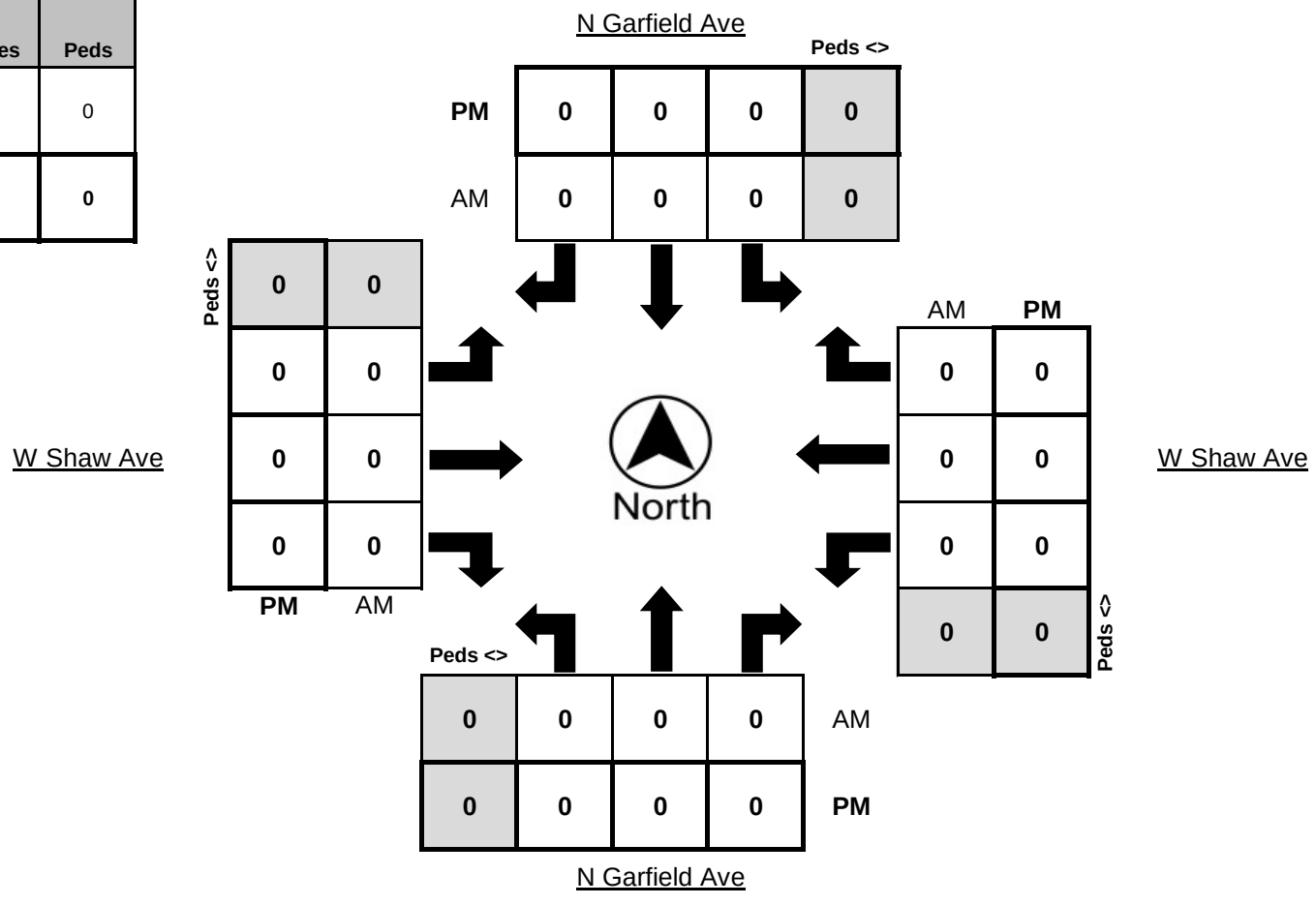
LOCATION Shaw Ave @ Garfield Ave
LATITUDE 36.8078
COUNTY Fresno
LONGITUDE -119.9255
COLLECTION DATE Tuesday, September 12, 2017
WEATHER Clear

	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	1	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**	**1**	**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	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
7:00 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:45 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**



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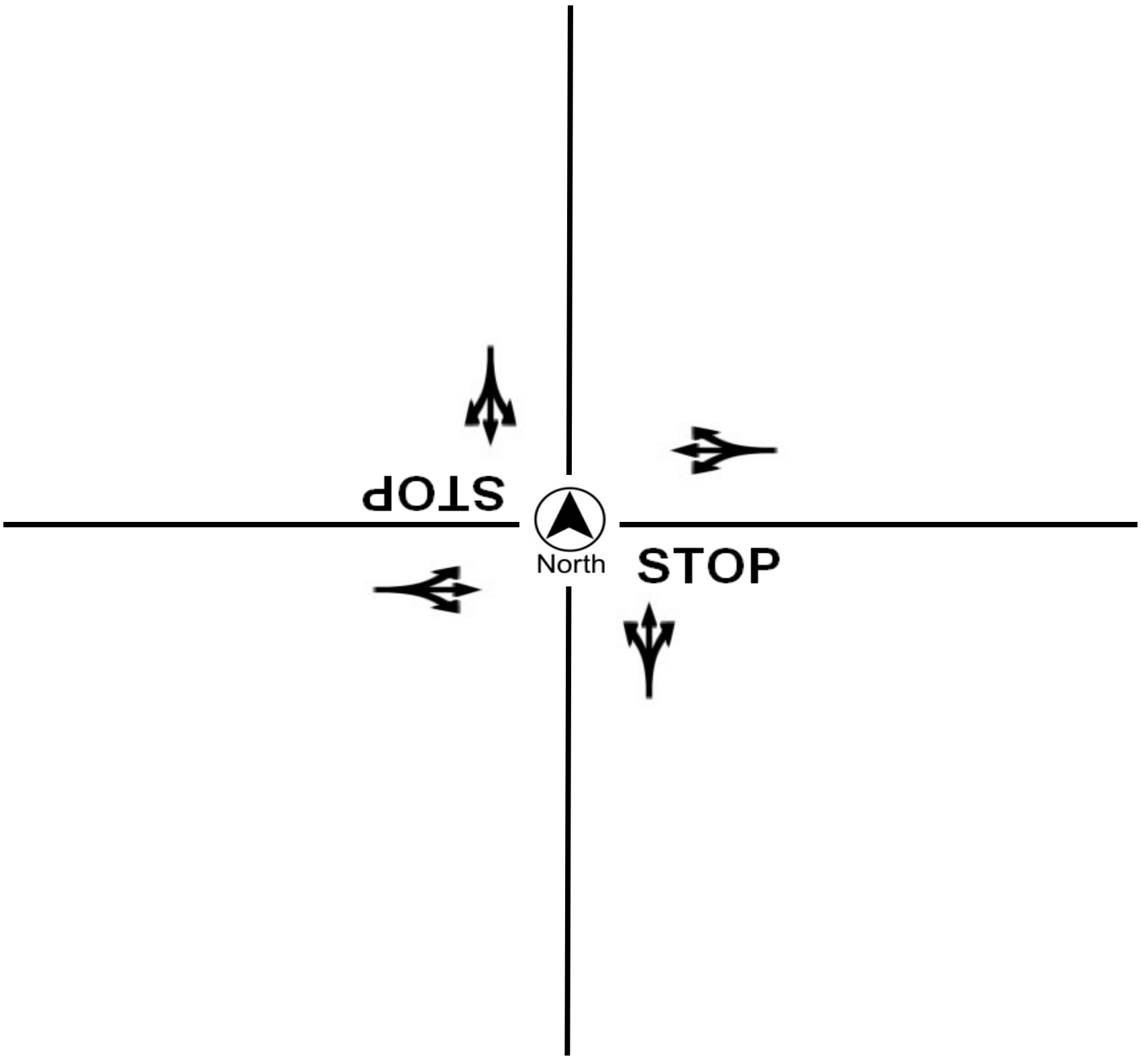
Turning Movement Report

Prepared For:

Yamabe and Horn Engineering, Inc.
2985 N. Burl, Suite 101
Fresno, CA 93727

LOCATION	Shaw Ave @ Garfield Ave	**N/S STREET**	N Garfield Ave / N Garfield Ave
COUNTY	Fresno	**E/W STREET**	W Shaw Ave / W Shaw Ave
COLLECTION DATE	Tuesday, September 12, 2017	**WEATHER**	Clear
CYCLE TIME	N/A	**CONTROL TYPE**	Two Way Stop

COMMENTS



LOCATION	Shaw Ave @ Garfield Ave	**LATITUDE**	36.8078
COUNTY	Fresno	**LONGITUDE**	-119.9255
COLLECTION DATE	Tuesday, September 12, 2017	**WEATHER**	Clear

APPROACH TOTALS	Northbound	Southbound	Eastbound	Westbound	TOTALS
	3	50	87	100	**240**
AM	3	18	110	63	194
	2	21	61	61	145
	2	20	64	56	142
				INTERSECTION TOTAL	721
				PHF	0.75

APPROACH TOTALS	Northbound	Southbound	Eastbound	Westbound	TOTALS
	2	13	65	62	142
PM	0	7	72	63	142
	2	19	70	71	**162**
	0	14	63	67	144
				INTERSECTION TOTAL	590
				PHF	0.91

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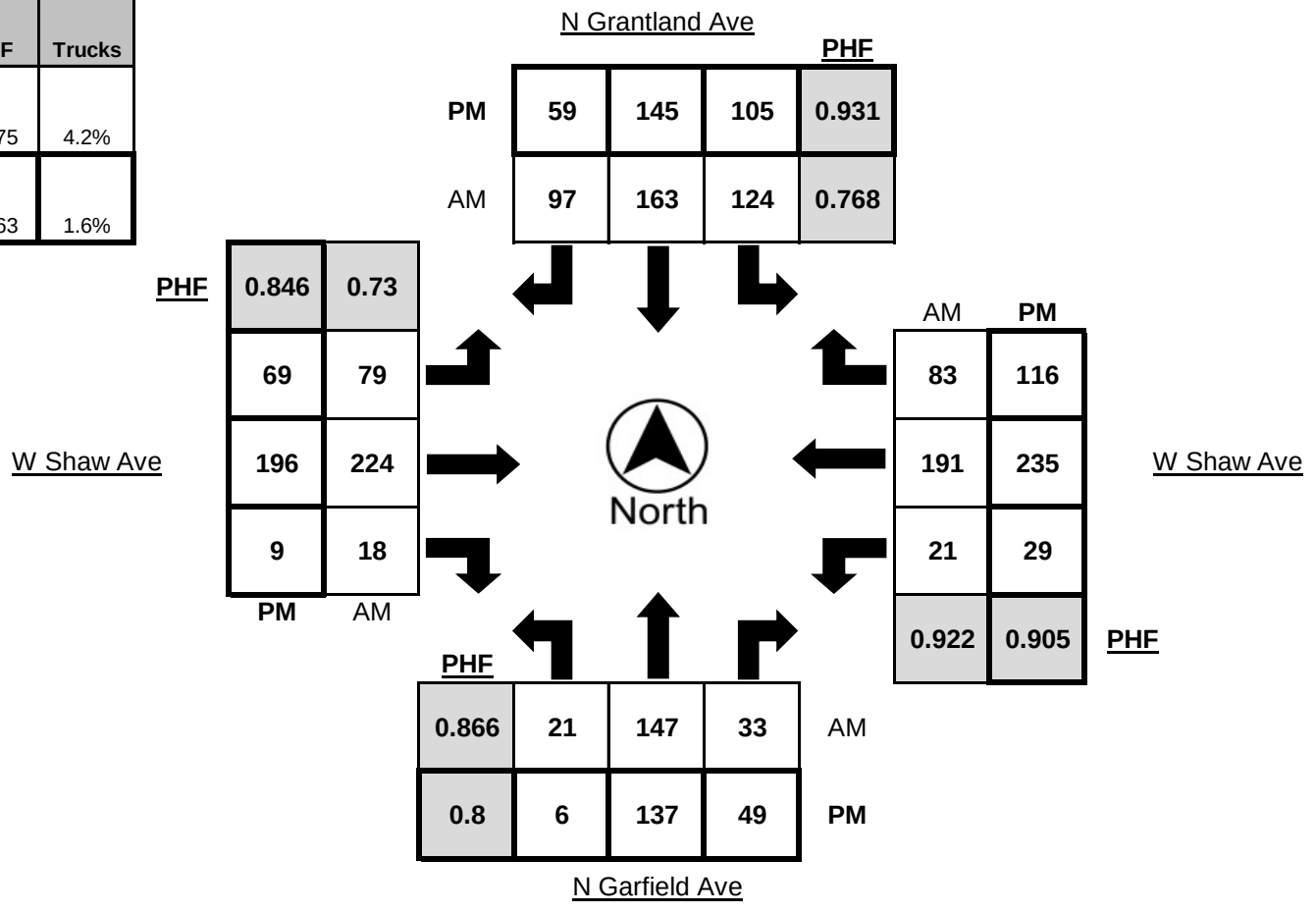
LOCATION Shaw Ave @ Grantland Ave
LATITUDE 36.8079
COUNTY Fresno
LONGITUDE -119.9165
COLLECTION DATE Tuesday, September 12, 2017
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	7	32	8	3	39	46	40	4	15	52	6	4	3	57	16	4
7:15 AM - 7:30 AM	6	41	11	1	40	37	18	0	28	79	3	4	7	49	24	7
7:30 AM - 7:45 AM	5	39	10	3	19	47	21	5	23	44	2	3	5	40	27	4
7:45 AM - 8:00 AM	3	35	4	4	26	33	18	2	13	49	7	0	6	45	16	2
8:00 AM - 8:15 AM	5	17	3	2	38	18	10	3	8	68	6	3	5	27	27	2
8:15 AM - 8:30 AM	5	24	8	2	35	20	11	5	17	38	5	1	4	37	32	4
8:30 AM - 8:45 AM	3	23	6	3	27	26	16	7	13	50	1	2	5	32	17	4
8:45 AM - 9:00 AM	2	20	9	0	23	17	6	2	6	53	4	2	4	27	14	3
TOTAL	**36**	**231**	**59**	**18**	**247**	**244**	**140**	**28**	**123**	**433**	**34**	**19**	**39**	**314**	**173**	**30**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	6	29	8	2	26	21	9	6	23	44	1	3	6	45	34	3
4:15 PM - 4:30 PM	6	42	2	1	17	27	12	5	22	53	4	1	11	60	17	4
4:30 PM - 4:45 PM	6	42	5	3	27	22	11	4	27	54	4	2	2	44	24	0
4:45 PM - 5:00 PM	3	29	2	1	31	26	7	2	17	45	6	1	7	62	31	2
5:00 PM - 5:15 PM	1	35	7	1	22	38	12	2	19	40	2	2	5	56	29	1
5:15 PM - 5:30 PM	1	21	10	1	21	35	19	0	17	60	4	0	10	64	31	1
5:30 PM - 5:45 PM	2	38	17	0	29	37	17	1	18	49	3	3	8	54	24	2
5:45 PM - 6:00 PM	2	43	15	1	33	35	11	1	15	47	0	1	6	61	32	2
TOTAL	**27**	**279**	**66**	**10**	**206**	**241**	**98**	**21**	**158**	**392**	**24**	**13**	**55**	**446**	**222**	**15**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	21	147	33	11	124	163	97	11	79	224	18	11	21	191	83	17
PHF	0.75	0.90	0.75		0.78	0.87	0.61		0.71	0.71	0.64		0.75	0.84	0.77	
5:00 PM - 6:00 PM	6	137	49	3	105	145	59	4	69	196	9	6	29	235	116	6
PHF	0.75	0.80	0.72		0.80	0.95	0.78		0.91	0.82	0.56		0.73	0.92	0.91	

	PHF	Trucks
AM	0.875	4.2%
PM	0.963	1.6%



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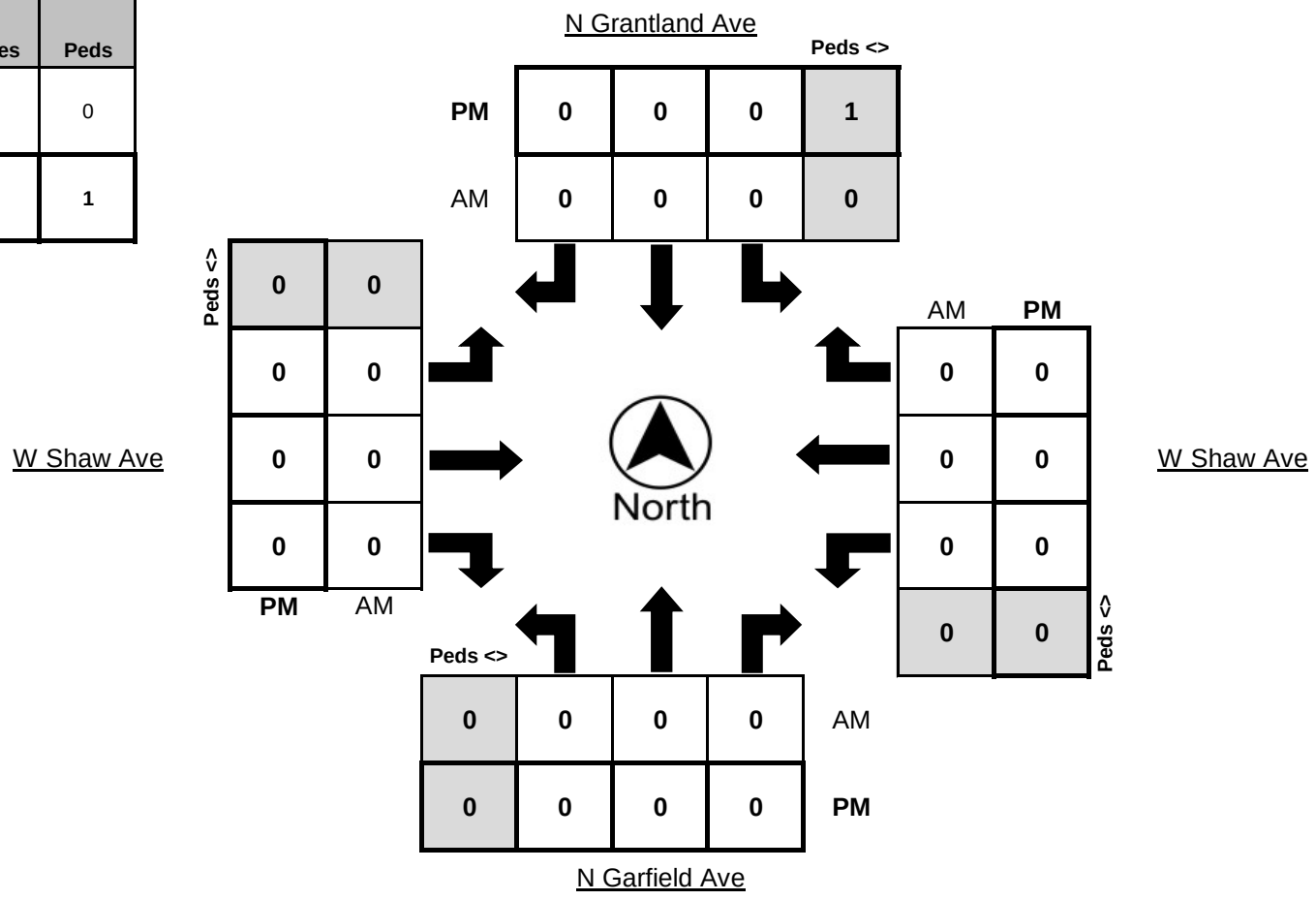
LOCATION Shaw Ave @ Grantland Ave
LATITUDE 36.8079
COUNTY Fresno
LONGITUDE -119.9165
COLLECTION DATE Tuesday, September 12, 2017
WEATHER Clear

	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	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**

	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	1	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**1**	**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
7:00 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 6:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	0	1



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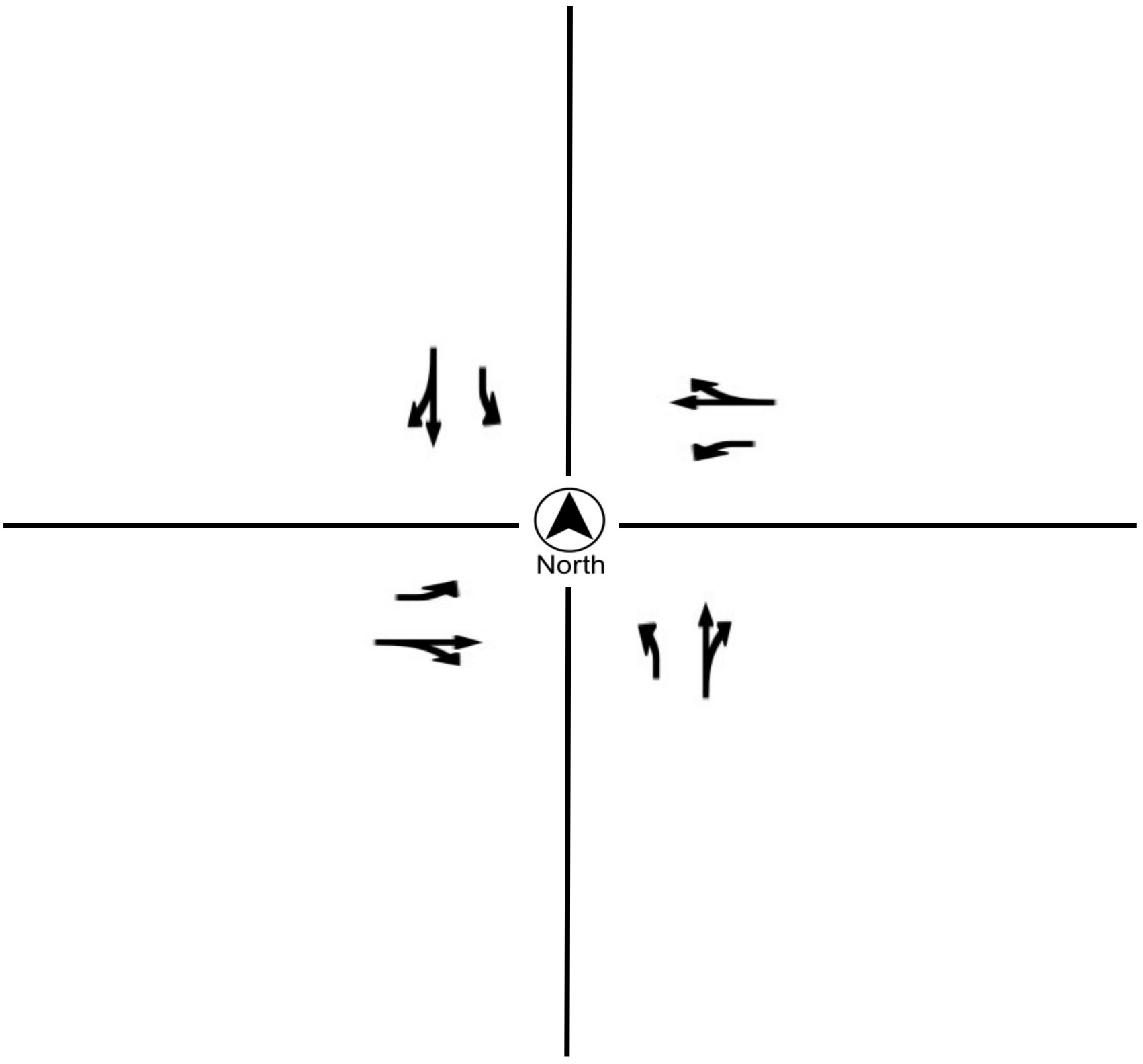
Turning Movement Report

Prepared For:

Yamabe and Horn Engineering, Inc.
2985 N. Burl, Suite 101
Fresno, CA 93727

LOCATION	Shaw Ave @ Grantland Ave	**N/S STREET**	N Grantland Ave / N Garfield Ave
COUNTY	Fresno	**E/W STREET**	W Shaw Ave / W Shaw Ave
COLLECTION DATE	Tuesday, September 12, 2017	**WEATHER**	Clear
CYCLE TIME	85 Seconds	**CONTROL TYPE**	Signal

COMMENTS All approaches have protected left turns.



LOCATION	Shaw Ave @ Grantland Ave	**LATITUDE**	36.8079
COUNTY	Fresno	**LONGITUDE**	-119.9165
COLLECTION DATE	Tuesday, September 12, 2017	**WEATHER**	Clear

APPROACH TOTALS	Northbound	Southbound	Eastbound	Westbound	TOTALS
	47	125	73	76	321
AM	58	95	110	80	**343**
	54	87	69	72	282
	42	77	69	67	255
				INTERSECTION TOTAL	1201
				PHF	0.88

APPROACH TOTALS	Northbound	Southbound	Eastbound	Westbound	TOTALS
	43	72	61	90	266
PM	32	75	81	105	293
	57	83	70	86	296
	60	79	62	99	**300**
				INTERSECTION TOTAL	1155
				PHF	0.96

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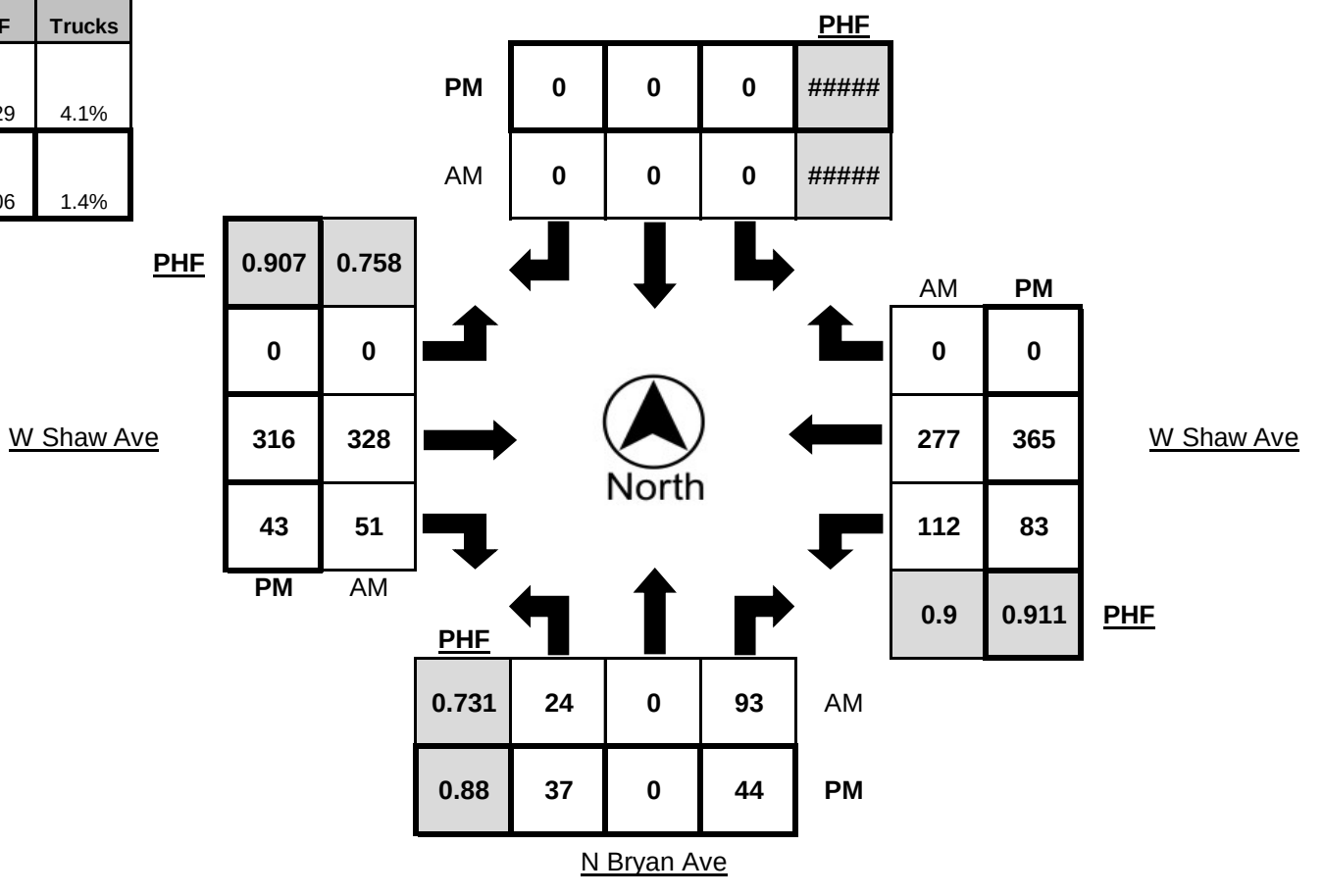
LOCATION Shaw Ave @ Bryan Ave
LATITUDE 36.8079
COUNTY Fresno
LONGITUDE -119.9074
COLLECTION DATE Tuesday, September 12, 2017
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	4	0	22	0	0	0	0	0	0	87	13	4	20	79	0	4
7:15 AM - 7:30 AM	6	0	28	0	0	0	0	0	0	110	15	3	35	73	0	10
7:30 AM - 7:45 AM	10	0	30	1	0	0	0	0	0	66	10	4	38	63	0	5
7:45 AM - 8:00 AM	4	0	13	0	0	0	0	0	0	65	13	3	19	62	0	2
8:00 AM - 8:15 AM	7	0	18	1	0	0	0	0	0	98	12	6	22	52	0	3
8:15 AM - 8:30 AM	12	0	24	2	0	0	0	0	0	78	7	3	22	62	0	4
8:30 AM - 8:45 AM	4	0	19	0	0	0	0	0	0	76	3	9	3	51	0	3
8:45 AM - 9:00 AM	3	0	8	0	0	0	0	0	0	93	3	5	6	39	0	4
TOTAL	**50**	**0**	**162**	**4**	**0**	**0**	**0**	**0**	**0**	**673**	**76**	**37**	**165**	**481**	**0**	**35**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	6	0	5	0	0	0	0	0	0	73	5	7	4	76	0	3
4:15 PM - 4:30 PM	7	0	8	0	0	0	0	0	0	71	2	3	17	93	0	4
4:30 PM - 4:45 PM	5	0	17	0	0	0	0	0	0	75	8	2	10	67	0	2
4:45 PM - 5:00 PM	5	0	5	1	0	0	0	0	0	66	10	3	15	90	0	2
5:00 PM - 5:15 PM	11	0	7	0	0	0	0	0	0	68	6	1	19	91	0	1
5:15 PM - 5:30 PM	6	0	11	0	0	0	0	0	0	79	11	1	26	90	0	2
5:30 PM - 5:45 PM	9	0	14	0	0	0	0	0	0	82	17	2	23	100	0	2
5:45 PM - 6:00 PM	11	0	12	0	0	0	0	0	0	87	9	1	15	84	0	2
TOTAL	**60**	**0**	**79**	**1**	**0**	**0**	**0**	**0**	**0**	**601**	**68**	**20**	**129**	**691**	**0**	**18**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	24	0	93	1	0	0	0	0	0	328	51	14	112	277	0	21
PHF	0.60		0.78							0.75	0.85		0.74	0.88		
5:00 PM - 6:00 PM	37	0	44	0	0	0	0	0	0	316	43	5	83	365	0	7
PHF	0.84		0.79							0.91	0.63		0.80	0.91		

	PHF	Trucks
AM	0.829	4.1%
PM	0.906	1.4%



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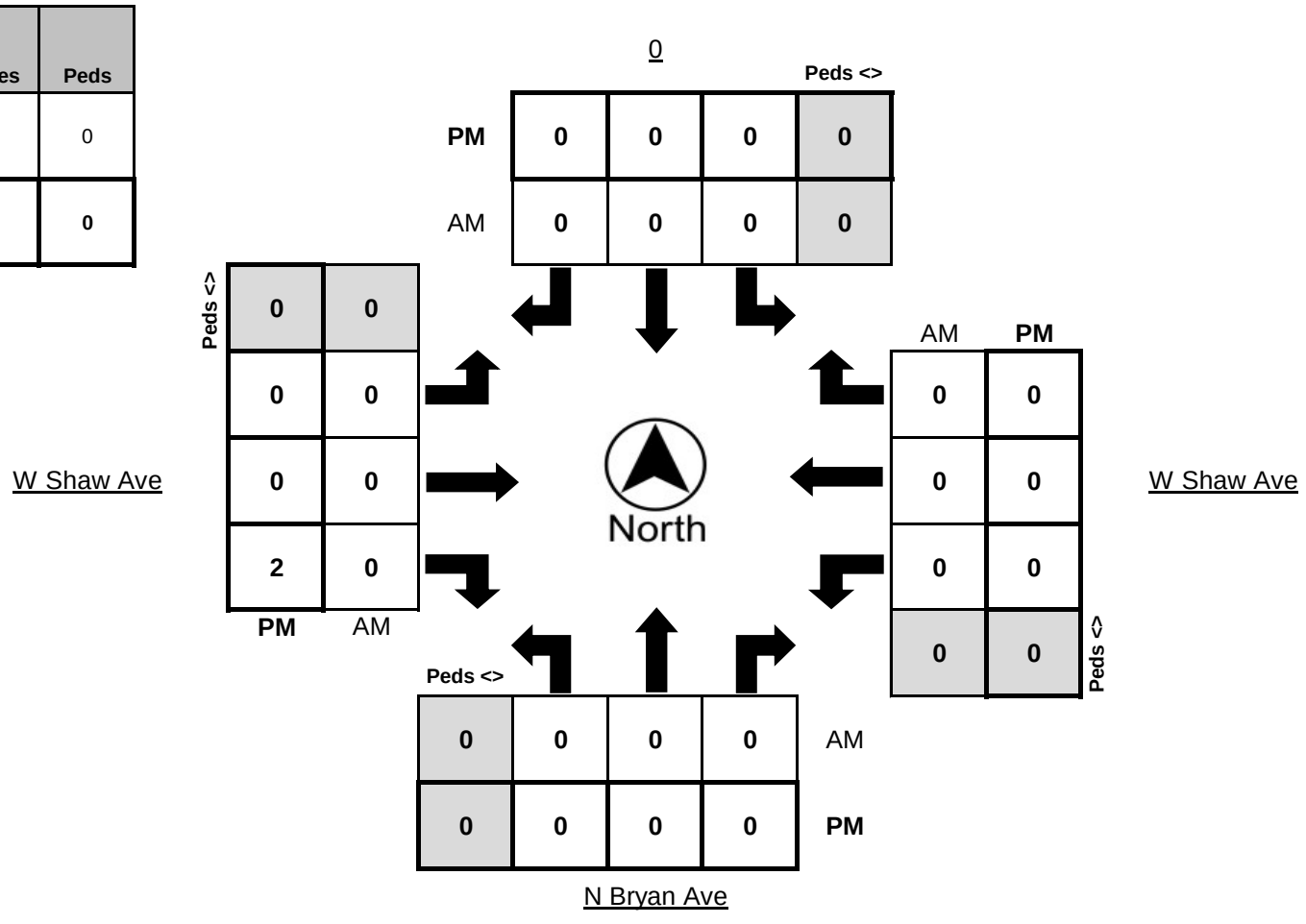
LOCATION Shaw Ave @ Bryan Ave
LATITUDE 36.8079
COUNTY Fresno
LONGITUDE -119.9074
COLLECTION DATE Tuesday, September 12, 2017
WEATHER Clear

	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	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**

	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	2	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**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
7:00 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	**2**	**0**



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310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

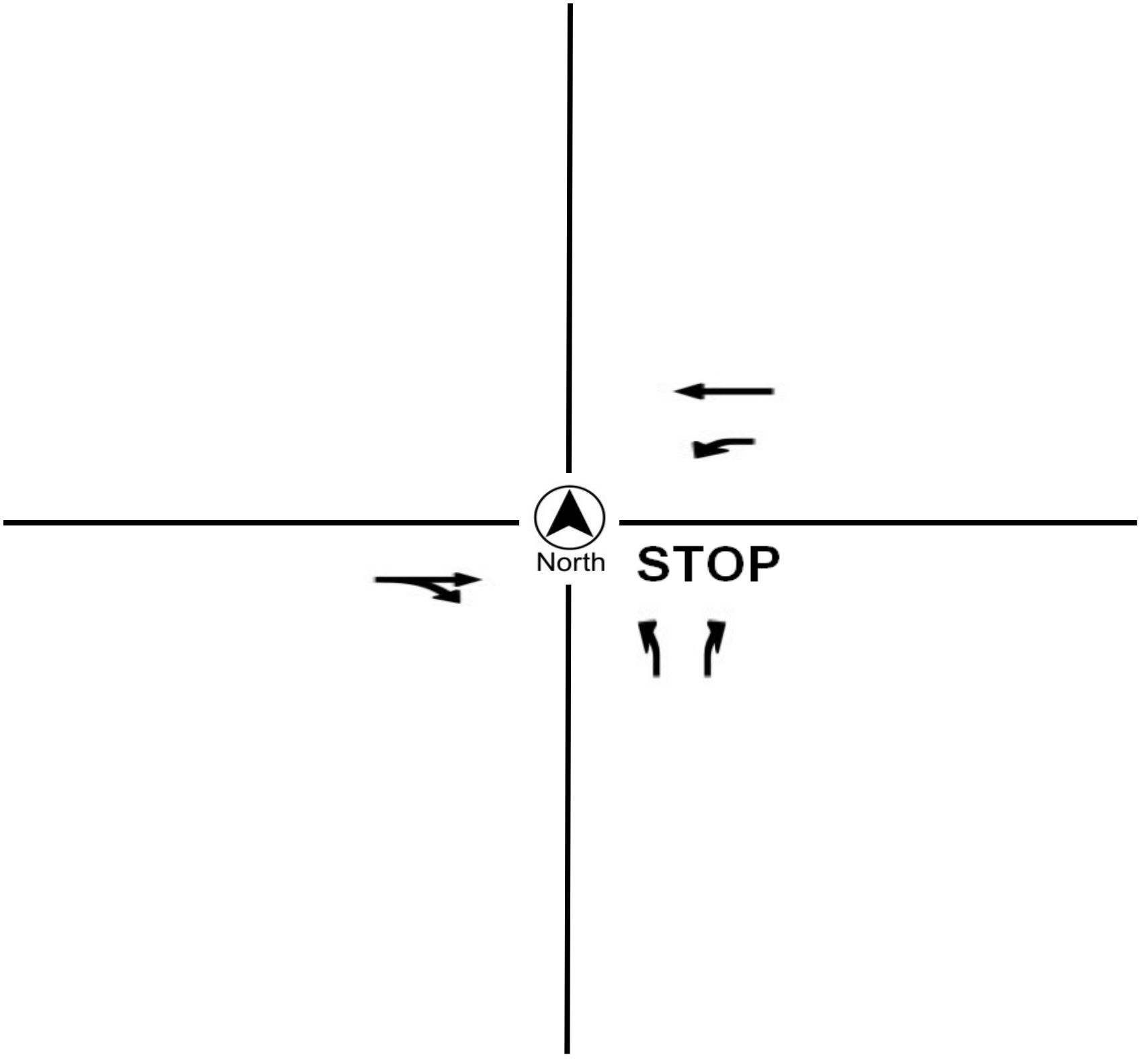
Turning Movement Report

Prepared For:

Yamabe and Horn Engineering, Inc.
2985 N. Burl, Suite 101
Fresno, CA 93727

LOCATION	Shaw Ave @ Bryan Ave	**N/S STREET**	/ N Bryan Ave
COUNTY	Fresno	**E/W STREET**	W Shaw Ave / W Shaw Ave
COLLECTION DATE	Tuesday, September 12, 2017	**WEATHER**	Clear
CYCLE TIME	N/A	**CONTROL TYPE**	One Way Stop

COMMENTS



LOCATION	Shaw Ave @ Bryan Ave	**LATITUDE**	36.8079
COUNTY	Fresno	**LONGITUDE**	-119.9074
COLLECTION DATE	Tuesday, September 12, 2017	**WEATHER**	Clear

APPROACH TOTALS	Northbound	Southbound	Eastbound	Westbound	TOTALS
	26	0	100	99	225
AM	34	0	125	108	**267**
	40	0	76	101	217
	17	0	78	81	176
				INTERSECTION TOTAL	885
				PHF	0.83

APPROACH TOTALS	Northbound	Southbound	Eastbound	Westbound	TOTALS
	18	0	74	110	202
PM	17	0	90	116	223
	23	0	99	123	**245**
	23	0	96	99	218
				INTERSECTION TOTAL	888
				PHF	0.91

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File Name : Shaw Hayes
Site Code : 00000000
Start Date : 4/10/2018
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

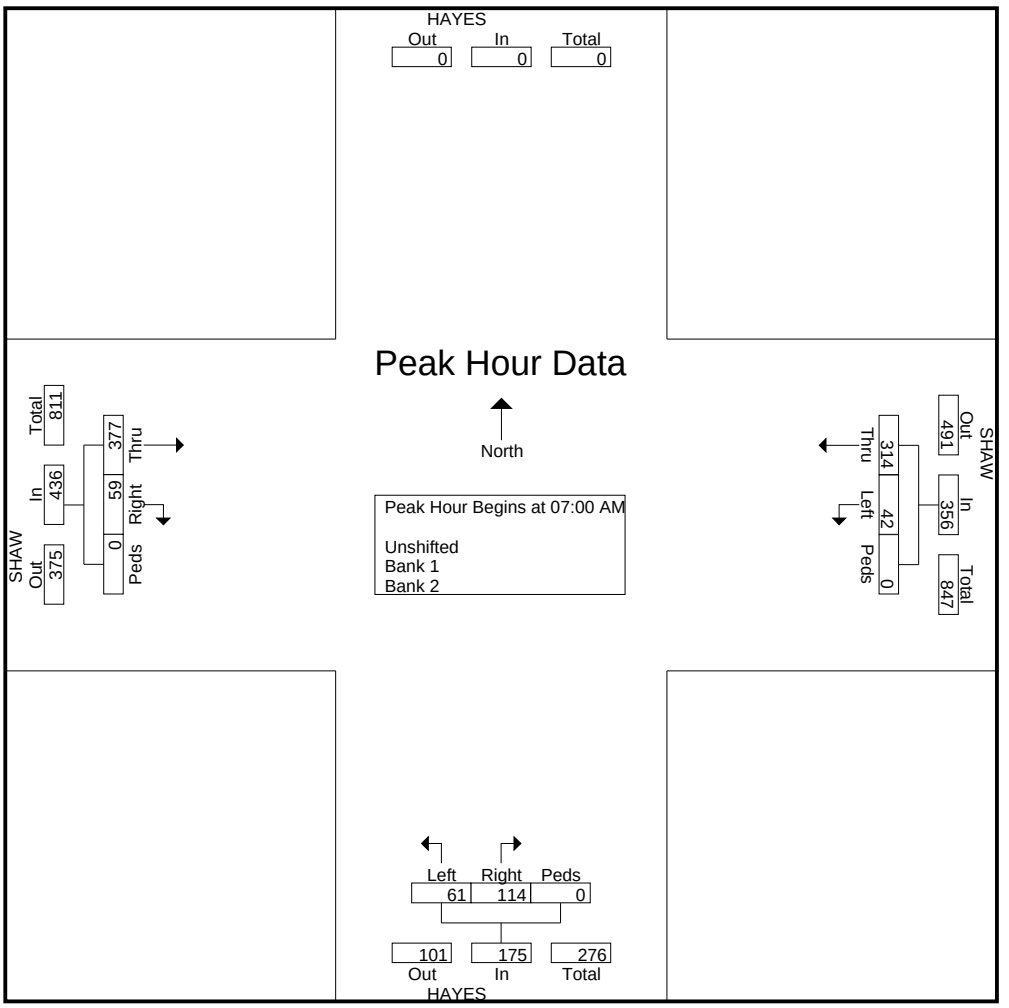
	SHAW Westbound				HAYES Northbound				SHAW Eastbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	13	75	0	88	8	30	0	38	96	22	0	118	244
07:15 AM	8	94	0	102	23	39	0	62	79	12	0	91	255
07:30 AM	7	81	0	88	19	27	0	46	107	14	0	121	255
07:45 AM	14	64	0	78	11	18	0	29	95	11	0	106	213
Total	42	314	0	356	61	114	0	175	377	59	0	436	967
08:00 AM	10	60	0	70	13	24	0	37	91	6	0	97	204
08:15 AM	4	62	0	66	9	12	0	21	104	14	3	121	208
08:30 AM	10	42	0	52	5	17	0	22	81	8	0	89	163
08:45 AM	9	60	0	69	5	15	0	20	75	5	0	80	169
Total	33	224	0	257	32	68	0	100	351	33	3	387	744
******													
04:00 PM	21	77	0	98	4	17	0	21	68	8	0	76	195
04:15 PM	23	68	0	91	4	11	0	15	85	5	0	90	196
04:30 PM	17	85	0	102	9	16	0	25	91	8	0	99	226
04:45 PM	23	101	0	124	10	17	0	27	85	9	0	94	245
Total	84	331	0	415	27	61	0	88	329	30	0	359	862
05:00 PM	29	121	0	150	5	14	0	19	99	19	0	118	287
05:15 PM	29	105	0	134	12	15	0	27	84	17	0	101	262
05:30 PM	26	106	0	132	10	23	0	33	79	12	0	91	256
05:45 PM	21	86	0	107	8	15	0	23	85	13	0	98	228
Total	105	418	0	523	35	67	0	102	347	61	0	408	1033
Grand Total	264	1287	0	1551	155	310	0	465	1404	183	3	1590	3606
Apprch %	17	83	0		33.3	66.7	0		88.3	11.5	0.2		
Total %	7.3	35.7	0	43	4.3	8.6	0	12.9	38.9	5.1	0.1	44.1	
Unshifted	263	1287	0	1550	155	310	0	465	1403	183	3	1589	3604
% Unshifted	99.6	100	0	99.9	100	100	0	100	99.9	100	100	99.9	99.9
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0
Bank 2	1	0	0	1	0	0	0	0	1	0	0	1	2
% Bank 2	0.4	0	0	0.1	0	0	0	0	0.1	0	0	0.1	0.1

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	SHAW Westbound				HAYES Northbound				SHAW Eastbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	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 07:00 AM													
07:00 AM	13	75	0	88	8	30	0	38	96	**22**	0	118	244
07:15 AM	8	**94**	0	**102**	**23**	**39**	0	**62**	79	12	0	91	**255**
07:30 AM	7	81	0	88	19	27	0	46	**107**	14	0	**121**	255
07:45 AM	**14**	64	0	78	11	18	0	29	95	11	0	106	213
Total Volume	42	314	0	356	61	114	0	175	377	59	0	436	967
% App. Total	11.8	88.2	0		34.9	65.1	0		86.5	13.5	0		
PHF	.750	.835	.000	.873	.663	.731	.000	.706	.881	.670	.000	.901	.948

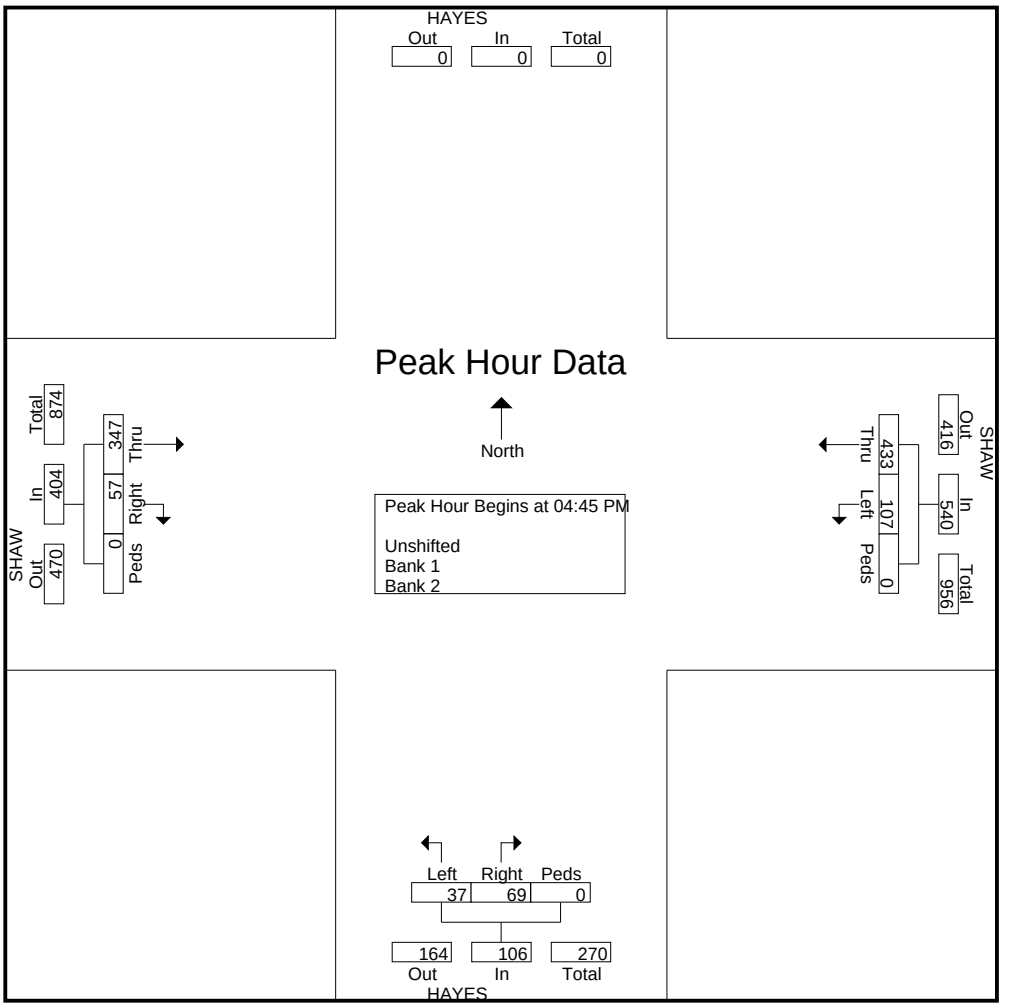


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File Name : Shaw Hayes
Site Code : 00000000
Start Date : 4/10/2018
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	SHAW Westbound				HAYES Northbound				SHAW Eastbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	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 04:45 PM													
04:45 PM	23	101	0	124	10	17	0	27	85	9	0	94	245
05:00 PM	**29**	**121**	0	**150**	5	14	0	19	**99**	**19**	0	**118**	**287**
05:15 PM	29	105	0	134	**12**	15	0	27	84	17	0	101	262
05:30 PM	26	106	0	132	10	**23**	0	**33**	79	12	0	91	256
Total Volume	107	433	0	540	37	69	0	106	347	57	0	404	1050
% App. Total	19.8	80.2	0		34.9	65.1	0		85.9	14.1	0		
PHF	.922	.895	.000	.900	.771	.750	.000	.803	.876	.750	.000	.856	.915



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File Name : Grantland Avenue and Stadium Drive
Site Code : 00000007
Start Date : 9/26/2018
Page No : 1

Groups Printed- Unshifted

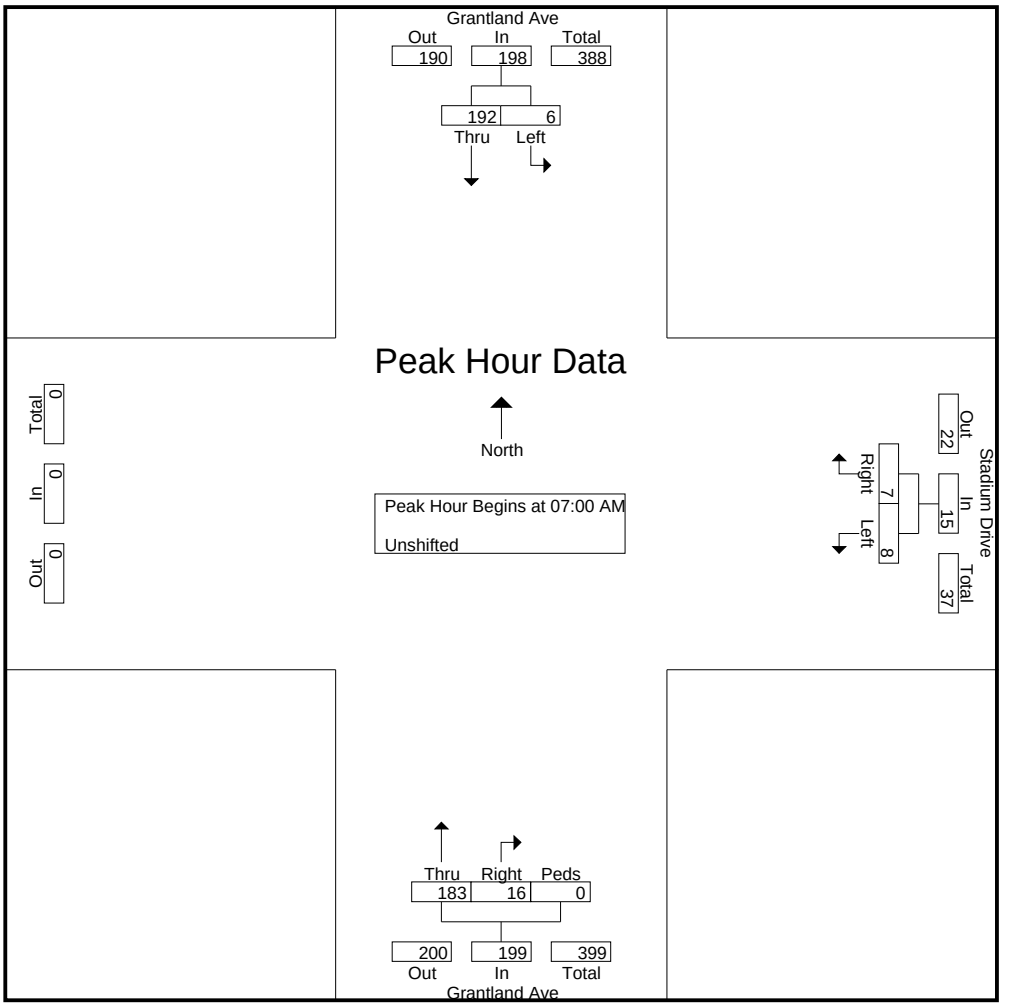
	Grantland Ave Southbound			Stadium Drive Westbound			Grantland Ave Northbound				
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	55	55	2	1	3	38	3	0	41	99
07:15 AM	2	48	50	1	2	3	66	4	0	70	123
07:30 AM	1	47	48	3	1	4	40	7	0	47	99
07:45 AM	3	42	45	2	3	5	39	2	0	41	91
Total	6	192	198	8	7	15	183	16	0	199	412
08:00 AM	1	36	37	3	1	4	40	6	0	46	87
08:15 AM	2	23	25	4	1	5	29	4	0	33	63
08:30 AM	3	25	28	4	3	7	18	12	0	30	65
08:45 AM	5	25	30	5	5	10	23	15	0	38	78
Total	11	109	120	16	10	26	110	37	0	147	293
******											
04:00 PM	2	39	41	2	4	6	32	2	0	34	81
04:15 PM	3	37	40	9	4	13	22	7	0	29	82
04:30 PM	5	48	53	5	2	7	38	2	0	40	100
04:45 PM	3	45	48	6	2	8	53	2	0	55	111
Total	13	169	182	22	12	34	145	13	0	158	374
05:00 PM	1	38	39	1	5	6	39	3	0	42	87
05:15 PM	3	41	44	0	2	2	36	2	0	38	84
05:30 PM	0	47	47	4	4	8	33	10	0	43	98
05:45 PM	3	21	24	6	2	8	48	3	0	51	83
Total	7	147	154	11	13	24	156	18	0	174	352
Grand Total	37	617	654	57	42	99	594	84	0	678	1431
Apprch %	5.7	94.3		57.6	42.4		87.6	12.4	0		
Total %	2.6	43.1	45.7	4	2.9	6.9	41.5	5.9	0	47.4	

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File Name : Grantland Avenue and Stadium Drive
Site Code : 00000007
Start Date : 9/26/2018
Page No : 2

	Grantland Ave Southbound			Stadium Drive Westbound			Grantland Ave Northbound				
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	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 07:00 AM											
07:00 AM	0	**55**	**55**	2	1	3	38	3	0	41	99
07:15 AM	2	48	50	1	2	3	**66**	4	0	**70**	**123**
07:30 AM	1	47	48	**3**	1	4	40	**7**	0	47	99
07:45 AM	**3**	42	45	2	**3**	**5**	39	2	0	41	91
Total Volume	6	192	198	8	7	15	183	16	0	199	412
% App. Total	3	97		53.3	46.7		92	8	0		
PHF	.500	.873	.900	.667	.583	.750	.693	.571	.000	.711	.837

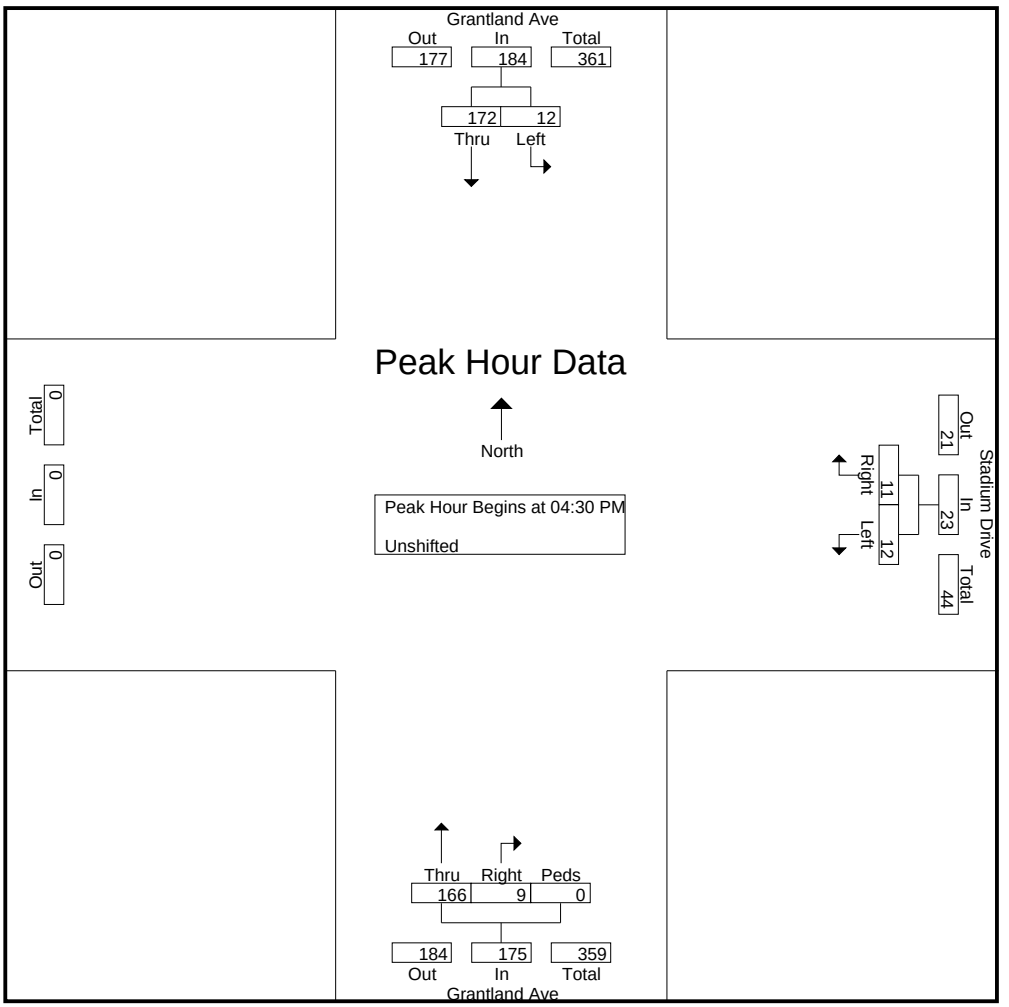


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File Name : Grantland Avenue and Stadium Drive
Site Code : 00000007
Start Date : 9/26/2018
Page No : 3

	Grantland Ave Southbound			Stadium Drive Westbound			Grantland Ave Northbound				
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	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 04:30 PM											
04:30 PM	**5**	**48**	**53**	5	2	7	38	2	0	40	100
04:45 PM	3	45	48	**6**	2	**8**	**53**	2	0	**55**	**111**
05:00 PM	1	38	39	1	**5**	6	39	**3**	0	42	87
05:15 PM	3	41	44	0	2	2	36	2	0	38	84
Total Volume	12	172	184	12	11	23	166	9	0	175	382
% App. Total	6.5	93.5		52.2	47.8		94.9	5.1	0		
PHF	.600	.896	.868	.500	.550	.719	.783	.750	.000	.795	.860



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File Name : Gettysburg Bryan
Site Code : 00000000
Start Date : 4/11/2018
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

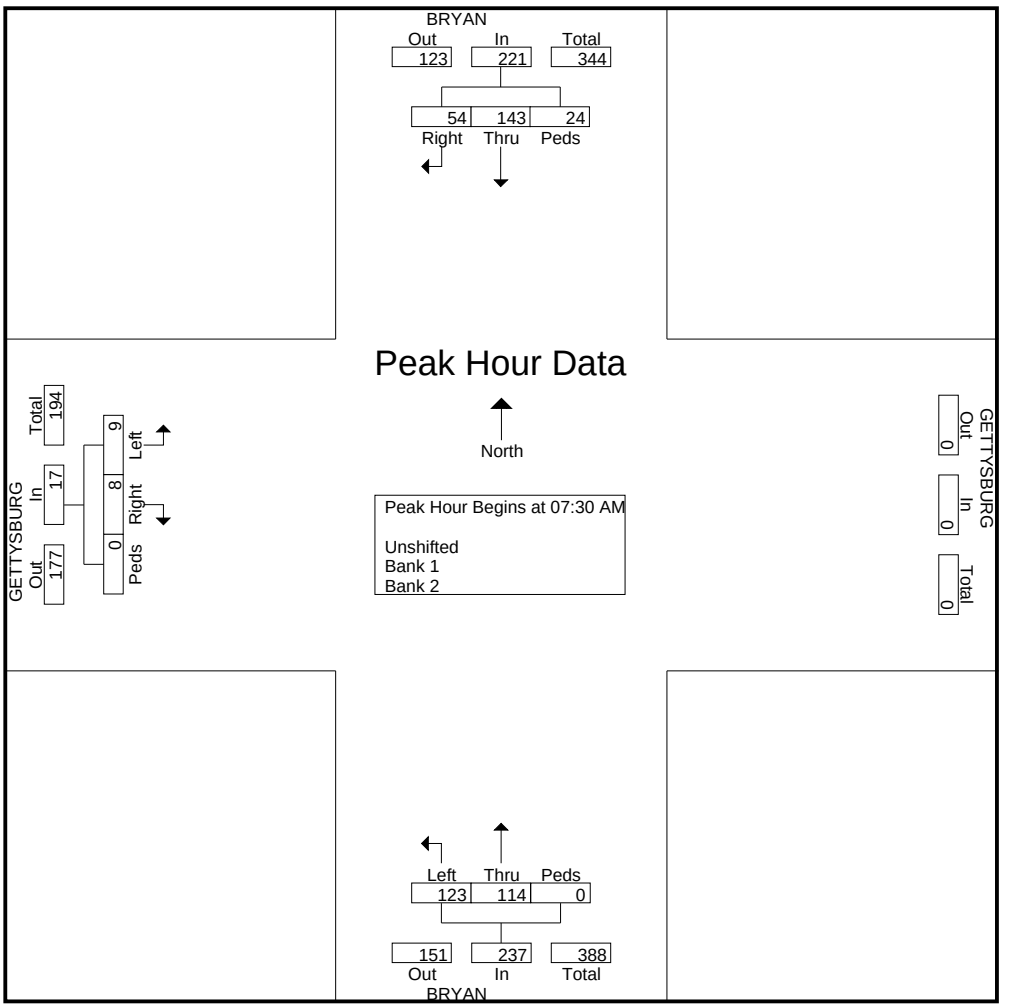
	BRYAN Southbound				BRYAN Northbound				GETTYSBURG Eastbound				
Start Time	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
07:00 AM	41	0	1	42	1	6	0	7	0	0	0	0	49
07:15 AM	48	2	4	54	5	18	0	23	0	0	0	0	77
07:30 AM	70	6	2	78	19	28	0	47	1	0	0	1	126
07:45 AM	16	11	8	35	22	20	0	42	0	1	0	1	78
Total	175	19	15	209	47	72	0	119	1	1	0	2	330
08:00 AM	31	15	5	51	34	28	0	62	3	2	0	5	118
08:15 AM	26	22	9	57	48	38	0	86	5	5	0	10	153
08:30 AM	10	7	1	18	7	14	0	21	8	8	0	16	55
08:45 AM	4	3	1	8	2	7	0	9	3	0	0	3	20
Total	71	47	16	134	91	87	0	178	19	15	0	34	346
******													
04:00 PM	14	0	0	14	2	15	0	17	1	0	0	1	32
04:15 PM	13	4	0	17	6	18	0	24	0	0	1	1	42
04:30 PM	8	7	0	15	6	23	0	29	0	1	0	1	45
04:45 PM	10	5	0	15	10	22	0	32	0	2	0	2	49
Total	45	16	0	61	24	78	0	102	1	3	1	5	168
05:00 PM	5	1	0	6	7	21	0	28	1	0	0	1	35
05:15 PM	24	2	0	26	8	9	0	17	2	1	0	3	46
05:30 PM	19	5	0	24	9	20	0	29	0	0	0	0	53
05:45 PM	31	2	0	33	5	21	0	26	0	0	0	0	59
Total	79	10	0	89	29	71	0	100	3	1	0	4	193
Grand Total	370	92	31	493	191	308	0	499	24	20	1	45	1037
Apprch %	75.1	18.7	6.3		38.3	61.7	0		53.3	44.4	2.2		
Total %	35.7	8.9	3	47.5	18.4	29.7	0	48.1	2.3	1.9	0.1	4.3	
Unshifted	368	92	31	491	191	307	0	498	24	20	1	45	1034
% Unshifted	99.5	100	100	99.6	100	99.7	0	99.8	100	100	100	100	99.7
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0
Bank 2	2	0	0	2	0	1	0	1	0	0	0	0	3
% Bank 2	0.5	0	0	0.4	0	0.3	0	0.2	0	0	0	0	0.3

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	BRYAN Southbound				BRYAN Northbound				GETTYSBURG Eastbound				
Start Time	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	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 07:30 AM													
07:30 AM	**70**	6	2	**78**	19	28	0	47	1	0	0	1	126
07:45 AM	16	11	8	35	22	20	0	42	0	1	0	1	78
08:00 AM	31	15	5	51	34	28	0	62	3	2	0	5	118
08:15 AM	26	**22**	**9**	57	**48**	**38**	0	**86**	**5**	**5**	0	**10**	**153**
Total Volume	143	54	24	221	123	114	0	237	9	8	0	17	475
% App. Total	64.7	24.4	10.9		51.9	48.1	0		52.9	47.1	0		
PHF	.511	.614	.667	.708	.641	.750	.000	.689	.450	.400	.000	.425	.776

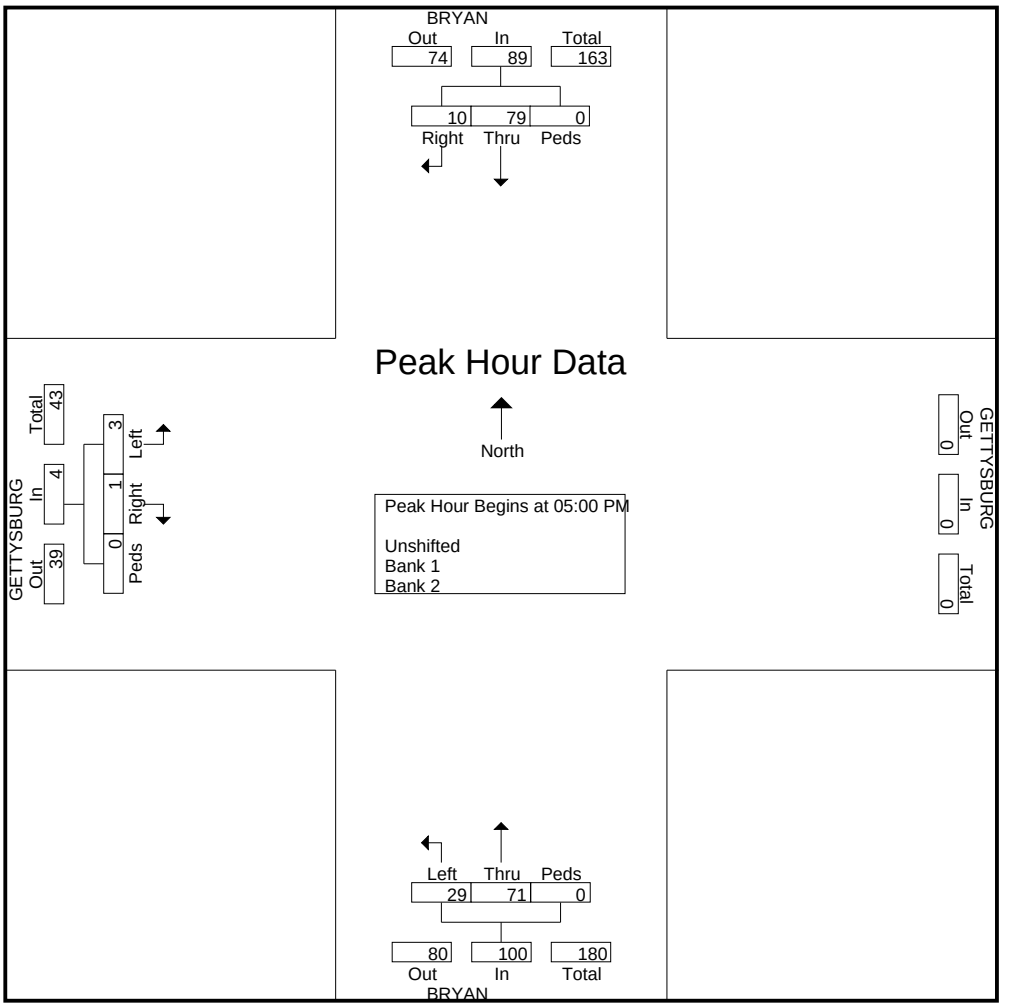


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	BRYAN Southbound				BRYAN Northbound				GETTYSBURG Eastbound				
Start Time	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	5	1	0	6	7	**21**	0	28	1	0	0	1	35
05:15 PM	24	2	0	26	8	9	0	17	**2**	**1**	0	**3**	46
05:30 PM	19	**5**	0	24	**9**	20	0	**29**	0	0	0	0	53
05:45 PM	**31**	2	0	**33**	5	21	0	26	0	0	0	0	**59**
Total Volume	79	10	0	89	29	71	0	100	3	1	0	4	193
% App. Total	88.8	11.2	0		29	71	0		75	25	0		
PHF	.637	.500	.000	.674	.806	.845	.000	.862	.375	.250	.000	.333	.818



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File Name : 01 Grantland Avenue at Ashlan Avenue
Site Code : 00000000
Start Date : 3/6/2018
Page No : 1

Groups Printed- Unshifted

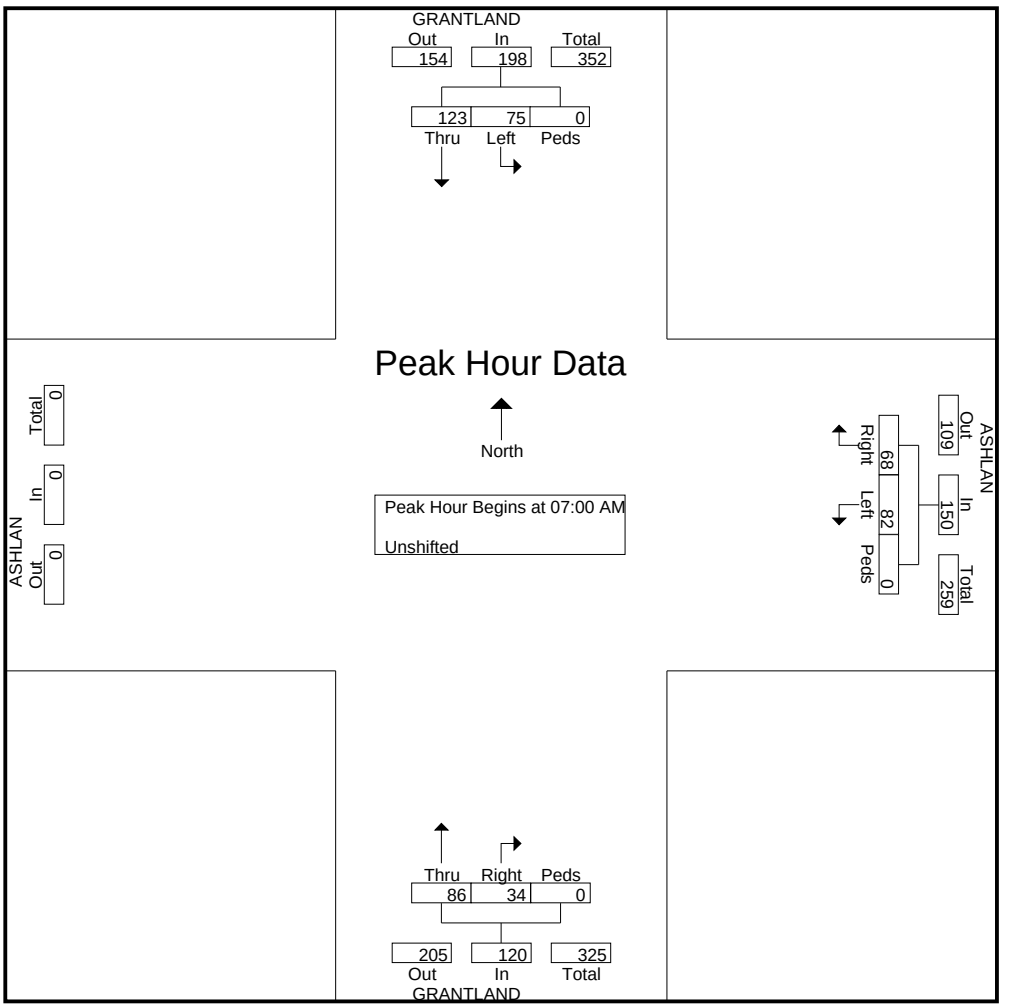
	GRANTLAND Southbound				ASHLAN Westbound				GRANTLAND Northbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	51	19	0	70	14	10	0	24	20	7	0	27	121
07:15 AM	10	27	0	37	31	30	0	61	24	8	0	32	130
07:30 AM	5	36	0	41	29	17	0	46	24	12	0	36	123
07:45 AM	9	41	0	50	8	11	0	19	18	7	0	25	94
Total	75	123	0	198	82	68	0	150	86	34	0	120	468
08:00 AM	3	30	0	33	6	9	0	15	22	2	0	24	72
08:15 AM	3	21	0	24	6	7	0	13	17	2	0	19	56
08:30 AM	5	23	0	28	2	4	0	6	23	1	0	24	58
08:45 AM	5	18	0	23	7	3	0	10	22	3	0	25	58
Total	16	92	0	108	21	23	0	44	84	8	0	92	244
******													
04:00 PM	12	22	0	34	9	15	0	24	28	5	0	33	91
04:15 PM	18	33	0	51	5	9	0	14	23	7	0	30	95
04:30 PM	17	36	0	53	7	21	0	28	32	9	0	41	122
04:45 PM	19	44	0	63	11	17	0	28	37	10	0	47	138
Total	66	135	0	201	32	62	0	94	120	31	0	151	446
05:00 PM	18	32	0	50	9	19	0	28	43	3	0	46	124
05:15 PM	29	41	0	70	3	18	0	21	29	10	2	41	132
05:30 PM	33	41	0	74	5	8	0	13	24	9	0	33	120
05:45 PM	20	36	0	56	8	13	0	21	19	3	2	24	101
Total	100	150	0	250	25	58	0	83	115	25	4	144	477
******													
Grand Total	257	500	0	757	160	211	0	371	405	98	4	507	1635
Apprch %	33.9	66.1	0		43.1	56.9	0		79.9	19.3	0.8		
Total %	15.7	30.6	0	46.3	9.8	12.9	0	22.7	24.8	6	0.2	31	

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File Name : 01 Grantland Avenue at Ashlan Avenue
Site Code : 00000000
Start Date : 3/6/2018

	GRANTLAND Southbound				ASHLAN Westbound				GRANTLAND Northbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	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 07:00 AM													
07:00 AM	**51**	19	0	**70**	14	10	0	24	20	7	0	27	121
07:15 AM	10	27	0	37	**31**	**30**	0	**61**	**24**	8	0	32	**130**
07:30 AM	5	36	0	41	29	17	0	46	24	**12**	0	**36**	123
07:45 AM	9	**41**	0	50	8	11	0	19	18	7	0	25	94
Total Volume	75	123	0	198	82	68	0	150	86	34	0	120	468
% App. Total	37.9	62.1	0		54.7	45.3	0		71.7	28.3	0		
PHF	.368	.750	.000	.707	.661	.567	.000	.615	.896	.708	.000	.833	.900

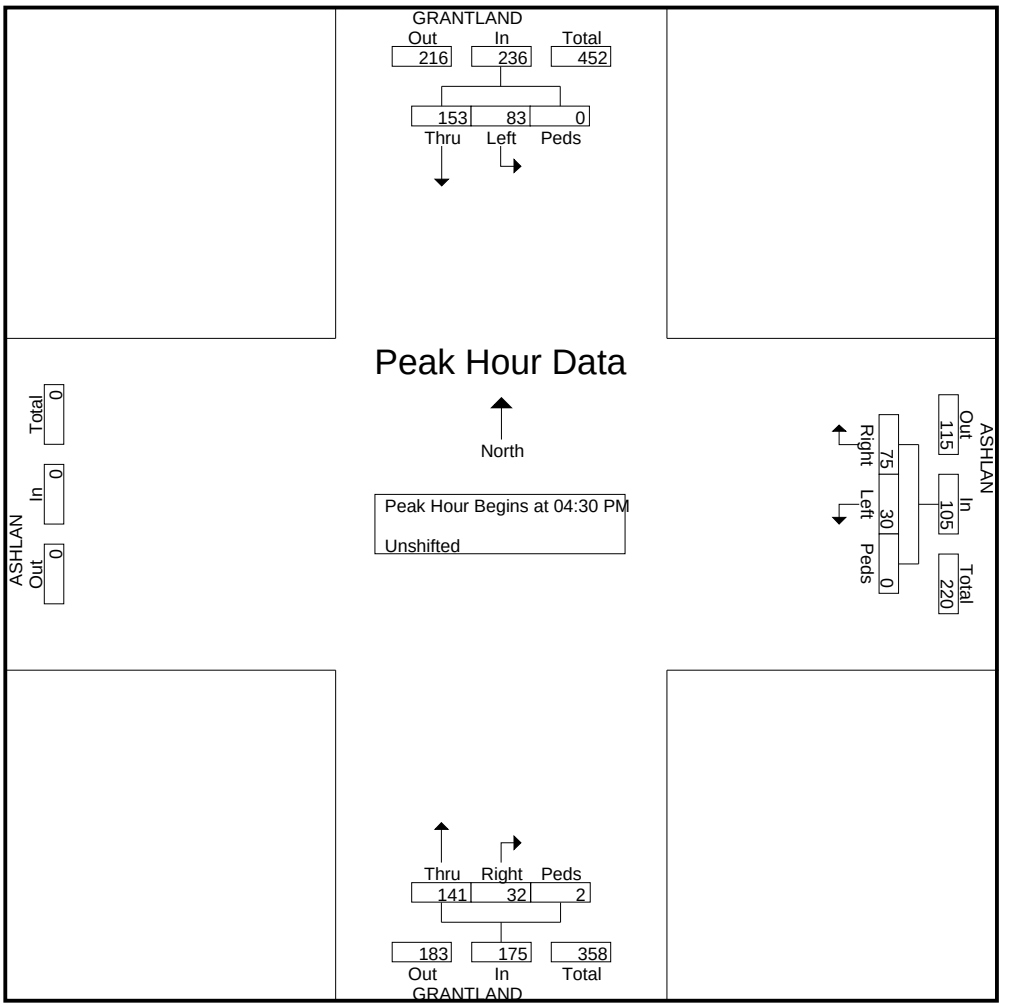


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File Name : 01 Grantland Avenue at Ashlan Avenue
Site Code : 00000000
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	GRANTLAND Southbound				ASHLAN Westbound				GRANTLAND Northbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:00 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	17	36	0	53	7	**21**	0	**28**	32	9	0	41	122
04:45 PM	19	**44**	0	63	**11**	17	0	28	37	**10**	0	**47**	**138**
05:00 PM	18	32	0	50	9	19	0	28	**43**	3	0	46	124
05:15 PM	**29**	41	0	**70**	3	18	0	21	29	10	**2**	41	132
Total Volume	83	153	0	236	30	75	0	105	141	32	2	175	516
% App. Total	35.2	64.8	0		28.6	71.4	0		80.6	18.3	1.1		
PHF	.716	.869	.000	.843	.682	.893	.000	.938	.820	.800	.250	.931	.935



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File Name : 02 Bryan Avenue at Ashlan Avenue
Site Code : 00000000
Start Date : 3/7/2018
Page No : 1

Groups Printed- Unshifted - Bank 1

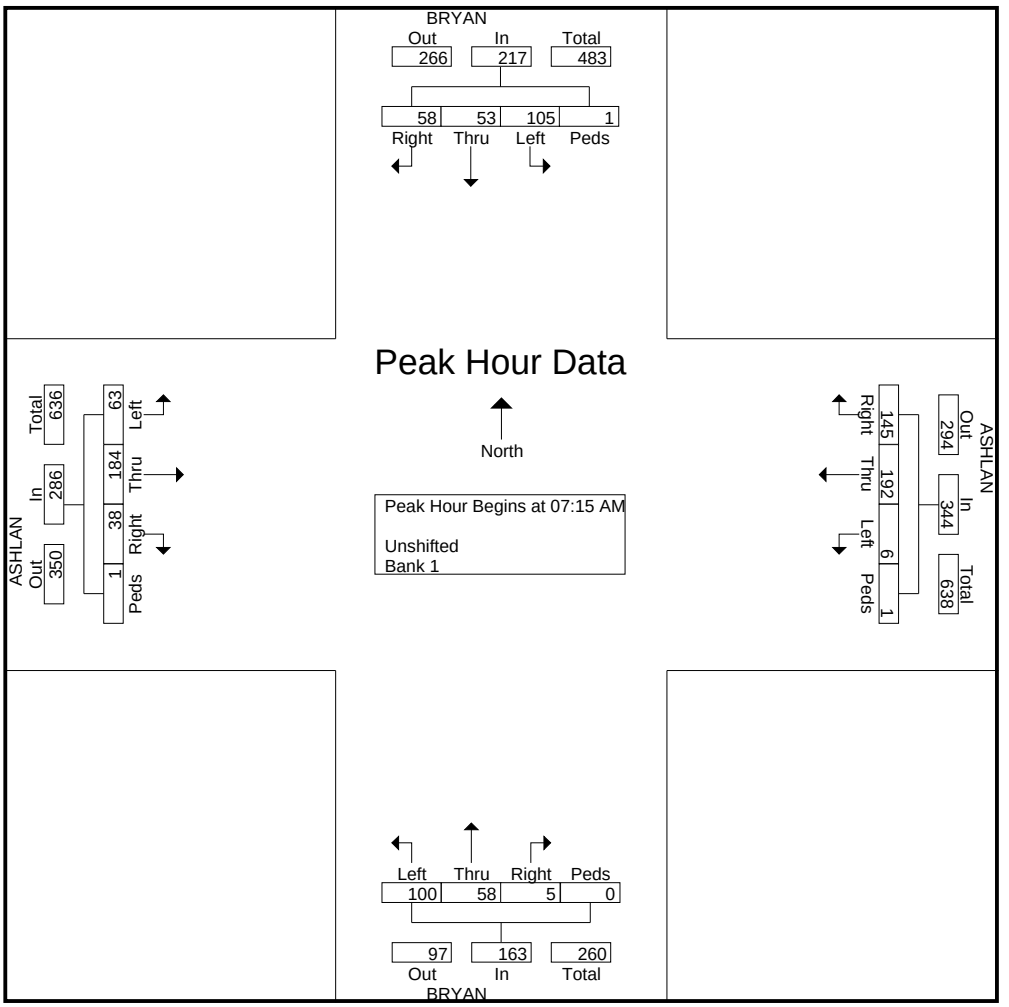
	BRYAN Southbound					ASHLAN Westbound					BRYAN Northbound					ASHLAN Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	9	2	8	0	19	2	50	6	0	58	7	3	1	0	11	5	72	4	0	81	169
07:15 AM	3	8	18	0	29	2	93	18	0	113	34	15	0	0	49	27	72	10	0	109	300
07:30 AM	29	28	25	1	83	1	73	14	0	88	49	25	0	0	74	28	82	16	0	126	371
07:45 AM	20	10	4	0	34	3	14	38	0	55	13	6	1	0	20	8	23	8	0	39	148
Total	61	48	55	1	165	8	230	76	0	314	103	49	2	0	154	68	249	38	0	355	988
08:00 AM	53	7	11	0	71	0	12	75	1	88	4	12	4	0	20	0	7	4	1	12	191
08:15 AM	66	23	5	0	94	1	10	71	0	82	2	19	1	0	22	6	9	1	0	16	214
08:30 AM	21	6	6	0	33	3	10	8	0	21	1	2	2	0	5	1	21	3	0	25	84
08:45 AM	4	2	1	0	7	3	14	7	0	24	0	7	4	0	11	2	11	1	0	14	56
Total	144	38	23	0	205	7	46	161	1	215	7	40	11	0	58	9	48	9	1	67	545
******																					
04:00 PM	19	7	5	0	31	2	15	10	0	27	1	6	2	0	9	6	14	4	1	25	92
04:15 PM	15	7	3	0	25	4	19	12	0	35	0	6	3	0	9	0	12	2	0	14	83
04:30 PM	8	10	4	0	22	2	15	9	0	26	1	3	1	0	5	6	17	1	0	24	77
04:45 PM	14	5	5	0	24	3	18	16	0	37	1	2	2	0	5	7	15	2	0	24	90
Total	56	29	17	0	102	11	67	47	0	125	3	17	8	0	28	19	58	9	1	87	342
05:00 PM	10	4	1	0	15	3	11	10	0	24	3	10	0	0	13	1	18	1	0	20	72
05:15 PM	7	7	2	2	18	1	20	11	0	32	1	5	4	0	10	4	18	5	2	29	89
05:30 PM	22	9	2	0	33	2	16	18	0	36	1	9	2	0	12	3	16	0	0	19	100
05:45 PM	23	8	1	2	34	2	21	11	0	34	1	9	3	0	13	5	12	1	0	18	99
Total	62	28	6	4	100	8	68	50	0	126	6	33	9	0	48	13	64	7	2	86	360
Grand Total	323	143	101	5	572	34	411	334	1	780	119	139	30	0	288	109	419	63	4	595	2235
Apprch %	56.5	25	17.7	0.9		4.4	52.7	42.8	0.1		41.3	48.3	10.4	0		18.3	70.4	10.6	0.7		
Total %	14.5	6.4	4.5	0.2	25.6	1.5	18.4	14.9	0	34.9	5.3	6.2	1.3	0	12.9	4.9	18.7	2.8	0.2	26.6	
Unshifted	323	143	101	5	572	31	411	334	1	777	119	139	30	0	288	82	419	63	4	568	2205
% Unshifted																					
Bank 1	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	27	0	0	0	27	30
% Bank 1	0	0	0	0	0	8.8	0	0	0	0.4	0	0	0	0	0	24.8	0	0	0	4.5	1.3

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	BRYAN Southbound					ASHLAN Westbound					BRYAN Northbound					ASHLAN Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	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	3	8	18	0	29	2	**93**	18	0	**113**	34	15	0	0	49	27	72	10	0	109	300
07:30 AM	29	**28**	**25**	**1**	**83**	1	73	14	0	88	**49**	**25**	0	0	**74**	**28**	**82**	**16**	0	**126**	**371**
07:45 AM	20	10	4	0	34	**3**	14	38	0	55	13	6	1	0	20	8	23	8	0	39	148
08:00 AM	**53**	7	11	0	71	0	12	**75**	**1**	88	4	12	**4**	0	20	0	7	4	**1**	12	191
Total Volume	105	53	58	1	217	6	192	145	1	344	100	58	5	0	163	63	184	38	1	286	1010
% App. Total	48.4	24.4	26.7	0.5		1.7	55.8	42.2	0.3		61.3	35.6	3.1	0		22	64.3	13.3	0.3		
PHF	.495	.473	.580	.250	.654	.500	.516	.483	.250	.761	.510	.580	.313	.000	.551	.563	.561	.594	.250	.567	.681

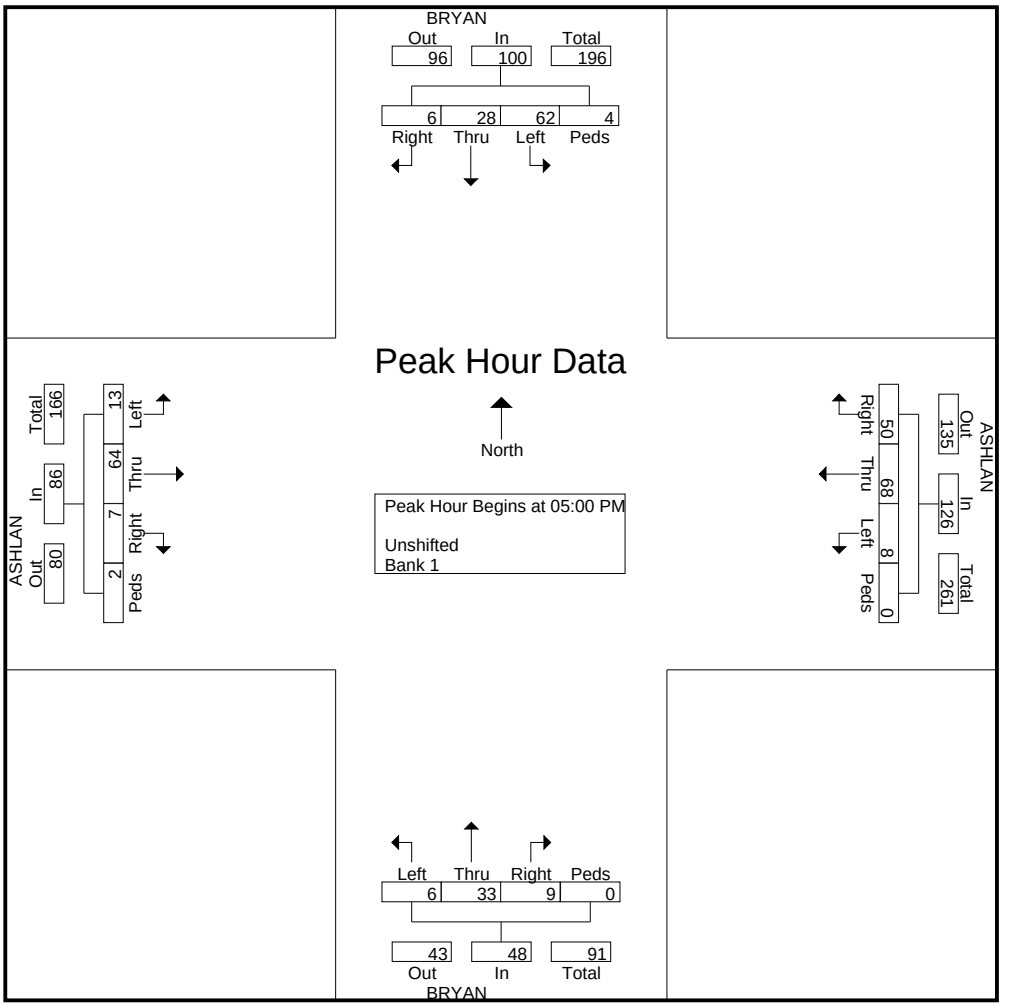


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Site Code : 00000000
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	BRYAN Southbound					ASHLAN Westbound					BRYAN Northbound					ASHLAN Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	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 05:00 PM																					
05:00 PM	10	4	1	0	15	**3**	11	10	0	24	**3**	**10**	0	0	**13**	1	**18**	1	0	20	72
05:15 PM	7	7	**2**	**2**	18	1	20	11	0	32	1	5	**4**	0	10	4	18	**5**	**2**	**29**	89
05:30 PM	22	**9**	2	0	33	2	16	**18**	0	**36**	1	9	2	0	12	3	16	0	0	19	**100**
05:45 PM	**23**	8	1	2	**34**	2	**21**	11	0	34	1	9	3	0	13	**5**	12	1	0	18	99
Total Volume	62	28	6	4	100	8	68	50	0	126	6	33	9	0	48	13	64	7	2	86	360
% App. Total	62	28	6	4		6.3	54	39.7	0		12.5	68.8	18.8	0		15.1	74.4	8.1	2.3		
PHF	.674	.778	.750	.500	.735	.667	.810	.694	.000	.875	.500	.825	.563	.000	.923	.650	.889	.350	.250	.741	.900



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File Name : 02 Bryan Avenue at Ashlan Avenue
Site Code : 00000000
Start Date : 3/7/2018
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Groups Printed- Bank 1

	BRYAN Southbound					ASHLAN Westbound					BRYAN Northbound					ASHLAN Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	3
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	10	10
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	9	9
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	23	23
******																					
08:30 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	1	0	0	0	1	3
******																					
Total	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	1	0	0	0	1	3
******																					
04:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	2
******																					
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
******																					
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0	0	0	2	3
******																					
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Grand Total	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	27	0	0	0	27	30
Apprch %	0	0	0	0		100	0	0	0		0	0	0	0		100	0	0	0		
Total %	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	90	0	0	0	90	

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File Name : Ashlan Hayes
Site Code : 00004518
Start Date : 4/5/2018
Page No : 1

Groups Printed- Unshifted - Bank 1

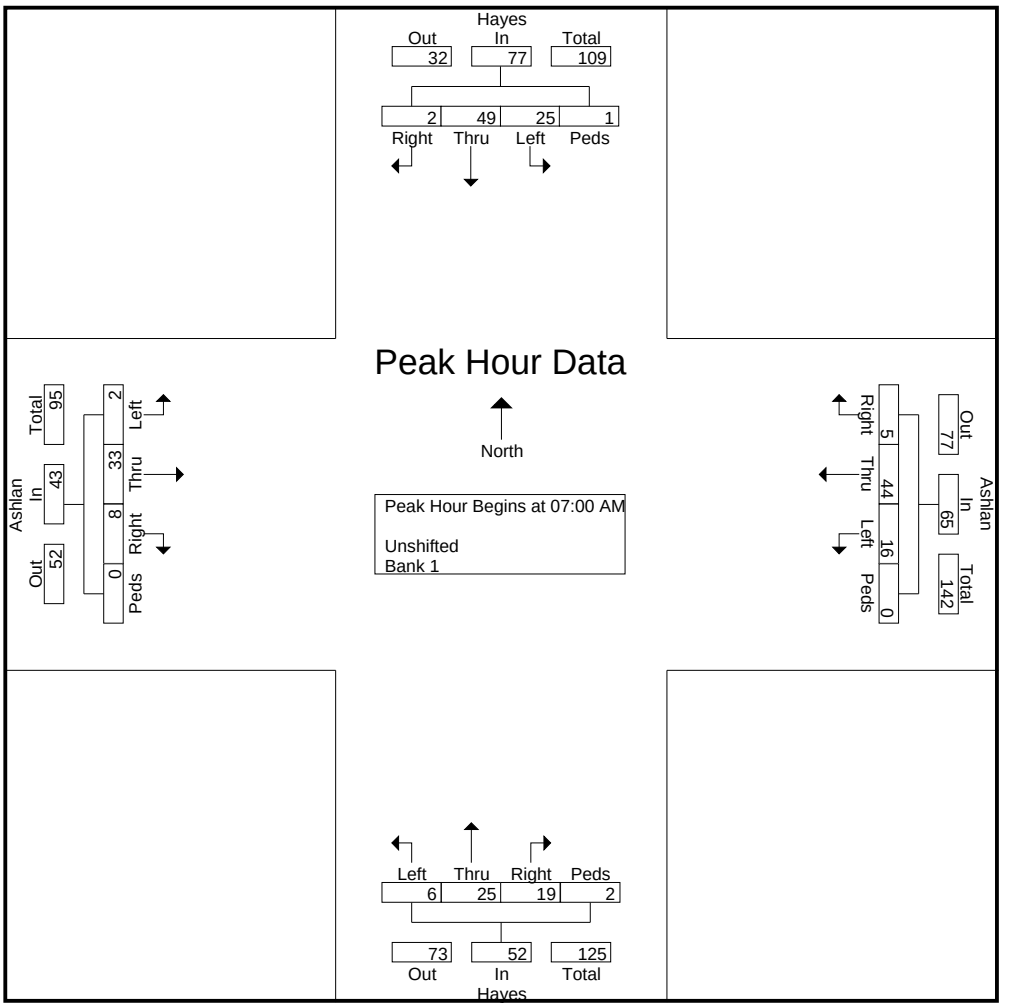
	Hayes Southbound					Ashlan Westbound					Hayes Northbound					Ashlan Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	11	12	0	1	24	1	11	1	0	13	2	8	3	0	13	2	5	1	0	8	58
07:15 AM	4	10	1	0	15	7	8	3	0	18	3	6	5	0	14	0	11	1	0	12	59
07:30 AM	5	15	0	0	20	7	12	0	0	19	0	7	6	0	13	0	10	4	0	14	66
07:45 AM	5	12	1	0	18	1	13	1	0	15	1	4	5	2	12	0	7	2	0	9	54
Total	25	49	2	1	77	16	44	5	0	65	6	25	19	2	52	2	33	8	0	43	237
08:00 AM	7	7	1	0	15	2	7	4	0	13	3	5	3	0	11	1	8	1	0	10	49
08:15 AM	4	5	1	0	10	4	9	1	1	15	2	4	5	1	12	1	8	2	0	11	48
08:30 AM	5	5	2	0	12	2	6	3	0	11	2	7	6	0	15	1	9	3	0	13	51
08:45 AM	2	5	1	0	8	0	15	0	2	17	3	6	6	1	16	0	9	3	0	12	53
Total	18	22	5	0	45	8	37	8	3	56	10	22	20	2	54	3	34	9	0	46	201
******																					
04:00 PM	2	16	0	1	19	10	17	5	0	32	0	14	7	0	21	2	8	3	0	13	85
04:15 PM	4	10	1	0	15	6	10	8	0	24	3	14	11	0	28	2	12	7	0	21	88
04:30 PM	4	18	4	0	26	4	18	8	0	30	2	12	7	0	21	3	13	2	3	21	98
04:45 PM	4	15	2	0	21	11	21	11	0	43	6	13	7	0	26	0	18	1	0	19	109
Total	14	59	7	1	81	31	66	32	0	129	11	53	32	0	96	7	51	13	3	74	380
05:00 PM	2	6	1	0	9	2	17	4	0	23	6	16	4	0	26	0	27	5	0	32	90
05:15 PM	2	20	3	0	25	4	23	6	0	33	11	13	2	1	27	3	23	2	0	28	113
05:30 PM	4	12	3	0	19	4	17	5	0	26	2	16	10	1	29	2	30	5	0	37	111
05:45 PM	8	9	4	0	21	10	25	3	0	38	6	23	8	0	37	3	19	3	0	25	121
Total	16	47	11	0	74	20	82	18	0	120	25	68	24	2	119	8	99	15	0	122	435
Grand Total	73	177	25	2	277	75	229	63	3	370	52	168	95	6	321	20	217	45	3	285	1253
Apprch %	26.4	63.9	9	0.7		20.3	61.9	17	0.8		16.2	52.3	29.6	1.9		7	76.1	15.8	1.1		
Total %	5.8	14.1	2	0.2	22.1	6	18.3	5	0.2	29.5	4.2	13.4	7.6	0.5	25.6	1.6	17.3	3.6	0.2	22.7	
Unshifted	73	177	25	2	277	74	229	63	3	369	52	168	95	6	321	20	217	45	3	285	1252
% Unshifted																					
Bank 1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Bank 1	0	0	0	0	0	1.3	0	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0.1

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File Name : Ashlan Hayes
Site Code : 00004518
Start Date : 4/5/2018
Page No : 2

	Hayes Southbound					Ashlan Westbound					Hayes Northbound					Ashlan Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	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 07:00 AM																					
07:00 AM	**11**	12	0	**1**	**24**	1	11	1	0	13	2	**8**	3	0	13	**2**	5	1	0	8	58
07:15 AM	4	10	**1**	0	15	**7**	8	**3**	0	18	**3**	6	5	0	**14**	0	**11**	1	0	12	59
07:30 AM	5	**15**	0	0	20	7	12	0	0	**19**	0	7	**6**	0	13	0	10	**4**	0	**14**	**66**
07:45 AM	5	12	1	0	18	1	**13**	1	0	15	1	4	5	**2**	12	0	7	2	0	9	54
Total Volume	25	49	2	1	77	16	44	5	0	65	6	25	19	2	52	2	33	8	0	43	237
% App. Total	32.5	63.6	2.6	1.3		24.6	67.7	7.7	0		11.5	48.1	36.5	3.8		4.7	76.7	18.6	0		
PHF	.568	.817	.500	.250	.802	.571	.846	.417	.000	.855	.500	.781	.792	.250	.929	.250	.750	.500	.000	.768	.898

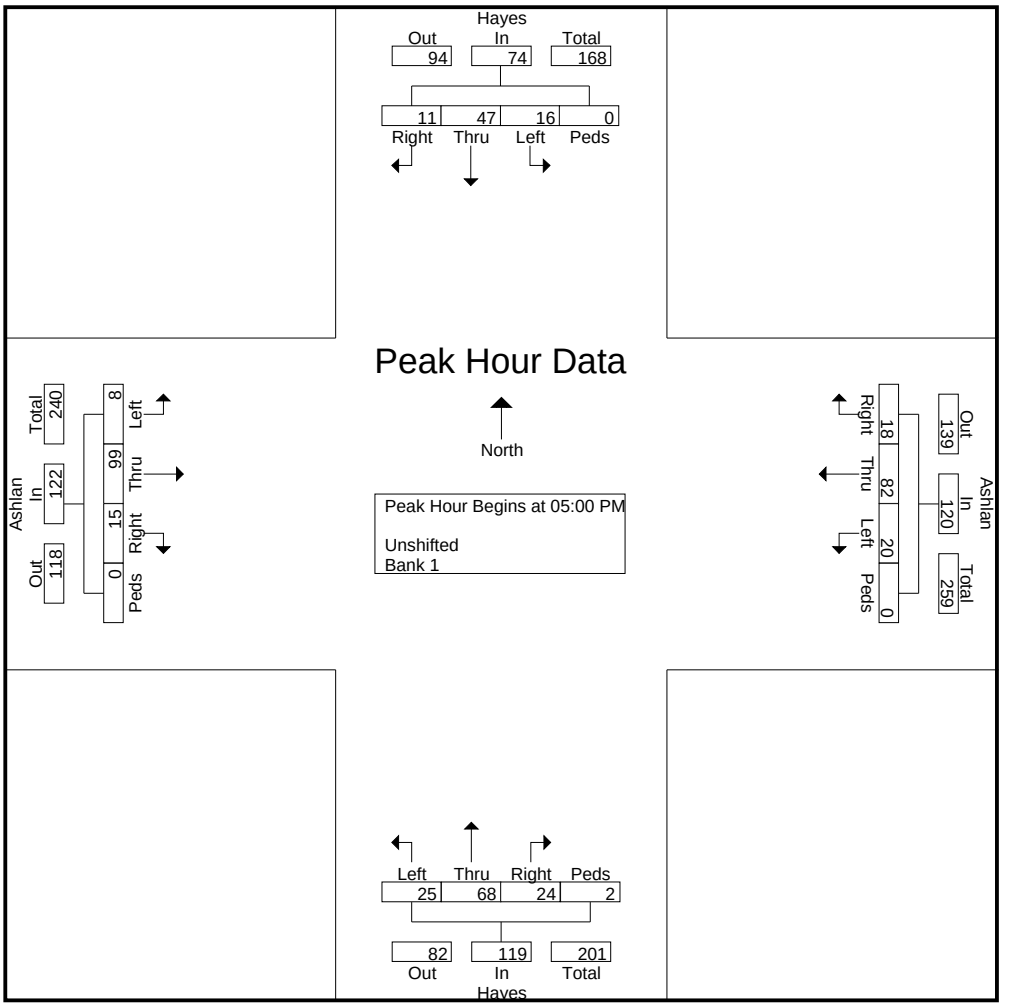


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File Name : Ashlan Hayes
Site Code : 00004518
Start Date : 4/5/2018
Page No : 3

	Hayes Southbound					Ashlan Westbound					Hayes Northbound					Ashlan Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	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 05:00 PM																					
05:00 PM	2	6	1	0	9	2	17	4	0	23	6	16	4	0	26	0	27	**5**	0	32	90
05:15 PM	2	**20**	3	0	**25**	4	23	**6**	0	33	**11**	13	2	**1**	27	**3**	23	2	0	28	113
05:30 PM	4	12	3	0	19	4	17	5	0	26	2	16	**10**	1	29	2	**30**	5	0	**37**	111
05:45 PM	**8**	9	**4**	0	21	**10**	**25**	3	0	**38**	6	**23**	8	0	**37**	3	19	3	0	25	**121**
Total Volume	16	47	11	0	74	20	82	18	0	120	25	68	24	2	119	8	99	15	0	122	435
% App. Total	21.6	63.5	14.9	0		16.7	68.3	15	0		21	57.1	20.2	1.7		6.6	81.1	12.3	0		
PHF	.500	.588	.688	.000	.740	.500	.820	.750	.000	.789	.568	.739	.600	.500	.804	.667	.825	.750	.000	.824	.899



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File Name : Ashlan Polk
Site Code : 00004518
Start Date : 4/5/2018
Page No : 1

Groups Printed- Unshifted - Bank 1

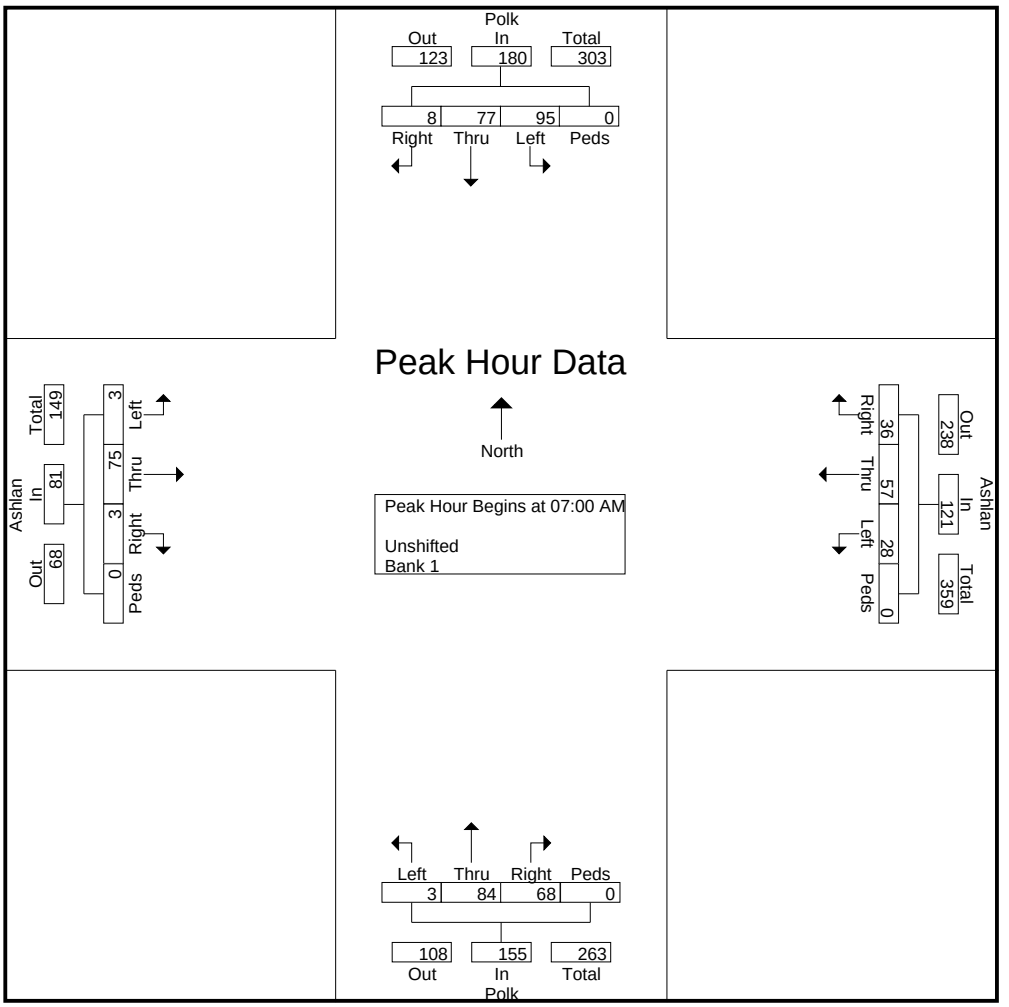
	Polk Southbound					Ashlan Westbound					Polk Northbound					Ashlan Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	36	14	0	0	50	10	14	9	0	33	0	17	22	0	39	0	20	0	0	20	142
07:15 AM	23	18	4	0	45	5	14	9	0	28	0	21	21	0	42	1	21	0	0	22	137
07:30 AM	25	21	4	0	50	8	13	3	0	24	1	21	13	0	35	1	18	0	0	19	128
07:45 AM	11	24	0	0	35	5	16	15	0	36	2	25	12	0	39	1	16	3	0	20	130
Total	95	77	8	0	180	28	57	36	0	121	3	84	68	0	155	3	75	3	0	81	537
08:00 AM	22	14	0	0	36	13	8	11	0	32	1	18	21	0	40	0	14	1	0	15	123
08:15 AM	10	13	0	0	23	11	16	15	0	42	0	8	16	0	24	1	19	0	0	20	109
08:30 AM	23	12	1	0	36	5	8	12	0	25	1	10	11	0	22	1	17	0	0	18	101
08:45 AM	22	17	1	0	40	6	18	13	0	37	0	17	16	0	33	1	17	0	0	18	128
Total	77	56	2	0	135	35	50	51	0	136	2	53	64	0	119	3	67	1	0	71	461
******																					
04:00 PM	27	24	1	0	52	30	30	32	0	92	1	22	18	0	41	0	15	2	0	17	202
04:15 PM	23	26	0	0	49	14	20	22	0	56	5	18	12	0	35	2	22	1	0	25	165
04:30 PM	25	51	4	0	80	18	29	24	0	71	1	27	12	0	40	3	23	4	0	30	221
04:45 PM	21	45	2	0	68	19	39	30	0	88	1	27	12	0	40	3	23	1	0	27	223
Total	96	146	7	0	249	81	118	108	0	307	8	94	54	0	156	8	83	8	0	99	811
05:00 PM	24	25	2	0	51	18	20	31	0	69	4	30	17	0	51	4	28	7	0	39	210
05:15 PM	21	27	3	0	51	19	29	37	0	85	1	31	18	0	50	0	28	2	0	30	216
05:30 PM	27	52	1	0	80	24	26	28	0	78	1	36	26	0	63	3	32	8	0	43	264
05:45 PM	25	26	2	0	53	21	34	36	0	91	3	39	11	0	53	2	33	1	0	36	233
Total	97	130	8	0	235	82	109	132	0	323	9	136	72	0	217	9	121	18	0	148	923
Grand Total	365	409	25	0	799	226	334	327	0	887	22	367	258	0	647	23	346	30	0	399	2732
Apprch %	45.7	51.2	3.1	0		25.5	37.7	36.9	0		3.4	56.7	39.9	0		5.8	86.7	7.5	0		
Total %	13.4	15	0.9	0	29.2	8.3	12.2	12	0	32.5	0.8	13.4	9.4	0	23.7	0.8	12.7	1.1	0	14.6	
Unshifted	363	409	25	0	797	225	334	327	0	886	22	367	258	0	647	23	346	30	0	399	2729
% Unshifted																					
Bank 1	2	0	0	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
% Bank 1	0.5	0	0	0	0.3	0.4	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0.1

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File Name : Ashlan Polk
Site Code : 00004518
Start Date : 4/5/2018
Page No : 2

	Polk Southbound					Ashlan Westbound					Polk Northbound					Ashlan Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	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 07:00 AM																					
07:00 AM	**36**	14	0	0	**50**	**10**	14	9	0	33	0	17	**22**	0	39	0	20	0	0	20	**142**
07:15 AM	23	18	**4**	0	45	5	14	9	0	28	0	21	21	0	**42**	**1**	**21**	0	0	**22**	137
07:30 AM	25	21	4	0	50	8	13	3	0	24	1	21	13	0	35	1	18	0	0	19	128
07:45 AM	11	**24**	0	0	35	5	**16**	**15**	0	**36**	**2**	**25**	12	0	39	1	16	**3**	0	20	130
Total Volume	95	77	8	0	180	28	57	36	0	121	3	84	68	0	155	3	75	3	0	81	537
% App. Total	52.8	42.8	4.4	0		23.1	47.1	29.8	0		1.9	54.2	43.9	0		3.7	92.6	3.7	0		
PHF	.660	.802	.500	.000	.900	.700	.891	.600	.000	.840	.375	.840	.773	.000	.923	.750	.893	.250	.000	.920	.945

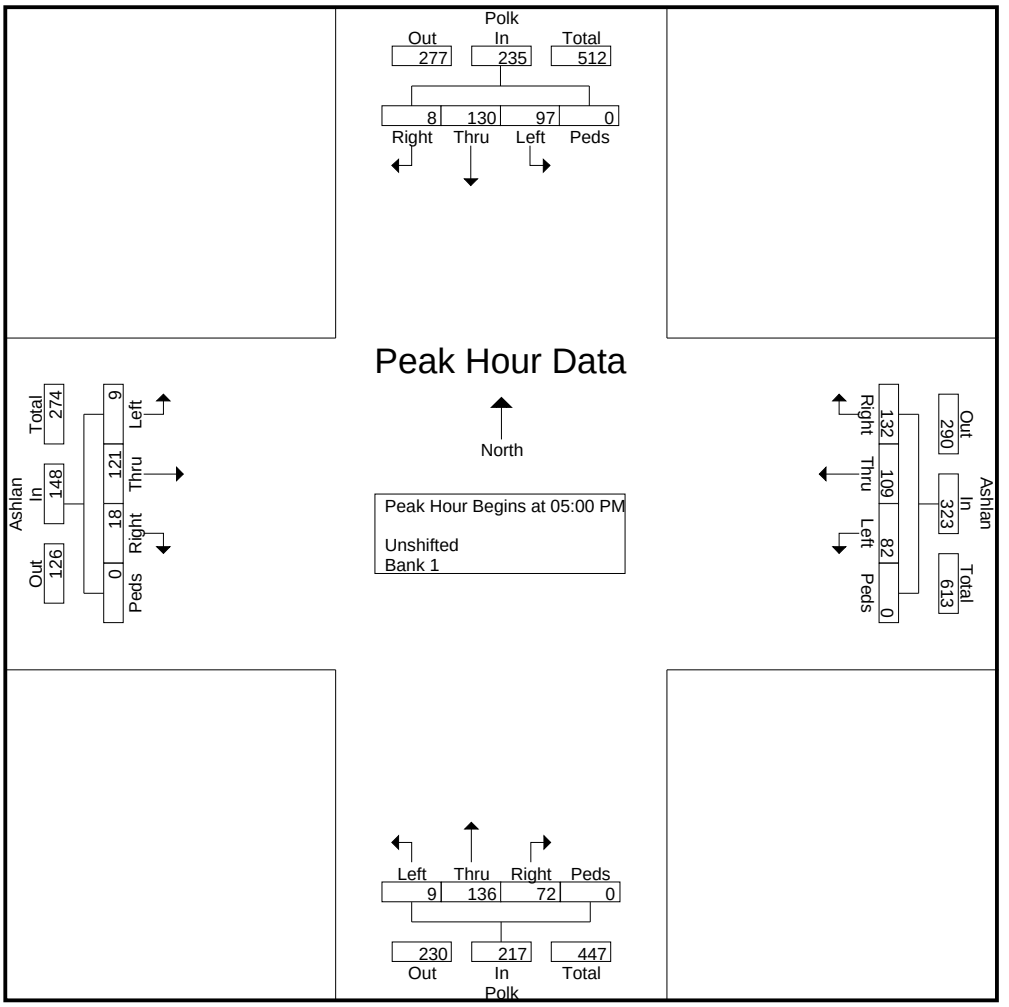


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File Name : Ashlan Polk
Site Code : 00004518
Start Date : 4/5/2018
Page No : 3

	Polk Southbound					Ashlan Westbound					Polk Northbound					Ashlan Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	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 05:00 PM																					
05:00 PM	24	25	2	0	51	18	20	31	0	69	**4**	30	17	0	51	**4**	28	7	0	39	210
05:15 PM	21	27	**3**	0	51	19	29	**37**	0	85	1	31	18	0	50	0	28	2	0	30	216
05:30 PM	**27**	**52**	1	0	**80**	**24**	26	28	0	78	1	36	**26**	0	**63**	3	32	**8**	0	**43**	**264**
05:45 PM	25	26	2	0	53	21	**34**	36	0	**91**	3	**39**	11	0	53	2	**33**	1	0	36	233
Total Volume	97	130	8	0	235	82	109	132	0	323	9	136	72	0	217	9	121	18	0	148	923
% App. Total	41.3	55.3	3.4	0		25.4	33.7	40.9	0		4.1	62.7	33.2	0		6.1	81.8	12.2	0		
PHF	.898	.625	.667	.000	.734	.854	.801	.892	.000	.887	.563	.872	.692	.000	.861	.563	.917	.563	.000	.860	.874



Prepared by National Data & Surveying Services

Cornelia ave & Ashlan Ave

Peak Hour Turning Movement Count

ID: 18-02091-001
City: Fresno

Day: Tuesday
Date: 08/21/2018

PEAK HOURS

AM	07:00 AM - 08:00 AM
NOON	NONE
PM	05:00 PM - 06:00 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Cornelia ave — SOUTHBOUND

AM	43	172	193	0	199	AM
NOON	0	0	0	0	0	NOON
PM	15	73	121	0	320	PM

Ashlan Ave — EASTBOUND

AM	NOON	PM		
343	0	410		
0	0	0	0	
23	0	13	1	
440	0	237	2	
89	0	66	0	
AM	NOON	PM		

Ashlan Ave — WESTBOUND

PM	NOON	AM		
183	0	80	1	
343	0	235	1	
268	0	271	2	
7	0	1	0	
586	0	964		
PM	NOON	AM		

CONTROL: Signalized

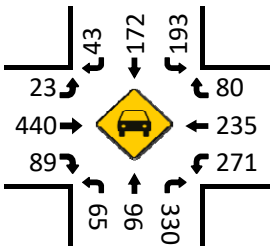
TEV	2038	0	1723
	AM	NOON	PM
PHF	0.75		0.93

Cornelia ave — NORTHBOUND

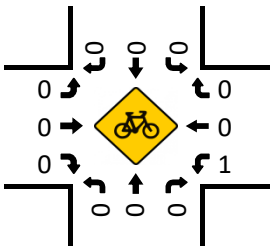
PM	407	0	52	124	221	PM
NOON	0	0	0	0	0	NOON
AM	532	0	65	96	330	AM

0.5 1.5 1 0 — 0 1 2 1

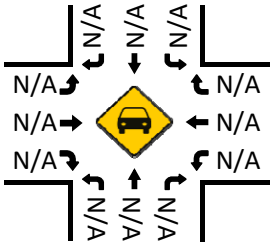
Total Vehicles (AM)



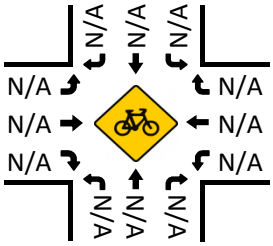
Bikes (AM)



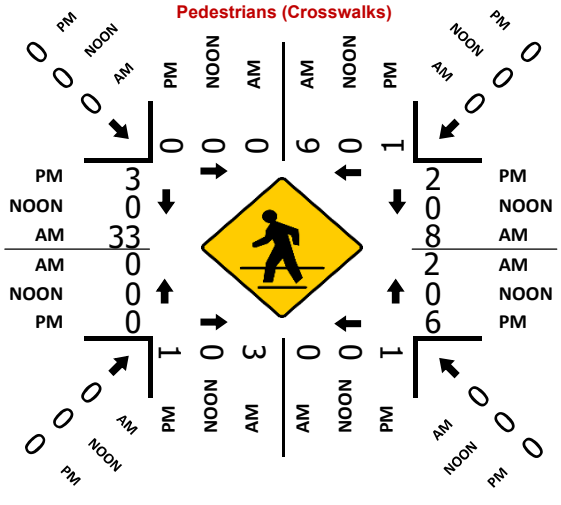
Total Vehicles (Noon)



Bikes (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0
0
0
0
0

National Data & Surveying Services

Intersection Turning Movement Count

Location: Cornelia ave & Ashlan Ave
City: Fresno
Control: Signalized

Project ID: 18-02091-001
Date: 8/21/2018

Total

NS/EW Streets:	Cornelia ave				Cornelia ave				Ashlan Ave				Ashlan Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	1.5	0.5	0	1	2	0	0	2	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	23	25	110	0	71	72	16	0	3	102	35	0	135	65	23	0	680
7:15 AM	26	40	115	0	41	48	15	0	8	122	22	0	68	59	12	1	577
7:30 AM	8	13	61	0	42	27	8	0	6	122	14	0	25	49	24	0	399
7:45 AM	8	18	44	0	39	25	4	0	6	94	18	0	43	62	21	0	382
8:00 AM	13	19	72	0	43	36	7	0	1	89	14	0	40	53	18	2	407
8:15 AM	7	25	64	0	40	35	4	0	3	109	6	0	47	52	21	1	414
8:30 AM	5	28	105	0	40	24	1	0	4	79	5	0	26	28	20	1	366
8:45 AM	6	16	44	0	42	11	1	0	3	67	5	0	24	30	14	0	263
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	96	184	615	0	358	278	56	0	34	784	119	0	408	398	153	5	3488
APPROACH %'s :	10.73%	20.56%	68.72%	0.00%	51.73%	40.17%	8.09%	0.00%	3.63%	83.67%	12.70%	0.00%	42.32%	41.29%	15.87%	0.52%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	65	96	330	0	193	172	43	0	23	440	89	0	271	235	80	1	2038
PEAK HR FACTOR :	0.625	0.600	0.717	0.000	0.680	0.597	0.672	0.000	0.719	0.902	0.636	0.000	0.502	0.904	0.833	0.250	0.749
	0.678				0.642				0.908				0.658				

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1	2	1	0	1	1.5	0.5	0	1	2	0	0	2	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	9	27	44	0	30	16	1	0	1	47	7	0	64	65	47	3	361
4:15 PM	8	27	53	0	28	13	2	0	3	47	8	0	67	73	44	1	374
4:30 PM	4	27	50	0	26	19	2	0	1	64	6	0	63	51	50	1	364
4:45 PM	4	27	51	0	30	18	0	0	3	70	5	0	66	84	41	3	402
5:00 PM	15	39	56	0	32	14	2	0	3	52	9	0	57	81	43	1	404
5:15 PM	15	28	48	0	27	16	4	0	6	60	7	0	67	89	44	2	413
5:30 PM	13	32	57	0	30	24	4	0	2	63	14	0	64	90	48	2	443
5:45 PM	9	25	60	0	32	19	5	0	2	62	36	0	80	83	48	2	463
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	77	232	419	0	235	139	20	0	21	465	92	0	528	616	365	15	3224
APPROACH %'s :	10.58%	31.87%	57.55%	0.00%	59.64%	35.28%	5.08%	0.00%	3.63%	80.45%	15.92%	0.00%	34.65%	40.42%	23.95%	0.98%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	52	124	221	0	121	73	15	0	13	237	66	0	268	343	183	7	1723
PEAK HR FACTOR :	0.867	0.795	0.921	0.000	0.945	0.760	0.750	0.000	0.542	0.940	0.458	0.000	0.838	0.953	0.953	0.875	0.930
	0.902				0.901				0.790				0.940				

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Fresno, CA 93710
(559) 570-8991
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File Name : Grantland Avenue at Shields Avenue
Site Code : 00003718
Start Date : 3/7/2018
Page No : 1

Groups Printed- Unshifted

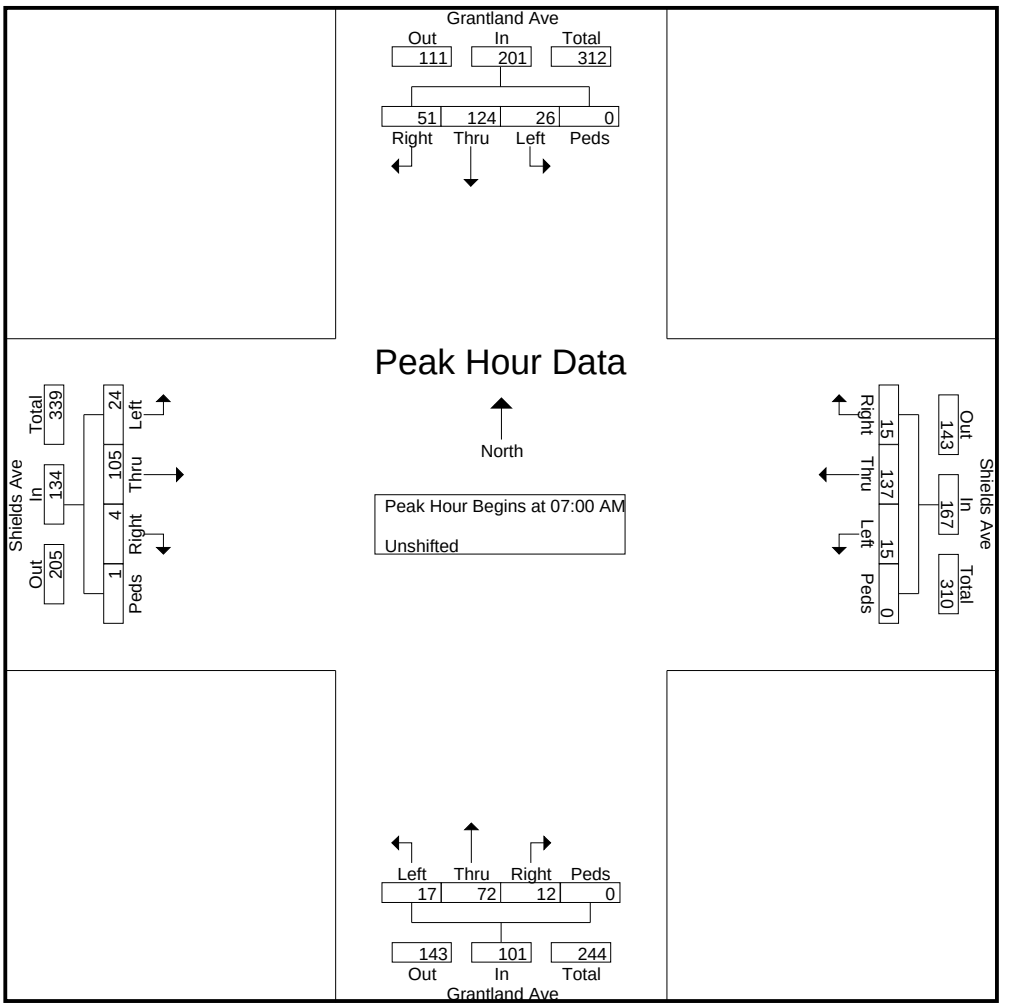
	Grantland Ave Southbound					Shields Ave Westbound					Grantland Ave Northbound					Shields Ave Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	3	17	13	0	33	4	55	3	0	62	3	21	5	0	29	5	18	2	0	25	149
07:15 AM	8	29	15	0	52	7	37	6	0	50	4	17	4	0	25	7	46	1	0	54	181
07:30 AM	11	37	14	0	62	1	29	1	0	31	2	17	3	0	22	6	23	0	1	30	145
07:45 AM	4	41	9	0	54	3	16	5	0	24	8	17	0	0	25	6	18	1	0	25	128
Total	26	124	51	0	201	15	137	15	0	167	17	72	12	0	101	24	105	4	1	134	603
08:00 AM	5	16	5	0	26	6	27	8	0	41	6	15	1	0	22	4	27	1	0	32	121
08:15 AM	5	15	8	0	28	4	44	2	0	50	4	10	1	0	15	9	39	1	0	49	142
08:30 AM	3	12	8	0	23	1	14	2	0	17	4	19	1	0	24	9	27	2	0	38	102
08:45 AM	4	8	5	0	17	2	19	5	0	26	0	13	0	0	13	9	14	0	0	23	79
Total	17	51	26	0	94	13	104	17	0	134	14	57	3	0	74	31	107	4	0	142	444
******																					
04:00 PM	7	11	5	0	23	1	12	7	0	20	7	12	2	0	21	12	34	3	0	49	113
04:15 PM	8	19	6	0	33	1	14	4	0	19	2	18	1	0	21	6	23	0	0	29	102
04:30 PM	10	17	5	0	32	2	6	4	0	12	1	27	2	0	30	5	19	0	0	24	98
04:45 PM	6	19	6	0	31	2	10	4	0	16	2	26	2	0	30	4	24	2	0	30	107
Total	31	66	22	0	119	6	42	19	0	67	12	83	7	0	102	27	100	5	0	132	420
05:00 PM	9	16	4	0	29	3	21	9	0	33	1	17	0	0	18	6	23	1	0	30	110
05:15 PM	8	17	3	0	28	1	13	3	0	17	4	17	3	0	24	4	22	3	0	29	98
05:30 PM	10	22	5	0	37	1	19	6	0	26	3	18	5	0	26	4	16	4	0	24	113
05:45 PM	9	27	10	0	46	0	8	5	0	13	3	12	6	0	21	5	15	1	0	21	101
Total	36	82	22	0	140	5	61	23	0	89	11	64	14	0	89	19	76	9	0	104	422
Grand Total	110	323	121	0	554	39	344	74	0	457	54	276	36	0	366	101	388	22	1	512	1889
Apprch %	19.9	58.3	21.8	0		8.5	75.3	16.2	0		14.8	75.4	9.8	0		19.7	75.8	4.3	0.2		
Total %	5.8	17.1	6.4	0	29.3	2.1	18.2	3.9	0	24.2	2.9	14.6	1.9	0	19.4	5.3	20.5	1.2	0.1	27.1	

JLB Traffic Engineering, Inc.

1300 E. Shaw Ave., Ste. 103
Fresno, CA 93710
(559) 570-8991
Traffic Engineering, Transportation Planning & Parking Solutions
www.JLBtraffic.com

File Name : Grantland Avenue at Shields Avenue
Site Code : 00003718
Start Date : 3/7/2018
Page No : 2

	Grantland Ave Southbound					Shields Ave Westbound					Grantland Ave Northbound					Shields Ave Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	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 07:00 AM																					
07:00 AM	3	17	13	0	33	4	**55**	3	0	**62**	3	**21**	**5**	0	**29**	5	18	**2**	0	25	149
07:15 AM	8	29	**15**	0	52	**7**	37	**6**	0	50	4	17	4	0	25	**7**	**46**	1	0	**54**	**181**
07:30 AM	**11**	37	14	0	**62**	1	29	1	0	31	2	17	3	0	22	6	23	0	**1**	30	145
07:45 AM	4	**41**	9	0	54	3	16	5	0	24	**8**	17	0	0	25	6	18	1	0	25	128
Total Volume	26	124	51	0	201	15	137	15	0	167	17	72	12	0	101	24	105	4	1	134	603
% App. Total	12.9	61.7	25.4	0		9	82	9	0		16.8	71.3	11.9	0		17.9	78.4	3	0.7		
PHF	.591	.756	.850	.000	.810	.536	.623	.625	.000	.673	.531	.857	.600	.000	.871	.857	.571	.500	.250	.620	.833

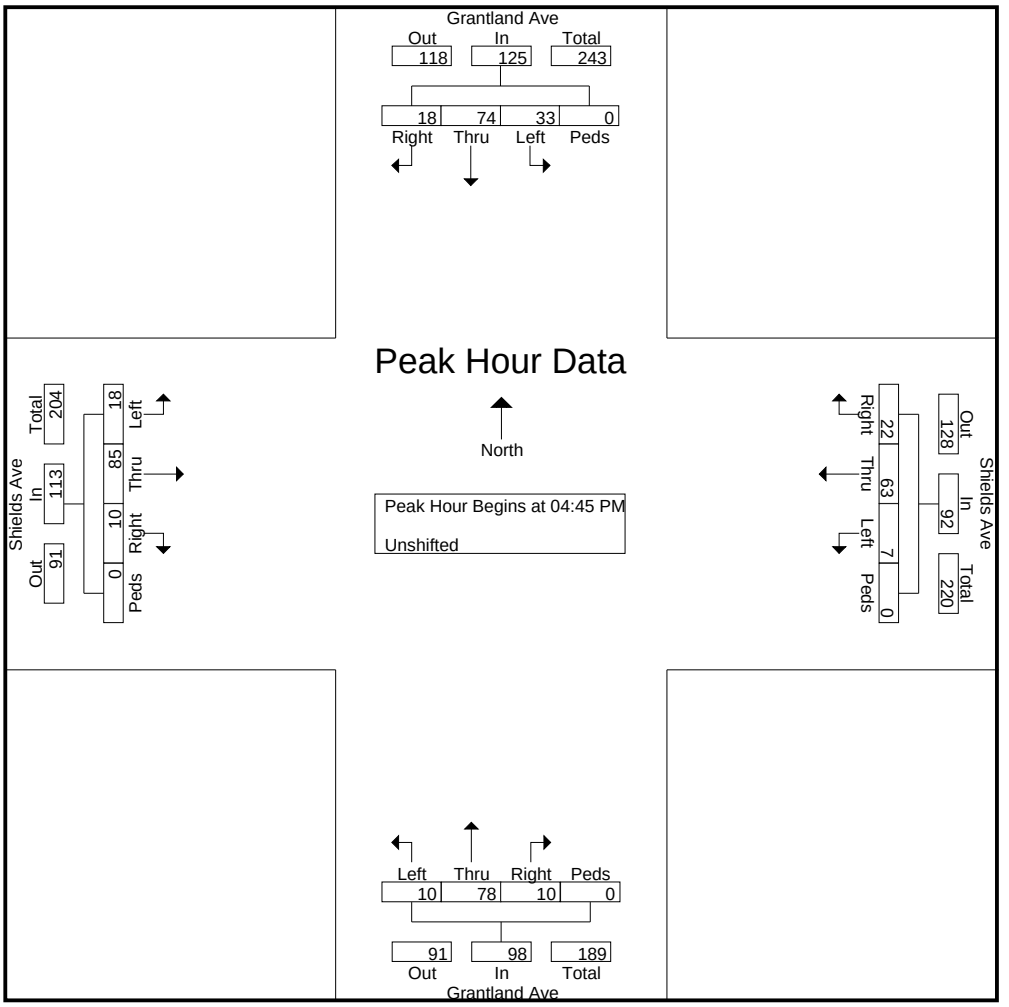


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File Name : Grantland Avenue at Shields Avenue
Site Code : 00003718
Start Date : 3/7/2018
Page No : 3

	Grantland Ave Southbound					Shields Ave Westbound					Grantland Ave Northbound					Shields Ave Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	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 04:45 PM																					
04:45 PM	6	19	**6**	0	31	2	10	4	0	16	2	**26**	2	0	**30**	4	**24**	2	0	**30**	107
05:00 PM	9	16	4	0	29	**3**	**21**	**9**	0	**33**	1	17	0	0	18	**6**	23	1	0	30	110
05:15 PM	8	17	3	0	28	1	13	3	0	17	**4**	17	3	0	24	4	22	3	0	29	98
05:30 PM	**10**	**22**	5	0	**37**	1	19	6	0	26	3	18	**5**	0	26	4	16	**4**	0	24	**113**
Total Volume	33	74	18	0	125	7	63	22	0	92	10	78	10	0	98	18	85	10	0	113	428
% App. Total	26.4	59.2	14.4	0		7.6	68.5	23.9	0		10.2	79.6	10.2	0		15.9	75.2	8.8	0		
PHF	.825	.841	.750	.000	.845	.583	.750	.611	.000	.697	.625	.750	.500	.000	.817	.750	.885	.625	.000	.942	.947



County of Fresno

2220 Tulare St.
Fresno, CA 93721

Station ID: Mini-Tubes: 24-hour
Grantland S/O Bullard

Volume Report

Date Start: 24-May-18
Date End: 24-May-18

Start	21-May-18		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	North Bou	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo
12:00 AM	*	*	*	*	*	*	8	19	*	*	*	*	*	*	8	19
01:00	*	*	*	*	*	*	10	15	*	*	*	*	*	*	10	15
02:00	*	*	*	*	*	*	20	10	*	*	*	*	*	*	20	10
03:00	*	*	*	*	*	*	36	14	*	*	*	*	*	*	36	14
04:00	*	*	*	*	*	*	96	72	*	*	*	*	*	*	96	72
05:00	*	*	*	*	*	*	177	111	*	*	*	*	*	*	177	111
06:00	*	*	*	*	*	*	**429**	**320**	*	*	*	*	*	*	**429**	**320**
07:00	*	*	*	*	*	*	329	292	*	*	*	*	*	*	329	292
08:00	*	*	*	*	*	*	230	132	*	*	*	*	*	*	230	132
09:00	*	*	*	*	*	*	185	153	*	*	*	*	*	*	185	153
10:00	*	*	*	*	*	*	170	171	*	*	*	*	*	*	170	171
11:00	*	*	*	*	*	*	207	208	*	*	*	*	*	*	207	208
12:00 PM	*	*	*	*	*	*	180	213	*	*	*	*	*	*	180	213
01:00	*	*	*	*	*	*	**330**	248	*	*	*	*	*	*	**330**	248
02:00	*	*	*	*	*	*	309	392	*	*	*	*	*	*	309	392
03:00	*	*	*	*	*	*	310	384	*	*	*	*	*	*	310	384
04:00	*	*	*	*	*	*	328	**470**	*	*	*	*	*	*	328	**470**
05:00	*	*	*	*	*	*	237	312	*	*	*	*	*	*	237	312
06:00	*	*	*	*	*	*	189	252	*	*	*	*	*	*	189	252
07:00	*	*	*	*	*	*	168	256	*	*	*	*	*	*	168	256
08:00	*	*	*	*	*	*	106	198	*	*	*	*	*	*	106	198
09:00	*	*	*	*	*	*	57	125	*	*	*	*	*	*	57	125
10:00	*	*	*	*	*	*	31	78	*	*	*	*	*	*	31	78
11:00	*	*	*	*	*	*	8	26	*	*	*	*	*	*	8	26
Lane	0	0	0	0	0	0	4150	4471	0	0	0	0	0	0	4150	4471
Day	0		0		0		8621		0		0		0		8621	
AM Peak	-	-	-	-	-	-	06:00	06:00	-	-	-	-	-	-	06:00	06:00
Vol.	-	-	-	-	-	-	429	320	-	-	-	-	-	-	429	320
PM Peak	-	-	-	-	-	-	13:00	16:00	-	-	-	-	-	-	13:00	16:00
Vol.	-	-	-	-	-	-	330	470	-	-	-	-	-	-	330	470

Comb. Total	0	0	0	8621	0	0	0	8621

ADT ADT 8,621 AADT 8,621

County of Fresno

2220 Tulare St.
Fresno, CA 93721

Site Code: UID#: CO12
Station ID: Tubes: 48hr Study
Barstow E/O Garfield

Date Start: 19-Sep-17
Date End: 21-Sep-17

Volume Report

Start	18-Sep-17		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
Time	East Bound	West Bound	East Bound	West Bound	East Bound	West Bound	East Bound	West Bound	East Bound	West Bound	East Bound	West Bound	East Bound	West Bound	East Bound	West Bound
12:00 AM	*	*	3	4	1	3	0	0	*	*	1	2	*	*	*	*
01:00	*	*	0	4	0	0	*	*	*	*	0	2	*	*	*	*
02:00	*	*	1	1	0	1	*	*	*	*	0	1	*	*	*	*
03:00	*	*	1	3	2	3	*	*	*	*	2	3	*	*	*	*
04:00	*	*	5	4	7	10	*	*	*	*	6	7	*	*	*	*
05:00	*	*	12	31	16	29	*	*	*	*	14	30	*	*	*	*
06:00	*	*	24	**53**	**27**	**60**	*	*	*	*	**26**	**56**	*	*	*	*
07:00	*	*	**30**	39	12	30	*	*	*	*	21	34	*	*	*	*
08:00	*	*	20	16	19	13	*	*	*	*	20	14	*	*	*	*
09:00	*	*	11	13	18	11	*	*	*	*	14	12	*	*	*	*
10:00	*	*	15	16	13	10	*	*	*	*	14	13	*	*	*	*
11:00	*	*	15	24	13	18	*	*	*	*	14	21	*	*	*	*
12:00 PM	*	*	18	14	**29**	**36**	*	*	*	*	24	25	*	*	*	*
01:00	*	*	26	18	21	18	*	*	*	*	24	18	*	*	*	*
02:00	*	*	**28**	**31**	29	28	*	*	*	*	**28**	**30**	*	*	*	*
03:00	*	*	22	19	28	25	*	*	*	*	25	22	*	*	*	*
04:00	*	*	23	27	29	26	*	*	*	*	26	26	*	*	*	*
05:00	*	*	19	25	18	24	*	*	*	*	18	24	*	*	*	*
06:00	*	*	22	17	15	13	*	*	*	*	18	15	*	*	*	*
07:00	*	*	6	14	15	18	*	*	*	*	10	16	*	*	*	*
08:00	*	*	7	11	3	8	*	*	*	*	5	10	*	*	*	*
09:00	*	*	7	5	9	10	*	*	*	*	8	8	*	*	*	*
10:00	*	*	2	2	2	3	*	*	*	*	2	2	*	*	*	*
11:00	*	*	1	3	0	3	*	*	*	*	0	3	*	*	*	*
Total	0	0	318	394	326	400	0	0	0	0	320	394	0	0	0	0
Day	0		712		726		0		0		714		0		0	
AM Peak	-	-	07:00	06:00	06:00	06:00	-	-	-	-	06:00	06:00	-	-	-	-
Vol.	-	-	30	53	27	60	-	-	-	-	26	56	-	-	-	-
PM Peak	-	-	14:00	14:00	12:00	12:00	-	-	-	-	14:00	14:00	-	-	-	-
Vol.	-	-	28	31	29	36	-	-	-	-	28	30	-	-	-	-

Comb. Total	0	712	726	0	0	714	0	0

ADT ADT 717 AADT 717

Prepared by NDS/ATD

VOLUME

Barstow Ave Bet. Grantland Ave & Veterans Blvd

Day: Tuesday
Date: 8/21/2018

City: Fresno
Project #: CA18_2090_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	421	345	766

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			0		0		0		12:00			5		8		13	
00:15			1		1		2		12:15			7		7		14	
00:30			0		0		0		12:30			7		3		10	
00:45			0	1	0	1	0	2	12:45			7	26	3	21	10	47
01:00			0		1		1		13:00			6		3		9	
01:15			2		0		2		13:15			5		7		12	
01:30			0		1		1		13:30			3		2		5	
01:45			1	3	0	2	1	5	13:45			1	15	9	21	10	36
02:00			1		0		1		14:00			7		2		9	
02:15			0		0		0		14:15			6		8		14	
02:30			0		0		0		14:30			5		4		9	
02:45			0	1	0		0	1	14:45			5	23	10	24	15	47
03:00			0		0		0		15:00			7		1		8	
03:15			0		0		0		15:15			13		7		20	
03:30			0		3		3		15:30			8		5		13	
03:45			0		0	3	0	3	15:45			12	40	6	19	18	59
04:00			1		1		2		16:00			13		13		26	
04:15			3		0		3		16:15			8		3		11	
04:30			0		0		0		16:30			5		7		12	
04:45			0	4	1	2	1	6	16:45			9	35	5	28	14	63
05:00			1		0		1		17:00			8		7		15	
05:15			2		0		2		17:15			16		7		23	
05:30			2		2		4		17:30			5		11		16	
05:45			2	7	0	2	2	9	17:45			10	39	5	30	15	69
06:00			3		1		4		18:00			6		5		11	
06:15			4		3		7		18:15			6		8		14	
06:30			5		0		5		18:30			6		5		11	
06:45			9	21	4	8	13	29	18:45			8	26	3	21	11	47
07:00			5		5		10		19:00			10		4		14	
07:15			5		6		11		19:15			12		6		18	
07:30			6		13		19		19:30			4		2		6	
07:45			6	22	7	31	13	53	19:45			4	30	6	18	10	48
08:00			5		9		14		20:00			4		3		7	
08:15			5		8		13		20:15			11		3		14	
08:30			3		9		12		20:30			4		3		7	
08:45			9	22	7	33	16	55	20:45			6	25	1	10	7	35
09:00			2		8		10		21:00			5		5		10	
09:15			2		2		4		21:15			4		3		7	
09:30			4		6		10		21:30			4		3		7	
09:45			5	13	5	21	10	34	21:45			8	21	3	14	11	35
10:00			2		5		7		22:00			4		0		4	
10:15			0		5		5		22:15			1		0		1	
10:30			5		2		7		22:30			1		2		3	
10:45			8	15	1	13	9	28	22:45			0	6	0	2	0	8
11:00			4		6		10		23:00			1		1		2	
11:15			4		4		8		23:15			1		1		2	
11:30			8		2		10		23:30			0		0		0	
11:45			5	21	5	17	10	38	23:45			3	5	2	4	5	9
TOTALS				130		133		**263**	**TOTALS**				291		212		**503**
SPLIT %				49.4%		50.6%		**34.3%**	**SPLIT %**				57.9%		42.1%		**65.7%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	421	345	766

AM Peak Hour			06:45	07:30	**07:30**				**PM Peak Hour**			15:15	15:15	**15:15**			
AM Pk Volume			25	37	**59**				**PM Pk Volume**			46	31	**77**			
Pk Hr Factor			0.694	0.712	**0.776**				**Pk Hr Factor**			0.885	0.596	**0.740**			
7 - 9 Volume	0	0	44	64	**108**				**4 - 6 Volume**	0	0	74	58	**132**			
7 - 9 Peak Hour			07:00	07:30	**07:30**				**4 - 6 Peak Hour**			17:00	16:45	**17:00**			
7 - 9 Pk Volume	0	0	22	37	**59**				**4 - 6 Pk Volume**	0	0	39	30	**69**			
Pk Hr Factor	0.000	0.000	0.917	0.712	**0.776**				**Pk Hr Factor**	0.000	0.000	0.609	0.682	**0.750**			

Prepared by NDS/ATD

VOLUME

Garfield Ave Bet. Barstow Ave & Shaw Ave

Day: Tuesday
Date: 8/21/2018

City: Fresno
Project #: CA18_2090_003

DAILY TOTALS	NB	SB	EB	WB	Total
	687	760	0	0	1,447

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	2		1				3		12:00	11		8				19	
00:15	0		0				0		12:15	6		13				19	
00:30	2		1				3		12:30	10		14				24	
00:45	0	4	1	3			1	7	12:45	4	31	11	46			15	77
01:00	0		1				1		13:00	9		8				17	
01:15	2		1				3		13:15	17		5				22	
01:30	1		2				3		13:30	8		4				12	
01:45	0	3	1	5			1	8	13:45	8	42	8	25			16	67
02:00	0		0				0		14:00	6		7				13	
02:15	0		1				1		14:15	6		15				21	
02:30	0		1				1		14:30	20		10				30	
02:45	1	1	0	2			1	3	14:45	16	48	8	40			24	88
03:00	0		2				2		15:00	14		6				20	
03:15	2		2				4		15:15	14		16				30	
03:30	1		1				2		15:30	16		12				28	
03:45	0	3	2	7			2	10	15:45	13	57	13	47			26	104
04:00	0		0				0		16:00	18		18				36	
04:15	1		2				3		16:15	18		13				31	
04:30	1		5				6		16:30	16		8				24	
04:45	2	4	4	11			6	15	16:45	18	70	13	52			31	122
05:00	2		1				3		17:00	20		17				37	
05:15	1		6				7		17:15	13		21				34	
05:30	1		3				4		17:30	22		15				37	
05:45	5	9	6	16			11	25	17:45	15	70	19	72			34	142
06:00	3		5				8		18:00	12		11				23	
06:15	4		10				14		18:15	17		10				27	
06:30	7		20				27		18:30	12		10				22	
06:45	8	22	36	71			44	93	18:45	7	48	8	39			15	87
07:00	21		37				58		19:00	7		11				18	
07:15	24		19				43		19:15	11		12				23	
07:30	17		15				32		19:30	10		5				15	
07:45	18	80	13	84			31	164	19:45	5	33	6	34			11	67
08:00	17		17				34		20:00	4		11				15	
08:15	9		13				22		20:15	5		10				15	
08:30	6		12				18		20:30	6		9				15	
08:45	5	37	8	50			13	87	20:45	5	20	10	40			15	60
09:00	8		6				14		21:00	5		8				13	
09:15	11		4				15		21:15	3		3				6	
09:30	5		7				12		21:30	4		3				7	
09:45	5	29	7	24			12	53	21:45	1	13	4	18			5	31
10:00	7		8				15		22:00	2		2				4	
10:15	6		10				16		22:15	3		8				11	
10:30	5		8				13		22:30	2		0				2	
10:45	7	25	7	33			14	58	22:45	1	8	1	11			2	19
11:00	5		3				8		23:00	2		0				2	
11:15	4		10				14		23:15	2		0				2	
11:30	6		3				9		23:30	1		1				2	
11:45	9	24	10	26			19	50	23:45	1	6	3	4			4	10
TOTALS		241		332				**573**	**TOTALS**		446		428				**874**
SPLIT %		42.1%		57.9%				**39.6%**	**SPLIT %**		51.0%		49.0%				**60.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	687	760	0	0	1,447

AM Peak Hour	07:00	06:30			**06:45**	**PM Peak Hour**	16:45	17:00			**17:00**
AM Pk Volume	80	112			**177**	**PM Pk Volume**	73	72			**142**
Pk Hr Factor	0.833	0.757			**0.763**	**Pk Hr Factor**	0.830	0.857			**0.959**
7 - 9 Volume	117	134	0	0	**251**	**4 - 6 Volume**	140	124	0	0	**264**
7 - 9 Peak Hour	07:00	07:00			**07:00**	**4 - 6 Peak Hour**	16:45	17:00			**17:00**
7 - 9 Pk Volume	80	84	0	0	**164**	**4 - 6 Pk Volume**	73	72	0	0	**142**
Pk Hr Factor	0.833	0.568	0.000	0.000	**0.707**	**Pk Hr Factor**	0.830	0.857	0.000	0.000	**0.959**

County of Fresno

2220 Tulare St.
Fresno, CA 93721

Site Code: UID#: CO83
Station ID: Mini-Tubes: 48-hour
Grantland N/O Shaw
SIN#: 3528.5
Date Start: 09-May-18
Date End: 10-May-18

Volume Report

Start	07-May-18		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	South Bou	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo
12:00 AM	*	*	*	*	10	10	11	12	*	*	*	*	*	*	10	11
01:00	*	*	*	*	8	8	15	12	*	*	*	*	*	*	12	10
02:00	*	*	*	*	9	8	10	9	*	*	*	*	*	*	10	8
03:00	*	*	*	*	16	12	26	20	*	*	*	*	*	*	21	16
04:00	*	*	*	*	91	31	103	47	*	*	*	*	*	*	97	39
05:00	*	*	*	*	181	90	150	91	*	*	*	*	*	*	166	90
06:00	*	*	*	*	**398**	**246**	**395**	**238**	*	*	*	*	*	*	**396**	**242**
07:00	*	*	*	*	250	190	256	185	*	*	*	*	*	*	253	188
08:00	*	*	*	*	173	149	149	139	*	*	*	*	*	*	161	144
09:00	*	*	*	*	139	123	143	144	*	*	*	*	*	*	141	134
10:00	*	*	*	*	183	152	175	197	*	*	*	*	*	*	179	174
11:00	*	*	*	*	200	214	189	194	*	*	*	*	*	*	194	204
12:00 PM	*	*	*	*	238	211	191	150	*	*	*	*	*	*	214	180
01:00	*	*	*	*	225	254	224	279	*	*	*	*	*	*	224	266
02:00	*	*	*	*	224	229	264	273	*	*	*	*	*	*	244	251
03:00	*	*	*	*	253	**308**	314	**318**	*	*	*	*	*	*	284	**313**
04:00	*	*	*	*	**311**	281	**326**	292	*	*	*	*	*	*	**318**	286
05:00	*	*	*	*	270	201	244	231	*	*	*	*	*	*	257	216
06:00	*	*	*	*	174	166	179	200	*	*	*	*	*	*	176	183
07:00	*	*	*	*	166	163	156	169	*	*	*	*	*	*	161	166
08:00	*	*	*	*	109	84	121	126	*	*	*	*	*	*	115	105
09:00	*	*	*	*	73	46	80	49	*	*	*	*	*	*	76	48
10:00	*	*	*	*	44	36	43	35	*	*	*	*	*	*	44	36
11:00	*	*	*	*	22	28	16	14	*	*	*	*	*	*	19	21
Lane	0	0	0	0	3767	3240	3780	3424	0	0	0	0	0	0	3772	3331
Day	0		0		7007		7204		0		0		0		7103	
AM Peak	-	-	-	-	06:00	06:00	06:00	06:00	-	-	-	-	-	-	06:00	06:00
Vol.	-	-	-	-	398	246	395	238	-	-	-	-	-	-	396	242
PM Peak	-	-	-	-	16:00	15:00	16:00	15:00	-	-	-	-	-	-	16:00	15:00
Vol.	-	-	-	-	311	308	326	318	-	-	-	-	-	-	318	313

Comb. Total	0	0	7007	7204	0	0	0	7103

ADT ADT 7,106 AADT 7,106

Prepared by NDS/ATD

VOLUME

Shaw Ave Bet. N Chateau Fresno Ave & Garfield Ave

Day: Tuesday
Date: 8/21/2018

City: Fresno
Project #: CA18_2090_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,666	3,907	7,573

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			3		9		12		12:00			54		50		104	
00:15			7		5		12		12:15			59		57		116	
00:30			7		5		12		12:30			59		51		110	
00:45			1	18	2	21	3	39	12:45			45	217	72	230	117	447
01:00			1		7		8		13:00			54		55		109	
01:15			3		5		8		13:15			46		49		95	
01:30			4		3		7		13:30			53		60		113	
01:45			3	11	2	17	5	28	13:45			61	214	57	221	118	435
02:00			3		6		9		14:00			85		77		162	
02:15			1		3		4		14:15			100		63		163	
02:30			2		5		7		14:30			81		64		145	
02:45			7	13	5	19	12	32	14:45			54	320	52	256	106	576
03:00			3		7		10		15:00			80		65		145	
03:15			2		7		9		15:15			60		85		145	
03:30			14		11		25		15:30			81		68		149	
03:45			4	23	20	45	24	68	15:45			63	284	70	288	133	572
04:00			3		5		8		16:00			63		71		134	
04:15			5		14		19		16:15			80		63		143	
04:30			20		18		38		16:30			72		74		146	
04:45			19	47	14	51	33	98	16:45			67	282	66	274	133	556
05:00			13		22		35		17:00			84		76		160	
05:15			35		42		77		17:15			70		99		169	
05:30			38		39		77		17:30			64		85		149	
05:45			23	109	43	146	66	255	17:45			69	287	62	322	131	609
06:00			28		31		59		18:00			61		46		107	
06:15			34		34		68		18:15			43		65		108	
06:30			52		42		94		18:30			44		55		99	
06:45			47	161	121	228	168	389	18:45			46	194	46	212	92	406
07:00			51		127		178		19:00			34		55		89	
07:15			94		56		150		19:15			33		41		74	
07:30			69		74		143		19:30			21		40		61	
07:45			54	268	56	313	110	581	19:45			42	130	39	175	81	305
08:00			70		43		113		20:00			36		35		71	
08:15			63		50		113		20:15			31		49		80	
08:30			55		47		102		20:30			38		36		74	
08:45			57	245	40	180	97	425	20:45			33	138	37	157	70	295
09:00			41		35		76		21:00			21		38		59	
09:15			41		38		79		21:15			21		21		42	
09:30			57		30		87		21:30			22		26		48	
09:45			45	184	42	145	87	329	21:45			15	79	24	109	39	188
10:00			44		35		79		22:00			7		18		25	
10:15			57		47		104		22:15			18		27		45	
10:30			43		41		84		22:30			9		17		26	
10:45			50	194	59	182	109	376	22:45			9	43	15	77	24	120
11:00			37		49		86		23:00			7		9		16	
11:15			44		59		103		23:15			5		12		17	
11:30			48		48		96		23:30			8		12		20	
11:45			53	182	45	201	98	383	23:45			3	23	5	38	8	61
TOTALS				1455		1548		**3003**	**TOTALS**				2211		2359		**4570**
SPLIT %				48.5%		51.5%		**39.7%**	**SPLIT %**				48.4%		51.6%		**60.3%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,666	3,907	7,573

AM Peak Hour			07:15	06:45	**06:45**	**PM Peak Hour**			13:45	16:45	**16:45**
AM Pk Volume			287	378	**639**	**PM Pk Volume**			327	326	**611**
Pk Hr Factor			0.763	0.744	**0.897**	**Pk Hr Factor**			0.818	0.823	**0.904**
7 - 9 Volume	0	0	513	493	**1006**	**4 - 6 Volume**	0	0	569	596	**1165**
7 - 9 Peak Hour			07:15	07:00	**07:00**	**4 - 6 Peak Hour**			16:15	16:45	**16:45**
7 - 9 Pk Volume	0	0	287	313	**581**	**4 - 6 Pk Volume**	0	0	303	326	**611**
Pk Hr Factor	0.000	0.000	0.763	0.616	**0.816**	**Pk Hr Factor**	0.000	0.000	0.902	0.823	**0.904**

County of Fresno

2220 Tulare St.
Fresno, CA 93721

Site Code: UID#: CO83
Station ID: Mini-Tubes: 48-hour
Shaw W/O Grantland
SIN#: 7149
Date Start: 09-May-18
Date End: 10-May-18

Volume Report

Start	07-May-18		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	East Boun	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo
12:00 AM	*	*	*	*	5	16	9	20	*	*	*	*	*	*	7	18
01:00	*	*	*	*	8	9	12	13	*	*	*	*	*	*	10	11
02:00	*	*	*	*	11	21	11	18	*	*	*	*	*	*	11	20
03:00	*	*	*	*	38	30	42	31	*	*	*	*	*	*	40	30
04:00	*	*	*	*	95	122	101	131	*	*	*	*	*	*	98	126
05:00	*	*	*	*	121	156	134	154	*	*	*	*	*	*	128	155
06:00	*	*	*	*	**257**	**275**	**277**	**302**	*	*	*	*	*	*	**267**	**288**
07:00	*	*	*	*	257	194	239	211	*	*	*	*	*	*	248	202
08:00	*	*	*	*	211	161	234	158	*	*	*	*	*	*	222	160
09:00	*	*	*	*	202	135	198	205	*	*	*	*	*	*	200	170
10:00	*	*	*	*	206	173	263	179	*	*	*	*	*	*	234	176
11:00	*	*	*	*	199	219	228	220	*	*	*	*	*	*	214	220
12:00 PM	*	*	*	*	220	276	198	238	*	*	*	*	*	*	209	257
01:00	*	*	*	*	260	244	241	257	*	*	*	*	*	*	250	250
02:00	*	*	*	*	246	276	260	265	*	*	*	*	*	*	253	270
03:00	*	*	*	*	**281**	289	**321**	280	*	*	*	*	*	*	**301**	284
04:00	*	*	*	*	269	289	277	**288**	*	*	*	*	*	*	273	288
05:00	*	*	*	*	222	**298**	263	285	*	*	*	*	*	*	242	**292**
06:00	*	*	*	*	146	218	171	196	*	*	*	*	*	*	158	207
07:00	*	*	*	*	141	189	99	188	*	*	*	*	*	*	120	188
08:00	*	*	*	*	89	151	88	163	*	*	*	*	*	*	88	157
09:00	*	*	*	*	44	100	44	115	*	*	*	*	*	*	44	108
10:00	*	*	*	*	22	47	28	55	*	*	*	*	*	*	25	51
11:00	*	*	*	*	26	32	21	35	*	*	*	*	*	*	24	34
Lane	0	0	0	0	3576	3920	3759	4007	0	0	0	0	0	0	3666	3962
Day	0		0		7496		7766		0		0		0		7628	
AM Peak	-	-	-	-	06:00	06:00	06:00	06:00	-	-	-	-	-	-	06:00	06:00
Vol.	-	-	-	-	257	275	277	302	-	-	-	-	-	-	267	288
PM Peak	-	-	-	-	15:00	17:00	15:00	16:00	-	-	-	-	-	-	15:00	17:00
Vol.	-	-	-	-	281	298	321	288	-	-	-	-	-	-	301	292

Comb. Total	0	0	7496	7766	0	0	0	7628

ADT ADT 7,631 AADT 7,631

County of Fresno

2220 Tulare St.
Fresno, CA 93721

Site Code: UID#: CO83
Station ID: Mini-Tubes: 48-hour
Shaw E/O Grantland

Date Start: 09-May-18
Date End: 10-May-18

Volume Report

Start	07-May-18		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	West Boun	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou
12:00 AM	*	*	*	*	22	9	28	15	*	*	*	*	*	*	25	12
01:00	*	*	*	*	13	14	18	20	*	*	*	*	*	*	16	17
02:00	*	*	*	*	27	17	18	13	*	*	*	*	*	*	22	15
03:00	*	*	*	*	29	52	37	63	*	*	*	*	*	*	33	58
04:00	*	*	*	*	128	118	140	119	*	*	*	*	*	*	134	118
05:00	*	*	*	*	155	192	156	190	*	*	*	*	*	*	156	191
06:00	*	*	*	*	255	**367**	**306**	**396**	*	*	*	*	*	*	280	**382**
07:00	*	*	*	*	227	343	238	328	*	*	*	*	*	*	232	336
08:00	*	*	*	*	186	268	193	282	*	*	*	*	*	*	190	275
09:00	*	*	*	*	180	255	246	232	*	*	*	*	*	*	213	244
10:00	*	*	*	*	243	265	263	314	*	*	*	*	*	*	253	290
11:00	*	*	*	*	**294**	264	289	279	*	*	*	*	*	*	**292**	272
12:00 PM	*	*	*	*	346	293	285	250	*	*	*	*	*	*	316	272
01:00	*	*	*	*	315	322	301	300	*	*	*	*	*	*	308	311
02:00	*	*	*	*	341	293	343	332	*	*	*	*	*	*	342	312
03:00	*	*	*	*	**364**	313	**370**	**394**	*	*	*	*	*	*	**367**	**354**
04:00	*	*	*	*	351	**334**	352	348	*	*	*	*	*	*	352	341
05:00	*	*	*	*	352	300	335	298	*	*	*	*	*	*	344	299
06:00	*	*	*	*	280	220	270	219	*	*	*	*	*	*	275	220
07:00	*	*	*	*	242	168	228	146	*	*	*	*	*	*	235	157
08:00	*	*	*	*	180	122	215	115	*	*	*	*	*	*	198	118
09:00	*	*	*	*	103	66	118	66	*	*	*	*	*	*	110	66
10:00	*	*	*	*	59	44	68	43	*	*	*	*	*	*	64	44
11:00	*	*	*	*	45	35	37	20	*	*	*	*	*	*	41	28
Lane	0	0	0	0	4737	4674	4854	4782	0	0	0	0	0	0	4798	4732
Day	0		0		9411		9636		0		0		0		9530	
AM Peak	-	-	-	-	11:00	06:00	06:00	06:00	-	-	-	-	-	-	11:00	06:00
Vol.	-	-	-	-	294	367	306	396	-	-	-	-	-	-	292	382
PM Peak	-	-	-	-	15:00	16:00	15:00	15:00	-	-	-	-	-	-	15:00	15:00
Vol.	-	-	-	-	364	334	370	394	-	-	-	-	-	-	367	354

Comb. Total	0	0	9411	9636	0	0	0	9530

ADT ADT 9,524 AADT 9,524

Prepared by NDS/ATD

VOLUME

W Shaw Ave Bet. N Bryan Ave & N Hayes Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_007

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,903	4,981	9,884

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			6		15		21		12:00			63		66		129	
00:15			5		10		15		12:15			58		64		122	
00:30			7		7		14		12:30			79		92		171	
00:45			4	22	8	40	12	62	12:45			56	256	93	315	149	571
01:00			1		5		6		13:00			87		92		179	
01:15			3		4		7		13:15			76		92		168	
01:30			4		0		4		13:30			104		87		191	
01:45			2	10	2	11	4	21	13:45			122	389	63	334	185	723
02:00			3		5		8		14:00			77		85		162	
02:15			4		1		5		14:15			76		75		151	
02:30			3		7		10		14:30			75		80		155	
02:45			7	17	6	19	13	36	14:45			66	294	81	321	147	615
03:00			2		3		5		15:00			94		65		159	
03:15			5		11		16		15:15			75		95		170	
03:30			5		5		10		15:30			88		94		182	
03:45			4	16	5	24	9	40	15:45			82	339	98	352	180	691
04:00			9		5		14		16:00			66		81		147	
04:15			8		6		14		16:15			78		88		166	
04:30			15		8		23		16:30			90		127		217	
04:45			18	50	6	25	24	75	16:45			67	301	108	404	175	705
05:00			20		17		37		17:00			78		123		201	
05:15			22		19		41		17:15			91		95		186	
05:30			58		35		93		17:30			92		97		189	
05:45			45	145	36	107	81	252	17:45			95	356	83	398	178	754
06:00			34		34		68		18:00			114		113		227	
06:15			44		44		88		18:15			82		91		173	
06:30			65		44		109		18:30			78		79		157	
06:45			64	207	64	186	128	393	18:45			60	334	78	361	138	695
07:00			120		83		203		19:00			55		73		128	
07:15			107		101		208		19:15			52		74		126	
07:30			127		100		227		19:30			37		77		114	
07:45			95	449	80	364	175	813	19:45			56	200	66	290	122	490
08:00			110		58		168		20:00			36		58		94	
08:15			101		88		189		20:15			46		67		113	
08:30			104		37		141		20:30			27		47		74	
08:45			79	394	49	232	128	626	20:45			28	137	50	222	78	359
09:00			69		51		120		21:00			19		62		81	
09:15			59		34		93		21:15			20		54		74	
09:30			69		38		107		21:30			23		40		63	
09:45			77	274	53	176	130	450	21:45			16	78	37	193	53	271
10:00			65		52		117		22:00			12		28		40	
10:15			73		55		128		22:15			18		26		44	
10:30			66		58		124		22:30			12		25		37	
10:45			67	271	54	219	121	490	22:45			16	58	20	99	36	157
11:00			79		50		129		23:00			8		20		28	
11:15			72		55		127		23:15			14		13		27	
11:30			56		64		120		23:30			9		11		20	
11:45			55	262	54	223	109	485	23:45			13	44	22	66	35	110
TOTALS				2117		1626		**3743**	**TOTALS**				2786		3355		**6141**
SPLIT %				56.6%		43.4%		**37.9%**	**SPLIT %**				45.4%		54.6%		**62.1%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,903	4,981	9,884

AM Peak Hour			07:00	07:00	**07:00**	**PM Peak Hour**			17:15	16:30	**17:15**
AM Pk Volume			449	364	**813**	**PM Pk Volume**			392	453	**780**
Pk Hr Factor			0.884	0.901	**0.895**	**Pk Hr Factor**			0.860	0.892	**0.859**
7 - 9 Volume	0	0	843	596	**1439**	**4 - 6 Volume**	0	0	657	802	**1459**
7 - 9 Peak Hour			07:00	07:00	**07:00**	**4 - 6 Peak Hour**			17:00	16:30	**16:30**
7 - 9 Pk Volume	0	0	449	364	**813**	**4 - 6 Pk Volume**	0	0	356	453	**779**
Pk Hr Factor	0.000	0.000	0.884	0.901	**0.895**	**Pk Hr Factor**	0.000	0.000	0.937	0.892	**0.897**

Prepared by NDS/ATD

VOLUME

W Shaw Ave Bet. N Hayes Ave & N Polk Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_008

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,403	5,700	11,103

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			12		17		29		12:00			74		68		142	
00:15			9		14		23		12:15			66		87		153	
00:30			9		12		21		12:30			82		105		187	
00:45			5	35	11	54	16	89	12:45			65	287	92	352	157	639
01:00			3		6		9		13:00			91		108		199	
01:15			3		9		12		13:15			79		94		173	
01:30			6		2		8		13:30			97		91		188	
01:45			1	13	8	25	9	38	13:45			115	382	65	358	180	740
02:00			4		4		8		14:00			88		86		174	
02:15			5		1		6		14:15			88		90		178	
02:30			4		8		12		14:30			81		83		164	
02:45			8	21	6	19	14	40	14:45			77	334	93	352	170	686
03:00			2		3		5		15:00			98		80		178	
03:15			6		10		16		15:15			83		103		186	
03:30			7		5		12		15:30			90		104		194	
03:45			5	20	5	23	10	43	15:45			85	356	116	403	201	759
04:00			10		4		14		16:00			73		91		164	
04:15			11		7		18		16:15			76		103		179	
04:30			26		11		37		16:30			90		147		237	
04:45			25	72	9	31	34	103	16:45			76	315	130	471	206	786
05:00			28		19		47		17:00			74		131		205	
05:15			28		21		49		17:15			91		111		202	
05:30			60		33		93		17:30			82		122		204	
05:45			52	168	40	113	92	281	17:45			96	343	109	473	205	816
06:00			40		40		80		18:00			103		155		258	
06:15			61		47		108		18:15			80		111		191	
06:30			82		43		125		18:30			84		100		184	
06:45			82	265	65	195	147	460	18:45			62	329	93	459	155	788
07:00			112		83		195		19:00			57		86		143	
07:15			141		94		235		19:15			67		87		154	
07:30			148		83		231		19:30			45		100		145	
07:45			102	503	84	344	186	847	19:45			65	234	69	342	134	576
08:00			114		61		175		20:00			35		86		121	
08:15			122		77		199		20:15			46		78		124	
08:30			109		50		159		20:30			38		55		93	
08:45			90	435	47	235	137	670	20:45			29	148	67	286	96	434
09:00			91		49		140		21:00			23		86		109	
09:15			70		43		113		21:15			22		59		81	
09:30			78		42		120		21:30			25		47		72	
09:45			85	324	73	207	158	531	21:45			28	98	42	234	70	332
10:00			71		63		134		22:00			14		39		53	
10:15			83		60		143		22:15			20		32		52	
10:30			79		68		147		22:30			17		32		49	
10:45			80	313	57	248	137	561	22:45			15	66	33	136	48	202
11:00			82		58		140		23:00			13		29		42	
11:15			84		66		150		23:15			12		19		31	
11:30			57		70		127		23:30			14		10		24	
11:45			66	289	59	253	125	542	23:45			14	53	29	87	43	140
TOTALS				2458		1747		**4205**	**TOTALS**				2945		3953		**6898**
SPLIT %				58.5%		41.5%		**37.9%**	**SPLIT %**				42.7%		57.3%		**62.1%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,403	5,700	11,103

AM Peak Hour			07:15	07:00	**07:00**	**PM Peak Hour**			13:30	16:30	**17:15**
AM Pk Volume			505	344	**847**	**PM Pk Volume**			388	519	**869**
Pk Hr Factor			0.853	0.915	**0.901**	**Pk Hr Factor**			0.843	0.883	**0.842**
7 - 9 Volume	0	0	938	579	**1517**	**4 - 6 Volume**	0	0	658	944	**1602**
7 - 9 Peak Hour			07:15	07:00	**07:00**	**4 - 6 Peak Hour**			17:00	16:30	**16:30**
7 - 9 Pk Volume	0	0	505	344	**847**	**4 - 6 Pk Volume**	0	0	343	519	**850**
Pk Hr Factor	0.000	0.000	0.853	0.915	**0.901**	**Pk Hr Factor**	0.000	0.000	0.893	0.883	**0.897**

Prepared by NDS/ATD

VOLUME

Garfield Ave S/O Shaw Ave

Day: Tuesday
Date: 8/21/2018

City: Fresno
Project #: CA18_2090_004

DAILY TOTALS	NB	SB	EB	WB	Total
	73	86	0	0	159

AM Period	NB		SB		EB		WB		TOTAL	
00:00	0		0						0	
00:15	0		0						0	
00:30	0		0						0	
00:45	0		0						0	
01:00	0		0						0	
01:15	0		0						0	
01:30	0		0						0	
01:45	0		0						0	
02:00	0		0						0	
02:15	0		0						0	
02:30	0		0						0	
02:45	0		0						0	
03:00	0		0						0	
03:15	0		0						0	
03:30	0		0						0	
03:45	0		0						0	
04:00	0		0						0	
04:15	0		0						0	
04:30	0		0						0	
04:45	0		0						0	
05:00	0		0						0	
05:15	0		0						0	
05:30	0		0						0	
05:45	0		1	1					1	1
06:00	1		0						1	
06:15	0		1						1	
06:30	1		0						1	
06:45	5	7	0	1					5	8
07:00	3		2						5	
07:15	0		2						2	
07:30	1		0						1	
07:45	1	5	1	5					2	10
08:00	2		0						2	
08:15	2		1						3	
08:30	2		1						3	
08:45	1	7	0	2					1	9
09:00	1		2						3	
09:15	2		1						3	
09:30	0		0						0	
09:45	2	5	1	4					3	9
10:00	2		2						4	
10:15	1		3						4	
10:30	1		1						2	
10:45	2	6	2	8					4	14
11:00	1		2						3	
11:15	2		1						3	
11:30	0		0						0	
11:45	1	4	2	5					3	9
TOTALS		34		26						**60**
SPLIT %		56.7%		43.3%						**37.7%**

PM Period	NB		SB		EB		WB		TOTAL	
12:00	1		1						2	
12:15	1		2						3	
12:30	2		1						3	
12:45	2	6	1	5					3	11
13:00	1		2						3	
13:15	2		0						2	
13:30	2		0						2	
13:45	0	5	1	3					1	8
14:00	0		2						2	
14:15	0		3						3	
14:30	0		3						3	
14:45	2	2	1	9					3	11
15:00	3		1						4	
15:15	0		2						2	
15:30	3		3						6	
15:45	0	6	1	7					1	13
16:00	0		2						2	
16:15	0		1						1	
16:30	1		1						2	
16:45	0	1	2	6					2	7
17:00	3		3						6	
17:15	1		2						3	
17:30	0		1						1	
17:45	2	6	3	9					5	15
18:00	1		1						2	
18:15	5		1						6	
18:30	1		1						2	
18:45	1	8	3	6					4	14
19:00	0		1						1	
19:15	0		2						2	
19:30	1		0						1	
19:45	2	3	0	3					2	6
20:00	0		0						0	
20:15	0		2						2	
20:30	0		2						2	
20:45	0		2	6					2	6
21:00	0		1						1	
21:15	0		0						0	
21:30	0		2						2	
21:45	0		1	4					1	4
22:00	0		2						2	
22:15	1		0						1	
22:30	0		0						0	
22:45	0	1	0	2					0	3
23:00	1		0						1	
23:15	0		0						0	
23:30	0		0						0	
23:45	0	1	0						0	1
TOTALS		39		60						**99**
SPLIT %		39.4%		60.6%						**62.3%**

DAILY TOTALS	NB	SB	EB	WB	Total
	73	86	0	0	159

AM Peak Hour	06:15	10:00			**10:00**
AM Pk Volume	9	8			**14**
Pk Hr Factor	0.450	0.667			**0.875**
7 - 9 Volume	12	7	0	0	**19**
7 - 9 Peak Hour	07:45	07:00			**07:00**
7 - 9 Pk Volume	7	5	0	0	**10**
Pk Hr Factor	0.875	0.625	0.000	0.000	**0.500**

PM Peak Hour	17:45	13:45			**14:45**
PM Pk Volume	9	9			**15**
Pk Hr Factor	0.450	0.750			**0.625**
4 - 6 Volume	7	15	0	0	**22**
4 - 6 Peak Hour	17:00	17:00			**17:00**
4 - 6 Pk Volume	6	9	0	0	**15**
Pk Hr Factor	0.500	0.750	0.000	0.000	**0.625**

County of Fresno

2220 Tulare St.
Fresno, CA 93721

Site Code: UID#: CO83
Station ID: Mini-Tubes: 48-hour
Grantland S/O Shaw
SIN#: 3527
Date Start: 09-May-18
Date End: 10-May-18

Volume Report

Start	07-May-18		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	North Bou	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo
12:00 AM	*	*	*	*	5	9	4	6	*	*	*	*	*	*	4	8
01:00	*	*	*	*	5	4	2	1	*	*	*	*	*	*	4	2
02:00	*	*	*	*	4	2	2	5	*	*	*	*	*	*	3	4
03:00	*	*	*	*	8	3	11	1	*	*	*	*	*	*	10	2
04:00	*	*	*	*	19	38	25	51	*	*	*	*	*	*	22	44
05:00	*	*	*	*	71	77	77	61	*	*	*	*	*	*	74	69
06:00	*	*	*	*	**189**	**206**	**175**	**192**	*	*	*	*	*	*	**182**	**199**
07:00	*	*	*	*	112	115	108	114	*	*	*	*	*	*	110	114
08:00	*	*	*	*	93	85	85	72	*	*	*	*	*	*	89	78
09:00	*	*	*	*	74	78	95	89	*	*	*	*	*	*	84	84
10:00	*	*	*	*	76	98	103	101	*	*	*	*	*	*	90	100
11:00	*	*	*	*	132	114	108	104	*	*	*	*	*	*	120	109
12:00 PM	*	*	*	*	123	126	88	103	*	*	*	*	*	*	106	114
01:00	*	*	*	*	168	119	196	131	*	*	*	*	*	*	182	125
02:00	*	*	*	*	116	136	168	144	*	*	*	*	*	*	142	140
03:00	*	*	*	*	**183**	158	**221**	**192**	*	*	*	*	*	*	**202**	175
04:00	*	*	*	*	160	**172**	177	191	*	*	*	*	*	*	168	**182**
05:00	*	*	*	*	108	133	101	137	*	*	*	*	*	*	104	135
06:00	*	*	*	*	84	91	107	96	*	*	*	*	*	*	96	94
07:00	*	*	*	*	70	101	96	83	*	*	*	*	*	*	83	92
08:00	*	*	*	*	36	54	52	62	*	*	*	*	*	*	44	58
09:00	*	*	*	*	29	38	19	34	*	*	*	*	*	*	24	36
10:00	*	*	*	*	18	17	14	23	*	*	*	*	*	*	16	20
11:00	*	*	*	*	10	9	8	14	*	*	*	*	*	*	9	12
Lane	0	0	0	0	1893	1983	2042	2007	0	0	0	0	0	0	1968	1996
Day	0		0		3876		4049		0		0		0		3964	
AM Peak	-	-	-	-	06:00	06:00	06:00	06:00	-	-	-	-	-	-	06:00	06:00
Vol.	-	-	-	-	189	206	175	192	-	-	-	-	-	-	182	199
PM Peak	-	-	-	-	15:00	16:00	15:00	15:00	-	-	-	-	-	-	15:00	16:00
Vol.	-	-	-	-	183	172	221	192	-	-	-	-	-	-	202	182

Comb. Total	0	0	3876	4049	0	0	0	3964

ADT ADT 3,962 AADT 3,962

Prepared by NDS/ATD

VOLUME

N Bryan Ave Bet. W Shaw Ave & W Gettysburg Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_014

DAILY TOTALS	NB	SB	EB	WB	Total
	954	1,101	0	0	2,055

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	1		0						1		12:00	9		7						16	
00:15	0		1						1		12:15	8		11						19	
00:30	0		1						1		12:30	16		9						25	
00:45	0	1	0	2					0	3	12:45	12	45	23	50					35	95
01:00	1		0						1		13:00	33		33						66	
01:15	0		0						0		13:15	12		52						64	
01:30	0		0						0		13:30	56		44						100	
01:45	0	1	0						0	1	13:45	20	121	11	140					31	261
02:00	0		0						0		14:00	11		10						21	
02:15	1		1						2		14:15	12		7						19	
02:30	1		0						1		14:30	10		7						17	
02:45	0	2	0	1					0	3	14:45	15	48	11	35					26	83
03:00	0		3						3		15:00	20		12						32	
03:15	1		1						2		15:15	12		12						24	
03:30	0		0						0		15:30	22		12						34	
03:45	3	4	1	5					4	9	15:45	17	71	15	51					32	122
04:00	0		0						0		16:00	11		12						23	
04:15	3		1						4		16:15	8		14						22	
04:30	0		0						0		16:30	9		21						30	
04:45	1	4	1	2					2	6	16:45	10	38	26	73					36	111
05:00	1		4						5		17:00	13		34						47	
05:15	3		6						9		17:15	15		32						47	
05:30	5		2						7		17:30	13		22						35	
05:45	1	10	1	13					2	23	17:45	40	81	31	119					71	200
06:00	3		8						11		18:00	45		56						101	
06:15	3		9						12		18:15	40		31						71	
06:30	4		3						7		18:30	21		11						32	
06:45	6	16	24	44					30	60	18:45	12	118	8	106					20	224
07:00	14		30						44		19:00	14		13						27	
07:15	18		53						71		19:15	10		12						22	
07:30	35		60						95		19:30	9		10						19	
07:45	14	81	33	176					47	257	19:45	18	51	13	48					31	99
08:00	27		42						69		20:00	18		6						24	
08:15	47		60						107		20:15	18		4						22	
08:30	24		11						35		20:30	4		1						5	
08:45	9	107	8	121					17	228	20:45	3	43	2	13					5	56
09:00	9		9						18		21:00	3		0						3	
09:15	8		4						12		21:15	8		9						17	
09:30	6		7						13		21:30	2		3						5	
09:45	10	33	5	25					15	58	21:45	2	15	3	15					5	30
10:00	8		9						17		22:00	3		1						4	
10:15	8		7						15		22:15	2		1						3	
10:30	3		5						8		22:30	3		0						3	
10:45	4	23	6	27					10	50	22:45	0	8	0	2					0	10
11:00	6		6						12		23:00	3		0						3	
11:15	7		7						14		23:15	3		1						4	
11:30	8		9						17		23:30	1		1						2	
11:45	3	24	9	31					12	55	23:45	2	9	0	2					2	11
TOTALS		306		447						**753**	**TOTALS**		648		654						**1302**
SPLIT %		40.6%		59.4%						**36.6%**	**SPLIT %**		49.8%		50.2%						**63.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	954	1,101	0	0	2,055

AM Peak Hour	07:30	07:30			**07:30**	**PM Peak Hour**	17:45	12:45			**17:30**
AM Pk Volume	123	195			**318**	**PM Pk Volume**	146	152			**278**
Pk Hr Factor	0.654	0.813			**0.743**	**Pk Hr Factor**	0.811	0.731			**0.688**
7 - 9 Volume	188	297	0	0	**485**	**4 - 6 Volume**	119	192	0	0	**311**
7 - 9 Peak Hour	07:30	07:30			**07:30**	**4 - 6 Peak Hour**	17:00	17:00			**17:00**
7 - 9 Pk Volume	123	195	0	0	**318**	**4 - 6 Pk Volume**	81	119	0	0	**200**
Pk Hr Factor	0.654	0.813	0.000	0.000	**0.743**	**Pk Hr Factor**	0.506	0.875	0.000	0.000	**0.704**

Prepared by NDS/ATD

VOLUME

N Hayes Ave Bet. W Shaw Ave & W Gettysburg Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_015

DAILY TOTALS	NB	SB	EB	WB	Total
	1,381	1,523	0	0	2,904

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	5		2				7		12:00	17		17				34	
00:15	5		5				10		12:15	14		24				38	
00:30	3		5				8		12:30	19		17				36	
00:45	3	16	3	15			6	31	12:45	18	68	19	77			37	145
01:00	1		2				3		13:00	10		21				31	
01:15	1		5				6		13:15	17		27				44	
01:30	1		2				3		13:30	33		27				60	
01:45	0	3	6	15			6	18	13:45	20	80	30	105			50	185
02:00	2		0				2		14:00	25		18				43	
02:15	2		2				4		14:15	21		29				50	
02:30	1		0				1		14:30	20		13				33	
02:45	2	7	1	3			3	10	14:45	18	84	19	79			37	163
03:00	1		1				2		15:00	20		27				47	
03:15	3		2				5		15:15	20		18				38	
03:30	3		0				3		15:30	15		25				40	
03:45	3	10	1	4			4	14	15:45	13	68	25	95			38	163
04:00	2		2				4		16:00	27		27				54	
04:15	4		2				6		16:15	15		27				42	
04:30	13		3				16		16:30	18		29				47	
04:45	6	25	2	9			8	34	16:45	16	76	39	122			55	198
05:00	9		2				11		17:00	22		42				64	
05:15	6		2				8		17:15	19		38				57	
05:30	9		2				11		17:30	13		40				53	
05:45	6	30	4	10			10	40	17:45	21	75	38	158			59	233
06:00	9		9				18		18:00	15		52				67	
06:15	16		5				21		18:15	14		29				43	
06:30	21		5				26		18:30	30		30				60	
06:45	24	70	9	28			33	98	18:45	23	82	31	142			54	224
07:00	37		35				72		19:00	17		25				42	
07:15	52		20				72		19:15	22		26				48	
07:30	52		16				68		19:30	19		31				50	
07:45	30	171	27	98			57	269	19:45	23	81	26	108			49	189
08:00	35		20				55		20:00	10		37				47	
08:15	46		11				57		20:15	10		19				29	
08:30	21		20				41		20:30	10		15				25	
08:45	14	116	10	61			24	177	20:45	10	40	24	95			34	135
09:00	24		12				36		21:00	11		22				33	
09:15	14		14				28		21:15	6		13				19	
09:30	13		10				23		21:30	8		15				23	
09:45	15	66	14	50			29	116	21:45	13	38	9	59			22	97
10:00	13		22				35		22:00	4		11				15	
10:15	13		12				25		22:15	3		5				8	
10:30	23		13				36		22:30	9		8				17	
10:45	24	73	17	64			41	137	22:45	6	22	18	42			24	64
11:00	10		12				22		23:00	7		10				17	
11:15	14		14				28		23:15	3		8				11	
11:30	13		17				30		23:30	3		2				5	
11:45	27	64	15	58			42	122	23:45	3	16	6	26			9	42
TOTALS		651		415				1066	TOTALS		730		1108				1838
SPLIT %		61.1%		38.9%				36.7%	SPLIT %		39.7%		60.3%				63.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,381	1,523	0	0	2,904

AM Peak Hour	07:00	07:00			07:00	PM Peak Hour	13:30	17:15			17:15
AM Pk Volume	171	98			269	PM Pk Volume	99	168			236
Pk Hr Factor	0.822	0.700			0.934	Pk Hr Factor	0.750	0.808			0.881
7 - 9 Volume	287	159	0	0	446	4 - 6 Volume	151	280	0	0	431
7 - 9 Peak Hour	07:00	07:00			07:00	4 - 6 Peak Hour	16:00	16:45			17:00
7 - 9 Pk Volume	171	98	0	0	269	4 - 6 Pk Volume	76	159	0	0	233
Pk Hr Factor	0.822	0.700	0.000	0.000	0.934	Pk Hr Factor	0.704	0.946	0.000	0.000	0.910

Prepared by NDS/ATD

VOLUME

W Gettysburg Ave 100' W/O N Bryan Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_009

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	343	369	712

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00					0		0		0		12:00					1		0		1	
00:15					0		0		0		12:15					1		2		3	
00:30					0		0		0		12:30					1		2		3	
00:45					0		0		0		12:45					7	10	9	13	16	23
01:00					0		0		0		13:00					5		14		19	
01:15					0		0		0		13:15					10		25		35	
01:30					0		0		0		13:30					37		37		74	
01:45					0		0		0		13:45					8	60	4	80	12	140
02:00					0		0		0		14:00					2		1		3	
02:15					0		0		0		14:15					0		2		2	
02:30					0		0		0		14:30					0		0		0	
02:45					0		0		0		14:45					2	4	1	4	3	8
03:00					0		0		0		15:00					4		0		4	
03:15					0		0		0		15:15					0		3		3	
03:30					0		0		0		15:30					2		2		4	
03:45					5	5	1	1	6	6	15:45					4	10	3	8	7	18
04:00					0		0		0		16:00					3		4		7	
04:15					0		0		0		16:15					2		3		5	
04:30					0		0		0		16:30					4		4		8	
04:45					0		0		0		16:45					5	14	7	18	12	32
05:00					4		1		5		17:00					9		11		20	
05:15					0		0		0		17:15					41		23		64	
05:30					0		0		0		17:30					19		26		45	
05:45					0	4	0	1	0	5	17:45					32	101	19	79	51	180
06:00					0		0		0		18:00					9		6		15	
06:15					0		0		0		18:15					22		3		25	
06:30					0		0		0		18:30					17		2		19	
06:45					0		1	1	1	1	18:45					2	50	1	12	3	62
07:00					0		1		1		19:00					0		1		1	
07:15					2		7		9		19:15					1		0		1	
07:30					9		18		27		19:30					0		0		0	
07:45					11	22	29	55	40	77	19:45					1	2	2	3	3	5
08:00					23		37		60		20:00					0		0		0	
08:15					16		37		53		20:15					1		0		1	
08:30					7		8		15		20:30					0		0		0	
08:45					2	48	1	83	3	131	20:45					0	1	0		0	1
09:00					1		3		4		21:00					0		0		0	
09:15					0		1		1		21:15					0		0		0	
09:30					0		0		0		21:30					1		0		1	
09:45					0	1	0	4	0	5	21:45					2	3	1	1	3	4
10:00					0		0		0		22:00					3		1		4	
10:15					1		1		2		22:15					0		1		1	
10:30					0		0		0		22:30					1		0		1	
10:45					0	1	0	1	0	2	22:45					0	4	0	2	0	6
11:00					0		1		1		23:00					1		0		1	
11:15					1		1		2		23:15					1		1		2	
11:30					0		0		0		23:30					0		0		0	
11:45					0	1	0	2	0	3	23:45					0	2	0	1	0	3
TOTALS						82		148		**230**	**TOTALS**						261		221		**482**
SPLIT %						35.7%		64.3%		**32.3%**	**SPLIT %**						54.1%		45.9%		**67.7%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	343	369	712

AM Peak Hour				07:30	07:30	**07:30**	**PM Peak Hour**				17:00	12:45	**17:00**
AM Pk Volume				59	121	**180**	**PM Pk Volume**				101	85	**180**
Pk Hr Factor				0.641	0.818	**0.750**	**Pk Hr Factor**				0.616	0.574	**0.703**
7 - 9 Volume	0	0		70	138	**208**	**4 - 6 Volume**	0	0		115	97	**212**
7 - 9 Peak Hour				07:30	07:30	**07:30**	**4 - 6 Peak Hour**				17:00	17:00	**17:00**
7 - 9 Pk Volume	0	0		59	121	**180**	**4 - 6 Pk Volume**	0	0		101	79	**180**
Pk Hr Factor	0.000	0.000		0.641	0.818	**0.750**	**Pk Hr Factor**	0.000	0.000		0.616	0.760	**0.703**

Prepared by NDS/ATD

VOLUME

Grantland Ave 700' N/O Ashlan Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_012

DAILY TOTALS	NB	SB	EB	WB	Total
	2,095	2,339	0	0	4,434

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	2		3				5		12:00	31		27				58	
00:15	2		3				5		12:15	34		25				59	
00:30	1		0				1		12:30	28		28				56	
00:45	0	5	1	7			1	12	12:45	37	130	39	119			76	249
01:00	3		1				4		13:00	45		20				65	
01:15	4		0				4		13:15	56		39				95	
01:30	1		0				1		13:30	68		32				100	
01:45	1	9	0	1			1	10	13:45	41	210	27	118			68	328
02:00	0		1				1		14:00	46		38				84	
02:15	0		0				0		14:15	35		41				76	
02:30	0		0				0		14:30	67		49				116	
02:45	1	1	2	3			3	4	14:45	53	201	60	188			113	389
03:00	1		4				5		15:00	41		42				83	
03:15	1		0				1		15:15	55		42				97	
03:30	2		0				2		15:30	51		55				106	
03:45	0	4	1	5			1	9	15:45	52	199	50	189			102	388
04:00	2		0				2		16:00	64		48				112	
04:15	7		1				8		16:15	49		61				110	
04:30	3		1				4		16:30	50		68				118	
04:45	4	16	4	6			8	22	16:45	60	223	73	250			133	473
05:00	5		1				6		17:00	48		74				122	
05:15	15		6				21		17:15	59		63				122	
05:30	11		6				17		17:30	51		62				113	
05:45	12	43	6	19			18	62	17:45	53	211	68	267			121	478
06:00	9		12				21		18:00	55		81				136	
06:15	10		19				29		18:15	30		60				90	
06:30	27		31				58		18:30	37		59				96	
06:45	25	71	43	105			68	176	18:45	29	151	59	259			88	410
07:00	33		64				97		19:00	23		32				55	
07:15	45		41				86		19:15	24		16				40	
07:30	41		53				94		19:30	15		19				34	
07:45	31	150	48	206			79	356	19:45	10	72	13	80			23	152
08:00	35		20				55		20:00	5		15				20	
08:15	22		29				51		20:15	8		15				23	
08:30	30		23				53		20:30	4		12				16	
08:45	20	107	33	105			53	212	20:45	6	23	18	60			24	83
09:00	30		18				48		21:00	9		22				31	
09:15	21		20				41		21:15	4		17				21	
09:30	12		23				35		21:30	6		5				11	
09:45	17	80	21	82			38	162	21:45	6	25	9	53			15	78
10:00	14		26				40		22:00	4		9				13	
10:15	14		24				38		22:15	3		9				12	
10:30	16		26				42		22:30	1		0				1	
10:45	22	66	26	102			48	168	22:45	4	12	4	22			8	34
11:00	16		16				32		23:00	3		0				3	
11:15	19		23				42		23:15	3		4				7	
11:30	25		26				51		23:30	2		2				4	
11:45	16	76	21	86			37	162	23:45	2	10	1	7			3	17
TOTALS		628		727				**1355**	**TOTALS**		1467		1612				**3079**
SPLIT %		46.3%		53.7%				**30.6%**	**SPLIT %**		47.6%		52.4%				**69.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	2,095	2,339	0	0	4,434

AM Peak Hour	07:15	07:00				**07:00**	**PM Peak Hour**	16:00	16:30				**16:30**
AM Pk Volume	152	206				**356**	**PM Pk Volume**	223	278				**495**
Pk Hr Factor	0.844	0.805				**0.918**	**Pk Hr Factor**	0.871	0.939				**0.930**
7 - 9 Volume	257	311	0	0		**568**	**4 - 6 Volume**	434	517	0	0		**951**
7 - 9 Peak Hour	07:15	07:00				**07:00**	**4 - 6 Peak Hour**	16:00	16:30				**16:30**
7 - 9 Pk Volume	152	206	0	0		**356**	**4 - 6 Pk Volume**	223	278	0	0		**495**
Pk Hr Factor	0.844	0.805	0.000	0.000		**0.918**	**Pk Hr Factor**	0.871	0.939	0.000	0.000		**0.930**

Prepared by NDS/ATD

VOLUME

Bryan Ave 400' N/O Ashlan Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_016

DAILY TOTALS	NB	SB	EB	WB	Total
	1,214	1,330	0	0	2,544

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	1		0				1		12:00	11		11				22	
00:15	0		0				0		12:15	8		8				16	
00:30	0		1				1		12:30	8		12				20	
00:45	0	1	0	1			0	2	12:45	10	37	23	54			33	91
01:00	0		0				0		13:00	22		23				45	
01:15	0		0				0		13:15	11		11				22	
01:30	0		0				0		13:30	10		17				27	
01:45	0		0				0		13:45	8	51	9	60			17	111
02:00	0		0				0		14:00	13		17				30	
02:15	0		0				0		14:15	17		14				31	
02:30	1		0				1		14:30	28		12				40	
02:45	0	1	1	1			1	2	14:45	46	104	9	52			55	156
03:00	1		0				1		15:00	76		61				137	
03:15	0		0				0		15:15	26		88				114	
03:30	0		0				0		15:30	14		15				29	
03:45	1	2	1	1			2	3	15:45	13	129	7	171			20	300
04:00	0		1				1		16:00	13		12				25	
04:15	0		2				2		16:15	26		16				42	
04:30	0		0				0		16:30	33		52				85	
04:45	1	1	0	3			1	4	16:45	25	97	29	109			54	206
05:00	2		1				3		17:00	18		28				46	
05:15	2		3				5		17:15	27		36				63	
05:30	3		4				7		17:30	25		30				55	
05:45	1	8	1	9			2	17	17:45	14	84	36	130			50	214
06:00	2		4				6		18:00	24		44				68	
06:15	2		2				4		18:15	18		29				47	
06:30	11		14				25		18:30	24		38				62	
06:45	13	28	12	32			25	60	18:45	12	78	15	126			27	204
07:00	22		27				49		19:00	13		13				26	
07:15	35		53				88		19:15	10		16				26	
07:30	57		76				133		19:30	19		13				32	
07:45	52	166	36	192			88	358	19:45	25	67	15	57			40	124
08:00	89		73				162		20:00	10		12				22	
08:15	90		75				165		20:15	14		4				18	
08:30	16		39				55		20:30	7		1				8	
08:45	9	204	15	202			24	406	20:45	2	33	2	19			4	52
09:00	11		10				21		21:00	2		0				2	
09:15	6		6				12		21:15	4		2				6	
09:30	8		10				18		21:30	4		0				4	
09:45	12	37	8	34			20	71	21:45	5	15	0	2			5	17
10:00	7		7				14		22:00	4		4				8	
10:15	6		7				13		22:15	2		0				2	
10:30	5		6				11		22:30	2		0				2	
10:45	8	26	11	31			19	57	22:45	2	10	3	7			5	17
11:00	4		4				8		23:00	0		1				1	
11:15	9		14				23		23:15	2		1				3	
11:30	8		9				17		23:30	0		1				1	
11:45	11	32	5	32			16	64	23:45	1	3	2	5			3	8
TOTALS		506		538				**1044**	**TOTALS**		708		792				**1500**
SPLIT %		48.5%		51.5%				**41.0%**	**SPLIT %**		47.2%		52.8%				**59.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,214	1,330	0	0	2,544

AM Peak Hour	07:30	07:30					**07:30**		**PM Peak Hour**	14:30	14:45					**14:30**		
AM Pk Volume	288	260					**548**		**PM Pk Volume**	176	173					**346**		
Pk Hr Factor	0.800	0.855					**0.830**		**Pk Hr Factor**	0.579	0.491					**0.631**		
7 - 9 Volume	370	394	0	0			**764**		**4 - 6 Volume**	181	239	0	0			**420**		
7 - 9 Peak Hour	07:30	07:30					**07:30**		**4 - 6 Peak Hour**	16:30	16:30					**16:30**		
7 - 9 Pk Volume	288	260	0	0			**548**		**4 - 6 Pk Volume**	103	145	0	0			**248**		
Pk Hr Factor	0.800	0.855	0.000	0.000			**0.830**		**Pk Hr Factor**	0.780	0.697	0.000	0.000			**0.729**		

Prepared by NDS/ATD

VOLUME

N Hayes Ave Bet. W Gettysburg Ave & W Ashlan Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_016

DAILY TOTALS	NB	SB	EB	WB	Total
	1,025	1,063	0	0	2,088

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	7		2				9		12:00	13		7				20	
00:15	3		7				10		12:15	8		13				21	
00:30	2		1				3		12:30	10		11				21	
00:45	3	15	2	12			5	27	12:45	15	46	17	48			32	94
01:00	1		3				4		13:00	14		17				31	
01:15	2		4				6		13:15	14		22				36	
01:30	2		1				3		13:30	19		12				31	
01:45	0	5	1	9			1	14	13:45	22	69	17	68			39	137
02:00	1		1				2		14:00	29		14				43	
02:15	1		1				2		14:15	18		11				29	
02:30	0		0				0		14:30	15		14				29	
02:45	2	4	0	2			2	6	14:45	13	75	12	51			25	126
03:00	1		2				3		15:00	18		14				32	
03:15	0		2				2		15:15	11		10				21	
03:30	3		1				4		15:30	12		10				22	
03:45	1	5	1	6			2	11	15:45	12	53	16	50			28	103
04:00	2		4				6		16:00	20		23				43	
04:15	1		1				2		16:15	16		18				34	
04:30	5		3				8		16:30	25		18				43	
04:45	4	12	2	10			6	22	16:45	14	75	26	85			40	160
05:00	3		2				5		17:00	21		33				54	
05:15	3		5				8		17:15	20		29				49	
05:30	6		2				8		17:30	15		22				37	
05:45	1	13	1	10			2	23	17:45	19	75	20	104			39	179
06:00	4		9				13		18:00	12		32				44	
06:15	8		5				13		18:15	26		20				46	
06:30	11		4				15		18:30	18		16				34	
06:45	17	40	9	27			26	67	18:45	11	67	16	84			27	151
07:00	20		53				73		19:00	14		18				32	
07:15	32		33				65		19:15	22		13				35	
07:30	36		31				67		19:30	14		25				39	
07:45	19	107	23	140			42	247	19:45	15	65	13	69			28	134
08:00	22		24				46		20:00	6		20				26	
08:15	32		14				46		20:15	9		9				18	
08:30	20		12				32		20:30	4		4				8	
08:45	10	84	7	57			17	141	20:45	9	28	10	43			19	71
09:00	6		8				14		21:00	16		9				25	
09:15	9		9				18		21:15	9		8				17	
09:30	9		6				15		21:30	6		9				15	
09:45	5	29	11	34			16	63	21:45	8	39	5	31			13	70
10:00	8		19				27		22:00	7		8				15	
10:15	11		9				20		22:15	3		7				10	
10:30	14		9				23		22:30	7		3				10	
10:45	8	41	7	44			15	85	22:45	3	20	8	26			11	46
11:00	8		3				11		23:00	3		4				7	
11:15	9		6				15		23:15	6		7				13	
11:30	8		16				24		23:30	1		5				6	
11:45	21	46	9	34			30	80	23:45	2	12	3	19			5	31
TOTALS		401		385				**786**	**TOTALS**		624		678				**1302**
SPLIT %		51.0%		49.0%				**37.6%**	**SPLIT %**		47.9%		52.1%				**62.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,025	1,063	0	0	2,088

AM Peak Hour	07:15	07:00				**07:00**	**PM Peak Hour**	13:30	16:45				**16:30**
AM Pk Volume	109	140				**247**	**PM Pk Volume**	88	110				**186**
Pk Hr Factor	0.757	0.660				**0.846**	**Pk Hr Factor**	0.759	0.833				**0.861**
7 - 9 Volume	191	197	0	0		**388**	**4 - 6 Volume**	150	189	0	0		**339**
7 - 9 Peak Hour	07:15	07:00				**07:00**	**4 - 6 Peak Hour**	16:30	16:45				**16:30**
7 - 9 Pk Volume	109	140	0	0		**247**	**4 - 6 Pk Volume**	80	110	0	0		**186**
Pk Hr Factor	0.757	0.660	0.000	0.000		**0.846**	**Pk Hr Factor**	0.800	0.833	0.000	0.000		**0.861**

Prepared by NDS/ATD

VOLUME

N Polk Ave 300' S/O W Gettysburg Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_019

DAILY TOTALS	NB	SB	EB	WB	Total
	3,693	4,111	0	0	7,804

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	8		17				25		12:00	47		53				100	
00:15	9		15				24		12:15	53		40				93	
00:30	4		6				10		12:30	56		55				111	
00:45	7	28	5	43			12	71	12:45	48	204	50	198			98	402
01:00	3		10				13		13:00	54		62				116	
01:15	1		5				6		13:15	73		56				129	
01:30	5		4				9		13:30	80		87				167	
01:45	3	12	5	24			8	36	13:45	74	281	82	287			156	568
02:00	4		4				8		14:00	89		63				152	
02:15	1		3				4		14:15	63		92				155	
02:30	4		6				10		14:30	49		64				113	
02:45	1	10	5	18			6	28	14:45	58	259	61	280			119	539
03:00	5		4				9		15:00	52		80				132	
03:15	3		3				6		15:15	49		63				112	
03:30	6		2				8		15:30	61		75				136	
03:45	9	23	4	13			13	36	15:45	59	221	77	295			136	516
04:00	5		2				7		16:00	51		69				120	
04:15	4		1				5		16:15	63		69				132	
04:30	8		4				12		16:30	57		79				136	
04:45	15	32	4	11			19	43	16:45	57	228	84	301			141	529
05:00	9		6				15		17:00	54		82				136	
05:15	11		9				20		17:15	53		71				124	
05:30	15		5				20		17:30	72		63				135	
05:45	20	55	16	36			36	91	17:45	68	247	79	295			147	542
06:00	20		29				49		18:00	70		98				168	
06:15	32		15				47		18:15	63		84				147	
06:30	23		26				49		18:30	70		78				148	
06:45	40	115	54	124			94	239	18:45	47	250	73	333			120	583
07:00	59		110				169		19:00	57		64				121	
07:15	96		85				181		19:15	82		60				142	
07:30	66		49				115		19:30	62		63				125	
07:45	95	316	69	313			164	629	19:45	46	247	65	252			111	499
08:00	90		81				171		20:00	45		72				117	
08:15	90		87				177		20:15	38		47				85	
08:30	67		65				132		20:30	29		53				82	
08:45	60	307	44	277			104	584	20:45	39	151	48	220			87	371
09:00	31		34				65		21:00	25		43				68	
09:15	38		24				62		21:15	35		51				86	
09:30	52		34				86		21:30	17		47				64	
09:45	42	163	32	124			74	287	21:45	22	99	37	178			59	277
10:00	38		35				73		22:00	17		39				56	
10:15	30		38				68		22:15	16		19				35	
10:30	38		38				76		22:30	22		19				41	
10:45	36	142	30	141			66	283	22:45	15	70	18	95			33	165
11:00	47		60				107		23:00	10		21				31	
11:15	54		28				82		23:15	12		21				33	
11:30	41		44				85		23:30	7		15				22	
11:45	54	196	46	178			100	374	23:45	8	37	18	75			26	112
TOTALS		1399		1302				**2701**	**TOTALS**		2294		2809				**5103**
SPLIT %		51.8%		48.2%				**34.6%**	**SPLIT %**		45.0%		55.0%				**65.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	3,693	4,111	0	0	7,804

AM Peak Hour	07:15	07:00				**07:45**	**PM Peak Hour**	13:15	17:45				**13:30**
AM Pk Volume	347	313				**644**	**PM Pk Volume**	316	339				**630**
Pk Hr Factor	0.904	0.711				**0.910**	**Pk Hr Factor**	0.888	0.865				**0.943**
7 - 9 Volume	623	590	0	0		**1213**	**4 - 6 Volume**	475	596	0	0		**1071**
7 - 9 Peak Hour	07:15	07:00				**07:45**	**4 - 6 Peak Hour**	17:00	16:30				**16:15**
7 - 9 Pk Volume	347	313	0	0		**644**	**4 - 6 Pk Volume**	247	316	0	0		**545**
Pk Hr Factor	0.904	0.711	0.000	0.000		**0.910**	**Pk Hr Factor**	0.858	0.940	0.000	0.000		**0.966**

Prepared by NDS/ATD

VOLUME

Ashlan Ave 700' E/O Grantland Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,175	1,243	2,418

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00					0		0		0		12:00					12		7		19	
00:15					4		5		9		12:15					16		21		37	
00:30					0		0		0		12:30					14		21		35	
00:45					0	4	0	5	0	9	12:45					22	64	16	65	38	129
01:00					0		2		2		13:00					20		34		54	
01:15					0		1		1		13:15					17		32		49	
01:30					1		0		1		13:30					11		35		46	
01:45					0	1	1	4	1	5	13:45					11	59	22	123	33	182
02:00					0		0		0		14:00					22		36		58	
02:15					0		0		0		14:15					16		22		38	
02:30					0		0		0		14:30					27		56		83	
02:45					0		1	1	1	1	14:45					33	98	39	153	72	251
03:00					1		0		1		15:00					16		36		52	
03:15					0		0		0		15:15					33		28		61	
03:30					0		0		0		15:30					34		27		61	
03:45					0	1	2	2	2	3	15:45					34	117	24	115	58	232
04:00					0		0		0		16:00					24		34		58	
04:15					1		1		2		16:15					20		22		42	
04:30					1		0		1		16:30					29		26		55	
04:45					0	2	0	1	0	3	16:45					31	104	31	113	62	217
05:00					2		3		5		17:00					45		22		67	
05:15					1		11		12		17:15					39		27		66	
05:30					1		6		7		17:30					33		21		54	
05:45					3	7	4	24	7	31	17:45					43	160	39	109	82	269
06:00					5		3		8		18:00					49		39		88	
06:15					4		4		8		18:15					35		24		59	
06:30					8		17		25		18:30					36		24		60	
06:45					22	39	12	36	34	75	18:45					29	149	19	106	48	255
07:00					46		29		75		19:00					19		12		31	
07:15					31		41		72		19:15					14		15		29	
07:30					17		43		60		19:30					5		12		17	
07:45					12	106	19	132	31	238	19:45					7	45	7	46	14	91
08:00					11		25		36		20:00					7		2		9	
08:15					15		11		26		20:15					2		6		8	
08:30					12		13		25		20:30					3		4		7	
08:45					12	50	10	59	22	109	20:45					7	19	2	14	9	33
09:00					15		15		30		21:00					8		11		19	
09:15					7		7		14		21:15					5		3		8	
09:30					8		4		12		21:30					3		5		8	
09:45					2	32	10	36	12	68	21:45					3	19	4	23	7	42
10:00					11		5		16		22:00					3		4		7	
10:15					10		4		14		22:15					3		2		5	
10:30					8		6		14		22:30					0		1		1	
10:45					9	38	10	25	19	63	22:45					3	9	3	10	6	19
11:00					6		3		9		23:00					1		3		4	
11:15					7		5		12		23:15					0		1		1	
11:30					23		12		35		23:30					0		2		2	
11:45					15	51	12	32	27	83	23:45					0	1	3	9	3	10
TOTALS						331		357		688	TOTALS						844		886		1730
SPLIT %						48.1%		51.9%		28.5%	SPLIT %						48.8%		51.2%		71.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,175	1,243	2,418

AM Peak Hour			06:45	07:00	06:45	PM Peak Hour			17:15	14:30	17:15
AM Pk Volume			116	132	241	PM Pk Volume			164	159	290
Pk Hr Factor			0.630	0.767	0.803	Pk Hr Factor			0.837	0.710	0.824
7 - 9 Volume	0	0	156	191	347	4 - 6 Volume	0	0	264	222	486
7 - 9 Peak Hour			07:00	07:00	07:00	4 - 6 Peak Hour			17:00	16:00	17:00
7 - 9 Pk Volume	0	0	106	132	238	4 - 6 Pk Volume	0	0	160	113	269
Pk Hr Factor	0.000	0.000	0.576	0.767	0.793	Pk Hr Factor	0.000	0.000	0.889	0.831	0.820

Prepared by NDS/ATD

VOLUME

Ashlan Ave Bet. Bryan Ave and Hayes Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,096	2,106	4,202

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			0		1		1		12:00			18		15		33	
00:15			3		4		7		12:15			20		30		50	
00:30			0		0		0		12:30			17		32		49	
00:45			0	3	1	6	1	9	12:45			23	78	25	102	48	180
01:00			0		2		2		13:00			72		47		119	
01:15			0		1		1		13:15			33		46		79	
01:30			1		0		1		13:30			30		38		68	
01:45			0	1	1	4	1	5	13:45			22	157	33	164	55	321
02:00			0		0		0		14:00			21		38		59	
02:15			0		0		0		14:15			26		34		60	
02:30			0		1		1		14:30			21		73		94	
02:45			2	2	1	2	3	4	14:45			32	100	69	214	101	314
03:00			1		2		3		15:00			60		75		135	
03:15			0		0		0		15:15			98		30		128	
03:30			0		0		0		15:30			28		23		51	
03:45			1	2	2	4	3	6	15:45			37	223	34	162	71	385
04:00			1		0		1		16:00			43		44		87	
04:15			3		2		5		16:15			23		36		59	
04:30			1		0		1		16:30			59		46		105	
04:45			2	7	0	2	2	9	16:45			38	163	39	165	77	328
05:00			2		2		4		17:00			54		29		83	
05:15			4		11		15		17:15			39		44		83	
05:30			5		8		13		17:30			45		56		101	
05:45			6	17	3	24	9	41	17:45			39	177	52	181	91	358
06:00			5		9		14		18:00			44		52		96	
06:15			6		12		18		18:15			39		51		90	
06:30			35		45		80		18:30			68		48		116	
06:45			32	78	28	94	60	172	18:45			57	208	27	178	84	386
07:00			71		58		129		19:00			38		16		54	
07:15			74		126		200		19:15			19		19		38	
07:30			122		68		190		19:30			18		8		26	
07:45			37	304	70	322	107	626	19:45			22	97	5	48	27	145
08:00			61		90		151		20:00			14		9		23	
08:15			71		69		140		20:15			17		8		25	
08:30			50		23		73		20:30			12		7		19	
08:45			19	201	12	194	31	395	20:45			9	52	4	28	13	80
09:00			22		20		42		21:00			9		14		23	
09:15			16		11		27		21:15			9		6		15	
09:30			9		7		16		21:30			5		10		15	
09:45			8	55	14	52	22	107	21:45			2	25	6	36	8	61
10:00			13		7		20		22:00			3		3		6	
10:15			20		18		38		22:15			4		6		10	
10:30			9		9		18		22:30			2		2		4	
10:45			21	63	15	49	36	112	22:45			3	12	5	16	8	28
11:00			10		5		15		23:00			0		3		3	
11:15			13		12		25		23:15			2		2		4	
11:30			26		15		41		23:30			3		3		6	
11:45			15	64	16	48	31	112	23:45			2	7	3	11	5	18
TOTALS				797		801		**1598**	**TOTALS**				1299		1305		**2604**
SPLIT %				49.9%		50.1%		**38.0%**	**SPLIT %**				49.9%		50.1%		**62.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,096	2,106	4,202

AM Peak Hour			07:00	07:15	**07:15**		**PM Peak Hour**			15:00	14:15	**14:30**		
AM Pk Volume			304	354	**648**		**PM Pk Volume**			223	251	**458**		
Pk Hr Factor			0.623	0.702	**0.810**		**Pk Hr Factor**			0.569	0.837	**0.848**		
7 - 9 Volume	0	0	505	516	**1021**		**4 - 6 Volume**	0	0	340	346	**686**		
7 - 9 Peak Hour			07:00	07:15	**07:15**		**4 - 6 Peak Hour**			16:30	17:00	**17:00**		
7 - 9 Pk Volume	0	0	304	354	**648**		**4 - 6 Pk Volume**	0	0	190	181	**358**		
Pk Hr Factor	0.000	0.000	0.623	0.702	**0.810**		**Pk Hr Factor**	0.000	0.000	0.805	0.808	**0.886**		

Prepared by NDS/ATD

VOLUME

W Ashlan Ave Bet. N Hayes Ave & N Polk Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_012

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,011	1,850	3,861

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00					2		4		6		12:00					28		17		45	
00:15					2		3		5		12:15					19		21		40	
00:30					2		4		6		12:30					19		17		36	
00:45					3	9	4	15	7	24	12:45					12	78	48	103	60	181
01:00					1		3		4		13:00					42		53		95	
01:15					1		0		1		13:15					65		45		110	
01:30					1		1		2		13:30					59		40		99	
01:45					0	3	0	4	0	7	13:45					64	230	33	171	97	401
02:00					0		1		1		14:00					35		31		66	
02:15					1		3		4		14:15					21		34		55	
02:30					0		1		1		14:30					20		23		43	
02:45					0	1	1	6	1	7	14:45					10	86	32	120	42	206
03:00					3		1		4		15:00					30		30		60	
03:15					0		1		1		15:15					26		35		61	
03:30					0		0		0		15:30					29		20		49	
03:45					3	6	0	2	3	8	15:45					36	121	25	110	61	231
04:00					1		0		1		16:00					32		29		61	
04:15					4		0		4		16:15					29		29		58	
04:30					6		2		8		16:30					38		34		72	
04:45					2	13	3	5	5	18	16:45					35	134	35	127	70	261
05:00					4		6		10		17:00					26		48		74	
05:15					10		11		21		17:15					36		39		75	
05:30					8		9		17		17:30					40		42		82	
05:45					12	34	9	35	21	69	17:45					56	158	36	165	92	323
06:00					14		8		22		18:00					57		36		93	
06:15					15		10		25		18:15					54		47		101	
06:30					11		11		22		18:30					37		30		67	
06:45					19	59	29	58	48	117	18:45					55	203	27	140	82	343
07:00					51		55		106		19:00					30		23		53	
07:15					63		101		164		19:15					31		24		55	
07:30					93		52		145		19:30					24		18		42	
07:45					46	253	22	230	68	483	19:45					33	118	21	86	54	204
08:00					46		56		102		20:00					16		15		31	
08:15					47		43		90		20:15					22		16		38	
08:30					45		20		65		20:30					10		9		19	
08:45					12	150	19	138	31	288	20:45					7	55	12	52	19	107
09:00					18		23		41		21:00					11		14		25	
09:15					28		19		47		21:15					12		10		22	
09:30					17		16		33		21:30					7		8		15	
09:45					17	80	16	74	33	154	21:45					8	38	11	43	19	81
10:00					22		12		34		22:00					7		13		20	
10:15					20		15		35		22:15					5		5		10	
10:30					14		17		31		22:30					7		5		12	
10:45					21	77	15	59	36	136	22:45					2	21	3	26	5	47
11:00					16		12		28		23:00					2		4		6	
11:15					20		14		34		23:15					1		5		6	
11:30					20		14		34		23:30					4		4		8	
11:45					16	72	23	63	39	135	23:45					5	12	5	18	10	30
TOTALS						757		689		1446	TOTALS						1254		1161		2415
SPLIT %						52.4%		47.6%		37.5%	SPLIT %						51.9%		48.1%		62.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,011	1,850	3,861

AM Peak Hour			07:00	06:45	07:00	PM Peak Hour			13:00	12:45	13:00
AM Pk Volume			253	237	483	PM Pk Volume			230	186	401
Pk Hr Factor			0.680	0.587	0.736	Pk Hr Factor			0.885	0.877	0.911
7 - 9 Volume	0	0	403	368	771	4 - 6 Volume	0	0	292	292	584
7 - 9 Peak Hour			07:00	07:15	07:00	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	253	231	483	4 - 6 Pk Volume	0	0	158	165	323
Pk Hr Factor	0.000	0.000	0.680	0.572	0.736	Pk Hr Factor	0.000	0.000	0.705	0.859	0.878

Prepared by NDS/ATD

VOLUME

W Ashlan Ave Bet. N Polk Ave & N Cornelia Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_013

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,464	4,039	8,503

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			8		11		19		12:00			60		44		104	
00:15			14		10		24		12:15			41		56		97	
00:30			9		8		17		12:30			56		61		117	
00:45			11	42	9	38	20	80	12:45			44	201	60	221	104	422
01:00			2		7		9		13:00			63		79		142	
01:15			7		2		9		13:15			101		92		193	
01:30			7		4		11		13:30			113		78		191	
01:45			1	17	4	17	5	34	13:45			105	382	74	323	179	705
02:00			3		2		5		14:00			109		65		174	
02:15			2		4		6		14:15			88		68		156	
02:30			3		4		7		14:30			62		69		131	
02:45			3	11	3	13	6	24	14:45			47	306	88	290	135	596
03:00			5		3		8		15:00			74		77		151	
03:15			3		3		6		15:15			60		73		133	
03:30			2		1		3		15:30			73		62		135	
03:45			6	16	1	8	7	24	15:45			64	271	74	286	138	557
04:00			13		3		16		16:00			69		72		141	
04:15			10		3		13		16:15			56		74		130	
04:30			16		4		20		16:30			67		64		131	
04:45			11	50	5	15	16	65	16:45			69	261	76	286	145	547
05:00			16		4		20		17:00			63		94		157	
05:15			21		8		29		17:15			71		88		159	
05:30			31		13		44		17:30			70		81		151	
05:45			33	101	17	42	50	143	17:45			89	293	80	343	169	636
06:00			54		15		69		18:00			92		95		187	
06:15			42		12		54		18:15			87		75		162	
06:30			52		24		76		18:30			72		67		139	
06:45			56	204	52	103	108	307	18:45			85	336	66	303	151	639
07:00			109		95		204		19:00			53		62		115	
07:15			136		112		248		19:15			57		74		131	
07:30			132		73		205		19:30			47		57		104	
07:45			95	472	45	325	140	797	19:45			72	229	54	247	126	476
08:00			103		75		178		20:00			47		57		104	
08:15			102		68		170		20:15			48		46		94	
08:30			90		43		133		20:30			34		44		78	
08:45			53	348	35	221	88	569	20:45			28	157	55	202	83	359
09:00			57		42		99		21:00			32		38		70	
09:15			50		24		74		21:15			33		45		78	
09:30			57		35		92		21:30			26		24		50	
09:45			44	208	49	150	93	358	21:45			13	104	40	147	53	251
10:00			52		39		91		22:00			16		32		48	
10:15			47		33		80		22:15			16		23		39	
10:30			39		33		72		22:30			16		15		31	
10:45			45	183	29	134	74	317	22:45			12	60	10	80	22	140
11:00			40		37		77		23:00			10		13		23	
11:15			39		46		85		23:15			12		12		24	
11:30			46		52		98		23:30			13		13		26	
11:45			42	167	55	190	97	357	23:45			10	45	17	55	27	100
TOTALS				1819		1256		**3075**	**TOTALS**				2645		2783		**5428**
SPLIT %				59.2%		40.8%		**36.2%**	**SPLIT %**				48.7%		51.3%		**63.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,464	4,039	8,503

AM Peak Hour			07:00	06:45	**07:00**	**PM Peak Hour**			13:15	17:15	**13:15**
AM Pk Volume			472	332	**797**	**PM Pk Volume**			428	344	**737**
Pk Hr Factor			0.868	0.741	**0.803**	**Pk Hr Factor**			0.947	0.905	**0.955**
7 - 9 Volume	0	0	820	546	**1366**	**4 - 6 Volume**	0	0	554	629	**1183**
7 - 9 Peak Hour			07:00	07:00	**07:00**	**4 - 6 Peak Hour**			17:00	17:00	**17:00**
7 - 9 Pk Volume	0	0	472	325	**797**	**4 - 6 Pk Volume**	0	0	293	343	**636**
Pk Hr Factor	0.000	0.000	0.868	0.725	**0.803**	**Pk Hr Factor**	0.000	0.000	0.823	0.912	**0.941**

Prepared by NDS/ATD

VOLUME

Grantland Ave Bet. Ashlan Ave & Shields Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_013

DAILY TOTALS	NB	SB	EB	WB	Total
	1,334	1,759	0	0	3,093

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	1		2				3		12:00	25		21				46	
00:15	2		3				5		12:15	21		18				39	
00:30	1		1				2		12:30	14		20				34	
00:45	0	4	1	7			1	11	12:45	24	84	21	80			45	164
01:00	3		2				5		13:00	30		27				57	
01:15	3		0				3		13:15	35		32				67	
01:30	2		0				2		13:30	28		21				49	
01:45	0	8	0	2			0	10	13:45	25	118	27	107			52	225
02:00	0		1				1		14:00	20		31				51	
02:15	0		0				0		14:15	18		32				50	
02:30	0		0				0		14:30	29		40				69	
02:45	0		2	3			2	3	14:45	21	88	41	144			62	232
03:00	1		1				2		15:00	22		35				57	
03:15	1		0				1		15:15	40		36				76	
03:30	1		0				1		15:30	31		36				67	
03:45	0	3	2	3			2	6	15:45	37	130	31	138			68	268
04:00	1		0				1		16:00	38		38				76	
04:15	8		2				10		16:15	30		47				77	
04:30	3		1				4		16:30	33		37				70	
04:45	2	14	5	8			7	22	16:45	35	136	52	174			87	310
05:00	4		2				6		17:00	36		47				83	
05:15	7		7				14		17:15	44		45				89	
05:30	5		6				11		17:30	35		34				69	
05:45	9	25	7	22			16	47	17:45	28	143	37	163			65	306
06:00	9		7				16		18:00	26		40				66	
06:15	7		18				25		18:15	17		36				53	
06:30	20		28				48		18:30	17		34				51	
06:45	19	55	32	85			51	140	18:45	12	72	36	146			48	218
07:00	24		34				58		19:00	13		18				31	
07:15	33		52				85		19:15	13		13				26	
07:30	28		65				93		19:30	11		20				31	
07:45	21	106	48	199			69	305	19:45	4	41	12	63			16	104
08:00	22		24				46		20:00	4		9				13	
08:15	29		19				48		20:15	4		13				17	
08:30	18		19				37		20:30	3		13				16	
08:45	16	85	28	90			44	175	20:45	5	16	12	47			17	63
09:00	23		15				38		21:00	1		18				19	
09:15	20		13				33		21:15	3		12				15	
09:30	12		18				30		21:30	5		7				12	
09:45	12	67	22	68			34	135	21:45	5	14	9	46			14	60
10:00	19		21				40		22:00	1		7				8	
10:15	11		17				28		22:15	3		8				11	
10:30	11		21				32		22:30	1		1				2	
10:45	14	55	16	75			30	130	22:45	4	9	4	20			8	29
11:00	16		15				31		23:00	3		3				6	
11:15	14		14				28		23:15	1		4				5	
11:30	16		10				26		23:30	1		2				3	
11:45	10	56	18	57			28	113	23:45	0	5	3	12			3	17
TOTALS		478		619				1097	TOTALS		856		1140				1996
SPLIT %		43.6%		56.4%				35.5%	SPLIT %		42.9%		57.1%				64.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,334	1,759	0	0	3,093

AM Peak Hour	07:00	07:00				07:00	PM Peak Hour	16:45	16:15				16:30
AM Pk Volume	106	199				305	PM Pk Volume	150	183				329
Pk Hr Factor	0.803	0.765				0.820	Pk Hr Factor	0.852	0.880				0.924
7 - 9 Volume	191	289	0	0		480	4 - 6 Volume	279	337	0	0		616
7 - 9 Peak Hour	07:00	07:00				07:00	4 - 6 Peak Hour	16:45	16:15				16:30
7 - 9 Pk Volume	106	199	0	0		305	4 - 6 Pk Volume	150	183	0	0		329
Pk Hr Factor	0.803	0.765	0.000	0.000		0.820	Pk Hr Factor	0.852	0.880	0.000	0.000		0.924

Prepared by NDS/ATD

VOLUME

Bryan Ave Bet. Ashlan & Shields Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_017

DAILY TOTALS	NB	SB	EB	WB	Total
	506	477	0	0	983

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	0		0						0		12:00	8		2						10	
00:15	0		0						0		12:15	4		2						6	
00:30	0		0						0		12:30	3		3						6	
00:45	0		0						0		12:45	16	31	5	12					21	43
01:00	1		1						2		13:00	15		13						28	
01:15	0		0						0		13:15	13		11						24	
01:30	0		0						0		13:30	8		8						16	
01:45	0	1	0	1					0	2	13:45	6	42	5	37					11	79
02:00	1		0						1		14:00	2		4						6	
02:15	0		0						0		14:15	2		8						10	
02:30	0		0						0		14:30	10		4						14	
02:45	0	1	0						0	1	14:45	14	28	5	21					19	49
03:00	0		1						1		15:00	23		12						35	
03:15	1		0						1		15:15	7		23						30	
03:30	0		0						0		15:30	8		4						12	
03:45	0	1	0	1					0	2	15:45	10	48	9	48					19	96
04:00	0		0						0		16:00	3		12						15	
04:15	2		1						3		16:15	11		7						18	
04:30	1		0						1		16:30	5		11						16	
04:45	3	6	0	1					3	7	16:45	6	25	8	38					14	63
05:00	1		0						1		17:00	12		6						18	
05:15	2		1						3		17:15	8		14						22	
05:30	6		3						9		17:30	8		5						13	
05:45	2	11	1	5					3	16	17:45	9	37	5	30					14	67
06:00	1		4						5		18:00	6		11						17	
06:15	4		3						7		18:15	9		8						17	
06:30	5		5						10		18:30	9		16						25	
06:45	2	12	5	17					7	29	18:45	4	28	12	47					16	75
07:00	12		12						24		19:00	2		6						8	
07:15	42		14						56		19:15	4		7						11	
07:30	57		43						100		19:30	3		4						7	
07:45	13	124	16	85					29	209	19:45	3	12	8	25					11	37
08:00	12		11						23		20:00	3		12						15	
08:15	12		15						27		20:15	4		6						10	
08:30	4		4						8		20:30	5		2						7	
08:45	4	32	2	32					6	64	20:45	2	14	0	20					2	34
09:00	2		3						5		21:00	1		0						1	
09:15	3		2						5		21:15	2		3						5	
09:30	2		2						4		21:30	1		3						4	
09:45	7	14	2	9					9	23	21:45	0	4	0	6					0	10
10:00	2		3						5		22:00	1		1						2	
10:15	2		4						6		22:15	3		1						4	
10:30	4		2						6		22:30	1		0						1	
10:45	5	13	8	17					13	30	22:45	0	5	1	3					1	8
11:00	2		2						4		23:00	0		1						1	
11:15	2		8						10		23:15	2		0						2	
11:30	7		5						12		23:30	0		2						2	
11:45	4	15	4	19					8	34	23:45	0	2	0	3					0	5
TOTALS		230		187						417	TOTALS		276		290						566
SPLIT %		55.2%		44.8%						42.4%	SPLIT %		48.8%		51.2%						57.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	506	477	0	0	983

AM Peak Hour	07:00	07:00			07:00	PM Peak Hour	14:30	15:00			14:30
AM Pk Volume	124	85			209	PM Pk Volume	54	48			98
Pk Hr Factor	0.544	0.494			0.523	Pk Hr Factor	0.587	0.522			0.700
7 - 9 Volume	156	117	0	0	273	4 - 6 Volume	62	68	0	0	130
7 - 9 Peak Hour	07:00	07:00			07:00	4 - 6 Peak Hour	17:00	16:30			16:30
7 - 9 Pk Volume	124	85	0	0	209	4 - 6 Pk Volume	37	39	0	0	70
Pk Hr Factor	0.544	0.494	0.000	0.000	0.523	Pk Hr Factor	0.771	0.696	0.000	0.000	0.795

Prepared by NDS/ATD

VOLUME

N Hayes Ave Bet. W Ashlan Ave & W Hampton Way

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_017

DAILY TOTALS	NB	SB	EB	WB	Total
	1,572	1,422	0	0	2,994

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	2		1				3		12:00	34		14				48	
00:15	1		5				6		12:15	14		11				25	
00:30	5		1				6		12:30	12		12				24	
00:45	3	11	4	11			7	22	12:45	20	80	17	54			37	134
01:00	4		1				5		13:00	33		21				54	
01:15	1		2				3		13:15	36		22				58	
01:30	2		2				4		13:30	23		36				59	
01:45	0	7	0	5			0	12	13:45	17	109	45	124			62	233
02:00	1		2				3		14:00	76		22				98	
02:15	0		0				0		14:15	27		14				41	
02:30	0		1				1		14:30	15		11				26	
02:45	2	3	1	4			3	7	14:45	16	134	13	60			29	194
03:00	1		3				4		15:00	24		17				41	
03:15	0		2				2		15:15	18		19				37	
03:30	2		1				3		15:30	14		21				35	
03:45	2	5	1	7			3	12	15:45	26	82	20	77			46	159
04:00	2		1				3		16:00	31		27				58	
04:15	1		1				2		16:15	27		18				45	
04:30	6		4				10		16:30	36		22				58	
04:45	3	12	4	10			7	22	16:45	38	132	21	88			59	220
05:00	5		2				7		17:00	38		30				68	
05:15	4		4				8		17:15	50		26				76	
05:30	1		5				6		17:30	43		18				61	
05:45	4	14	6	17			10	31	17:45	41	172	25	99			66	271
06:00	6		11				17		18:00	29		38				67	
06:15	12		8				20		18:15	37		39				76	
06:30	10		15				25		18:30	21		35				56	
06:45	16	44	29	63			45	107	18:45	22	109	24	136			46	245
07:00	41		79				120		19:00	16		34				50	
07:15	48		64				112		19:15	27		23				50	
07:30	40		49				89		19:30	19		24				43	
07:45	38	167	32	224			70	391	19:45	21	83	14	95			35	178
08:00	52		30				82		20:00	20		13				33	
08:15	39		40				79		20:15	11		10				21	
08:30	21		21				42		20:30	7		8				15	
08:45	17	129	10	101			27	230	20:45	13	51	14	45			27	96
09:00	10		10				20		21:00	16		9				25	
09:15	16		7				23		21:15	6		12				18	
09:30	11		8				19		21:30	7		12				19	
09:45	10	47	11	36			21	83	21:45	8	37	4	37			12	74
10:00	6		18				24		22:00	3		5				8	
10:15	15		7				22		22:15	4		6				10	
10:30	16		12				28		22:30	5		4				9	
10:45	13	50	11	48			24	98	22:45	2	14	3	18			5	32
11:00	13		9				22		23:00	3		2				5	
11:15	15		7				22		23:15	2		7				9	
11:30	13		18				31		23:30	2		3				5	
11:45	31	72	14	48			45	120	23:45	1	8	3	15			4	23
TOTALS		561		574				**1135**	**TOTALS**		1011		848				**1859**
SPLIT %		49.4%		50.6%				**37.9%**	**SPLIT %**		54.4%		45.6%				**62.1%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,572	1,422	0	0	2,994

AM Peak Hour	07:15	07:00				**07:00**	**PM Peak Hour**	17:00	17:45				**13:15**
AM Pk Volume	178	224				**391**	**PM Pk Volume**	172	137				**277**
Pk Hr Factor	0.856	0.709				**0.815**	**Pk Hr Factor**	0.860	0.878				**0.707**
7 - 9 Volume	296	325	0	0		**621**	**4 - 6 Volume**	304	187	0	0		**491**
7 - 9 Peak Hour	07:15	07:00				**07:00**	**4 - 6 Peak Hour**	17:00	16:30				**17:00**
7 - 9 Pk Volume	178	224	0	0		**391**	**4 - 6 Pk Volume**	172	99	0	0		**271**
Pk Hr Factor	0.856	0.709	0.000	0.000		**0.815**	**Pk Hr Factor**	0.860	0.825	0.000	0.000		**0.891**

Prepared by NDS/ATD

VOLUME

Polk Ave Bet. Ashlan Ave & Dakota Ave

Day: Tuesday
Date: 8/21/2018

City: Fresno
Project #: CA18_2090_006

DAILY TOTALS	NB	SB	EB	WB	Total
	2,770	3,054	0	0	5,824

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	3		7				10		12:00	40		51				91	
00:15	5		5				10		12:15	50		43				93	
00:30	3		11				14		12:30	42		41				83	
00:45	5	16	11	34			16	50	12:45	37	169	42	177			79	346
01:00	3		6				9		13:00	33		29				62	
01:15	3		8				11		13:15	28		30				58	
01:30	2		1				3		13:30	27		28				55	
01:45	3	11	3	18			6	29	13:45	12	100	36	123			48	223
02:00	0		5				5		14:00	32		31				63	
02:15	0		5				5		14:15	39		45				84	
02:30	3		6				9		14:30	115		59				174	
02:45	3	6	4	20			7	26	14:45	68	254	36	171			104	425
03:00	2		1				3		15:00	49		57				106	
03:15	8		2				10		15:15	52		76				128	
03:30	11		3				14		15:30	57		39				96	
03:45	4	25	3	9			7	34	15:45	38	196	58	230			96	426
04:00	9		0				9		16:00	44		63				107	
04:15	6		6				12		16:15	40		52				92	
04:30	9		6				15		16:30	41		55				96	
04:45	8	32	7	19			15	51	16:45	48	173	49	219			97	392
05:00	8		7				15		17:00	43		61				104	
05:15	15		10				25		17:15	48		62				110	
05:30	8		6				14		17:30	60		66				126	
05:45	20	51	11	34			31	85	17:45	46	197	57	246			103	443
06:00	17		21				38		18:00	55		61				116	
06:15	30		19				49		18:15	50		48				98	
06:30	33		19				52		18:30	42		46				88	
06:45	41	121	67	126			108	247	18:45	45	192	42	197			87	389
07:00	90		116				206		19:00	31		31				62	
07:15	87		64				151		19:15	30		41				71	
07:30	52		63				115		19:30	31		55				86	
07:45	64	293	46	289			110	582	19:45	28	120	53	180			81	300
08:00	51		49				100		20:00	37		53				90	
08:15	46		46				92		20:15	41		37				78	
08:30	49		40				89		20:30	31		40				71	
08:45	37	183	28	163			65	346	20:45	25	134	34	164			59	298
09:00	29		18				47		21:00	25		46				71	
09:15	26		17				43		21:15	18		38				56	
09:30	25		30				55		21:30	15		48				63	
09:45	30	110	16	81			46	191	21:45	16	74	26	158			42	232
10:00	19		24				43		22:00	20		25				45	
10:15	32		30				62		22:15	11		30				41	
10:30	31		13				44		22:30	7		25				32	
10:45	33	115	35	102			68	217	22:45	3	41	13	93			16	134
11:00	29		45				74		23:00	8		20				28	
11:15	35		35				70		23:15	10		17				27	
11:30	24		34				58		23:30	5		10				15	
11:45	42	130	32	146			74	276	23:45	4	27	8	55			12	82
TOTALS		1093		1041				**2134**	**TOTALS**		1677		2013				**3690**
SPLIT %		51.2%		48.8%				**36.6%**	**SPLIT %**		45.4%		54.6%				**63.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	2,770	3,054	0	0	5,824

AM Peak Hour	07:00	06:45				**07:00**	**PM Peak Hour**	14:30	17:00				**14:30**
AM Pk Volume	293	310				**582**	**PM Pk Volume**	284	246				**512**
Pk Hr Factor	0.814	0.668				**0.706**	**Pk Hr Factor**	0.617	0.932				**0.736**
7 - 9 Volume	476	452	0	0		**928**	**4 - 6 Volume**	370	465	0	0		**835**
7 - 9 Peak Hour	07:00	07:00				**07:00**	**4 - 6 Peak Hour**	16:45	17:00				**17:00**
7 - 9 Pk Volume	293	289	0	0		**582**	**4 - 6 Pk Volume**	199	246	0	0		**443**
Pk Hr Factor	0.814	0.623	0.000	0.000		**0.706**	**Pk Hr Factor**	0.829	0.932	0.000	0.000		**0.879**

Prepared by NDS/ATD

VOLUME

Shields Ave Bet. Garfield Ave & Grantland Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_004

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,422	1,419	2,841

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00					1		2		3		12:00					38		24		62	
00:15					1		0		1		12:15					28		17		45	
00:30					0		1		1		12:30					13		13		26	
00:45					0	2	0	3	0	5	12:45					20	99	23	77	43	176
01:00					3		1		4		13:00					36		22		58	
01:15					0		1		1		13:15					25		12		37	
01:30					1		0		1		13:30					16		13		29	
01:45					0	4	1	3	1	7	13:45					16	93	18	65	34	158
02:00					1		0		1		14:00					21		34		55	
02:15					0		1		1		14:15					19		31		50	
02:30					1		2		3		14:30					47		30		77	
02:45					1	3	0	3	1	6	14:45					38	125	31	126	69	251
03:00					0		1		1		15:00					38		47		85	
03:15					0		2		2		15:15					56		22		78	
03:30					1		4		5		15:30					28		20		48	
03:45					0	1	4	11	4	12	15:45					23	145	24	113	47	258
04:00					1		2		3		16:00					37		25		62	
04:15					1		1		2		16:15					32		20		52	
04:30					2		0		2		16:30					41		23		64	
04:45					1	5	4	7	5	12	16:45					40	150	26	94	66	244
05:00					1		5		6		17:00					34		32		66	
05:15					6		9		15		17:15					37		25		62	
05:30					3		9		12		17:30					25		17		42	
05:45					6	16	9	32	15	48	17:45					30	126	20	94	50	220
06:00					7		15		22		18:00					27		13		40	
06:15					7		14		21		18:15					26		17		43	
06:30					10		15		25		18:30					15		18		33	
06:45					12	36	38	82	50	118	18:45					18	86	15	63	33	149
07:00					19		73		92		19:00					12		14		26	
07:15					53		54		107		19:15					11		15		26	
07:30					44		34		78		19:30					9		8		17	
07:45					32	148	40	201	72	349	19:45					5	37	13	50	18	87
08:00					23		35		58		20:00					2		10		12	
08:15					46		50		96		20:15					3		7		10	
08:30					30		15		45		20:30					6		7		13	
08:45					20	119	37	137	57	256	20:45					5	16	5	29	10	45
09:00					33		16		49		21:00					6		6		12	
09:15					14		10		24		21:15					1		9		10	
09:30					10		9		19		21:30					4		8		12	
09:45					10	67	8	43	18	110	21:45					7	18	6	29	13	47
10:00					14		12		26		22:00					1		6		7	
10:15					10		15		25		22:15					3		4		7	
10:30					25		28		53		22:30					2		2		4	
10:45					14	63	13	68	27	131	22:45					3	9	3	15	6	24
11:00					11		10		21		23:00					1		7		8	
11:15					15		12		27		23:15					0		3		3	
11:30					15		11		26		23:30					0		4		4	
11:45					11	52	27	60	38	112	23:45					1	2	0	14	1	16
TOTALS						516		650		1166	TOTALS						906		769		1675
SPLIT %						44.3%		55.7%		41.0%	SPLIT %						54.1%		45.9%		59.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,422	1,419	2,841

AM Peak Hour			07:15	07:00	07:00	PM Peak Hour			14:30	14:15	14:30
AM Pk Volume			152	201	349	PM Pk Volume			179	139	309
Pk Hr Factor			0.717	0.688	0.815	Pk Hr Factor			0.799	0.739	0.909
7 - 9 Volume	0	0	267	338	605	4 - 6 Volume	0	0	276	188	464
7 - 9 Peak Hour			07:15	07:00	07:00	4 - 6 Peak Hour			16:30	16:30	16:30
7 - 9 Pk Volume	0	0	152	201	349	4 - 6 Pk Volume	0	0	152	106	258
Pk Hr Factor	0.000	0.000	0.717	0.688	0.815	Pk Hr Factor	0.000	0.000	0.927	0.828	0.977

Prepared by NDS/ATD

VOLUME

Shields Ave Bet. Grantland Ave & Bryan Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_005

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,580	1,413	2,993

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			2		4		6		12:00			30		23		53	
00:15			0		0		0		12:15			29		11		40	
00:30			0		1		1		12:30			13		13		26	
00:45			0	2	1	6	1	8	12:45			26	98	22	69	48	167
01:00			3		1		4		13:00			32		20		52	
01:15			1		1		2		13:15			25		17		42	
01:30			1		1		2		13:30			22		11		33	
01:45			0	5	1	4	1	9	13:45			16	95	25	73	41	168
02:00			1		2		3		14:00			15		30		45	
02:15			0		1		1		14:15			17		30		47	
02:30			1		1		2		14:30			48		27		75	
02:45			2	4	0	4	2	8	14:45			41	121	29	116	70	237
03:00			0		2		2		15:00			26		40		66	
03:15			0		3		3		15:15			53		23		76	
03:30			1		5		6		15:30			35		22		57	
03:45			0	1	3	13	3	14	15:45			27	141	36	121	63	262
04:00			0		2		2		16:00			42		30		72	
04:15			1		3		4		16:15			50		24		74	
04:30			3		1		4		16:30			46		29		75	
04:45			2	6	5	11	7	17	16:45			48	186	28	111	76	297
05:00			2		3		5		17:00			33		28		61	
05:15			6		9		15		17:15			42		24		66	
05:30			4		10		14		17:30			30		24		54	
05:45			4	16	9	31	13	47	17:45			37	142	24	100	61	242
06:00			4		16		20		18:00			36		13		49	
06:15			9		13		22		18:15			36		17		53	
06:30			12		11		23		18:30			27		19		46	
06:45			13	38	38	78	51	116	18:45			27	126	12	61	39	187
07:00			23		62		85		19:00			16		18		34	
07:15			53		40		93		19:15			14		20		34	
07:30			47		21		68		19:30			13		11		24	
07:45			38	161	36	159	74	320	19:45			12	55	13	62	25	117
08:00			27		37		64		20:00			7		11		18	
08:15			34		38		72		20:15			9		6		15	
08:30			29		35		64		20:30			9		8		17	
08:45			19	109	32	142	51	251	20:45			11	36	5	30	16	66
09:00			27		17		44		21:00			12		5		17	
09:15			14		11		25		21:15			5		10		15	
09:30			13		12		25		21:30			8		7		15	
09:45			12	66	8	48	20	114	21:45			8	33	3	25	11	58
10:00			13		12		25		22:00			7		7		14	
10:15			13		16		29		22:15			1		2		3	
10:30			28		21		49		22:30			3		1		4	
10:45			17	71	12	61	29	132	22:45			3	14	4	14	7	28
11:00			10		11		21		23:00			2		6		8	
11:15			14		10		24		23:15			2		5		7	
11:30			12		12		24		23:30			0		3		3	
11:45			12	48	27	60	39	108	23:45			2	6	0	14	2	20
TOTALS				527		617		**1144**	**TOTALS**				1053		796		**1849**
SPLIT %				46.1%		53.9%		**38.2%**	**SPLIT %**				56.9%		43.1%		**61.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,580	1,413	2,993

AM Peak Hour				07:15		06:45		**07:00**	**PM Peak Hour**				16:00		14:15		**16:00**
AM Pk Volume				165		161		**320**	**PM Pk Volume**				186		126		**297**
Pk Hr Factor				0.778		0.649		**0.860**	**Pk Hr Factor**				0.930		0.788		**0.977**
7 - 9 Volume	0	0		270		301		**571**	**4 - 6 Volume**	0	0		328		211		**539**
7 - 9 Peak Hour				07:15		07:00		**07:00**	**4 - 6 Peak Hour**				16:00		16:00		**16:00**
7 - 9 Pk Volume	0	0		165		159		**320**	**4 - 6 Pk Volume**	0	0		186		111		**297**
Pk Hr Factor	0.000	0.000		0.778		0.641		**0.860**	**Pk Hr Factor**	0.000	0.000		0.930		0.925		**0.977**

Prepared by NDS/ATD

VOLUME

Grantland Ave Bet. Shields Ave & Yale Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_015

DAILY TOTALS	NB	SB	EB	WB	Total
	927	1,111	0	0	2,038

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	0		1						1		12:00	12		18						30	
00:15	0		1						1		12:15	13		7						20	
00:30	0		1						1		12:30	16		12						28	
00:45	0		1	4					1	4	12:45	17	58	12	49					29	107
01:00	0		0						0		13:00	18		13						31	
01:15	4		0						4		13:15	22		18						40	
01:30	1		0						1		13:30	11		9						20	
01:45	0	5	0						0	5	13:45	10	61	14	54					24	115
02:00	0		2						2		14:00	17		26						43	
02:15	1		1						2		14:15	17		18						35	
02:30	2		0						2		14:30	15		11						26	
02:45	0	3	0	3					0	6	14:45	15	64	20	75					35	139
03:00	0		1						1		15:00	16		22						38	
03:15	1		0						1		15:15	19		18						37	
03:30	1		0						1		15:30	21		24						45	
03:45	0	2	2	3					2	5	15:45	23	79	26	90					49	169
04:00	0		0						0		16:00	26		22						48	
04:15	2		1						3		16:15	16		28						44	
04:30	2		0						2		16:30	27		20						47	
04:45	3	7	2	3					5	10	16:45	20	89	36	106					56	195
05:00	3		0						3		17:00	37		33						70	
05:15	2		6						8		17:15	32		28						60	
05:30	6		6						12		17:30	30		21						51	
05:45	3	14	3	15					6	29	17:45	16	115	20	102					36	217
06:00	6		9						15		18:00	19		19						38	
06:15	4		12						16		18:15	17		16						33	
06:30	12		18						30		18:30	15		24						39	
06:45	16	38	18	57					34	95	18:45	10	61	21	80					31	141
07:00	15		20						35		19:00	13		14						27	
07:15	20		29						49		19:15	13		11						24	
07:30	15		46						61		19:30	9		9						18	
07:45	11	61	39	134					50	195	19:45	5	40	4	38					9	78
08:00	20		16						36		20:00	7		7						14	
08:15	13		15						28		20:15	3		6						9	
08:30	19		12						31		20:30	4		9						13	
08:45	10	62	23	66					33	128	20:45	6	20	7	29					13	49
09:00	12		14						26		21:00	4		11						15	
09:15	10		10						20		21:15	4		9						13	
09:30	8		10						18		21:30	2		6						8	
09:45	11	41	16	50					27	91	21:45	4	14	6	32					10	46
10:00	7		18						25		22:00	3		4						7	
10:15	10		9						19		22:15	2		7						9	
10:30	10		13						23		22:30	0		2						2	
10:45	12	39	9	49					21	88	22:45	5	10	3	16					8	26
11:00	10		14						24		23:00	2		1						3	
11:15	7		13						20		23:15	2		4						6	
11:30	7		7						14		23:30	0		2						2	
11:45	14	38	13	47					27	85	23:45	2	6	2	9					4	15
TOTALS		310		431						**741**	**TOTALS**		617		680						**1297**
SPLIT %		41.8%		58.2%						**36.4%**	**SPLIT %**		47.6%		52.4%						**63.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	927	1,111	0	0	2,038

AM Peak Hour	06:45	07:00			**07:15**	**PM Peak Hour**	16:45	16:45			**16:45**
AM Pk Volume	66	134			**196**	**PM Pk Volume**	119	118			**237**
Pk Hr Factor	0.825	0.728			**0.803**	**Pk Hr Factor**	0.804	0.819			**0.846**
7 - 9 Volume	123	200	0	0	**323**	**4 - 6 Volume**	204	208	0	0	**412**
7 - 9 Peak Hour	07:15	07:00			**07:15**	**4 - 6 Peak Hour**	16:45	16:45			**16:45**
7 - 9 Pk Volume	66	134	0	0	**196**	**4 - 6 Pk Volume**	119	118	0	0	**237**
Pk Hr Factor	0.825	0.728	0.000	0.000	**0.803**	**Pk Hr Factor**	0.804	0.819	0.000	0.000	**0.846**

Appendix C: Traffic Modeling

June 25, 2018

Kai Han, TE
Council of Fresno County Governments
2035 Tulare Street, Suite 201
Fresno, CA 93721

Via E-mail Only: khan@fresnocog.org

Subject: ***Traffic Modeling Request for the Preparation of a Traffic Impact Analysis for General Plan Amendment in Support of the Parc West (Project at the Northwest Corner of Ashlan Avenue and Grantland Avenue in the City of Fresno (JLB Project 004-067)***

Dear Mr. Han,

JLB Traffic Engineering, Inc. (JLB) hereby requests traffic modeling for the Project described below. Parc West (Project) proposes to develop approximately 160 acres with residential uses. A portion of the Project site generally located at the northwest corner of Ashlan Avenue and Grantland Avenue will undergo a General Plan Amendment to change the existing Community Commercial zoning to Median Density Residential. Based on the latest information, the Project would include up to 844 single family residential units.

The purpose of this TIA is to evaluate the potential on- 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 2018 (with Link and TAZ modifications)
2. Year 2020 plus Project Phase I Select Zone (with Link and TAZ modifications)
3. Cumulative Year 2035 plus Project Buildout Select Zone (with Link and TAZ modifications)
4. Differences between model runs 3 and 1 above

Changes and/or additions to the Model Network or TAZ's

JLB reviewed the Fresno COG model network for the Base Year 2018, Year 2020, and Cumulative Year 2035. Based on this review, JLB requests the following link and TAZ Network modifications. Details on the requested Link and TAZ modifications for Base Year 2018, Year 2020, and Cumulative Year 2035 are illustrated in Exhibit C.

LINK and TAZ MODIFICATIONS (For Base Year 2018 and Year 2020 plus Project Phase I Scenario):

1. Modify Ashlan Avenue to increase westbound lanes between Grantland Avenue and Bryan Avenue to two lanes
2. Modify Grantland Avenue to decrease southbound lanes to one lane between Gettysburg Avenue alignment and Ashlan Avenue.
3. Modify Grantland Avenue to decrease northbound lanes between Node 5074 and Gettysburg Avenue to two lanes.
4. Eliminate Gettysburg Avenue between Grantland Avenue and Node 6730, and also between Bryan Avenue and Hayes Avenue.
5. Modify Gettysburg Avenue to decrease westbound lanes between Polk Avenue and Hayes Avenue and between Bryan Avenue and Node 6730 to one lane.
6. Modify Gettysburg Avenue to decrease eastbound lanes between Node 6728 and Polk Avenue to one lane.

LINK and TAZ MODIFICATIONS (For Year 2020 plus Project Phase I Scenario):

1. Create TAZ A generally located at the northwest corner of Grantland Avenue and Ashlan Avenue. TAZ A covers 14.98 acres of TAZ 974. TAZ A shall have a TAZ Connector to Grantland Avenue.

TAZ A Project Phase I Trip Generation (For Base Year 2020 plus Project Phase I Select Zone Scenario Only):

Table I presents the trip generation for the proposed TAZ A (Phase I) pursuant to the 10th Edition of the Trip Generation Manual with trip generation rates for Single-Family Detached Housing. Phase I of the Project is estimated to generate a maximum of 793 daily trips, 62 AM peak hour trips and 83 PM peak hour trips.

Table I: TAZ A Project Only 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)	84	d.u.	9.44	793	0.74	25	75	15	47	62	0.99	63	37	52	31	83
Total Project Trips				**793**				**15**	**47**	**62**				**52**	**31**	**83**

Note: d.u. = Dwelling Units

LINK and TAZ MODIFICATIONS (For Cumulative Year 2035 plus Project Select Zone Scenarios):

1. Create TAZ B out of TAZ 974 generally located at the northwest corner of Grantland Avenue and Ashlan Avenue. TAZ B shall have a TAZ Connector to Grantland Avenue. (By 2035, TAZ A will have expanded to form TAZ B).

LINK and TAZ MODIFICATIONS (For Cumulative Year 2035 plus Project Select Zone Scenario Only):

1. Modify Grantland Avenue to reduce the lanes south of the east leg of Gettysburg Avenue to two lanes in each direction.
2. Modify Bryan Avenue to reduce the lanes south of Shaw Avenue to one lane in each direction.

3. Modify Hayes Avenue to reduce the lanes south of Shaw Avenue to one lane in each direction.
4. Modify Shields Avenue to reduce the lanes east of Garfield Avenue to one lane in each direction.
5. Modify Gettysburg Avenue to reduce the lanes between Garfield Avenue and Hayes Avenue to one lane in each direction.

TAZ B Project Only Trip Generation (For Cumulative Year 2035 plus Project Select Zone Scenario Only)

Table I presents the trip generation for the proposed TAZ B Project pursuant to the 10th Edition of the Trip Generation Manual with trip generation rates for Single-Family Detached Housing and Public Park. At build-out, the Project is estimated to generate a maximum of 7,968 daily trips, 625 AM peak hour trips and 836 PM peak hour trips.

Table II: TAZ B Project Only 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)	844	d.u.	9.44	7,967	0.74	25	75	156	469	625	0.99	63	37	527	309	836
Public Park (411)	1.819	acre	0.78	1	0.02	59	41	0	0	0	0.11	55	45	0	0	0
Total Project Trips				**7,968**				**156**	**469**	**625**				**527**	**309**	**836**

Note: d.u. = Dwelling Units

Please invoice JLB Traffic Engineering, Inc. and reference JLB Project No. 004-067 on the invoice. If you have any questions or require additional information, please do not hesitate to contact me by phone at (559) 570-8991 or by e-mail at amiao@JLBtraffic.com.

Sincerely,

Alan Miao, EIT
Engineer I/II

cc: Lang Yu, Fresno COG
Jose Benavides, JLB Traffic Engineering, Inc.

Exhibit A – Aerial

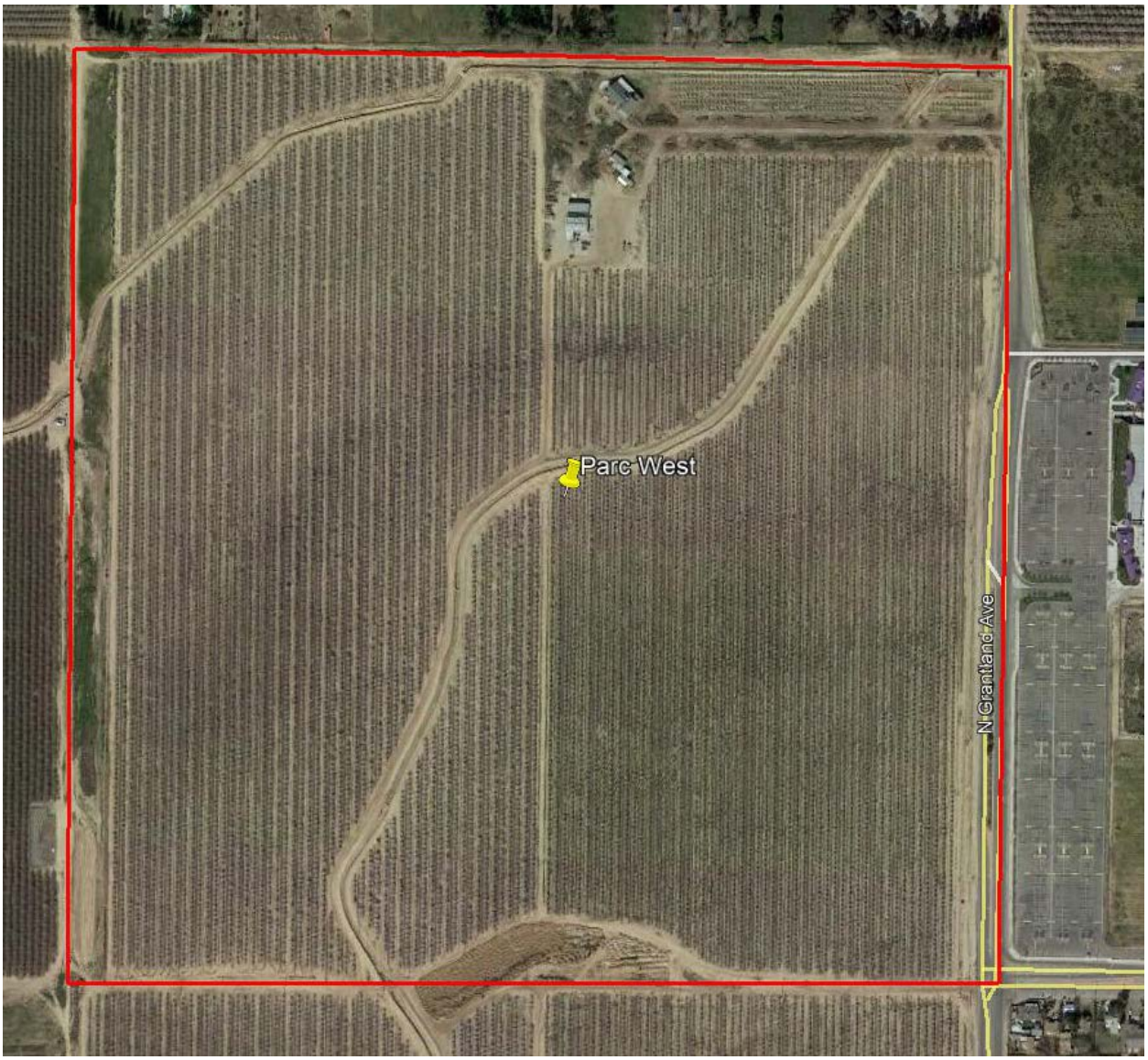


Exhibit B – Site Plan

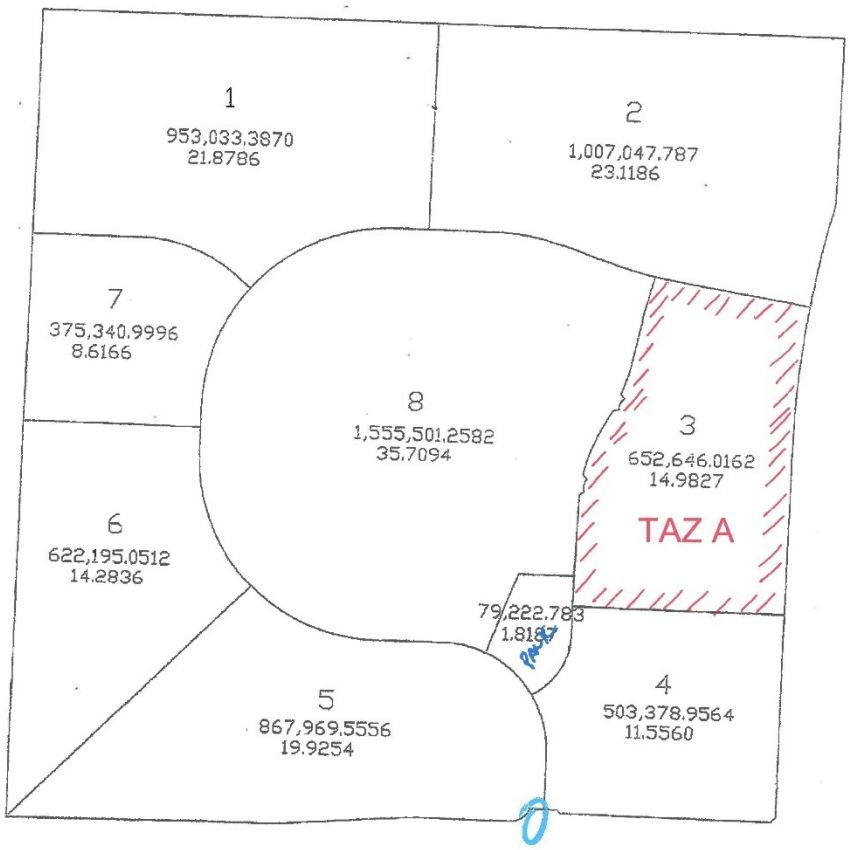
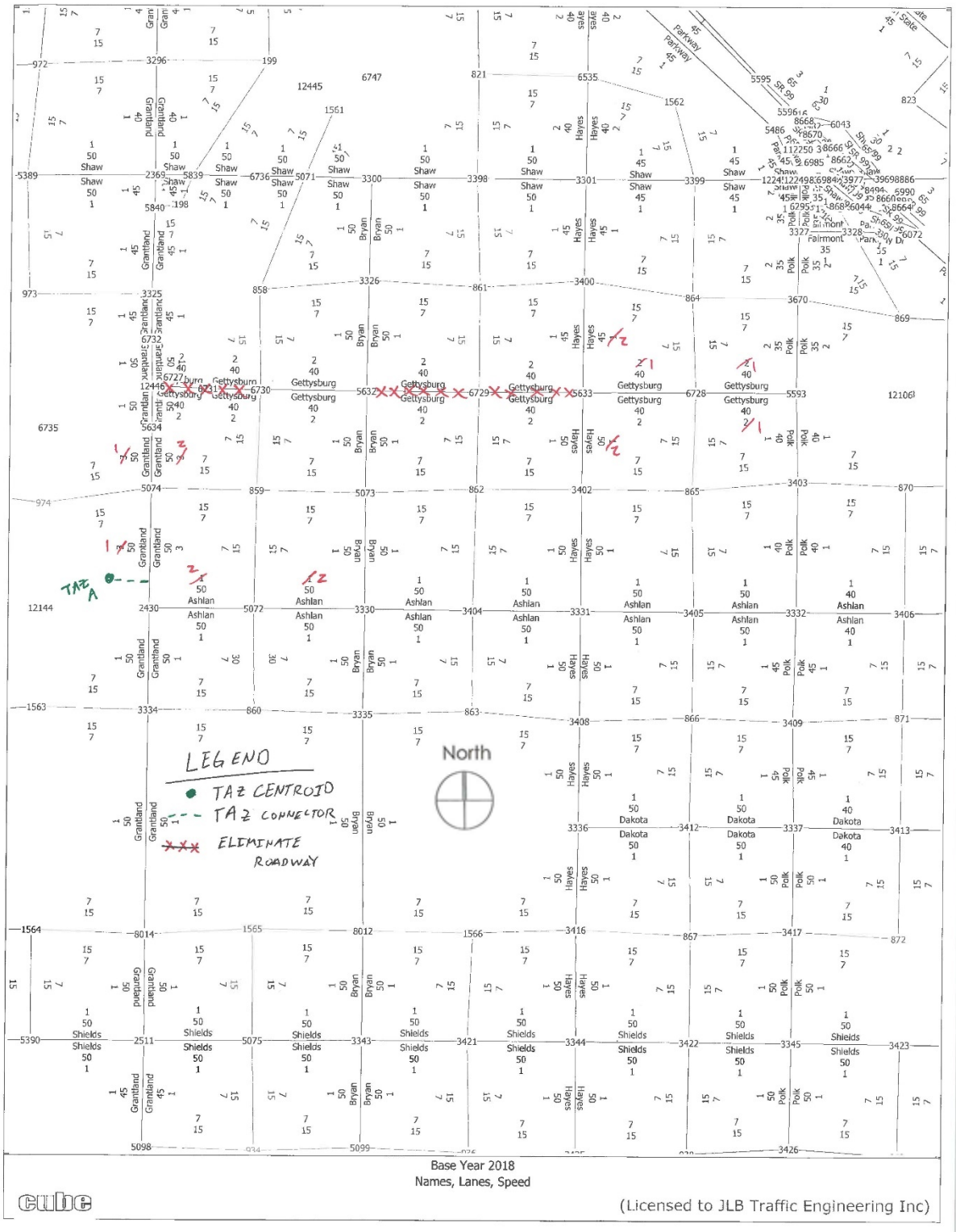
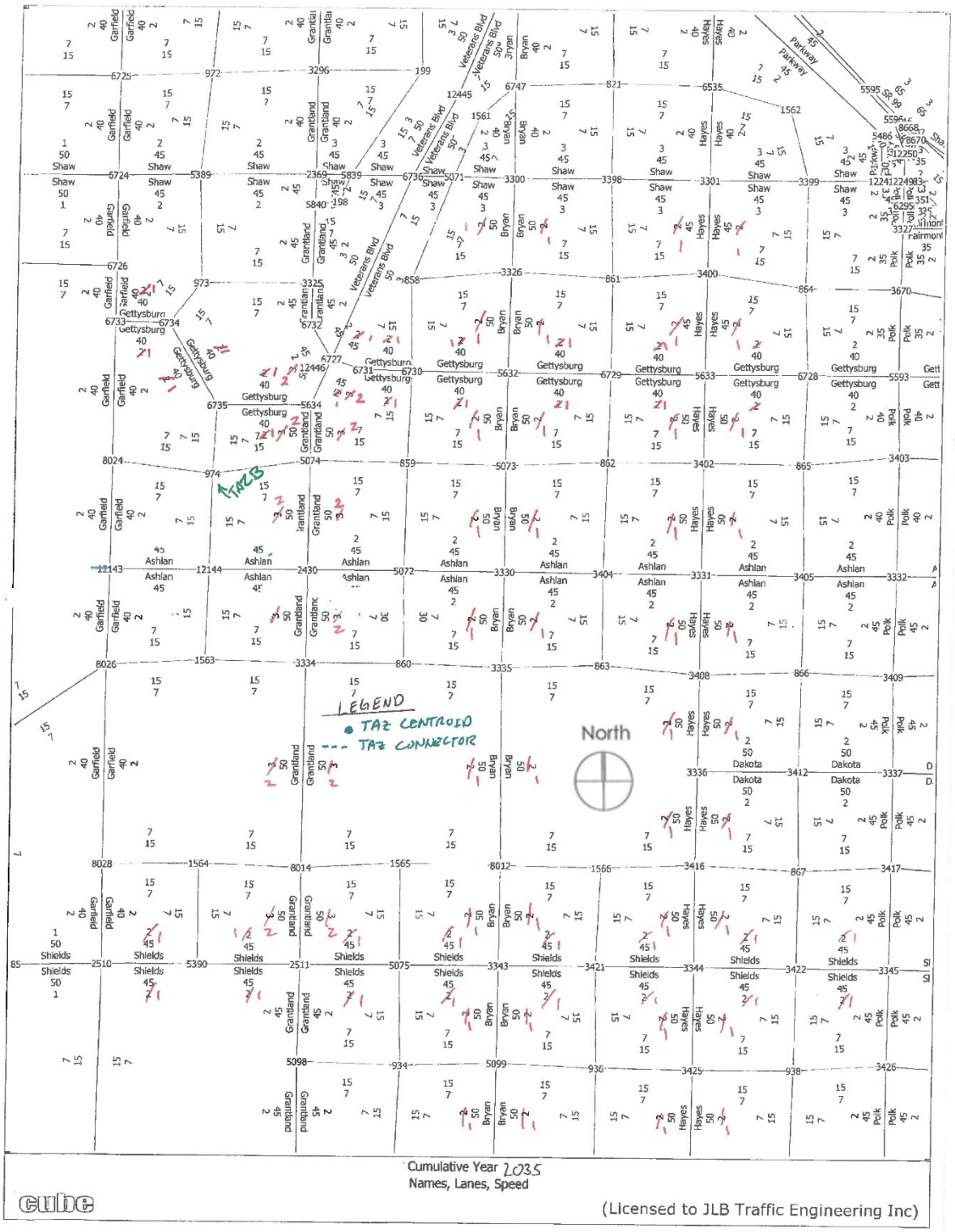
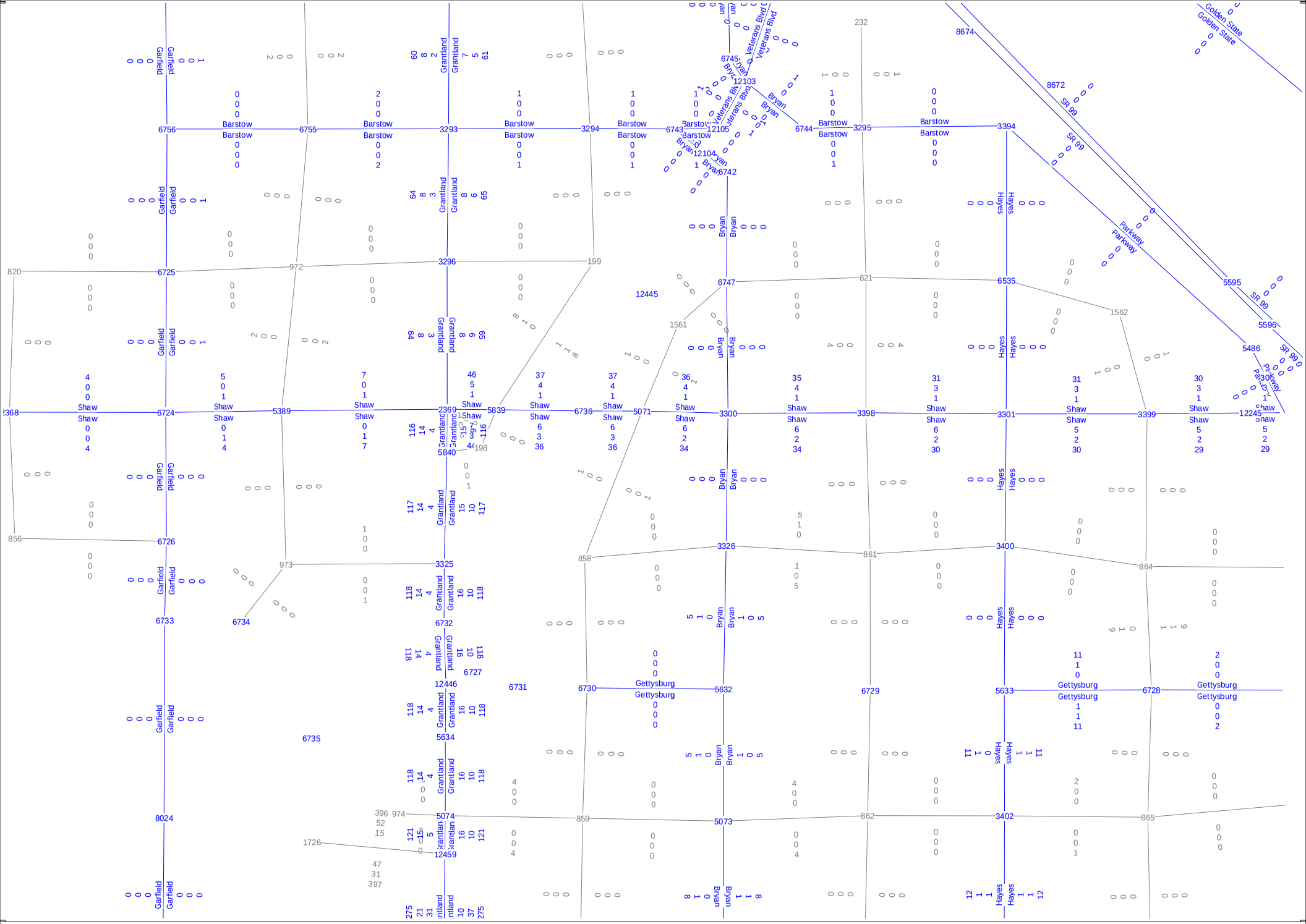


Exhibit C – Model TAZ Modifications



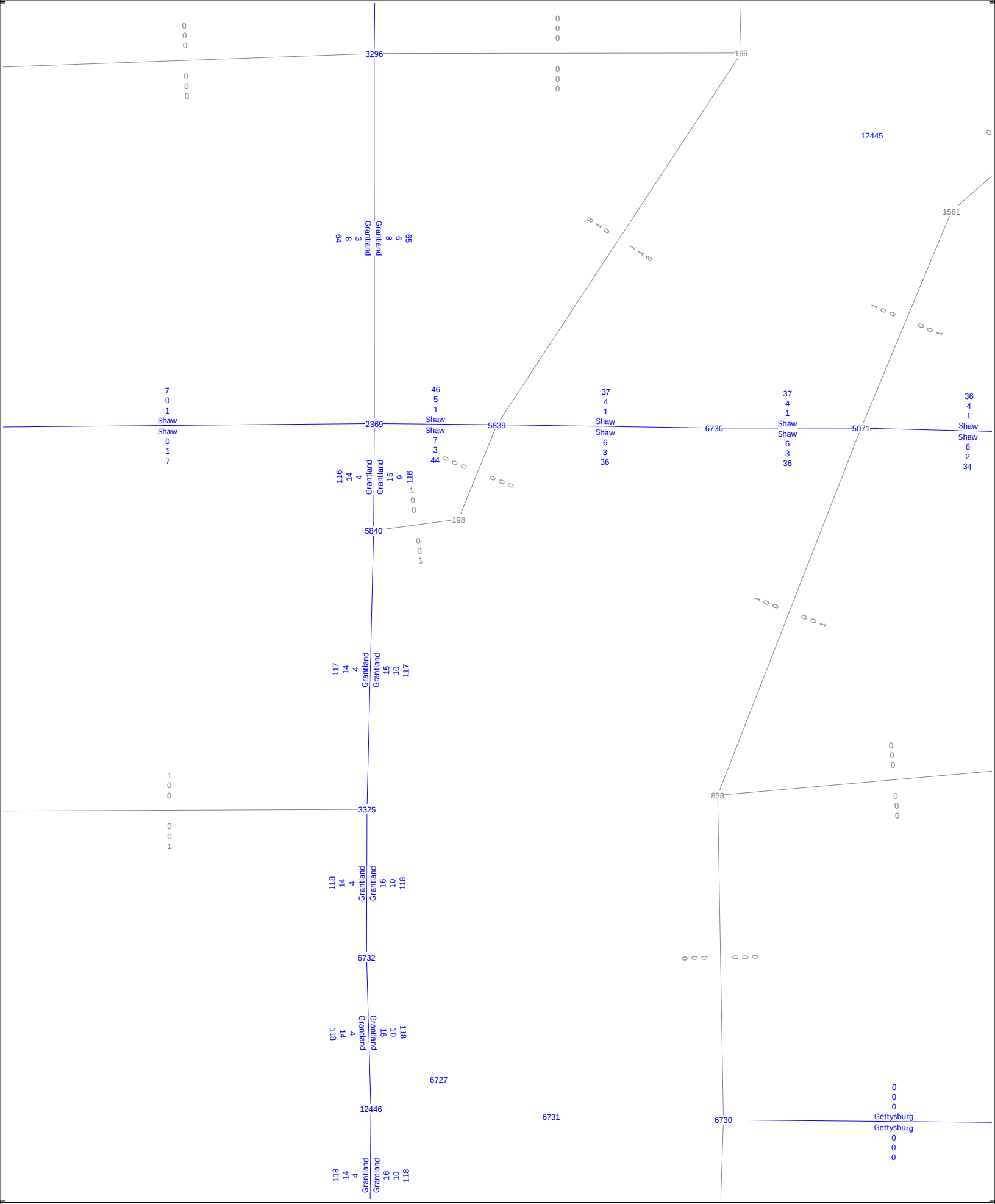

LEGEND
TAZ CENTROID
TAZ CONNECTOR
North
Cumulative Year 2035
Names, Lanes, Speed
cube
(Licensed to JLB Traffic Engineering Inc)



Cumulative Year 2020 Project Select Zone
Project Only Trips
AM, PM and Daily

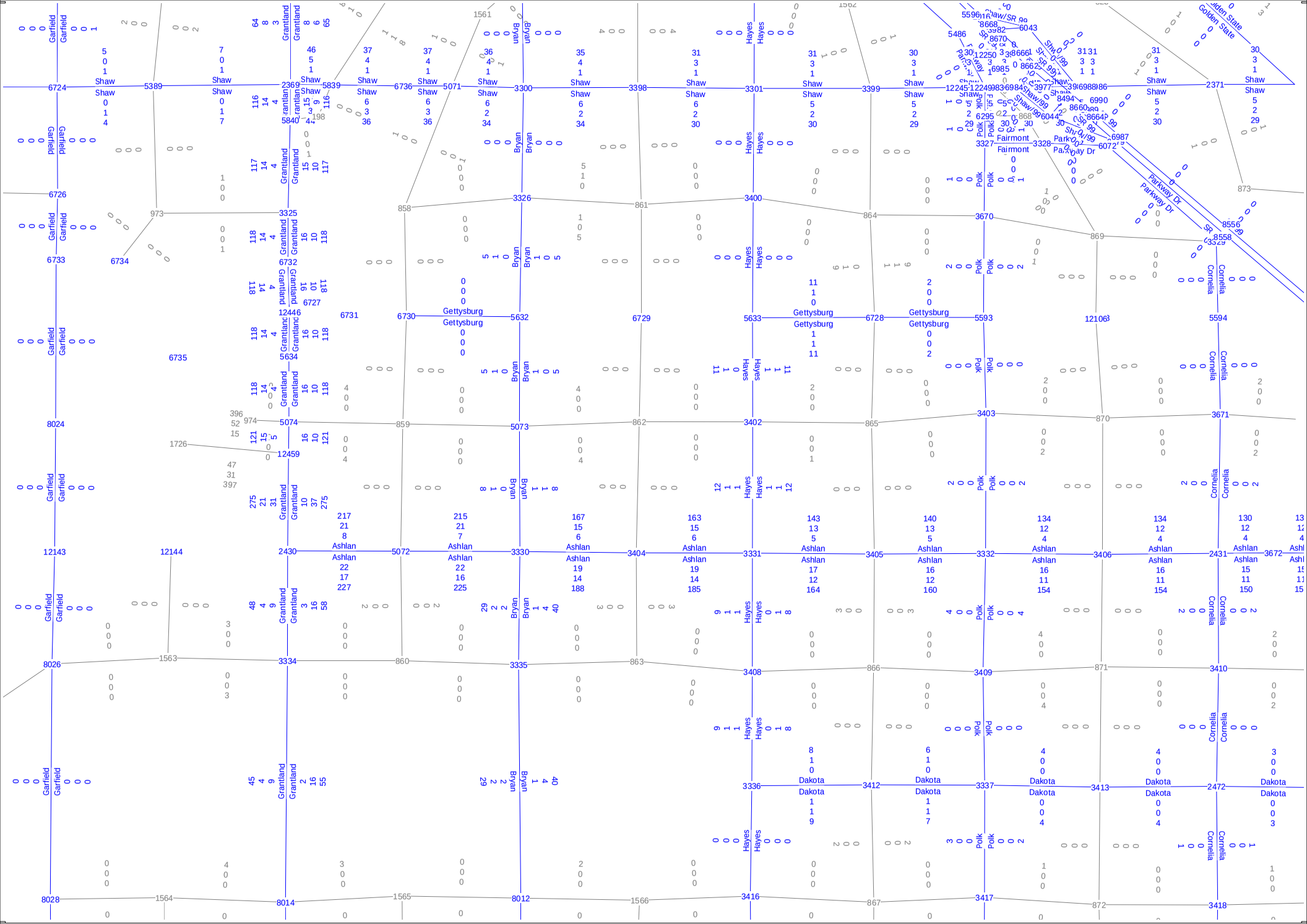
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Cumulative Year 2020 Project Select Zone
Project Only Trips
AM, PM and Daily

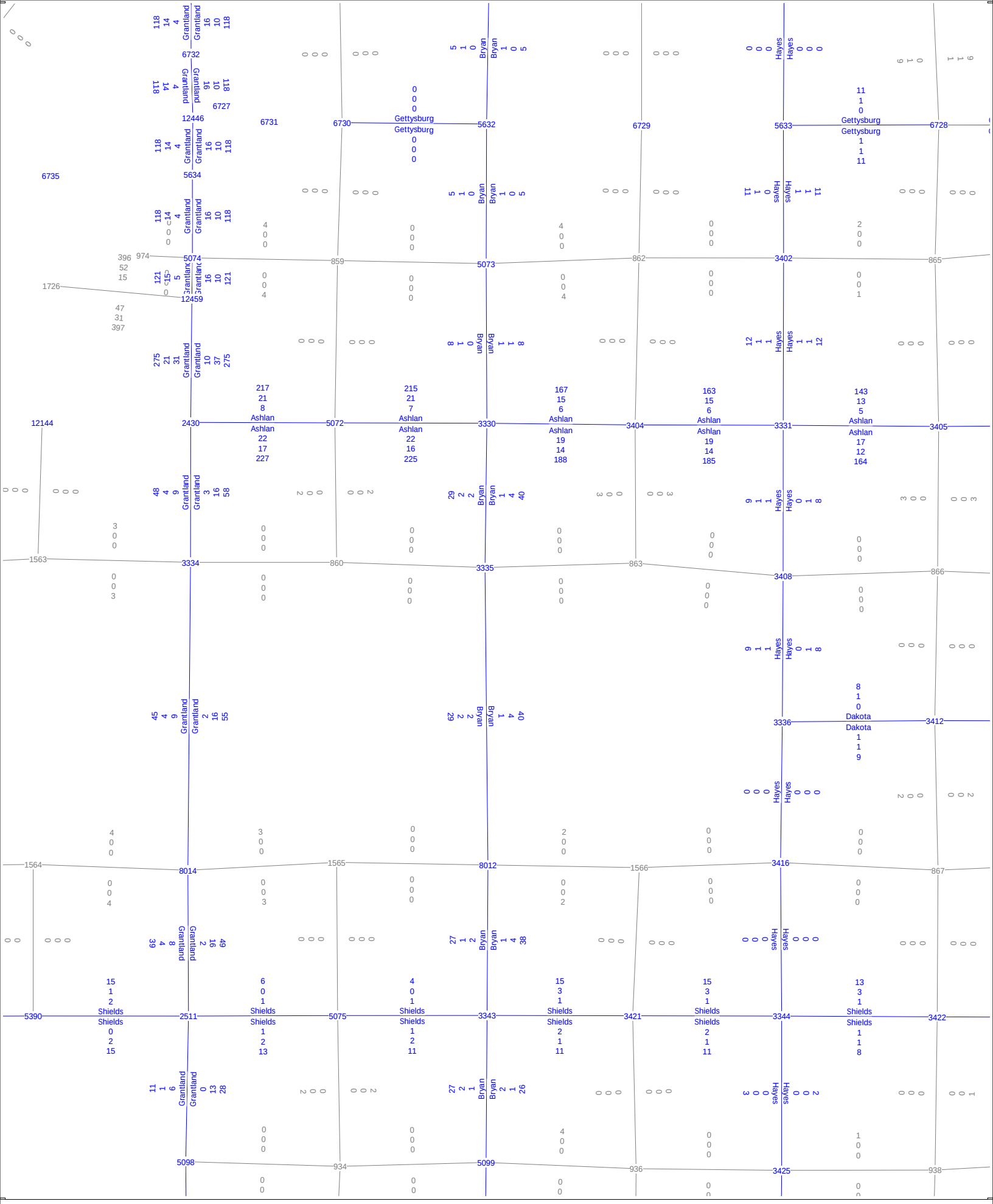
cube
(Licensed to JLB Traffic Engineering Inc)



Cumulative Year 2020 Project Select Zone
Project Only Trips
AM, PM and Daily

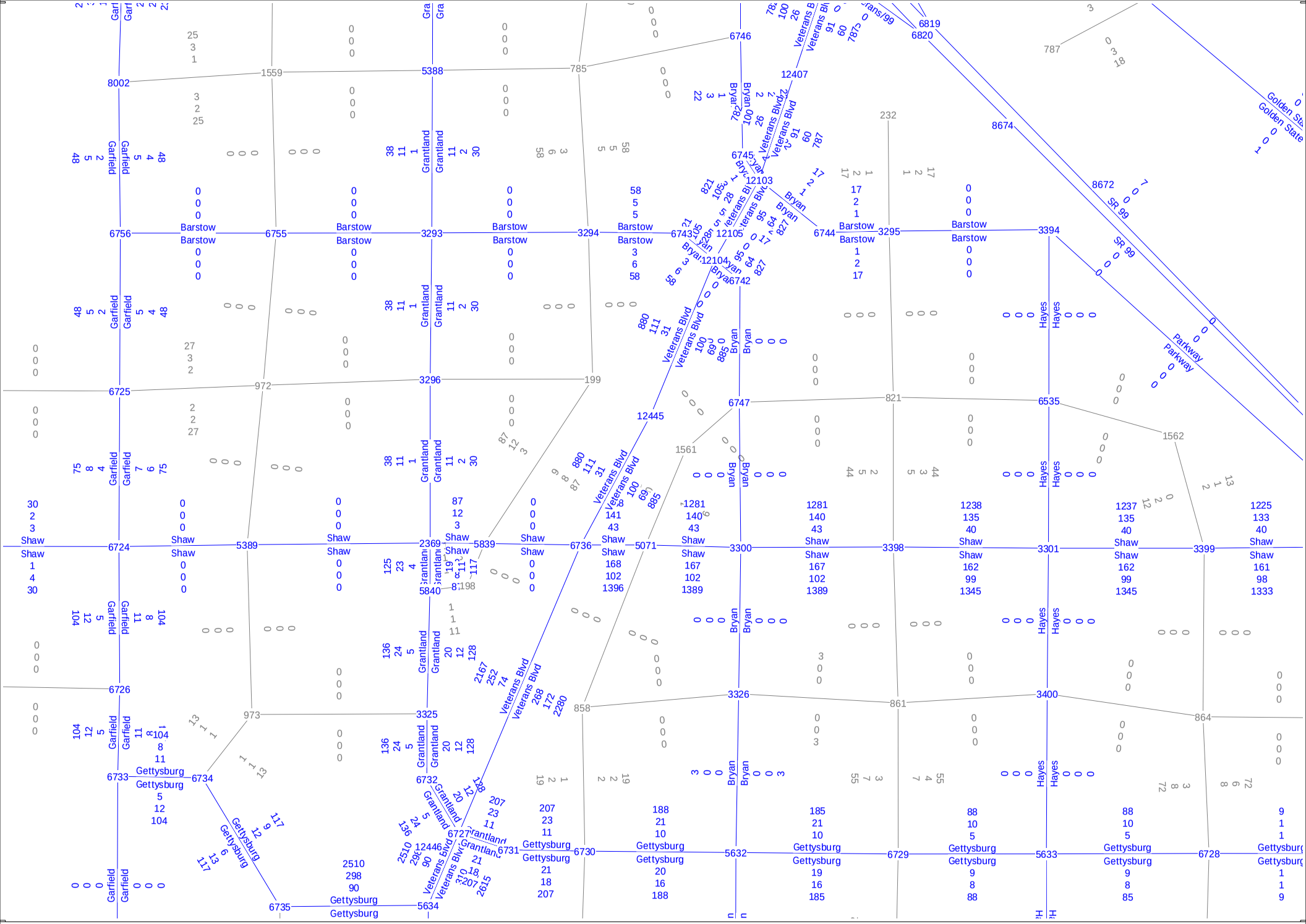
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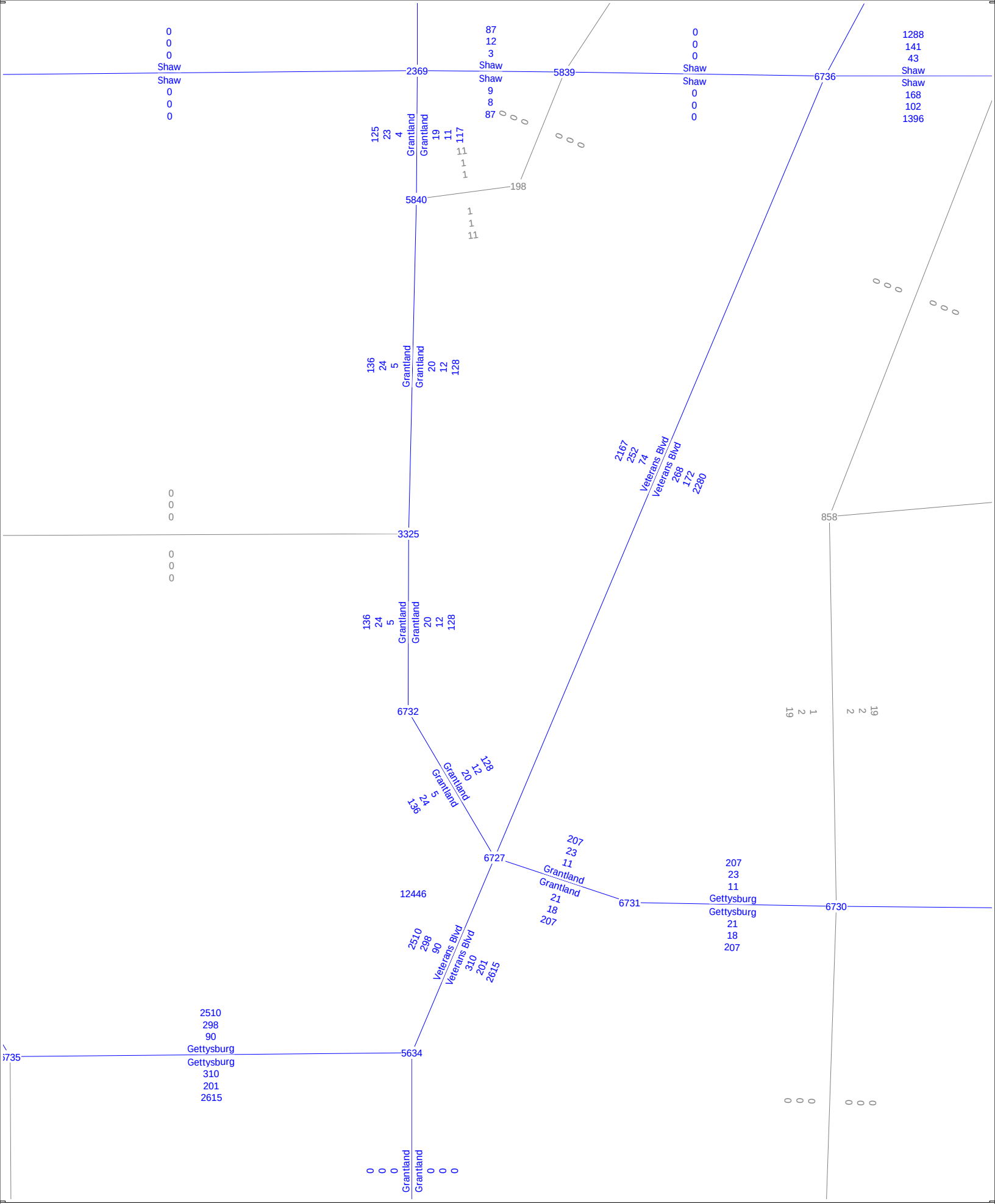
Cumulative Year 2020 Project Select Zone
Project Only Trips
AM, PM and Daily

cube
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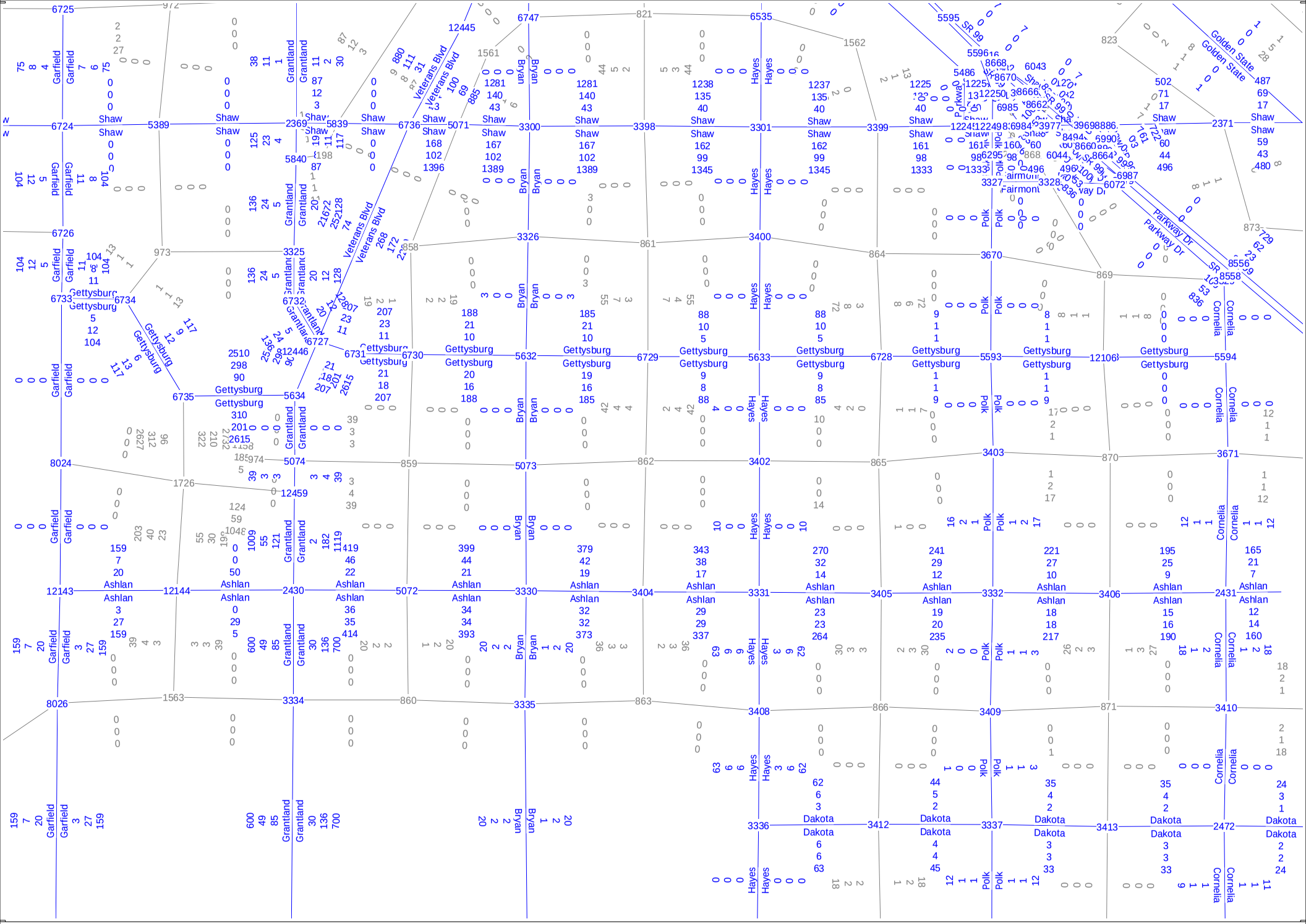
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Project Only Trips
AM, PM, and Daily

cube
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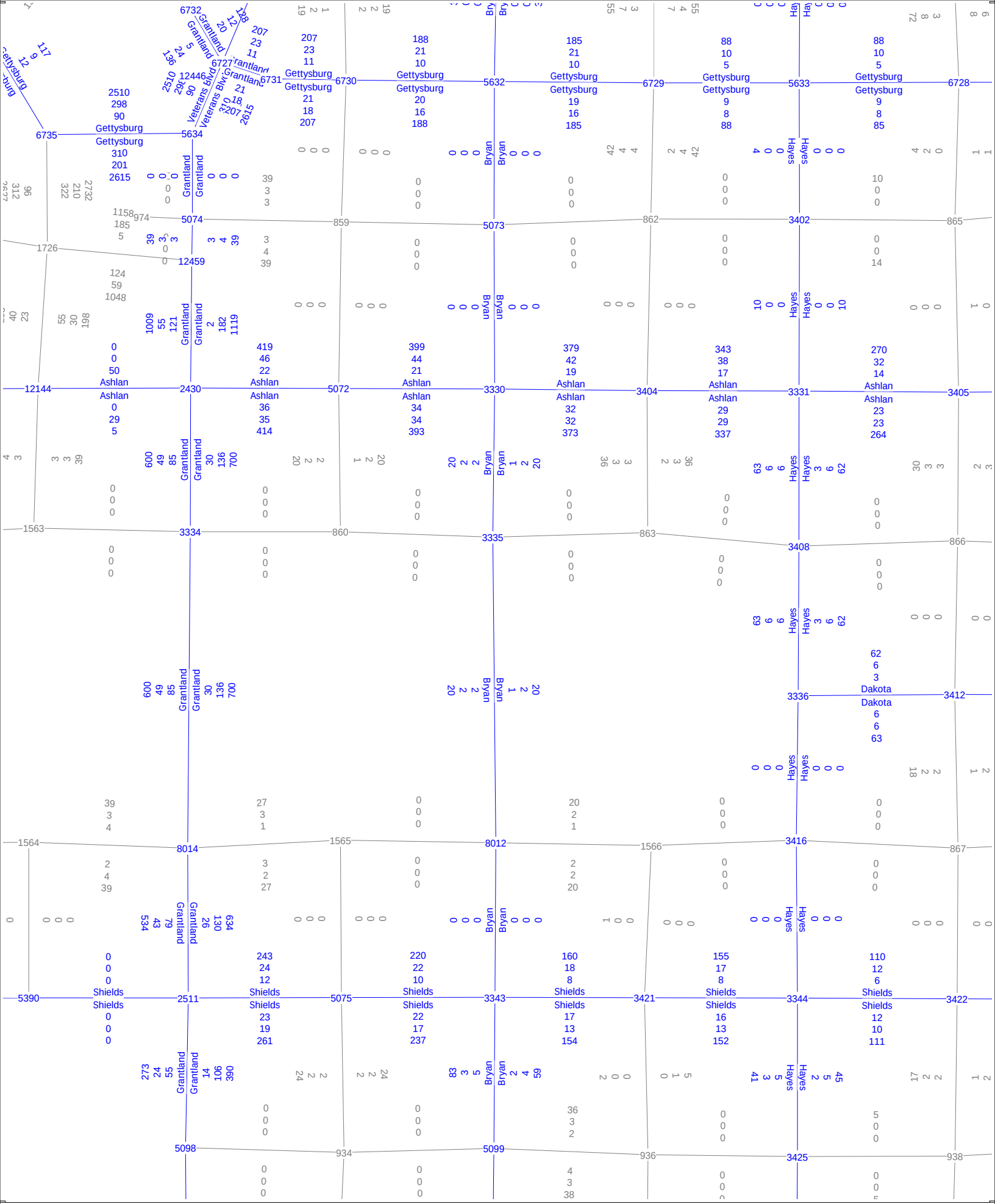
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Project Only Trips
AM, PM, and Daily

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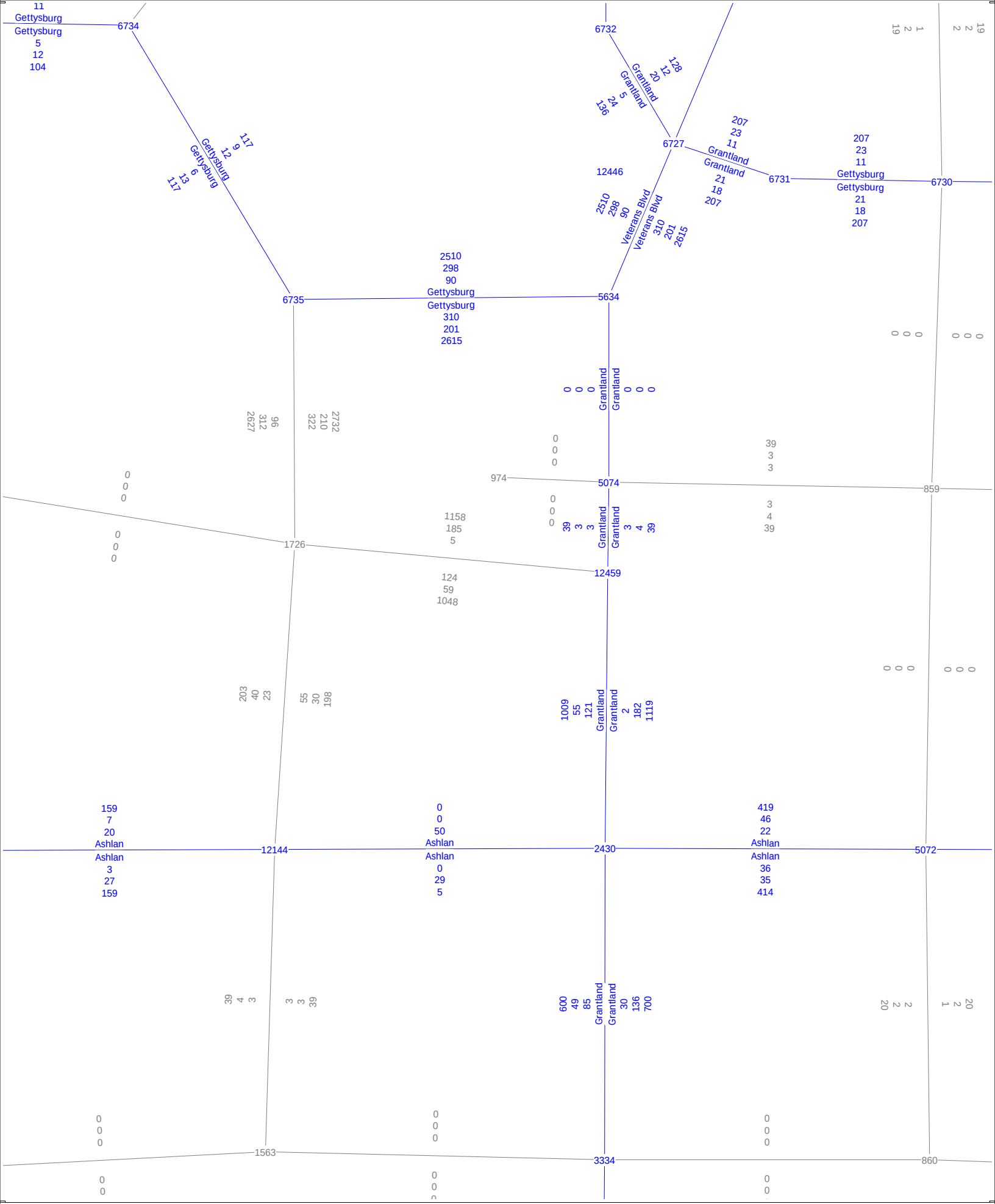
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Project Only Trips
AM, PM, and Daily

cube
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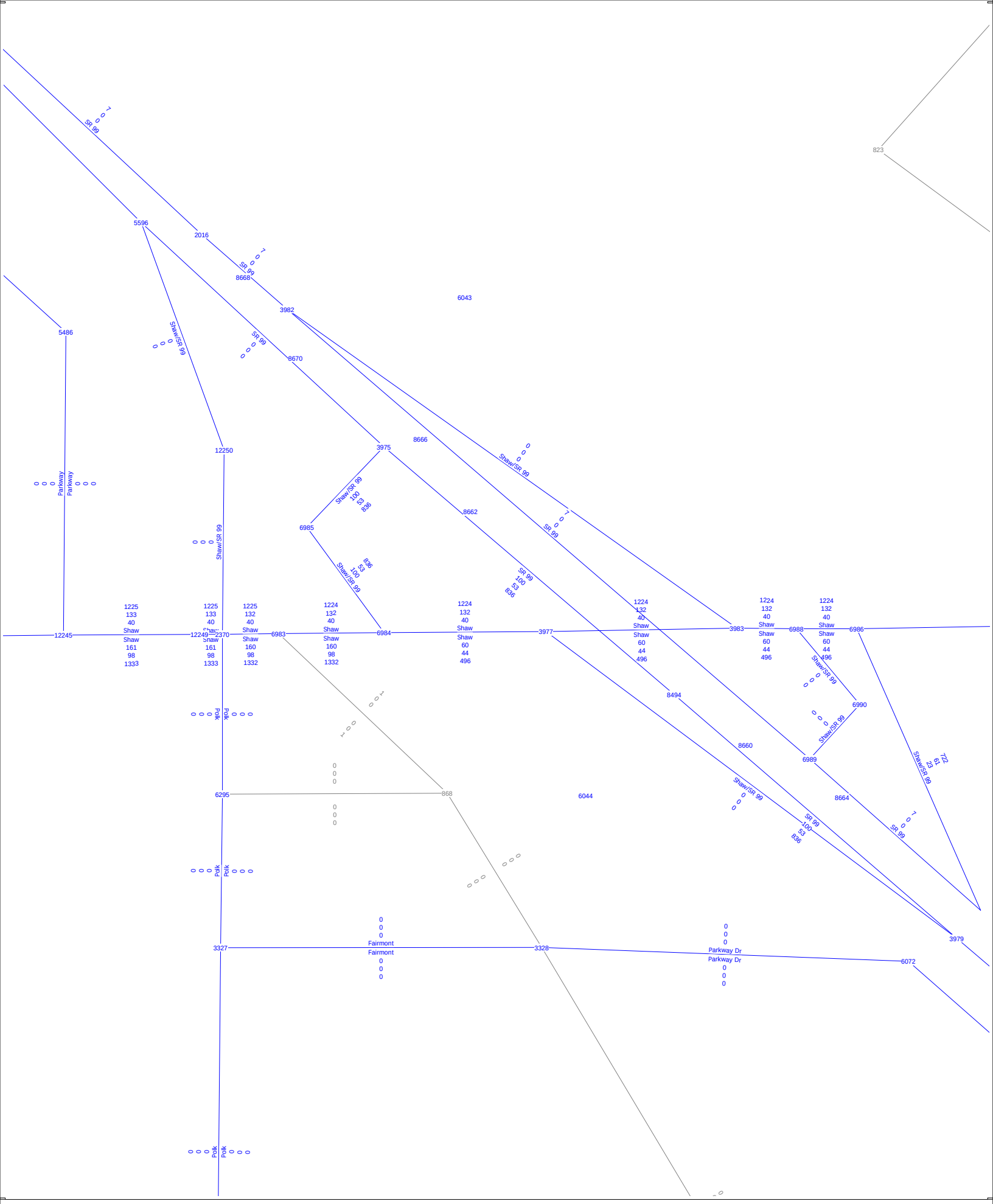
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Project Only Trips
AM, PM, and Daily

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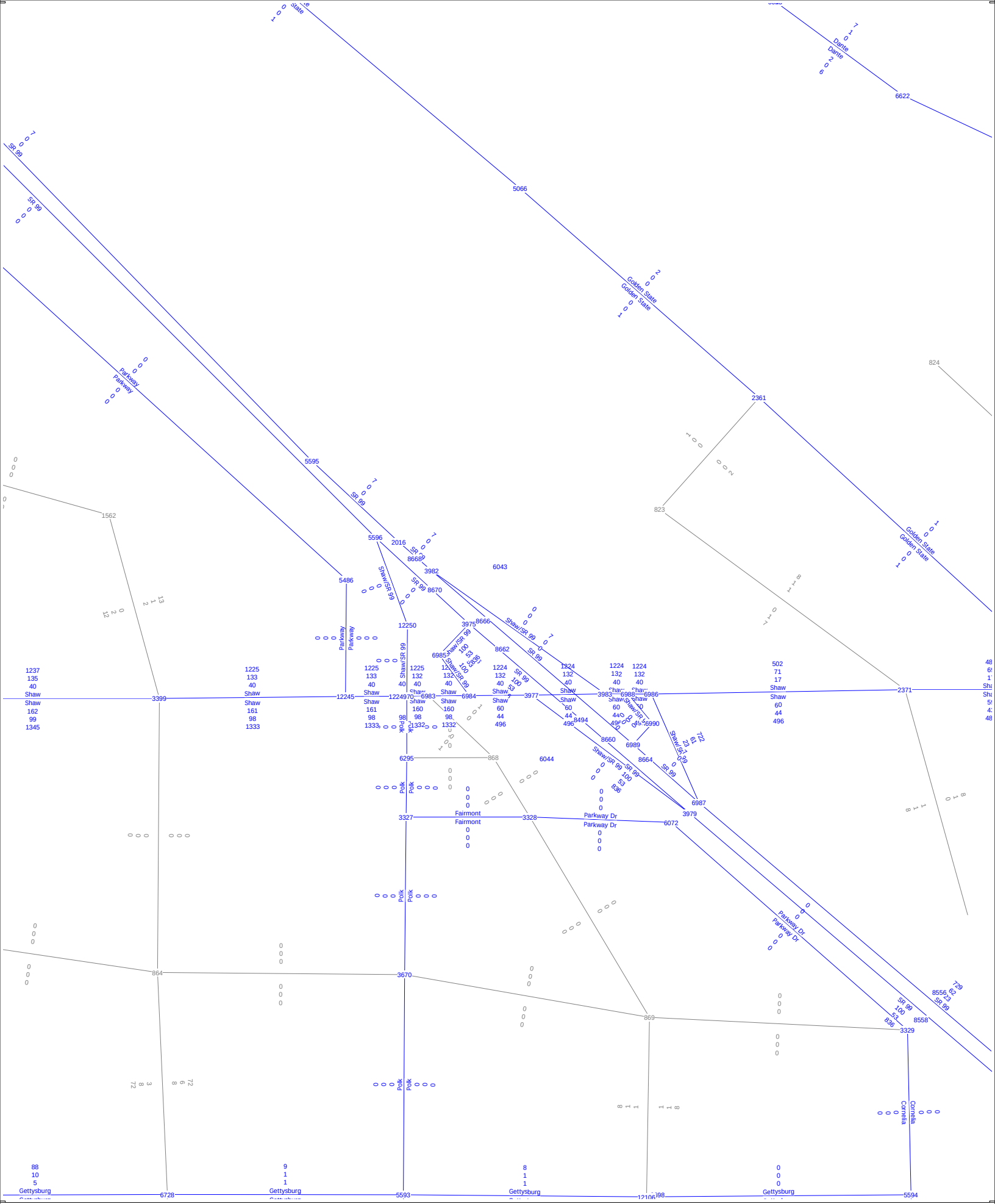
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Project Only Trips
AM, PM, and Daily

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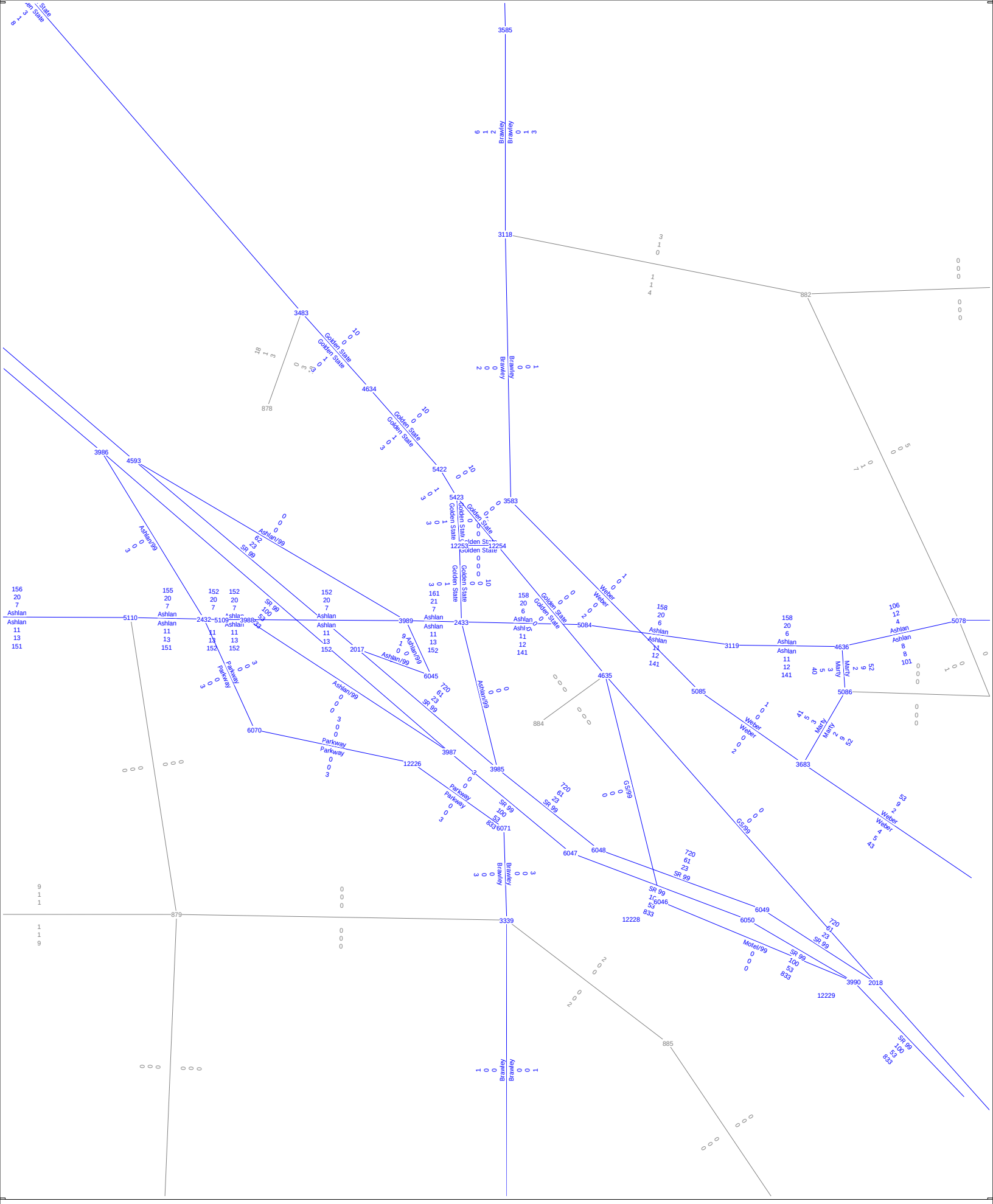
Cumulative Year 2035 Select Zone
Project Only Trips
AM, PM, and Daily

cube
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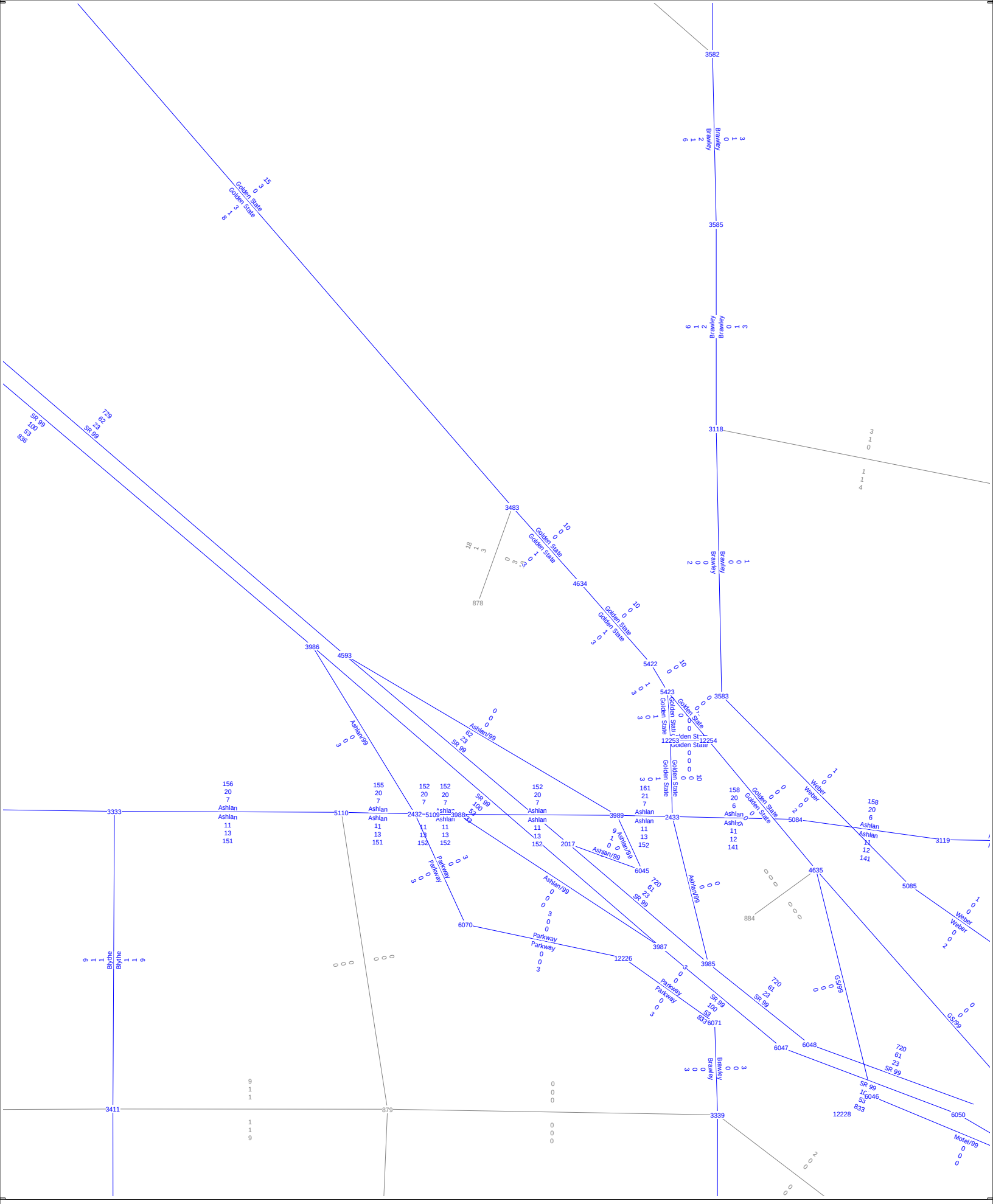
Cumulative Year 2035 Select Zone
Project Only Trips
AM, PM, and Daily

cube
(Licensed to JLB Traffic Engineering Inc)



Cumulative Year 2035 Select Zone
Project Only Trips
AM, PM, and Daily

cube
(Licensed to JLB Traffic Engineering Inc)



Cumulative Year 2035 Select Zone
Project Only Trips
AM, PM, and Daily

cube
(Licensed to JLB Traffic Engineering Inc)

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 2010 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 a LOS.

Urban Streets (Automobile Mode)

The term "urban streets" refers to urban arterials and collectors, including those in downtown areas. Arterial streets are roads that primarily serve longer through trips. However, providing access to abutting commercial and residential land uses is also an important function of arterials. Collector streets provide both land access and traffic circulation within residential, commercial and industrial areas. Their access function is more important than that of arterials, and unlike arterials their operation is not always dominated by traffic signals. Downtown streets are signalized facilities that often resemble arterials. They not only move through traffic but also provide access to local businesses for passenger cars, transit buses, and trucks. Pedestrian conflicts and lane obstructions created by stopping or standing taxicabs, buses, trucks and parking vehicles that cause turbulence in the traffic flow are typical of downtown streets.

Flow Characteristics

The speed of vehicles on urban streets is influenced by three main factors, street environment, interaction among vehicles and traffic control.

The street environment includes the geometric characteristics of the facility, the character of roadside activity, and adjacent land uses. Thus, the environment reflects the number and width of lanes, type of median, driveway/access point density, spacing between signalized intersections, existence of parking, level of pedestrian and bicyclist activity and speed limit.

The interaction among vehicles is determined by traffic density, the proportion of trucks and buses, and turning movements. This interaction affects the operation of vehicles at intersections and, to a lesser extent, between signals.

Traffic controls (including signals and signs) forces a portion of all vehicles to slow or stop. The delays and speed changes caused by traffic control devices reduce vehicle speeds; however, such controls are needed to establish right-of-way.

Levels of Service (automobile Mode)

The average travel speed for through vehicles along an urban street is the determinant of the operating level of service (LOS). The travel speed along a segment, section or entire length of an urban street is dependent on the running speed between signalized intersections and the amount of control delay incurred at signalized intersections.

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 85 of the base free flow speed (FFS).

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 85 percent of the base FFS.

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.

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, inappropriate signal timing, at the boundary intersections. The travel speed is between 40 and 50 percent of the base FFS.

LOS E is characterized unstable operation and significant delay. Such operations may be due to some combination of adverse progression, high volume, and inappropriate signal timing at the boundary intersections. The travel speed is between 30 and 40 percent of the base FFS.

LOS F is characterized by street 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.

Table A-1: Urban Street Levels of Service (Automobile Mode)

Travel Speed as a Percentage of Base Free-Flow Speed (%)	LOS by Critical Volume-to-Capacity Ratio[a]	
	≤1.0	>1.0
>85	A	F
>67 to 85	B	F
>50 to 67	C	F
>40 to 50	D	F
>30 to 40	E	F
≤30	F	F

a = The Critical volume-to-capacity ratio is based on consideration of the through movement-to-capacity ratio at each boundary intersection in the subject direction of travel. The critical volume-to-capacity ratio is the largest ratio of those considered.
Source: Highway Capacity Manual 2010, Exhibit 16-4. Urban Street LOS Criteria (Automobile Mode)

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 and yield signs.

Signalized Intersections – Performance Measures

For signalized intersections the performance measures include automobile volume-to-capacity ratio, automobile delay, queue storage length, ratio of pedestrian delay, pedestrian circulation area, pedestrian perception score, bicycle delay, and bicycle perception score. LOS is also considered a performance measure. For the automobile mode average control delay per vehicle per approach is determined for the peak hour. A weighted average of control delay per vehicle is then determined for the intersection. A LOS designation is given to the weighted average control delay to better describe the level of operation. A description of LOS for signalized intersections is found in Table A-2.

Table A-2: Signalized Intersection Level of Service Description (Automobile 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 volume-to-capacity ratio is 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. This level is typically assigned when 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 i ndividual 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

Source: Highway Capacity Manual 2010

Unsignalized Intersections

The HCM 2010 procedures use control delay as a measure of effectiveness to determine level of service. Delay is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, i. e., in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Control delay is the increased time of travel for a vehicle approaching and passing through an unsignalized intersection, compared with a free-flow vehicle if it were not required to slow or stop at the intersection.

All-Way Stop Controlled Intersections

All-way stop controlled intersections is a form of traffic controls in which all approaches to an intersection are required to stop. Similar to signalized intersections, at all-way stop controlled intersections the average control delay per vehicle per approach is determined for the peak hour. A weighted average of control delay per vehicle is then determined for the intersection as a whole. In other words the delay measured for all-way stop controlled intersections is a measure of the average delay for all vehicles passing through the intersection during the peak hour. A LOS designation is given to the weighted average control delay to better describe the level of operation.

Two-Way Stop Controlled Intersections

Two-way stop controlled (TWSC) intersections in which stop signs are used to assign the right-of-way, are the most prevalent type of intersection in the United States. At TWSC intersections the stop-controlled approaches are referred as the minor street approaches and can be either public streets or private driveways. The approaches that are not controlled by stop signs are referred to as the major street approaches.

The capacity of movements subject to delay are determined using the "critical gap" method of capacity analysis. Expected average control delay based on movement volume and movement capacity is calculated. A LOS for TWSC intersection is determined by the computed or measured control delay for each minor movement. LOS is not defined for the intersection as a whole for three main reasons: (a) major-street through vehicles are assumed to experience zero delay; (b) the disproportionate number of major-street through vehicles at the typical TWSC intersection skews the weighted average of all movements, resulting in a very low overall average delay from all vehicles; and (c) the resulting low delay can mask important LOS deficiencies for minor movements. Table A-3 provides a description of LOS at unsignalized intersections.

Table A-3: Unsignalized 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

Source: HCM 2010 Exhibit 19-1.

Appendix E: Collision Data

Major Rd	Minor Rd	Dist	Collision Factor	Collision Type	Severity	Involved w/	Date
Barstow Ave	Grantland Ave	0	Improper Turning	Hit Object	Injury (Other)	Fixed Object	2/12/2015
Shaw Ave	Garfield Ave	0	DUI	Broadside	Complaint of Pain	Other MV	8/29/2013
Shaw Ave	Garfield Ave	300	Right of Way	Broadside	Injury (Other)	Other MV	6/1/2015
Shaw Ave	Garfield Ave	0	Right of Way	Broadside	Complaint of Pain	Other MV	11/24/2017
Shaw Ave	Grantland Ave	0	Right of Way	Broadside	Complaint of Pain	Other MV	3/20/2013
Shaw Ave	Grantland Ave	0	Right of Way	Broadside	PDO	Other MV	4/6/2013
Shaw Ave	Grantland Ave	0	Right of Way	Broadside	Complaint of Pain	Other MV	5/4/2013
Shaw Ave	Grantland Ave	0	Unsafe Speed	Rear End	Complaint of Pain	Other MV	7/5/2013
Shaw Ave	Grantland Ave	0	Stop Sign/Signals	Head-On	Injury (Severe)	Other MV	7/26/2013
Shaw Ave	Grantland Ave	2	Stop Sign/Signals	Broadside	Complaint of Pain	Other MV	10/7/2013
Shaw Ave	Grantland Ave	0	Improper Turn	Hit Object	PDO	Fixed Object	10/11/2013
Shaw Ave	Grantland Ave	0	Stop Sign/Signals	Broadside	PDO	Other MV	10/14/2013
Shaw Ave	Grantland Ave	0	Stop Sign/Signals	Broadside	Injury (Other)	Other MV	10/27/2013
Shaw Ave	Grantland Ave	0	Stop Sign/Signals	Broadside	PDO	Other MV	12/12/2013
Shaw Ave	Grantland Ave	0	Stop Sign/Signals	Broadside	Complaint of Pain	Other MV	12/29/2013
Shaw Ave	Grantland Ave	0	Improper Turning	Hit Object	Injury (Other)	Fixed Object	1/30/2014
Shaw Ave	Grantland Ave	0	Right of Way	Broadside	Injury (Other)	Other MV	11/11/2015
Shaw Ave	Grantland Ave	0	DUI	Rear End	Fatal	Other MV	3/25/2016
Shaw Ave	Grantland Ave	100	Other	Hit Object	PDO	Fixed Object	5/28/2017
Shaw Ave	Grantland Ave	0	DUI	Hit Object	PDO	Fixed Object	7/7/2017
Shaw Ave	Grantland Ave	0	Stop Sign/Signals	Broadside	PDO	Other MV	10/25/2017
Shaw Ave	Grantland Ave	0	Unsafe Speed	Rear End	Complaint of Pain	Other MV	12/27/2017
Shaw Ave	Bryan Ave	23	Unsafe Speed	Hit Object	PDO	Fixed Object	11/8/2016
Shaw Ave	Hayes Ave	0	Unsafe Speed	Rear End	Complaint of Pain	Other MV	1/26/2013
Shaw Ave	Hayes Ave	120	Improper Turn	Hit Object	PDO	Fixed Object	9/2/2014
Shaw Ave	Hayes Ave	0	Stop Sign/Signals	Broadside	Complaint of Pain	Other MV	12/10/2015
Shaw Ave	Hayes Ave	0	Improper Turning	Head-On	Complaint of Pain	Other MV	1/30/2017
Shaw Ave	Hayes Ave	0	DUI	Hit Object	Complaint of Pain	Fixed Object	2/6/2017
Bryan Ave	Gettysburg Ave	150	Stop Sign/Signals	Broadside	Complaint of Pain	Other MV	3/23/2015
Ashlan Ave	Grantland Ave	0	Right of Way	Broadside	PDO	Other MV	3/27/2014
Ashlan Ave	Grantland Ave	0	Right of Way	Broadside	Injury (Severe)	Other MV	9/9/2015
Ashlan Ave	Bryan Ave	0	Ped Violation	Head-On	Injury (Other)	Pedestrian	2/13/2013
Ashlan Ave	Hayes Ave	29	DUI	Rear End	Fatal	Other MV	5/7/2015
Ashlan Ave	Hayes Ave	29	Stop Sign/Signals	Broadside	Complaint of Pain	Other MV	7/16/2015
Ashlan Ave	Polk Ave	0	Unsafe Speed	Rear End	PDO	Other MV	5/24/2014
Ashlan Ave	Polk Ave	0	Stop Sign/Signals	Sideswipe	PDO	Other MV	6/20/2015
Ashlan Ave	Cornelia Ave	0	Right of Way	Broadside	Injury (Other)	Other MV	1/2/2014
Ashlan Ave	Cornelia Ave	0	Stop Sign/Signals	Broadside	Injury (Other)	Other MV	3/9/2014
Ashlan Ave	Cornelia Ave	0	Unsafe Speed	Hit Object	Complaint of Pain	Fixed Object	3/17/2015
Ashlan Ave	Cornelia Ave	0	Stop Sign/Signals	Broadside	Injury (Other)	Other MV	9/7/2015
Shields Ave	Grantland Ave	250	DUI	Hit Object	Injury (Other)	Fixed Object	9/13/2014
Shields Ave	Grantland Ave	0	Stop Sign/Signals	Broadside	Injury (Severe)	Other MV	9/24/2014
Shields Ave	Grantland Ave	300	Right of Way	Broadside	Injury (Other)	Other MV	12/27/2014
Shaw Ave	Grantland Ave	528	Unsafe Speed	Rear End	Injury (Other)	Other MV	6/9/2013
Shaw Ave	Grantland Ave	750	Right of Way	Sideswipe	Complaint of Pain	Other MV	1/2/2014
Shaw Ave	Hayes Ave	900	Improper Turn	Hit Object	PDO	Fixed Object	5/21/2015
Shaw Ave	Grantland Ave	1056	Unknown	Hit Object	Complaint of Pain	Fixed Object	7/4/2014

Primary Rd **SAFFORD AV** *Distance (ft)* **150** *Direction* **S** *Secondary Rd* **BELLAIRE WY** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **18860** *Collision Date* **20130118** *Time* **0527** *Day* **FRI**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20140624**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **PKD 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	32	M	W	HNBD		UNS TURN	N	A	0100	FORD	2007	-	3	N		-	M	G
2	PRKD	998	-				PARKED	-	A	0100	NISSA	2006	-	-	N		-	-	-
3	PRKD	998	-				PARKED	S	A	0100	VOLKS	2012	-	-	N		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **SHAW AV** *Distance (ft)* **1056** *Direction* **E** *Secondary Rd* **GOLDENROD AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **017052** *Collision Date* **20131210** *Time* **1905** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20141224**
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 - 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	40	F	H	HNBD		PROC ST	E	A	0100	DODGE	2003	-	3	N		-	M	G
2	PRKD	998	-				PARKED	E	G	2531	-		-	-	N		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		19	F	3	0	M	G

Primary Rd **SHAW AV** *Distance (ft)* **2** *Direction* **W** *Secondary Rd* **GRANTLAND AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **018574** *Collision Date* **20131007** *Time* **1640** *Day* **MON**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **HEAD-ON** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20140421**
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	23	M	H	HNBD		PROC ST	W	A	0100	HONDA	2003	-	3	J		-	L	G
2	DRVR	37	F	W	HNBD		STOPPED	E	A	0700	KIA	2013	-	3	N		-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	SEVERE	23	M	1	0	L	G
DRVR	COMP PN	37	F	1	0	L	G

Primary Rd **SHAW AV** *Distance (ft)* **1056** *Direction* **W** *Secondary Rd* **ROLINDA AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **18934** *Collision Date* **20130804** *Time* **1840** *Day* **SUN**
Primary Collision Factor **NOT STATED** *Violation* *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20140324**
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	25	M	H	HBD-UI		PROC ST	E	D	2200	CADIL	2002	-	3	N		-	M	G
2	DRVR	35	M	H	HNBD		BACKING	E	-	- 00	FORD	2007	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	35	M	1	0	M	G
PASS		18	M	3	0	L	G

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **RT 99** *NCIC* **1005** *State Hwy?* **Y** *Route* **99** *Postmile Prefix* **-** *Postmile* **28.318** *Side of Hwy* **N**
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* *Type* **0** *CalTrans* **6** *Badge* **00001** *Collision Date* **20130406** *Time* **0040** *Day* **SAT**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20150115**
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* **R** *Ramp/Int* **4**

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	35	M	W	HBD-UI		LFT TURN	E	A	0700	KIA	2008	-	3	A	21801	-	M	G
2	DRVR	19	M	H	HNBD		PROC ST	W	A	0100	PONTI	2001	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd **GRANTLAND AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **SAN RAMON AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **17138** *Collision Date* **20130212** *Time* **1425** *Day* **TUE**
Primary Collision Factor **UNKNOWN** *Violation* *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20140718**
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																	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*
1	DRVR	49	M	H	HNBD		PROC ST	S	A	0700	GMC	2006	-	3	N	-	M	G	PASS		37	-	3	0	M	G
																			PASS		1	F	5	0	P	Q
2	DRVR	37	F	H	HNBD		OTHER	S	A	0700	LEXUS	1999	-	3	N	-	M	G								

Primary Rd **GRANTLAND AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **SHAW AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **018914** *Collision Date* **20130406** *Time* **1500** *Day* **SAT**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20140823**
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	43	F	H	HNBD		PROC ST	N	A	0700	DODGE	1998	-	3	N	-	M	G	PASS		20	F	6	0	P	G
																			PASS		44	M	3	0	M	G
																			PASS		17	M	4	0	P	M
																			PASS		12	M	5	0	P	C
																			PASS		15	M	7	0	P	G
2	DRVR	68	M	H	HNBD		PROC ST	E	A	0100	HONDA	1998	-	3	N	-	M	G	PASS		67	F	3	0	M	G

Primary Rd **GRANTLAND AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **SHAW AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **18609** *Collision Date* **20130504** *Time* **2354** *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* **20140213**
Weather1 **CLOUDY** *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 - NO** *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	16	M	W	HNBD		PROC ST	N	A	0100	NISSA	2006	-	3	N	-	L	G	PASS		17	F	3	0	L	G
2	DRVR	44	M	H	HNBD		PROC ST	W	A	0100	SATUR	1999	-	3	N	-	L	G	DRVR	OTH VIS	44	M	1	3	L	G
																			PASS	COMP PN	47	F	3	0	L	G

Primary Rd **GRANTLAND AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **SHAW AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **017630** *Collision Date* **20130726** *Time* **1133** *Day* **FRI**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20140320**
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	19	M	A	HNBD		PROC ST	S	A	0100	AUDI	2003	-	3	N	-	L	G								
2	DRVR	86	M	W	HNBD		PROC ST	E	D	2200	CHEVR	1990	-	3	N	-	P	G	DRVR	COMP PN	86	M	1	0	P	G

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Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **FOWLER AV** *NCIC* **1001** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Clovis** *County* **Fresno** *Population* **5** *Rpt Dist* **C504** *Beat* **003** *Type* **0** *CalTrans* *Badge* **5513** *Collision Date* **20130208** *Time* **1818** *Day* **FRI**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20140130**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **WET** *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* **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	47	M	W	HNBD		PROC ST	S	-	- 00	CHEVR	2004	-	A	21453	-	L G	DRVR	OTH VIS	61	F	1	0	L	G
2	DRVR	61	F	W	HNBD		PROC ST	W	-	- 00	HYUND	2012	-	N		-	L G	DRVR	OTH VIS	47	M	1	0	L	G

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **GARFIELD AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **17052** *Collision Date* **20130829** *Time* **1725** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20140402**
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																	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	52	M	H	HNBD		PROC ST	E	A	0100	HONDA	2006	-	3	N	-	L G								
2	DRVR	32	F	W	HNBD		STOPPED	E	A	0700	FORD	2004	-	3	N	-	M G	DRVR	COMP PN	32	F	1	0	M	G

Primary Rd **SHAW AV** *Distance (ft)* **150** *Direction* **W** *Secondary Rd* **GAYNOR AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **025** *Type* **3** *CalTrans* *Badge* **14479** *Collision Date* **20130909** *Time* **0738** *Day* **MON**
Primary Collision Factor **NOT DRIVER** *Violation* *Collision Type* **OTHER** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20141024**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **ANIMAL** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *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*
1	DRVR	22	M	W	HNBD		PROC ST	E	A	0100	TOYOT	2014	-	3	N	-	M G								

Primary Rd **SHAW AV** *Distance (ft)* **1056** *Direction* **E** *Secondary Rd* **GOLDENROD AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **017052** *Collision Date* **20131210** *Time* **1905** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20141224**
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 - NO** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *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	40	F	H	HNBD		PROC ST	E	A	0100	DODGE	2003	-	3	N	-	M G	PASS		19	F	3	0	M	G
2	PRKD	998	-				PARKED	E	G	2531	-		-	-	N	-	- -								

Primary Rd **SHAW AV** *Distance (ft)* **528** *Direction* **E** *Secondary Rd* **GRANTLAND AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **016985** *Collision Date* **20130609** *Time* **1730** *Day* **SUN**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **4** *Tow Away?* **Y** *Process Date* **20140306**
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																	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	41	M	W	HNBD		PROC ST	E	A	0700	FORD	2007	-	3	N	-	L G	DRVR	COMP PN	86	M	1	0	L	G
																		PASS	COMP PN	83	F	3	0	L	G
2	DRVR	41	M	O	HNBD		STOPPED	E	A	0100	MAZDA	1999	-	3	N	-	L G	DRVR	OTH VIS	41	M	1	0	L	G
																		PASS	OTH VIS	39	M	3	0	L	G

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Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **GRANTLAND AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **17138** *Collision Date* **20130705** *Time* **1310** *Day* **FRI**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20140311**
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	18	M	H	HNBD		PROC ST	S	A	0100	FORD	1999	- 3	N		-	L	G								
2	DRVR	24	M	H	HNBD		PROC ST	E	A	0100	NISSA	2008	- 3	N		-	L	G	PASS	COMP PN	24	M	3	0	L	G

Primary Rd **SHAW AV** *Distance (ft)* **2** *Direction* **W** *Secondary Rd* **GRANTLAND AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **018574** *Collision Date* **20131007** *Time* **1640** *Day* **MON**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **HEAD-ON** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20140421**
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	23	M	H	HNBD		PROC ST	W	A	0100	HONDA	2003	- 3	J		-	L	G	DRVR	SEVERE	23	M	1	0	L	G
2	DRVR	37	F	W	HNBD		STOPPED	E	A	0700	KIA	2013	- 3	N		-	L	G	DRVR	COMP PN	37	F	1	0	L	G

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **GRANTLAND AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **17630** *Collision Date* **20131011** *Time* **1645** *Day* **FRI**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20141112**
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																		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	41	M	H	HNBD		UNS TURN	E	D	2200	FORD	2001	- 3	N		-	M	G								

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **GRANTLAND AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **017489** *Collision Date* **20131014** *Time* **1725** *Day* **MON**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20150703**
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																		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	IMP UNK	IMP UNK	PROC ST	W	A	0100	PONTI		- 3	N		-	B	-								
2	DRVR	67	M	H	HNBD		PROC ST	N	D	2200	DODGE	1994	- 3	N		-	M	G	PASS		56	F	3	0	M	G
3	DRVR	38	M	W	HNBD		STOPPED	S	A	0100	MERCE	2012	- 3	N		-	M	G								

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **GRANTLAND AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **017630** *Collision Date* **20131027** *Time* **1500** *Day* **SUN**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20140430**
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	32	F	H	HNBD		PROC ST	W	A	0100	CHEVR	2011	- 3	N		-	M	G	PASS		17	M	3	0	M	G
2	DRVR	32	F	O	HNBD		LFT TURN	E	D	2200	FORD	2013	- 3	N		-	M	G								
3	DRVR	39	M	W	HNBD		STOPPED	E	A	0800	GMC	2013	- 3	N		-	M	G	PASS	COMP PN	42	F	6	0	M	G
																			PASS		42	M	3	0	M	G
																			PASS		32	F	4	0	M	G

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Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **GRANTLAND AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **11603** *Collision Date* **20131212** *Time* **0645** *Day* **THU**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20150107**
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	25	M	H	HNBD		PROC ST	W	A	0100	PONTI	2001	-	N		-	G M	PASS		29	M	3	0	M	G
																		PASS		30	M	4	0	P	G
2	DRVR	37	M	W	HNBD		PROC ST	S	A	0100	CHEVR	2001	-	N		-	G L								

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **GRANTLAND AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **017630** *Collision Date* **20131229** *Time* **1832** *Day* **SUN**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20140519**
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 - NO** *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	21	F	H	HNBD		PROC ST	W	A	0100	NISSA	2001	-	3	N		- L G	PASS	OTH VIS	8	M	4	0	M	H
																		PASS	COMP PN	16	M	3	0	M	G
2	DRVR	42	M	W	HNBD		PROC ST	S	A	0100	PONTI	1998	-	3	N		- M G								

Primary Rd **SHAW AV** *Distance (ft)* **90** *Direction* **W** *Secondary Rd* **HARVARD AV** *NCIC* **1001** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Clovis** *County* **Fresno** *Population* **5** *Rpt Dist* *Beat* **002** *Type* **0** *CalTrans* *Badge* **5611** *Collision Date* **20131124** *Time* **1341** *Day* **SUN**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20141205**
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																	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	31	M	W	HNBD		PROC ST	W	-	- 00	CHEVR	1983	-	3	A	22350	N M G								
2	DRVR	43	F	W	HNBD		PROC ST	W	-	- 00	CHEVR	2001	-	3	N		- M G	DRVR	COMP PN	43	F	1	3	M	G
																		PASS		44	M	2	0	M	G

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **HELM AV** *NCIC* **1001** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Clovis** *County* **Fresno** *Population* **5** *Rpt Dist* **1001** *Beat* **001** *Type* **0** *CalTrans* *Badge* **5014** *Collision Date* **20131205** *Time* **0226** *Day* **THU**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152B** *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20150102**
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* **NT PRS/FCTR** *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	21	F	W	HBD-UI		OTHER	E	A	0100	TOYOT	1999	-	3	N		- M B								

Primary Rd **SHAW AV** *Distance (ft)* **500** *Direction* **W** *Secondary Rd* **HIGHLAND AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **025** *Type* **3** *CalTrans* *Badge* **18914** *Collision Date* **20131203** *Time* **1515** *Day* **TUE**
Primary Collision Factor **NOT DRIVER** *Violation* *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20141223**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *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*
1	DRVR	24	F	H	HNBD		PROC ST	E	A	0100	HONDA	2000	-	3	N		- M G								

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Primary Rd **ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **BRYAN AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **019473** *Collision Date* **20130213** *Time* **0850** *Day* **WED**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20140916**
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	A	HBD-UI		PROC ST	E	A	0100	HONDA	2011	-	3	A	22450	-	M	G							
2	DRVR	27	F	H	HNBD		PROC ST	S	A	0100	HONDA	1990	-	3	N		-	M	G	DRVR	COMP PN	27	F	1	0	M	G

Primary Rd **ASHLAN AV** *Distance (ft)* **80** *Direction* **W** *Secondary Rd* **CLOVIS AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **025** *Type* **3** *CalTrans* *Badge* **14479** *Collision Date* **20130126** *Time* **1024** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20140626**
Weather1 **CLOUDY** *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	22	F	H	HNBD		PROC ST	E	A	0700	VOLVO	2005	-	3	N		-	M	G							
2	DRVR	59	F	H	HNBD		STOPPED	E	A	0100	TOYOT	2004	-	3	N		-	G	-							
3	DRVR	67	M	H	HNBD		STOPPED	E	A	0100	HYUND	2003	-	3	N		-	M	G							

Primary Rd **ASHLAN AV** *Distance (ft)* **8** *Direction* **E** *Secondary Rd* **CLOVIS AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **025** *Type* **3** *CalTrans* *Badge* **16911** *Collision Date* **20130317** *Time* **2159** *Day* **SUN**
Primary Collision Factor **PED VIOL** *Violation* **21950B** *Collision Type* **AUTO/PED** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20140205**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PED** *Lighting* **DARK - ST** *Ped Action* **X-WLK AT** *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	PED	18	M	W	HBD-UNK			S	N	6000	-		-	3	N	-	-	-		PED	OTH VIS	18	M	9	3	-	-
2	DRVR	29	M	W	HNBD		PROC ST	W	A	0100	TOYOT	2007	-	3	N	-	M	G		PASS	COMP PN	37	F	3	0	M	G

Primary Rd **ASHLAN AV** *Distance (ft)* **300** *Direction* **E** *Secondary Rd* **CLOVIS AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **030** *Type* **3** *CalTrans* *Badge* **18914** *Collision Date* **20131002** *Time* **1545** *Day* **WED**
Primary Collision Factor **R-O-W AUTO** *Violation* **21804A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20140429**
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																	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	20	M	W	HNBD		ENT TRAF	N	A	0100	CHEVR	1998	-	3	F	-	L	G								
2	DRVR	32	M	W	HNBD		PROC ST	E	D	2200	TOYOT	2007	-	3	N	-	L	G								
3	DRVR	64	F	W	HNBD		STOPPED	W	A	0700	CHEVR	2012	-	3	N	-	M	G	DRVR	COMP PN	64	F	1	0	M	G

Primary Rd **ASHLAN AV** *Distance (ft)* **1584** *Direction* **E** *Secondary Rd* **DEL REY AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **030** *Type* **3** *CalTrans* *Badge* **12846** *Collision Date* **20130726** *Time* **0930** *Day* **FRI**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20141003**
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* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *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		IMP UNK	IMP UNK	RAN OFF RD	E	D	2200	CHEVR	2008	-	3	N	-	-	-								

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3	DRVR	50	M	H	HNBD		PROC ST	W	A	0100	FORD	2005	-	3	N		-	P	G
4	DRVR	33	M	H	HNBD		PROC ST	S	A	0100	NISSA	2002	-	3	N		-	G	-
5	DRVR	56	M	H	HNBD		PROC ST	S	A	0100	FORD	1999	-	3	N		-	G	-

Primary Rd **NORTH MAPLE AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **E ALAMOS AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1760** *Beat* **00E** *Type* **0** *CalTrans* *Badge* **P982** *Collision Date* **20140212** *Time* **1610** *Day* **WED**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160122**
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																		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	24	F	H	HNBD		LFT TURN	E	A	0100	TOYOT	1999	-	3	-		-	M	G	DRVR	COMP PN	24	F	1	0	M	G
																				PASS		21	F	3	0	M	G
2	DRVR	52	M	W	HNBD		PROC ST	S	D	2200	TOYOT	1991	-	3	-		-	M	G								

Primary Rd **NORTH MAPLE AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **E CARMEN AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **2360** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P626** *Collision Date* **20140720** *Time* **1253** *Day* **SUN**
Primary Collision Factor **NOT STATED** *Violation* *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160121**
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																		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	59	M				RGT TURN	E	A	0800	NISSA	1997	-	3	-		-	M	G								
2	BICY	59	M	A			PROC ST	N	L	0400	-		-	3	-		-	-	-	BICY	OTH VIS	59	M	9	3	-	-

Primary Rd **NORTH MAPLE AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **E GRANT AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **SE256** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **P940** *Collision Date* **20140105** *Time* **1420** *Day* **SUN**
Primary Collision Factor **NOT STATED** *Violation* *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160220**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* *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* *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	21	M	H	HNBD		PROC ST	S	A	0100	HONDA	1994	-	3	K		-	L	G	PASS		20	F	3	0	L	G

Primary Rd **NORTH MAPLE AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **E ILLINOIS AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **SE256** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **P645** *Collision Date* **20140129** *Time* **0803** *Day* **WED**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160119**
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																		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	27	F	H	HNBD		LFT TURN	S	A	0100	TOYOT	2009	-	3	N		-	L	G	DRVR	COMP PN	27	F	1	0	L	G
																				PASS		7	F	6	0	L	Q
2	DRVR	44	M	H	HNBD		PROC ST	N	A	0100	TOYOT	1995	-	3	N		-	L	G	PASS		39	M	3	0	-	-

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Primary Rd **SHAW AV** *Distance (ft)* **750** *Direction* **E** *Secondary Rd* **GRANTLAND AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1642** *Beat* **05C** *Type* **0** *CalTrans* *Badge* **P624** *Collision Date* **20140102** *Time* **2208** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21804** *Collision Type* **SIDESWIPE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160119**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* *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	35	M	O	HNBD		LFT TURN	S	A	0100	NISSA	1996	- 3	N		-	M G								
2	DRVR	34	F	W	HNBD		PROC ST	W	A	0100	HYUND	2004	- 2	N		-	M G	DRVR	COMP PN	34	F	1	0	M	G

Primary Rd **SHAW AV** *Distance (ft)* **17** *Direction* **W** *Secondary Rd* **JACKSON AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1660** *Beat* **00B** *Type* **0** *CalTrans* *Badge* **P776** *Collision Date* **20140303** *Time* **1712** *Day* **MON**
Primary Collision Factor **PED VIOL** *Violation* **21954A** *Collision Type* **AUTO/PED** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **N** *Process Date* **20160121**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PED** *Lighting* **DUSK/DAWN** *Ped Action* **IN RD,** *Cntrl Dev* **NT PRS/FCTR** *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	PED	25	F	B	HNBD		OTHER	S	N	6000	-		- 3	N		-	- -	PED	COMP PN	25	F	0	0	P	-
2	PED	3	M	B	HNBD		OTHER	S	N	6000	-		- 3	N		-	- -	PED	COMP PN	3	M	0	0	P	-
3	DRVR	28	M	H	HNBD		LFT TURN	W	A	0700	JEEP	2004	- 3	N		-	M G								

Primary Rd **SHAW AV** *Distance (ft)* **6** *Direction* **W** *Secondary Rd* **JENNIFER AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW** *Beat* **A1647** *Type* **0** *CalTrans* *Badge* **P850** *Collision Date* **20141106** *Time* **1359** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160121**
Weather1 **CLOUDY** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* *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	F	H	HNBD		PROC ST	W	A	0100	NISSA	2005	- 3	N		-	M G	DRVR	COMP PN	26	F	1	0	M	G
																		PASS		50	F	3	0	M	G
																		PASS		21	M	4	0	M	G
2	DRVR	43	M	B	HNBD		STOPPED	W	A	0100	NISSA	2010	- 3	N		-	M G								
3	DRVR	35	M	A	HNBD		STOPPED	W	A	0100	ACURA	2009	- 3	N		-	M G								

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **MAPLE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NORTH** *Beat* *Type* **0** *CalTrans* *Badge* **P855** *Collision Date* **20140717** *Time* **1540** *Day* **THU**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152B** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160317**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* *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																		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	55	M	H	HBD-UI		PROC ST	W	D	2200	FORD	1989	- 3	-		-	- G								
2	DRVR	27	F	A			STOPPED	W	A	0100	FORD	2002	- 3	-		-	M G								

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **MARIPOSA AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1657** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **P721** *Collision Date* **20140303** *Time* **1640** *Day* **MON**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160121**
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	56	M	H		DRUG	LFT TURN	N	A	0100	TOYOT	1995	- 3	A	21801	-	M H	DRVR	COMP PN	56	M	1	0	P	H

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Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N PARKWAY DR** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1847** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1488** *Collision Date* **20140706** *Time* **0328** *Day* **SUN**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160324**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **NON-CLSN** *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	998	-				PROC ST	W	A	0700	CHEVR	2006	-	-	F	-	L	B								
2	DRVR	29	F	W	HNBD		PROC ST	N	A	0100	CHRYS	2009	-	3	-	-	M	G	PASS		31	M	3	0	M	G
																			PASS		10	F	4	0	M	G
																			PASS		9	M	5	0	M	G
																			PASS		7	F	6	0	M	G
																			PASS		6	M	5	0	M	G

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N PARKWAY DR** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1847** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1534** *Collision Date* **20141031** *Time* **2225** *Day* **FRI**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160201**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **MV ON OTHER RD** *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	998	-		IMP UNK	IMP UNK	PROC ST	W	A	0100	TOYOT	2007	-	-	N	-	M	B								
2	DRVR	43	M		HNBD		STOPPED	W	A	0100	HONDA	2007	-	3	N	-	M	G								

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N PKWY** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P586** *Collision Date* **20140417** *Time* **1019** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160120**
Weather1 **CLOUDY** *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	18	F	H	HNBD		PROC ST	E	A	0800	KIA	2007	-	3	N	-	M	G								
2	DRVR	64	F	H	HNBD		PROC ST	E	A	0100	HONDA	1992	-	3	N	-	M	G	DRVR	COMP PN	64	F	1	0	M	G
																			PASS		13	M	3	0	M	G
																			PASS		80	F	4	0	M	G

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N POLK AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1952** *Beat* **00G** *Type* **0** *CalTrans* *Badge* **P1321** *Collision Date* **20140524** *Time* **2340** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160129**
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	46	F	W			PROC ST	W	A	0700	SATUR	2008	-	-	-	-	L	G								
2	DRVR	38	F	B			RGT TURN	W	A	0100	NISSA	2008	-	-	-	-	-	G	PASS		32	M	3	0	-	G
																			PASS		16	M	4	0	-	G
																			PASS		17	M	5	0	-	C
																			PASS		18	F	6	0	-	G

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Primary Rd **HAYES AV** *Distance (ft)* **120** *Direction* **S** *Secondary Rd* **SHAW AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **17166** *Collision Date* **20140902** *Time* **1609** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20150521**
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* **NT PRS/FCTR** *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	M	W	HBD-NUI		UNS TURN	S	D	2200	CHEVR	1999	-	3	N	-	M G								

Primary Rd **HAYES AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **SHIELDS AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **17489** *Collision Date* **20140707** *Time* **1730** *Day* **MON**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **FATAL** *#Killed* **1** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20141020**
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	53	M	B	HNBD		PROC ST	S	A	0100	VOLVO	1999	-	3	N	-	M G	DRVR	COMP PN	53	M	1	0	M	G
2	DRVR	63	M	W	HBD-UI		PROC ST	E	C	0200	HARLE	2005	-	3	N	-	P W	DRVR	KILLED	63	M	1	1	P	W

Primary Rd **HAYES AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **SHIELDS AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **19369** *Collision Date* **20141215** *Time* **1410** *Day* **MON**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20150716**
Weather1 **CLOUDY** *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	18	M	H	HNBD		PROC ST	S	A	0100	HONDA	1995	-	3	N	-	M G	PASS		18	M	3	0	M	G
2	DRVR	56	F	O	HNBD		PROC ST	W	D	2200	TOYOT	1999	-	3	N	-	M G								

Primary Rd **HAYES AV** *Distance (ft)* **445** *Direction* **S** *Secondary Rd* **SUMMER AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **015** *Type* **3** *CalTrans* *Badge* **017579** *Collision Date* **20140514** *Time* **2140** *Day* **WED**
Primary Collision Factor **DRVR ALC\|DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20140728**
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																	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	29	M	H	HBD-UI		UNS TURN	S	D	2200	DODGE	1998	-	3	A	22107 -	P G	DRVR	SEVERE	29	M	1	0	P	G

Primary Rd **HAZEL AV** *Distance (ft)* **36** *Direction* **S** *Secondary Rd* **NORWICH AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW** *Beat* **D1849** *Type* **0** *CalTrans* *Badge* **P850** *Collision Date* **20140718** *Time* **0704** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160122**
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																	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	19	M	H	HNBD		PROC ST	N	A	0100	HONDA	2002	-	3	N	-	M G								
2	PRKD	998	-				PARKED	S	A	0100	FORD	2008	-	3	N	-	- -								

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Primary Rd **SHAW AV** *Distance (ft)* **750** *Direction* **E** *Secondary Rd* **GRANTLAND AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1642** *Beat* **05C** *Type* **0** *CalTrans* *Badge* **P624** *Collision Date* **20140102** *Time* **2208** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21804** *Collision Type* **SIDESWIPE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160119**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* *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	35	M	O	HNBD		LFT TURN	S	A	0100	NISSA	1996	- 3	N		-	M G								
2	DRVR	34	F	W	HNBD		PROC ST	W	A	0100	HYUND	2004	- 2	N		-	M G	DRVR	COMP PN	34	F	1	0	M	G

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **GRANTLAND AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **018823** *Collision Date* **20140130** *Time* **1024** *Day* **THU**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **3** *Tow Away?* **Y** *Process Date* **20140611**
Weather1 **CLOUDY** *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	50	M	H	HNBD		PROC ST	W	D	2200	GMC	1999	- 3	N		-	L G	PASS	COMP PN	38	F	3	0	L	G
2	DRVR	38	M	H	HNBD		PROC ST	S	E	2235	FORD	2011	- 3	N		-	M G	DRVR	COMP PN	38	M	1	0	M	G
																		PASS	COMP PN	42	M	3	0	M	G

Primary Rd **SHAW AV** *Distance (ft)* **360** *Direction* **W** *Secondary Rd* **GREENWOOD AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **025** *Type* **3** *CalTrans* *Badge* **19473** *Collision Date* **20140328** *Time* **2130** *Day* **FRI**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20140711**
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 - NO** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *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	20	M	W	HNBD		LFT TURN	W	A	0100	BMW	2008	- 3	N		-	M G	DRVR	COMP PN	20	M	1	0	M	G
2	DRVR	28	F	H	HNBD		PROC ST	E	A	0700	GMC	2004	- 3	N		-	M G	DRVR	COMP PN	28	F	1	0	M	G

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **HUMBOLDT AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **18860** *Collision Date* **20140531** *Time* **2210** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **OVERTURNED** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20140725**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **NON-CLSN** *Lighting* **DARK - NO** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *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	39	F	A	HNBD		RAN OFF RD	W	A	0700	BMW	2003	- 3	N		-	M G	PASS	COMP PN	52	F	3	0	M	G

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **HUMBOLDT AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **18823** *Collision Date* **20140817** *Time* **2108** *Day* **SUN**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20150507**
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* **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	37	M	O	HNBD		PROC ST	W	D	2200	TOYOT	1988	- 3	N		-	P G								

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Primary Rd **N GOLDEN STATE** *Distance (ft)* **0** *Direction* *Secondary Rd* **WEST MCKINLEY** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **FresnoBL** *County* **Fresno** *Population* **7** *Rpt Dist* **SW235** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P379** *Collision Date* **20141111** *Time* **1219** *Day* **TUE**
Primary Collision Factor **UNKNOWN** *Violation* *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160216**
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	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
	Party Info																		Victim Info							
1	DRVR	19	M		HNBD		LFT TURN	N	A	0100	LEXUS	1996	-	-	A	21453	-	-	-	DRVR	COMP PN	19	M	1	0	P	G
2	DRVR	42	F	W	HNBD		PROC ST	E	A	0100	HONDA	2004	-	-	N		-	-	-								

Primary Rd **N GOLDEN STATE** *Distance (ft)* **0** *Direction* **S** *Secondary Rd* **WEST SHAW AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **FresnoBL** *County* **Fresno** *Population* **7** *Rpt Dist* **1746** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1321** *Collision Date* **20140429** *Time* **2320** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160122**
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* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

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
	Party Info																		Victim Info							
1F	DRVR	998	M	W	IMP UNK	IMP UNK	PROC ST	N	-	0000	CHEVR		-	-	-	-	-	-								
2	DRVR	47	F	B			PROC ST	N	A	0100	CHEVR	1998	-	-	-	-	M	G	DRVR	COMP PN	47	F	1	0	M	G

Primary Rd **N GOLDEN STATE** *Distance (ft)* **0** *Direction* *Secondary Rd* **WEST SHAW AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **FresnoBL** *County* **Fresno** *Population* **7** *Rpt Dist* **1746** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P315** *Collision Date* **20140523** *Time* **1019** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160129**
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	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
	Party Info																		Victim Info							
1F	DRVR	18	F	H			PROC ST	N	A	0100	VOLKS	2001	-	3	G		-	M	G								
2	DRVR	50	F	H			STOPPED	N	A	0100	TOYOT	2008	-	3	G		-	-	-	PASS		51	F	3	3	M	G

Primary Rd **N GRANTLAND AV** *Distance (ft)* **147** *Direction* **W** *Secondary Rd* **BARSTOW AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW164** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1477** *Collision Date* **20140509** *Time* **2310** *Day* **FRI**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160121**
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	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
	Party Info																		Victim Info							
1F	DRVR	19	M	B	HBD-UI		LFT TURN	N	A	0700	LAND	1997	-	3	A	22350	-	M	G								

Primary Rd **N GRANTLAND AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **WEST ASHLAN AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1742** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P927** *Collision Date* **20140327** *Time* **0643** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160121**
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	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
	Party Info																		Victim Info							
1F	DRVR	39	F	H	HNBD		LFT TURN	W	A	0100	CHEVR	1997	-	3	N		-	M	B								
2	DRVR	45	F	H	HNBD		LFT TURN	S	H	1300	INTER	2005	-	3	N		-	M	C								

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Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N POLK AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1952** *Beat* **00G** *Type* **0** *CalTrans* *Badge* **P1321** *Collision Date* **20140524** *Time* **2340** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160129**
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	46	F	W			PROC ST	W	A	0700	SATUR	2008	-	-	-	-	L G								
2	DRVR	38	F	B			RGT TURN	W	A	0100	NISSA	2008	-	-	-	-	- G	PASS		32	M	3	0	-	G
																		PASS		16	M	4	0	-	G
																		PASS		17	M	5	0	-	C
																		PASS		18	F	6	0	-	G

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N SEQUOIA DR** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1851** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **P1505** *Collision Date* **20140330** *Time* **1825** *Day* **SUN**
Primary Collision Factor **IMPROP TURN** *Violation* **22100B** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160119**
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																	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	82	M	B	HNBD		LFT TURN	N	A	0100	FORD	1998	-	3	N	-	M G								
2	DRVR	40	M	H	HNBD		PROC ST	E	D	2200	GMC	2000	-	3	N	-	N G	DRVR	COMP PN	40	M	1	0	N	G

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N VALENTINE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **P586** *Collision Date* **20140206** *Time* **0912** *Day* **THU**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160201**
Weather1 **RAINING** *Weather2* *Rdwy Surface* **WET** *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																	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	37	M	W	HNBD		PROC ST	S	D	2200	DODGE	2001	-	3	N	-	L G								
2	DRVR	20	M	H	HNBD		STOPPED	S	-	0000	DODGE	2008	-	3	M	-	M -								
3	PRKD	998	-				PARKED	S	A	0100	CHRYS	2006	-	-	N	-	- -								

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N VALENTINE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW194** *Beat* **00G** *Type* **0** *CalTrans* *Badge* **P940** *Collision Date* **20140209** *Time* **1539** *Day* **SUN**
Primary Collision Factor **DRVR ALC\|DRG** *Violation* **23152B** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160126**
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	60	M	B	HBD-UI		RGT TURN	N	A	0100	CHEVR	2001	-	3	A	22107	- M G								
2	DRVR	34	F	W	HNBD		STOPPED	S	A	0100	CHEVR	2000	-	3	N		- - G								

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **69** *Direction* **E** *Secondary Rd* **N VALENTINE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW194** *Beat* **00G** *Type* **0** *CalTrans* *Badge* **P1367** *Collision Date* **20140715** *Time* **1749** *Day* **TUE**
Primary Collision Factor **DRVR ALC\|DRG** *Violation* **23152A** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **3** *Tow Away?* **N** *Process Date* **20160121**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* *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	20	M	H	HBD-UI		PROC ST	W	-	0000	BMW	1994	-	3	A	21453	N - -	DRVR	COMP PN	20	M	1	0	L	G

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Primary Rd **POLK AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **ALLUVIAL AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **FRESN** *Beat* **1246** *Type* **0** *CalTrans* *Badge* **P864** *Collision Date* **20150324** *Time* **1700** *Day* **TUE**
Primary Collision Factor **WRONG SIDE** *Violation* **21650** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* *Process Date* **20160212**
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	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	BICY	84	M	O	HNBD		RGT TURN	S	L	0400	-		-	3	N		-	-	-	BICY	OTH VIS	84	M	1	3	-	-
2	DRVR	56	F	W	HNBD		PROC ST	W	D	2200	GMC	2002	-	3	A	22450	-	M	G								

Primary Rd **POLK AV** *Distance (ft)* **50** *Direction* **S** *Secondary Rd* **SHAW AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW** *Beat* *Type* **0** *CalTrans* *Badge* **P662** *Collision Date* **20150406** *Time* **0630** *Day* **MON**
Primary Collision Factor **NOT DRIVER** *Violation* *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160205**
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	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
1	DRVR	58	M	H	HNBD		RAN OFF RD	N	D	2200	CHEVR	2005	-	-	-		-	M	B	PASS		19	M	3	0	M	B

Primary Rd **POLK AVENUE** *Distance (ft)* **0** *Direction* *Secondary Rd* **ACACIA AVENUE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **901** *Type* **4** *CalTrans* *Badge* **014896** *Collision Date* **20151027** *Time* **0800** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22100B** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20151117**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **1**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

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	56	F	W	IMP UNK	IMP UNK	LFT TURN	N	H	1300	THOMA	2008	-	3	N		-	M	G								

Primary Rd **POTTLE AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **KERN ST** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **2854** *Type* **0** *CalTrans* *Badge* **P982** *Collision Date* **20150401** *Time* **1319** *Day* **WED**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* *Process Date* **20160206**
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	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	31	M	A	HNBD		ENT TRAF	S	I	2000	GILLI	2011	-	3	-		-	M	G								
2	DRVR	53	M	H	HNBD		RGT TURN	S	A	0100	CHEVR	2007	-	3	-		-	M	G								

Primary Rd **POTTLE AVE** *Distance (ft)* **10** *Direction* **N** *Secondary Rd* **FRESNO ST** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **901** *Type* **4** *CalTrans* *Badge* **017310** *Collision Date* **20151022** *Time* **1310** *Day* **THU**
Primary Collision Factor **IMPROP TURN** *Violation* **22100A** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20151116**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **1**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

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	25	F	H	HNBD		RGT TURN	E	H	1300	BLU	2000	-	3	N		-	P	G	PASS		5	F	0	0	P	G
																				PASS		6	F	0	0	P	G
																				PASS		5	F	0	0	P	G
																				PASS		7	M	0	0	P	G
2	DRVR	24	M	H	HNBD		STOPPED	E	A	0700	CHEV	2004	-	3	N		-	M	G								

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Primary Rd **SHAW AV** *Distance (ft)* **30** *Direction* **W** *Secondary Rd* **MARTY** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* *Type* **0** *CalTrans* *Badge* **P982** *Collision Date* **20150805** *Time* **1830** *Day* **WED**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160413**
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																		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	F	W	IMP UNK	IMP UNK	PROC ST	E	A	0100	PONTI	2007	- 3	-		- - -									
2	DRVR	57	M	A	HNBD		STOPPED	E	A	0800	HONDA	2003	- 3	-		- - G									

Primary Rd **SHAW AV** *Distance (ft)* **719** *Direction* **E** *Secondary Rd* **MARTY AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1848** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P911** *Collision Date* **20150513** *Time* **1312** *Day* **WED**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160125**
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																		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	67	M	B	HNBD		CHANG LN	E	D	2200	TOYOT	1988	- 3	F		- M G		PASS		27	F	3	0	M	G
																		PASS		52	M	8	0	P	A
2	DRVR	50	M	W	HNBD		STOPPED	E	D	2200	TOYOT	2013	- 3	N		- M G		DRVR	COMP PN	50	M	1	0	M	G
3	DRVR	38	M	H	HNBD		STOPPED	E	D	2200	GMC	2002	- 3	N		- M G									

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **MARTY AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW** *Beat* *Type* **0** *CalTrans* *Badge* **P662** *Collision Date* **20151030** *Time* **1408** *Day* **FRI**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* *Process Date* **20160218**
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																		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	W	HBD-UNK		CHANG LN	W	D	2200	TOYOT	2015	- -	-		- - -									
2	DRVR	20	F	B	HNBD		PROC ST	W	A	0100	KIA	2008	- -	-		- M G									

Primary Rd **SHAW AV** *Distance (ft)* **400** *Direction* **E** *Secondary Rd* **POLK AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **2C** *Beat* **1645** *Type* **0** *CalTrans* *Badge* **P959** *Collision Date* **20150217** *Time* **1519** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* *Process Date* **20160125**
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	23	M	W	HNBD		PROC ST	E	D	2200	FORD	2008	- 1	N		- M G									
2	DRVR	21	M	H	HNBD		STOPPED	E	A	0100	CHRYS	2009	- 3	N		- M G		PASS	COMP PN	38	M	3	0	M	G

Primary Rd **SHAW AV** *Distance (ft)* **117** *Direction* **E** *Secondary Rd* **RT 168** *NCIC* **9435** *State Hwy?* **Y** *Route* **168** *Postmile Prefix* **R** *Postmile* **4.27** *Side of Hwy* **E**
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **168** *Type* **1** *CalTrans* **6** *Badge* **012846** *Collision Date* **20150319** *Time* **0815** *Day* **THU**
Primary Collision Factor **WRONG SIDE** *Violation* **21650** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **N** *Process Date* **20161020**
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* **NT PRS/FCTR** *Loc Type* **R** *Ramp/Int* **3**

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	BICY	56	M	W	HNBD		WRONG WY	W	L	0400	-		- 3	N		- - -		BICY	SEVERE	56	M	1	1	P	V
2	DRVR	25	M	W	HNBD		PROC ST	E	A	0700	JEEP	1993	- 3	N		- M G		DRVR	OTH VIS	25	M	1	0	M	G

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Primary Rd **ASHLAN AV** *Distance (ft)* **29** *Direction* **E** *Secondary Rd* **HAYES AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1843** *Beat* **02C** *Type* **0** *CalTrans* *Badge* **P731** *Collision Date* **20150716** *Time* **1645** *Day* **THU**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152E** *Collision Type* **REAR END** *Severity* **FATAL** *#Killed* **1** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160211**
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	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	46	M	W		DRUG	PROC ST	W	C	0200	OTHER	2005	-	3	A	22350	-	P	V
2	DRVR	41	M	H	HNBD		RGT TURN	W	D	2200	FORD	1999	-	3	N		-	M	G

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	KILLED	46	M	1	1	P	V
DRVR	COMP PN	41	M	1	0	M	G
PASS		31	M	3	0	M	G

Primary Rd **ASHLAN AV** *Distance (ft)* **120** *Direction* *Secondary Rd* **LAFAYETTE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW** *Beat* **05D** *Type* **0** *CalTrans* *Badge* **P662** *Collision Date* **20150622** *Time* **0700** *Day* **MON**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160211**
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	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	M	A	HNBD		PROC ST	E	A	0100	TOYOT	2003	-	-	-	-	M	G

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **ASHLAN AV** *Distance (ft)* **100** *Direction* **W** *Secondary Rd* **MARKS AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **FRESN** *Beat* **1749** *Type* **0** *CalTrans* *Badge* **P864** *Collision Date* **20150530** *Time* **2012** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* *Process Date* **20160202**
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* **DUSK/DAWN** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

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		IMP UNK	IMP UNK	PROC ST	W	A	0100	CHEVR	2013	-	-	A	20002	-	-	-
2	DRVR	37	F	O	HNBD			W	A	0100	VOLVO	2008	-	3	N		-	M	G

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **ASHLAN AV** *Distance (ft)* **600** *Direction* **W** *Secondary Rd* **MARKS AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **2G** *Beat* **1950** *Type* **0** *CalTrans* *Badge* **P959** *Collision Date* **20150818** *Time* **0925** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* *Process Date* **20160126**
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	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	28	F	B	HNBD		PROC ST	W	A	0800	CHEVR	2005	-	3	N		-	L	G
2	PRKD	998	-				PARKED	W	A	0800	KIA	2004	-	3	N		-	-	-

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	COMP PN	35	M	4	0	P	G
PASS	COMP PN	33	M	6	0	P	G
PASS		28	M	7	0	P	G
PASS		43	M	9	0	P	G

Primary Rd **ASHLAN AV** *Distance (ft)* **110** *Direction* **W** *Secondary Rd* **MILBURN** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **2C** *Beat* **1946** *Type* **0** *CalTrans* *Badge* **P959** *Collision Date* **20150828** *Time* **1023** *Day* **FRI**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **SIDESWIPE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20160126**
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	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	21	F	H	HNBD		ENT TRAF	S	A	0100	HONDA	1997	-	3	N		-	M	G
2	DRVR	38	M	H	HNBD		PROC ST	W	A	0700	CHEVR	2015	-	3	N		-	L	G

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		998	M	6	0	L	S
DRVR	COMP PN	38	M	1	0	L	G

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Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N MARTY AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P1534** *Collision Date* **20150704** *Time* **0145** *Day* **SAT**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160127**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **MV ON OTHER RD** *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	55	M	B	HBD-UI		LFT TURN	N	A	0100	DODGE	2007	- -	A	23152	-	L	B
2	DRVR	25	F	H	IMP UNK	IMP UNK	PROC ST	W	A	0700	MERCE	1999	- -	N		-	L	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	55	M	1	0	L	B
PASS		25	F	9	3	P	G

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N PARKWAY DR** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1555** *Collision Date* **20150301** *Time* **2050** *Day* **SUN**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152B** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160201**
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	33	M	H	HBD-UI		PROC ST	W	A	0100	TOYOT	2012	- 3	A	21453	-	L	G
2	DRVR	41	M	H	HNBD		STOPPED	W	A	0100	FORD	2004	- 3	-		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N POLK AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1844** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1663** *Collision Date* **20150620** *Time* **1530** *Day* **SAT**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160206**
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	16	M	W			PROC ST	-	A	0100	TOYOT	2013	- -	A	22450	N	L	G
2	DRVR	68	M	H	HNBD		PROC ST	-	A	0100	HONDA	2007	- -	N		-	M	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N SEQUOIA DR** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1851** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **1684** *Collision Date* **20150813** *Time* **2330** *Day* **THU**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160204**
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* **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	66	F	H	HBD-UI		PROC ST	W	A	0100	TOYOT	2013	- -	-		-	L	C
2	PRKD	998	-				PARKED	-	A	0700	GMC	2000	- -	N		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **660** *Direction* **E** *Secondary Rd* **N VALENTINE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NE194** *Beat* **00G** *Type* **0** *CalTrans* *Badge* **P1636** *Collision Date* **20150326** *Time* **1852** *Day* **THU**
Primary Collision Factor **WRONG SIDE** *Violation* **216501** *Collision Type* **OTHER** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160202**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **BICYCLE** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* *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	53	M	O	HNBD		STOPPED	-	D	2200	TOYOT	2003	- 3	N		-	M	G
2F	BICY	45	M	W	HNBD		PROC ST	-	L	0400	-	-	- 3	-		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
BICY	COMP PN	45	M	9	3	-	-

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Primary Rd **HAYES AVE** *Distance (ft)* **0** *Direction* *Secondary Rd* **CLINTON AVE.** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **019323** *Collision Date* **20151114** *Time* **0845** *Day* **SAT**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20151123**
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* **FNCTNG** *Loc Type* *Ramp/Int*

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip		Victim ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	-		IMP UNK	IMP UNK	PROC ST	W	A	0100	BMW		-	3	N		-	B	B								
2	DRVR	33	F	H	HNBD		PROC ST	N	A	0100	NISS	2014	-	3	N		-	M	G	PASS	COMP PN	16	M	3	0	L	G

Primary Rd **HAYES AVE** *Distance (ft)* **0** *Direction* *Secondary Rd* **SHAW AVE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **019523** *Collision Date* **20151210** *Time* **0540** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160112**
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* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip		Victim ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	18	F	H	HNBD		PROC ST	N	A	0100	CHRY	2008	-	3	J		N	L	G	DRVR	COMP PN	18	F	1	0	L	G

Primary Rd **HAYES AVE** *Distance (ft)* **0** *Direction* *Secondary Rd* **SHIELDS AVE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **018939** *Collision Date* **20151001** *Time* **1521** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20151019**
Weather1 **CLOUDY** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **1**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip		Victim ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	55	F	H	HNBD		PROC ST	S	H	1600	THOMA	2014	-	3	N		-	M	G	PASS		13	F	8	0	P	G
																				PASS		12	F	8	0	P	G
2	DRVR	24	M	H	HNBD		PROC ST	E	A	0100	TOYO	2002	-	3	N		-	M	G	PASS		16	F	3	0	M	G
																				PASS		51	F	6	0	P	A

Primary Rd **HAYES AVE** *Distance (ft)* **0** *Direction* *Secondary Rd* **SHIELDS AVE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **019926** *Collision Date* **20151102** *Time* **1515** *Day* **MON**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20151111**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **WET** *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	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip		Victim ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	17	M	O	HNBD		PROC ST	S	A	0100	MITS	2006	-	3	N		-	M	G	DRVR	OTH VIS	17	M	1	0	M	G
																				PASS	OTH VIS	16	M	3	0	L	G
2	DRVR	27	M	H	HNBD		PROC ST	W	D	2200	CHEV	2005	-	3	N		-	L	G								

Primary Rd **HAYES AVE.** *Distance (ft)* **0** *Direction* *Secondary Rd* **SR-180** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **180** *Type* **1** *CalTrans* *Badge* **020082** *Collision Date* **20151227** *Time* **0900** *Day* **SUN**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20160127**
Weather1 **FOG** *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	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip		Victim ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	41	F	H	HNBD		PROC ST	N	A	0700	CHEV	2011	-	3	N		-	L	G	DRVR	COMP PN	41	F	1	0	L	G
2	DRVR	57	F	W	HNBD		PROC ST	E	D	2200	RAM	2011	-	3	N		-	L	G	DRVR	COMP PN	57	F	1	0	L	G

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2	DRVR	37	F	H	HNBD	STOPPED	W	A	0100	MITSU	2012	-	3	-	-	M	G		

Primary Rd **SHAW AV** *Distance (ft)* **900** *Direction* **W** *Secondary Rd* **HAYES AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **017630** *Collision Date* **20150521** *Time* **1454** *Day* **THU**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20151015**
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* **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	998	-		IMP UNK	IMP UNK	UNS TURN	E	D	2200	CHEVR	2008	-	3	N	-	- B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **HELM AV** *NCIC* **1001** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Clovis** *County* **Fresno** *Population* **5** *Rpt Dist* *Beat* **001** *Type* **0** *CalTrans* *Badge* **5686** *Collision Date* **20151007** *Time* **1511** *Day* **WED**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160126**
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* **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	LFT TURN	S	A	0800	-		-	-	A	21801	- - -
2	DRVR	94	F	W	HNBD		PROC ST	E	A	0100	CHEVR	2006	-	-	N		- M Q

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		59	M	3	0	M	E

Primary Rd **SHAW AV** *Distance (ft)* **5280** *Direction* **E** *Secondary Rd* **HOWARD AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **17165** *Collision Date* **20150714** *Time* **2345** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **OTHER** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20151123**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **NON-CLSN** *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	17	F	W	HNBD		RAN OFF RD	E	A	0100	NISSA	2006	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **JENNIFER AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW** *Beat* **A1554** *Type* **0** *CalTrans* *Badge* **P850** *Collision Date* **20150611** *Time* **1554** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20160129**
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	22	M	A	HNBD		U-TURN	E	A	0700	LINCO	2002	-	3	N	-	M G
2	DRVR	27	F	H	HNBD		PROC ST	W	A	0100	NISSA	2005	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		24	M	3	0	M	G
DRVR	COMP PN	27	F	1	0	M	G
PASS	COMP PN	7	M	6	0	M	Q

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **LAVERNE AV** *NCIC* **1001** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Clovis** *County* **Fresno** *Population* **5** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **5465** *Collision Date* **20150730** *Time* **2226** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20150818**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* *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* **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	23	F	A	HNBD		LFT TURN	E	A	0100	TOYOT	2010	-	3	N	-	L G
2	DRVR	24	M	A	HNBD		PROC ST	W	A	0100	HONDA	1995	-	3	N	-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	24	M	1	0	L	G

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Primary Rd **GRANT AVE.** *Distance (ft)* **0** *Direction* *Secondary Rd* **FINE AVE.** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **030** *Type* **3** *CalTrans* *Badge* **014547** *Collision Date* **20150918** *Time* **1240** *Day* **FRI**
Primary Collision Factor **R-O-W AUTO** *Violation* **21800A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **3** *Tow Away?* **Y** *Process Date* **20151112**
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																	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	A	HNBD		PROC ST	E	D	2200	TOYOT	2005	-	3	N	-	L G	DRVR	COMP PN	26	M	1	0	L	G
																		PASS	COMP PN	55	F	3	0	L	G
2	DRVR	53	F	H	HNBD		PROC ST	N	A	0700	HYUND	2006	-	3	N	-	L G	DRVR	COMP PN	53	F	1	0	L	G

Primary Rd **GRANTLAND AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **ASHLAN AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1843** *Beat* **02C** *Type* **0** *CalTrans* *Badge* **P731** *Collision Date* **20150909** *Time* **2232** *Day* **WED**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160126**
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	18	M	H	HNBD		LFT TURN	W	A	0100	TOYOT	2000	-	3	E	-	M G	DRVR	SEVERE	18	M	1	0	M	G
2	DRVR	25	M	W	HNBD		PROC ST	N	D	2200	CHEVR	2008	-	3	A	22349 E	L G								

Primary Rd **GRANTLAND AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **BARSTOW AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW** *Beat* *Type* **0** *CalTrans* *Badge* **P662** *Collision Date* **20150212** *Time* **1202** *Day* **THU**
Primary Collision Factor **STOP SGN\|SIG** *Violation* **22450A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **4** *Tow Away?* *Process Date* **20160125**
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	56	F	H	HNBD		PROC ST	E	D	2200	CHEVR	2009	-	-	-	-	M G								
2	DRVR	29	F	H	HNBD		PROC ST	S	A	0100	LINCO	2002	-	-	-	-	M G	DRVR	COMP PN	29	F	1	0	M	G
																		PASS	COMP PN	4	F	6	0	M	Q
																		PASS	COMP PN	1	F	5	0	M	Q
																		PASS	COMP PN	1	F	4	0	M	Q

Primary Rd **GRANTLAND AV** *Distance (ft)* **528** *Direction* **N** *Secondary Rd* **BELMONT AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **014547** *Collision Date* **20150420** *Time* **0635** *Day* **MON**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **SIDESWIPE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20150519**
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																	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	51	F	W	HNBD		PROC ST	N	C	0200	HARLE	2003	-	3	N	-	P W	DRVR	OTH VIS	51	F	1	2	P	W
2	DRVR	38	M	W	HNBD		SLOWING	N	D	2200	FORD	1994	-	3	N	-	M G								

Primary Rd **GRANTLAND AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **BELMONT AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **019926** *Collision Date* **20150702** *Time* **1945** *Day* **THU**
Primary Collision Factor **STOP SGN\|SIG** *Violation* **22450A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **3** *Tow Away?* **Y** *Process Date* **20150729**
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	20	F	W	HNBD		PROC ST	S	A	0100	KIA	2010	-	3	N	-	L G	DRVR	OTH VIS	20	F	1	0	L	G

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Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N PARKWAY DR** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1555** *Collision Date* **20150301** *Time* **2050** *Day* **SUN**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152B** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160201**
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	33	M	H	HBD-UI		PROC ST	W	A	0100	TOYOT	2012	- 3	A	21453	-	L G								
2	DRVR	41	M	H	HNBD		STOPPED	W	A	0100	FORD	2004	- 3	-		-	M G								

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N POLK AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1844** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1663** *Collision Date* **20150620** *Time* **1530** *Day* **SAT**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160206**
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	16	M	W			PROC ST	-	A	0100	TOYOT	2013	- -	A	22450	N	L G								
2	DRVR	68	M	H	HNBD		PROC ST	-	A	0100	HONDA	2007	- -	N		-	M B								

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N SEQUOIA DR** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1851** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **1684** *Collision Date* **20150813** *Time* **2330** *Day* **THU**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160204**
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* **NT PRS/FCTR** *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	66	F	H	HBD-UI		PROC ST	W	A	0100	TOYOT	2013	- -	-		-	L C								
2	PRKD	998	-				PARKED	-	A	0700	GMC	2000	- -	N		-	- -								

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **660** *Direction* **E** *Secondary Rd* **N VALENTINE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NE194** *Beat* **00G** *Type* **0** *CalTrans* *Badge* **P1636** *Collision Date* **20150326** *Time* **1852** *Day* **THU**
Primary Collision Factor **WRONG SIDE** *Violation* **216501** *Collision Type* **OTHER** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160202**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **BICYCLE** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* *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*
1	DRVR	53	M	O	HNBD		STOPPED	-	D	2200	TOYOT	2003	- 3	N		-	M G								
2F	BICY	45	M	W	HNBD		PROC ST	-	L	0400	-		- 3	-		-	- -	BICY	COMP PN	45	M	9	3	-	-

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N VALENTINE AVE** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW194** *Beat* **00G** *Type* **0** *CalTrans* *Badge* **P1681** *Collision Date* **20150908** *Time* **1117** *Day* **TUE**
Primary Collision Factor **STRTNG|BCKNG** *Violation* **22106** *Collision Type* **AUTO/PED** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160125**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **FELONY** *Motor Vehicle Involved With* **PED** *Lighting* **DAYLIGHT** *Ped Action* **NOT IN RD** *Cntrl Dev* **NT PRS/FCTR** *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	57	F	H			BACKING	-	A	0100	HONDA	2009	- 3	A		F	M G								
2	PED	37	F				OTHER	-	N	6000	-		- 3	N		-	- -	PED	OTH VIS	37	F	9	3	-	-

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Primary Rd **BRYAN AVE** *Distance (ft)* **100** *Direction* **S** *Secondary Rd* **FLORAL AVE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **020** *Type* **3** *CalTrans* *Badge* **018574** *Collision Date* **20160923** *Time* **0739** *Day* **FRI**
Primary Collision Factor **NOT DRIVER** *Violation* *Collision Type* **OTHER** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160929**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **1**
Hit and Run *Motor Vehicle Involved With* **ANIMAL** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

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
1	DRVR	70	F	W	HNBD		PROC ST	S	H	1300	THOMA	2008	-	3	N		-	P G	PASS		998	F	1	0	P	P
																			PASS		998	M	3	0	P	P

Primary Rd **BRYAN AVE** *Distance (ft)* **0** *Direction* *Secondary Rd* **MANNING AVE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **020** *Type* **3** *CalTrans* *Badge* **017591** *Collision Date* **20160114** *Time* **0630** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **3** *Tow Away?* **Y** *Process Date* **20160203**
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	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	H	HNBD		PROC ST	N	D	2200	CHEV	2013	-	3	N		-	L G								
2	DRVR	49	M	H	HNBD		PROC ST	W	A	0100	CHEV	2007	-	3	N		-	L G	DRVR	COMP PN	49	M	1	0	L	G
																			PASS	COMP PN	26	F	3	0	M	G
																			PASS	COMP PN	48	F	4	0	P	G
3	DRVR	30	M	H	HNBD		STOPPED	S	D	2200	FORD	2003	-	3	N		-	M G								

Primary Rd **BRYAN AVE** *Distance (ft)* **0** *Direction* *Secondary Rd* **MCKINLEY AVE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **017310** *Collision Date* **20160818** *Time* **1230** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160829**
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	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	43	M	A	HNBD		LFT TURN	S	A	0100	TOYT	2006	-	3	N		-	M G	DRVR	COMP PN	43	M	1	0	M	G
2	DRVR	43	M	H	HNBD		PROC ST	E	A	0100	ACUR	1991	-	3	N		-	M G								

Primary Rd **BRYAN AVE** *Distance (ft)* **23** *Direction* **S** *Secondary Rd* **SHAW AVE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **015468** *Collision Date* **20161102** *Time* **0820** *Day* **WED**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20161108**
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	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	35	M	B	HNBD		PROC ST	N	A	0100	CADI	1993	-	3	N		-	M G								

Primary Rd **BRYAN AVE** *Distance (ft)* **1584** *Direction* **S** *Secondary Rd* **SUSSEX WAY** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **016833** *Collision Date* **20161222** *Time* **0920** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21804A** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20170103**
Weather1 **CLOUDY** *Weather2* **FOG** *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	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	60	M	W	HNBD		ENT TRAF	N	G	2531	PTRB	2012	-	3	N		-	M G								
2	DRVR	73	F	B	HNBD		PROC ST	N	A	0100	NISSA	2014	-	3	N		-	M G								

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Primary Rd **SHAW AVENUE** *Distance (ft)* **2112** *Direction* **E** *Secondary Rd* **ACADEMY** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **025** *Type* **3** *CalTrans* *Badge* **017489** *Collision Date* **20160513** *Time* **1120** *Day* **FRI**
Primary Collision Factor **WRONG SIDE** *Violation* **21460A** *Collision Type* **SIDESWIPE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160520**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **FELONY** *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	998	-		IMP UNK	IMP UNK	OPPOS LN	W	A	0100	-		-	3	N		-	- B
2	DRVR	56	M	H	HNBD		PROC ST	E	D	2200	CHEV	1992	-	3	N		-	P G
3	PRKD	998	-				PARKED	W	-	3100	WANC	2008	-	3	N		-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	56	M	1	0	P	G

Primary Rd **SHAW AVENUE** *Distance (ft)* **0** *Direction* *Secondary Rd* **GRANTLAND** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **017489** *Collision Date* **20160325** *Time* **1105** *Day* **FRI**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20160329**
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	40	M	A	HNBD		PROC ST	W	G	2531	VOLV	2008	-	3	N		-	M G
2	DRVR	19	F	A	HNBD		PROC ST	S	A	0100	TOYT	2016	-	3	N		-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	19	F	1	0	L	G
PASS	COMP PN	50	F	3	0	M	G

Primary Rd **SHAW AVENUE** *Distance (ft)* **0** *Direction* *Secondary Rd* **LEONARD** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **025** *Type* **3** *CalTrans* *Badge* **019648** *Collision Date* **20160910** *Time* **2202** *Day* **SAT**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160921**
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* **DARK - NO** *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	-		IMP UNK	IMP UNK	PROC ST	N	D	2200	UNK		-	3	N		-	B B
2	DRVR	17	F	W	HNBD		PROC ST	W	A	0700	JEEP	2008	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		32	M	3	0	M	G
PASS		4	M	5	0	P	Q

Primary Rd **SHAW AVENUE** *Distance (ft)* **528** *Direction* **E** *Secondary Rd* **WESTLAWN** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **017489** *Collision Date* **20160408** *Time* **1220** *Day* **FRI**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **OVERTURNED** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160420**
Weather1 **CLOUDY** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **NON-CLSN** *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	27	F	H	HNBD		UNS TURN	E	A	0800	DODG	1999	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		2	F	4	0	P	Q
PASS		998	F	6	0	P	Q

Primary Rd **SHAW AVENUE** *Distance (ft)* **0** *Direction* *Secondary Rd* **WISHON COURT** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **019039** *Collision Date* **20160907** *Time* **1500** *Day* **WED**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160912**
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* **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	M	H	IMP UNK	IMP UNK	U-TURN	W	D	2200	CHEV	2001	-	3	N		-	B B
2	DRVR	29	F	W	HNBD		PROC ST	E	A	0700	FORD	2008	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd **GRANTLAND AVE** *Distance (ft)* **100** *Direction* **N** *Secondary Rd* **SHAW AVE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **020193** *Collision Date* **20170528** *Time* **1525** *Day* **SUN**
Primary Collision Factor **NOT DRIVER** *Violation* *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20170605**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

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
1	DRVR	30	F	W	HNBD		PROC ST	S	A	0700	GMC	2009	-	2	N		- M G								

Primary Rd **GRANTLAND AVE** *Distance (ft)* **0** *Direction* *Secondary Rd* **SHAW AVE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **020060** *Collision Date* **20170707** *Time* **0045** *Day* **FRI**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20170711**
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* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

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	34	M	O	HBD-UI		UNS TURN	S	G	2531	VOLV	2018	-	3	A	22107	- P G								

Primary Rd **GRANTLAND AVE** *Distance (ft)* **0** *Direction* *Secondary Rd* **SHAW AVE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **019926** *Collision Date* **20171025** *Time* **1425** *Day* **WED**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20171101**
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	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	85	F	W	HNBD		PROC ST	S	A	0100	TOYO	2004	-	3	N		- M G								
2	DRVR	23	F	W	HNBD		PROC ST	E	A	0700	KIA	2017	-	3	N		- M G								

Primary Rd **GRANTLAND AVE.** *Distance (ft)* **400** *Direction* **S** *Secondary Rd* **OLIVE AVE.** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **015106** *Collision Date* **20170807** *Time* **0800** *Day* **MON**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20170809**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **HOLES** *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	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	64	M	W	HNBD		PROC ST	S	A	0100	PONT	2006	-	3	N		- M G								
2	DRVR	50	M	W	HNBD		SLOWING	S	D	2200	DODGE	2016	-	3	N		- M G								

Primary Rd **GRANTLAND AVENUE** *Distance (ft)* **0** *Direction* *Secondary Rd* **BELMONT** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **015986** *Collision Date* **20171218** *Time* **1300** *Day* **MON**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20171222**
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	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	54	F	H	HNBD		PROC ST	N	A	0100	NISS	2013	-	3	N		- L G								
2	DRVR	32	M	H	HNBD		PROC ST	E	D	2200	NISS	2004	-	3	N		- L G	PASS	POSSIBL	35	F	5	0	P	G

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Primary Rd **SHAW AVE** *Distance (ft)* **200** *Direction* **E** *Secondary Rd* **GREENWOOD AVE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **025** *Type* **3** *CalTrans* *Badge* **017518** *Collision Date* **20170117** *Time* **1830** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20170125**
Weather1 **CLOUDY** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER OBJ** *Lighting* **DARK - NO** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

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	F	W	HNBD		RAN OFF RD	E	A	0100	MERZ	2001	-	3	N		- M G								

Primary Rd **SHAW AVE** *Distance (ft)* **0** *Direction* *Secondary Rd* **HAYES AVENUE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **018912** *Collision Date* **20170130** *Time* **0540** *Day* **MON**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20170206**
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	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	62	M	H	HBD-UI		LFT TURN	W	A	0700	FORD	1999	-	3	A	22107	- L G	DRVR	OTH VIS	62	M	1	0	L	G

Primary Rd **SHAW AVE** *Distance (ft)* **0** *Direction* *Secondary Rd* **LEONARD AVE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **025** *Type* **3** *CalTrans* *Badge* **020273** *Collision Date* **20170203** *Time* **1850** *Day* **FRI**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20170210**
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 - NO** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

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	91	M	W	HNBD		LFT TURN	E	A	0100	MERC	2003	-	3	N		- L G								
2	DRVR	47	M	A	HNBD		PROC ST	W	A	0100	TOYT	2013	-	3	N		- L G								

Primary Rd **SHAW AVE** *Distance (ft)* **60** *Direction* **W** *Secondary Rd* **MAROA AVE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **019210** *Collision Date* **20170513** *Time* **1625** *Day* **SAT**
Primary Collision Factor **LANE CHANGE** *Violation* **21658A** *Collision Type* **SIDESWIPE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20170518**
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	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	18	M	H	HNBD		CHANG LN	E	A	0100	TOYO	2009	-	3	N		- M G								
2	DRVR	22	M	A	HNBD		PROC ST	E	A	0100	HYUND	2006	-	3	N		- M G								
3	DRVR	46	F	W	HNBD		STOPPED	N	A	0100	TOYO	2004	-	3	N		- M G	DRVR	COMP PN	46	F	1	0	M	G

Primary Rd **SHAW AVE** *Distance (ft)* **0** *Direction* *Secondary Rd* **MAROA AVE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **014479** *Collision Date* **20170520** *Time* **0827** *Day* **SAT**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20170531**
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	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	64	F	H	HNBD		PROC ST	W	A	0100	CHEV	2014	-	3	N		- L G	DRVR	COMP PN	64	F	1	0	L	G
2	DRVR	21	F	W	HNBD		PROC ST	N	A	0100	NISS	2016	-	3	N		- L G	DRVR	COMP PN	21	F	1	0	L	G
3	DRVR	71	M	W	HNBD		STOPPED	S	A	0100	CHRY	2009	-	3	N		- M G								

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INTERSECTION ID	PRIMARY_RD	SECONDARY_RD	CASE_ID	ACCIDENT_YE	PROC_DATE	COLLISION_DATE	COLLISION_	DAY_OF_WEEK	DISTANCE	DIRECTION	COLLISION_SEVERITY	PCF_VIOL_CATEGOI	TYPE_OF_COLLISION	MVIW
6	SHAW AVE	HAYES AVE	5913268	2013	1/18/2014	1/26/2013	641	6	0		Injury (Other Visible)	Improper Turning	Hit Object	Fixed Object
12	ASHLAN AVE	BRYAN AVE	6007929	2013	9/16/2014	2/13/2013	850	3	0		Injury (Complaint of Pain)	DUI	Broadside	Other Motor Vehicle
3	SHAW AVE	GRANTLAND AVE	6052697	2013	2/13/2014	5/4/2013	2354	6	0		Injury (Other Visible)	Right of Way	Broadside	Other Motor Vehicle
3	SHAW AVE	GRANTLAND AVE	6141697	2013	3/11/2014	7/5/2013	1310	5	0		Injury (Complaint of Pain)	Right of Way	Broadside	Other Motor Vehicle
3	SHAW AVE	GRANTLAND AVE	6162372	2013	3/20/2014	7/26/2013	1133	5	0		Injury (Complaint of Pain)	Right of Way	Broadside	Other Motor Vehicle
2	SHAW AVE	GARFIELD AVE	6191292	2013	4/2/2014	8/29/2013	1725	4	0		Injury (Complaint of Pain)	Unsafe Speed	Rear End	Other Motor Vehicle
3	SHAW AVE	GRANTLAND AVE	6251904	2013	4/21/2014	10/7/2013	1640	1	2	W	Injury (Severe)	Traffic Signals and Si	Head-On	Other Motor Vehicle
3	SHAW AVE	GRANTLAND AVE	6268554	2013	4/30/2014	10/27/2013	1500	7	0		Injury (Complaint of Pain)	Traffic Signals and Si	Broadside	Other Motor Vehicle
3	SHAW AVE	GRANTLAND AVE	6331264	2013	5/19/2014	12/29/2013	1832	7	0		Injury (Other Visible)	Traffic Signals and Si	Broadside	Other Motor Vehicle
3	SHAW AVE	GRANTLAND AVE	6365769	2014	6/11/2014	1/30/2014	1024	4	0		Injury (Complaint of Pain)	Traffic Signals and Si	Broadside	Other Motor Vehicle
17	SHIELDS AVE	GRANTLAND AVE	6646493	2014	10/15/2014	9/13/2014	2500	6	250	S	Injury (Other Visible)	Improper Turning	Hit Object	Fixed Object
17	SHIELDS AVE	GRANTLAND AVE	6656978	2014	1/15/2016	9/24/2014	715	3	0		Injury (Other Visible)	Right of Way	Broadside	Other Motor Vehicle
13	ASHLAN AVE	HAYES AVE	6678075	2015	2/11/2016	7/16/2015	1645	4	29	E	Fatal	DUI	Rear End	Other Motor Vehicle
17	SHIELDS AVE	GRANTLAND AVE	6735396	2014	2/6/2015	12/27/2014	2140	6	300	W	Injury (Complaint of Pain)	Unsafe Speed	Rear End	Other Motor Vehicle
2	SHAW AVE	GARFIELD AVE	6967604	2015	7/6/2015	6/1/2015	1200	1	300	W	Injury (Complaint of Pain)	Unsafe Speed	Rear End	Other Motor Vehicle
15	ASHLAN AVE	CORNELIA AVE	7142969	2014	1/19/2016	1/2/2014	1225	4	0		Injury (Complaint of Pain)	Traffic Signals and Si	Broadside	Other Motor Vehicle
15	ASHLAN AVE	CORNELIA AVE	7155900	2014	1/21/2016	3/9/2014	925	7	0		Injury (Complaint of Pain)	Improper Turning	Head-On	Other Motor Vehicle
1	BARSTOW AVE	GRANTLAND AVE	7161840	2015	1/25/2016	2/12/2015	1202	4	0		Injury (Complaint of Pain)	Traffic Signals and Si	Broadside	Other Motor Vehicle
11	ASHLAN AVE	GRANTLAND AVE	7168627	2015	1/26/2016	9/9/2015	2232	3	0		Injury (Severe)	Right of Way	Broadside	Other Motor Vehicle
15	ASHLAN AVE	CORNELIA AVE	7168708	2015	1/25/2016	9/7/2015	2048	1	0		Injury (Other Visible)	Pedestrian Violation	Head-On	Pedestrian
15	ASHLAN AVE	CORNELIA AVE	7168721	2015	1/26/2016	3/17/2015	1423	2	0		Injury (Complaint of Pain)	Traffic Signals and Si	Broadside	Other Motor Vehicle
9	BRYAN AVE	GETTYSBURG AVE	8014210	2015	4/12/2016	3/23/2015	1812	1	150	S	Injury (Other Visible)	Right of Way	Broadside	Other Motor Vehicle
3	SHAW AVE	GRANTLAND AVE	90056316	2015	11/20/2015	11/11/2015	1444	3	0		Injury (Other Visible)	Traffic Signals and Si	Broadside	Other Motor Vehicle
6	SHAW AVE	HAYES AVE	90093079	2015	1/12/2016	12/10/2015	540	4	0		Injury (Complaint of Pain)	Unsafe Speed	Hit Object	Fixed Object
3	SHAW AVE	GRANTLAND AVE	90147153	2016	3/29/2016	3/25/2016	1105	5	0		Injury (Other Visible)	Traffic Signals and Si	Broadside	Other Motor Vehicle
6	SHAW AVE	HAYES AVE	90386207	2017	2/6/2017	1/30/2017	540	1	0		Injury (Other Visible)	DUI	Hit Object	Fixed Object
2	SHAW AVE	GARFIELD AVE	90609000	2017	12/4/2017	11/24/2017	1530	5	0		Injury (Severe)	Traffic Signals and Si	Broadside	Other Motor Vehicle
3	SHAW AVE	GRANTLAND AVE	90631260	2017	1/2/2018	12/27/2017	1250	3	0		Injury (Other Visible)	Right of Way	Broadside	Other Motor Vehicle

SEGMENT ID	INTERSECTION ID	PRIMARY_RD	SECONDARY_RD	CASE_ID	ACCIDENT	PROC_DATE	COLLISION_DATE	COLLISION_TIME	DAY_OF_WEEK	DISTANCE	DIRECTION	INTERSECT	WEATHER	TOW AWY	COLLISION SEVER	NUMBER	NUMBER	PARTY_COUNT	PCF_VIOL_CATEGORY	TYPE_OF_COLLISION	MVIW	PED_ACTION	PEDESTRIAN_ACCIDENT	BICYCLE_ACCIDENT	MOTORCYCLE_ACCIDENT	TRUCK_ACCIDENT	ALCOHOL_INVOLVED	LATITUDE	LONGITUDE	COUNTY	CITY
1	3	SHAW AVE	GRANTLAND AVE	6052697	2013	2/13/2014	5/4/2013	2354	6	0		Y	B	Y	3	0	2	2		Broadside	C	A							36.808	-119.91678	FRESNO	UNINCORPORATED
1	3	SHAW AVE	GRANTLAND AVE	6129851	2013	3/6/2014	6/9/2013	1730	7	528	E	N	A	Y	3	0	4	2	Unsafe Speed	Rear End	C	A							36.80787	-119.91383	FRESNO	UNINCORPORATED
1	3	SHAW AVE	GRANTLAND AVE	6141697	2013	3/11/2014	7/5/2013	1310	5	0		Y	A	Y	4	0	1	2		Broadside	C	A							36.80791	-119.91647	FRESNO	UNINCORPORATED
1	3	SHAW AVE	GRANTLAND AVE	6162372	2013	3/20/2014	7/26/2013	1133	5	0		Y	A	Y	4	0	1	2		Broadside	C	A							36.80784	-119.91611	FRESNO	UNINCORPORATED
1	3	SHAW AVE	GRANTLAND AVE	6251904	2013	4/21/2014	10/7/2013	1640	1	2	W	N	A	Y	2	0	2	2		Head-On	C	A							36.80736	-119.91701	FRESNO	FRESNO
1	3	SHAW AVE	GRANTLAND AVE	6268554	2013	4/30/2014	10/27/2013	1500	7	0		Y	A	Y	4	0	1	3		Broadside	C	A							36.8088	-119.91691	FRESNO	UNINCORPORATED
1	3	SHAW AVE	GRANTLAND AVE	6331264	2013	5/19/2014	12/29/2013	1832	7	0		Y	A	Y	3	0	2	2		Broadside	C	A							36.80788	-119.91665	FRESNO	UNINCORPORATED
1	3	SHAW AVE	GRANTLAND AVE	7142952	2014	1/19/2016	1/2/2014	2208	4	750	E	N	A	N	4	0	1	2	Right of Way	Sideswipe	C	A									FRESNO	FRESNO
1	3	SHAW AVE	GRANTLAND AVE	6365769	2014	6/11/2014	1/30/2014	1024	4	0		Y	B	Y	4	0	3	2		Broadside	C	A							36.8079	-119.9165	FRESNO	UNINCORPORATED
1	3	SHAW AVE	GRANTLAND AVE	9E+07	2015	11/20/2015	11/11/2015	1444	3	0		Y	A	Y	3	0	2	2		Broadside	C	A							36.80821	-119.91629	FRESNO	UNINCORPORATED
1	3	SHAW AVE	GRANTLAND AVE	9E+07	2016	3/29/2016	3/25/2016	1105	5	0		Y	A	Y	3	0	2	2		Broadside	C	A				Y			36.80789	-119.9163	FRESNO	UNINCORPORATED
1	3	SHAW AVE	GRANTLAND AVE	9.1E+07	2017	1/2/2018	12/27/2017	1250	3	0		Y	A	Y	3	0	3	2		Broadside	C	A							36.80792	-119.91689	FRESNO	UNINCORPORATED
3	6	SHAW AVE	HAYES AVE	5913268	2013	1/18/2014	1/26/2013	641	6	0		Y	B	N	3	0	1	2		Hit Object	I	A									FRESNO	UNINCORPORATED
3	6	SHAW AVE	HAYES AVE	9E+07	2015	1/12/2016	12/10/2015	540	4	0		Y	A	Y	4	0	1	1		Hit Object	I	A							36.80793	-119.89844	FRESNO	UNINCORPORATED
3	6	SHAW AVE	HAYES AVE	9E+07	2017	2/6/2017	1/30/2017	540	1	0		Y	A	Y	3	0	1	1		Hit Object	I	A					Y		36.80784	-119.89868	FRESNO	UNINCORPORATED
4	11	ASHLAN AVE	GRANTLAND AVE	7168627	2015	1/26/2016	9/9/2015	2232	3	0		N	A	Y	2	0	1	2		Broadside	C	A									FRESNO	FRESNO
4	12	ASHLAN AVE	BRYAN AVE	6007929	2013	9/16/2014	2/13/2013	850	3	0		Y	A	Y	4	0	1	2		Broadside	C	A					Y		36.79341	-119.90747	FRESNO	UNINCORPORATED
6	13	ASHLAN AVE	HAYES AVE	6678075	2015	2/11/2016	7/16/2015	1645	4	29	E	N	A	Y	1	1	1	2		Rear End	C	A			Y						FRESNO	FRESNO
11	17	SHIELDS AVE	GRANTLAND AVE	6646493	2014	10/15/2014	9/13/2014	2500	6	250	S	N	A	N	3	0	2	1		Hit Object	I	A							36.77812	-119.91624	FRESNO	UNINCORPORATED
11	17	SHIELDS AVE	GRANTLAND AVE	6656978	2014	1/15/2016	9/24/2014	715	3	0		Y	A	N	3	0	1	3		Broadside	C	A									FRESNO	UNINCORPORATED
11	17	SHIELDS AVE	GRANTLAND AVE	6735396	2014	2/6/2015	12/27/2014	2140	6	300	W	N	A	N	4	0	2	2		Rear End	C	A							36.77896	-119.91407	FRESNO	UNINCORPORATED
12	2	SHAW AVE	GARFIELD AVE	6191292	2013	4/2/2014	8/29/2013	1725	4	0		Y	A	Y	4	0	1	2		Rear End	C	A							36.80771	-119.92558	FRESNO	UNINCORPORATED
12	2	SHAW AVE	GARFIELD AVE	6967604	2015	7/6/2015	6/1/2015	1200	1	300	W	N	A	N	4	0	1	2		Rear End	C	A							36.80778	-119.92633	FRESNO	UNINCORPORATED
12	2	SHAW AVE	GARFIELD AVE	9.1E+07	2017	12/4/2017	11/24/2017	1530	5	0		Y	A	Y	2	0	5	2		Broadside	C	A							36.80784	-119.92551	FRESNO	UNINCORPORATED

Appendix F: Existing Traffic Conditions

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	9	30	23	20	7	15	337	8	10	289	21
Future Vol, veh/h	28	9	30	23	20	7	15	337	8	10	289	21
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	280	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	31	10	33	25	22	8	16	370	9	11	318	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	774	763	330	780	770	375	341	0	0	379	0	0
Stage 1	352	352	-	407	407	-	-	-	-	-	-	-
Stage 2	422	411	-	373	363	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	314	333	709	311	330	669	1213	-	-	1174	-	-
Stage 1	663	630	-	619	596	-	-	-	-	-	-	-
Stage 2	607	593	-	646	623	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	289	326	709	285	323	669	1213	-	-	1174	-	-
Mov Cap-2 Maneuver	289	326	-	285	323	-	-	-	-	-	-	-
Stage 1	654	624	-	611	588	-	-	-	-	-	-	-
Stage 2	570	585	-	601	617	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16	18.2	0.3	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1213	-	-	402	327	1174	-	-
HCM Lane V/C Ratio	0.014	-	-	0.183	0.168	0.009	-	-
HCM Control Delay (s)	8	-	-	16	18.2	8.1	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.6	0	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	52	268	2	1	258	21	3	6	1	25	5	79
Future Vol, veh/h	52	268	2	1	258	21	3	6	1	25	5	79
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	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	69	357	3	1	344	28	4	8	1	33	7	105

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	372	0	0	360	0	0	913	871	359	861	858	358
Stage 1	-	-	-	-	-	-	497	497	-	360	360	-
Stage 2	-	-	-	-	-	-	416	374	-	501	498	-
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	1181	-	-	1193	-	-	253	288	683	275	293	684
Stage 1	-	-	-	-	-	-	553	543	-	656	625	-
Stage 2	-	-	-	-	-	-	612	616	-	550	543	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1181	-	-	1193	-	-	198	267	683	253	271	684
Mov Cap-2 Maneuver	-	-	-	-	-	-	198	267	-	253	271	-
Stage 1	-	-	-	-	-	-	513	503	-	608	624	-
Stage 2	-	-	-	-	-	-	512	615	-	501	503	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0	19.8	16.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	256	1181	-	-	1193	-	-	468
HCM Lane V/C Ratio	0.052	0.059	-	-	0.001	-	-	0.311
HCM Control Delay (s)	19.8	8.2	0	-	8	0	-	16.1
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0	-	-	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	224	18	21	191	83	21	147	33	124	163	97
Future Volume (veh/h)	79	224	18	21	191	83	21	147	33	124	163	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	90	255	20	24	217	94	24	167	38	141	185	110
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	106	411	32	45	255	111	45	618	141	106	499	296
Arrive On Green	0.06	0.24	0.24	0.03	0.21	0.21	0.03	0.42	0.42	0.06	0.46	0.46
Sat Flow, veh/h	1757	1689	132	1757	1222	529	1757	1455	331	1757	1085	645
Grp Volume(v), veh/h	90	0	275	24	0	311	24	0	205	141	0	295
Grp Sat Flow(s),veh/h/ln	1757	0	1821	1757	0	1751	1757	0	1786	1757	0	1731
Q Serve(g_s), s	4.2	0.0	11.2	1.1	0.0	14.2	1.1	0.0	6.2	5.0	0.0	9.2
Cycle Q Clear(g_c), s	4.2	0.0	11.2	1.1	0.0	14.2	1.1	0.0	6.2	5.0	0.0	9.2
Prop In Lane	1.00		0.07	1.00		0.30	1.00		0.19	1.00		0.37
Lane Grp Cap(c), veh/h	106	0	444	45	0	366	45	0	759	106	0	795
V/C Ratio(X)	0.85	0.00	0.62	0.53	0.00	0.85	0.53	0.00	0.27	1.33	0.00	0.37
Avail Cap(c_a), veh/h	106	0	599	106	0	570	106	0	759	106	0	795
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.6	0.0	28.0	39.9	0.0	31.6	39.9	0.0	15.5	39.0	0.0	14.6
Incr Delay (d2), s/veh	44.5	0.0	1.4	9.5	0.0	7.2	9.5	0.0	0.9	200.4	0.0	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	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	5.8	0.7	0.0	7.6	0.7	0.0	3.2	8.3	0.0	4.6
LnGrp Delay(d),s/veh	83.2	0.0	29.4	49.4	0.0	38.8	49.4	0.0	16.4	239.4	0.0	16.0
LnGrp LOS	F		C	D		D	D		B	F		B
Approach Vol, veh/h		365			335			229			436	
Approach Delay, s/veh		42.6			39.6			19.9			88.2	
Approach LOS		D			D			B			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	41.3	6.3	26.2	6.3	44.1	9.2	23.3
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	6.0	* 4.2	* 6	* 4.2	* 6
Max Green Setting (Gmax), s	* 5	24.1	* 5	27.3	* 5	* 26	* 5	* 27
Max Q Clear Time (g_c+I1), s	7.0	8.2	3.1	13.2	3.1	11.2	6.2	16.2
Green Ext Time (p_c), s	0.0	0.8	0.0	1.1	0.0	1.4	0.0	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	52.6
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	328	51	112	277	24	93
Future Vol, veh/h	328	51	112	277	24	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	-	-	250	-	275	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	395	61	135	334	29	112

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	456	0	1030	426
Stage 1	-	-	-	-	426	-
Stage 2	-	-	-	-	604	-
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	-	-	1100	-	258	626
Stage 1	-	-	-	-	657	-
Stage 2	-	-	-	-	544	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1100	-	226	626
Mov Cap-2 Maneuver	-	-	-	-	226	-
Stage 1	-	-	-	-	576	-
Stage 2	-	-	-	-	544	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	226	626	-	-	1100	-
HCM Lane V/C Ratio	0.128	0.179	-	-	0.123	-
HCM Control Delay (s)	23.3	12	-	-	8.7	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	0.6	-	-	0.4	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	377	59	42	314	61	114
Future Vol, veh/h	377	59	42	314	61	114
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	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	397	62	44	331	64	120

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	459	0	847	428
Stage 1	-	-	-	-	428	-
Stage 2	-	-	-	-	419	-
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	-	-	1097	-	331	625
Stage 1	-	-	-	-	655	-
Stage 2	-	-	-	-	661	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1097	-	315	625
Mov Cap-2 Maneuver	-	-	-	-	315	-
Stage 1	-	-	-	-	623	-
Stage 2	-	-	-	-	661	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	17.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	465	-	-	1097	-
HCM Lane V/C Ratio	0.396	-	-	0.04	-
HCM Control Delay (s)	17.7	-	-	8.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.9	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	7	183	16	6	192
Future Vol, veh/h	8	7	183	16	6	192
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	-	-	530	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	10	8	218	19	7	229

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	461	218	0	0	237	0
Stage 1	218	-	-	-	-	-
Stage 2	243	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	557	819	-	-	1324	-
Stage 1	816	-	-	-	-	-
Stage 2	795	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	554	819	-	-	1324	-
Mov Cap-2 Maneuver	554	-	-	-	-	-
Stage 1	811	-	-	-	-	-
Stage 2	795	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	653	1324	-
HCM Lane V/C Ratio	-	-	0.027	0.005	-
HCM Control Delay (s)	-	-	10.7	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	8	123	114	143	54
Future Vol, veh/h	9	8	123	114	143	54
Conflicting Peds, #/hr	0	0	24	0	0	24
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	12	10	158	146	183	69

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	704	242	276	0	-	0
Stage 1	242	-	-	-	-	-
Stage 2	462	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	402	794	1281	-	-	-
Stage 1	796	-	-	-	-	-
Stage 2	632	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	335	776	1252	-	-	-
Mov Cap-2 Maneuver	335	-	-	-	-	-
Stage 1	680	-	-	-	-	-
Stage 2	617	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	4.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1252	-	335	776	-	-
HCM Lane V/C Ratio	0.126	-	0.034	0.013	-	-
HCM Control Delay (s)	8.3	-	16.1	9.7	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	5.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	82	68	86	34	75	123
Future Vol, veh/h	82	68	86	34	75	123
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	0	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	91	76	96	38	83	137

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	418	67	0	0	134	0
Stage 1	115	-	-	-	-	-
Stage 2	303	-	-	-	-	-
Critical Hdwy	6.095	7.145	-	-	5.345	-
Critical Hdwy Stg 1	6.645	-	-	-	-	-
Critical Hdwy Stg 2	5.445	-	-	-	-	-
Follow-up Hdwy	3.6785	3.9285	-	-	3.1285	-
Pot Cap-1 Maneuver	593	832	-	-	999	-
Stage 1	839	-	-	-	-	-
Stage 2	720	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	544	832	-	-	999	-
Mov Cap-2 Maneuver	557	-	-	-	-	-
Stage 1	769	-	-	-	-	-
Stage 2	720	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	3.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	557	832	999	-
HCM Lane V/C Ratio	-	-	0.164	0.091	0.083	-
HCM Control Delay (s)	-	-	12.7	9.8	8.9	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.3	0.3	-

Intersection	
Intersection Delay, s/veh	38.3
Intersection LOS	E

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	20	43	184	38	6	192	145	100	58	5	105	53
Future Vol, veh/h	20	43	184	38	6	192	145	100	58	5	105	53
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	63	271	56	9	282	213	147	85	7	154	78
Number of Lanes	0	1	1	0	1	1	0	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	24.4	73.7	16	17.2
HCM LOS	C	F	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	80%	0%
Vol Thru, %	0%	92%	0%	83%	0%	57%	20%	31%
Vol Right, %	0%	8%	0%	17%	0%	43%	0%	69%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	63	63	222	6	337	132	85
LT Vol	100	0	63	0	6	0	105	0
Through Vol	0	58	0	184	0	192	27	27
RT Vol	0	5	0	38	0	145	0	58
Lane Flow Rate	147	93	93	326	9	496	193	124
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.37	0.218	0.217	0.707	0.02	1.026	0.47	0.274
Departure Headway (Hd)	9.313	8.735	8.54	7.899	8.178	7.453	8.988	8.074
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	388	413	423	460	436	491	404	447
Service Time	7.013	6.435	6.24	5.599	5.955	5.13	6.688	5.774
HCM Lane V/C Ratio	0.379	0.225	0.22	0.709	0.021	1.01	0.478	0.277
HCM Control Delay	17.4	13.9	13.6	27.5	11.1	74.8	19.4	13.8
HCM Lane LOS	C	B	B	D	B	F	C	B
HCM 95th-tile Q	1.7	0.8	0.8	5.5	0.1	14.5	2.4	1.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes, Configurations	
Traffic Vol, veh/h	58
Future Vol, veh/h	58
Peak Hour Factor	0.68
Heavy Vehicles, %	3
Mvmt Flow	85
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	33	8	16	44	5	6	25	19	25	49	2
Future Vol, veh/h	2	33	8	16	44	5	6	25	19	25	49	2
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	2	37	9	18	49	6	7	28	21	28	54	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.7	7.4	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	5%	25%	33%
Vol Thru, %	50%	77%	68%	64%
Vol Right, %	38%	19%	8%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	43	65	76
LT Vol	6	2	16	25
Through Vol	25	33	44	49
RT Vol	19	8	5	2
Lane Flow Rate	56	48	72	84
Geometry Grp	1	1	1	1
Degree of Util (X)	0.062	0.055	0.085	0.1
Departure Headway (Hd)	4.019	4.146	4.232	4.25
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	877	850	835	833
Service Time	2.107	2.239	2.317	2.328
HCM Lane V/C Ratio	0.064	0.056	0.086	0.101
HCM Control Delay	7.4	7.5	7.7	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.3	0.3

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	75	3	28	57	36	3	84	68	95	77	8
Future Vol, veh/h	3	75	3	28	57	36	3	84	68	95	77	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	3	79	3	29	60	38	3	88	72	100	81	8
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9.1	8.9	9.2	9.2
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	55%	0%	96%	0%	61%	0%	91%
Vol Right, %	0%	45%	0%	4%	0%	39%	0%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	152	3	78	28	93	95	85
LT Vol	3	0	3	0	28	0	95	0
Through Vol	0	84	0	75	0	57	0	77
RT Vol	0	68	0	3	0	36	0	8
Lane Flow Rate	3	160	3	82	29	98	100	89
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.005	0.223	0.005	0.127	0.05	0.143	0.161	0.129
Departure Headway (Hd)	5.829	5.011	6.1	5.569	6.049	5.272	5.779	5.21
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	612	714	584	640	590	676	619	685
Service Time	3.582	2.763	3.861	3.33	3.807	3.03	3.531	2.962
HCM Lane V/C Ratio	0.005	0.224	0.005	0.128	0.049	0.145	0.162	0.13
HCM Control Delay	8.6	9.2	8.9	9.1	9.1	8.9	9.6	8.7
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0	0.9	0	0.4	0.2	0.5	0.6	0.4



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	23	440	89	1	271	235	80	65	96	330	193	172
Future Volume (vph)	23	440	89	1	271	235	80	65	96	330	193	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
Lane Util. Factor	1.00	0.95			0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.97			1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97
Flt Protected	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	3416			3400	1845	1568	1752	3505	1568	1752	3400
Flt Permitted	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	3416			3400	1845	1568	1752	3505	1568	1752	3400
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	31	587	119	1	361	313	107	87	128	440	257	229
RTOR Reduction (vph)	0	19	0	0	0	0	63	0	0	154	0	27
Lane Group Flow (vph)	31	687	0	0	362	313	44	87	128	286	257	259
Turn Type	Prot	NA		Prot	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases							8			2		
Actuated Green, G (s)	4.0	25.3			18.8	40.1	40.1	8.8	23.2	23.2	10.8	25.2
Effective Green, g (s)	4.0	25.3			18.8	40.1	40.1	8.8	23.2	23.2	10.8	25.2
Actuated g/C Ratio	0.04	0.26			0.19	0.41	0.41	0.09	0.24	0.24	0.11	0.26
Clearance Time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
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)	72	893			661	765	650	159	840	376	195	886
v/s Ratio Prot	0.02	c0.20			c0.11	0.17		0.05	0.04		c0.15	0.08
v/s Ratio Perm							0.03			c0.18		
v/c Ratio	0.43	0.77			0.55	0.41	0.07	0.55	0.15	0.76	1.32	0.29
Uniform Delay, d1	45.2	33.0			35.1	19.9	17.0	42.0	29.0	34.2	43.0	28.6
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	4.1	6.3			0.9	1.6	0.2	3.8	0.1	8.6	174.5	0.2
Delay (s)	49.3	39.3			36.0	21.6	17.2	45.9	29.1	42.7	217.4	28.8
Level of Service	D	D			D	C	B	D	C	D	F	C
Approach Delay (s)		39.7				27.7			40.5			118.1
Approach LOS		D				C			D			F

Intersection Summary			
HCM 2000 Control Delay	52.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	96.7	Sum of lost time (s)	18.6
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	43
Future Volume (vph)	43
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.75
Adj. Flow (vph)	57
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
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	24	105	4	15	137	15	17	72	12	26	124	51
Future Vol, veh/h	24	105	4	15	137	15	17	72	12	26	124	51
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	127	5	18	165	18	20	87	14	31	149	61
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.8	10.1	9.3	10.4
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	18%	9%	13%
Vol Thru, %	71%	79%	82%	62%
Vol Right, %	12%	3%	9%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	133	167	201
LT Vol	17	24	15	26
Through Vol	72	105	137	124
RT Vol	12	4	15	51
Lane Flow Rate	122	160	201	242
Geometry Grp	1	1	1	1
Degree of Util (X)	0.174	0.228	0.281	0.329
Departure Headway (Hd)	5.137	5.132	5.024	4.887
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	690	691	706	729
Service Time	3.234	3.227	3.114	2.971
HCM Lane V/C Ratio	0.177	0.232	0.285	0.332
HCM Control Delay	9.3	9.8	10.1	10.4
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	0.6	0.9	1.2	1.4

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	11	20	9	28	11	24	278	14	17	309	20
Future Vol, veh/h	18	11	20	9	28	11	24	278	14	17	309	20
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	280	-	-	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	20	12	22	10	31	12	27	309	16	19	343	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	785	771	354	780	774	317	365	0	0	325	0	0
Stage 1	392	392	-	371	371	-	-	-	-	-	-	-
Stage 2	393	379	-	409	403	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	309	330	688	311	328	721	1188	-	-	1229	-	-
Stage 1	631	605	-	647	618	-	-	-	-	-	-	-
Stage 2	630	613	-	617	598	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	273	317	688	284	316	721	1188	-	-	1229	-	-
Mov Cap-2 Maneuver	273	317	-	284	316	-	-	-	-	-	-	-
Stage 1	616	596	-	632	604	-	-	-	-	-	-	-
Stage 2	574	599	-	576	589	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.1	17	0.6	0.4
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1188	-	-	378	354	1229	-	-
HCM Lane V/C Ratio	0.022	-	-	0.144	0.151	0.015	-	-
HCM Control Delay (s)	8.1	-	-	16.1	17	8	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.5	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	32	236	2	4	238	21	1	1	2	13	6	34
Future Vol, veh/h	32	236	2	4	238	21	1	1	2	13	6	34
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	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	35	259	2	4	262	23	1	1	2	14	7	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	285	0	0	261	0	0	634	623	260	614	613	274
Stage 1	-	-	-	-	-	-	330	330	-	282	282	-
Stage 2	-	-	-	-	-	-	304	293	-	332	331	-
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	1271	-	-	1298	-	-	390	401	776	403	406	762
Stage 1	-	-	-	-	-	-	681	644	-	723	676	-
Stage 2	-	-	-	-	-	-	703	668	-	679	643	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1271	-	-	1298	-	-	356	387	776	390	391	762
Mov Cap-2 Maneuver	-	-	-	-	-	-	356	387	-	390	391	-
Stage 1	-	-	-	-	-	-	659	623	-	700	673	-
Stage 2	-	-	-	-	-	-	659	665	-	654	622	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.1	12.2	12.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	502	1271	-	-	1298	-	-	568
HCM Lane V/C Ratio	0.009	0.028	-	-	0.003	-	-	0.103
HCM Control Delay (s)	12.2	7.9	0	-	7.8	0	-	12.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	196	9	29	235	116	6	137	49	105	145	59
Future Volume (veh/h)	69	196	9	29	235	116	6	137	49	105	145	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	72	204	9	30	245	121	6	143	51	109	151	61
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	113	528	23	60	316	156	14	210	75	140	292	118
Arrive On Green	0.06	0.30	0.30	0.03	0.27	0.27	0.01	0.16	0.16	0.08	0.23	0.23
Sat Flow, veh/h	1757	1754	77	1757	1167	576	1757	1299	463	1757	1250	505
Grp Volume(v), veh/h	72	0	213	30	0	366	6	0	194	109	0	212
Grp Sat Flow(s),veh/h/ln	1757	0	1831	1757	0	1743	1757	0	1763	1757	0	1756
Q Serve(g_s), s	1.9	0.0	4.4	0.8	0.0	9.3	0.2	0.0	5.0	2.9	0.0	5.1
Cycle Q Clear(g_c), s	1.9	0.0	4.4	0.8	0.0	9.3	0.2	0.0	5.0	2.9	0.0	5.1
Prop In Lane	1.00		0.04	1.00		0.33	1.00		0.26	1.00		0.29
Lane Grp Cap(c), veh/h	113	0	551	60	0	472	14	0	285	140	0	410
V/C Ratio(X)	0.64	0.00	0.39	0.50	0.00	0.77	0.43	0.00	0.68	0.78	0.00	0.52
Avail Cap(c_a), veh/h	211	0	1045	182	0	977	182	0	926	248	0	1027
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	13.3	22.9	0.0	16.2	23.8	0.0	19.0	21.8	0.0	16.1
Incr Delay (d2), s/veh	5.9	0.0	0.4	6.2	0.0	2.8	19.1	0.0	2.8	9.0	0.0	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	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	2.3	0.5	0.0	4.8	0.2	0.0	2.7	1.8	0.0	2.5
LnGrp Delay(d),s/veh	27.9	0.0	13.8	29.1	0.0	19.0	42.9	0.0	21.9	30.7	0.0	17.1
LnGrp LOS	C		B	C		B	D		C	C		B
Approach Vol, veh/h		285			396			200			321	
Approach Delay, s/veh		17.3			19.7			22.5			21.7	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	13.8	5.9	20.5	4.6	17.2	7.3	19.1
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	6.0	* 4.2	* 6	* 4.2	* 6
Max Green Setting (Gmax), s	* 6.8	25.3	* 5	27.5	* 5	* 28	* 5.8	* 27
Max Q Clear Time (g_c+I1), s	4.9	7.0	2.8	6.4	2.2	7.1	3.9	11.3
Green Ext Time (p_c), s	0.0	0.8	0.0	0.9	0.0	1.1	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	20.2
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	316	43	83	365	37	44
Future Vol, veh/h	316	43	83	365	37	44
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	275	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	347	47	91	401	41	48

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	396	0	956	373
Stage 1	-	-	-	-	373	-
Stage 2	-	-	-	-	583	-
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	-	-	1157	-	285	671
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	556	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1155	-	262	670
Mov Cap-2 Maneuver	-	-	-	-	262	-
Stage 1	-	-	-	-	638	-
Stage 2	-	-	-	-	556	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	15.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	262	670	-	-	1155	-
HCM Lane V/C Ratio	0.155	0.072	-	-	0.079	-
HCM Control Delay (s)	21.2	10.8	-	-	8.4	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	0.2	-	-	0.3	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	347	57	107	433	37	69
Future Vol, veh/h	347	57	107	433	37	69
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	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	377	62	116	471	40	75

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	439	0	1111	408
Stage 1	-	-	-	-	408	-
Stage 2	-	-	-	-	703	-
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	-	-	1116	-	230	641
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	489	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1116	-	198	641
Mov Cap-2 Maneuver	-	-	-	-	198	-
Stage 1	-	-	-	-	575	-
Stage 2	-	-	-	-	489	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	19.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	360	-	-	1116	-
HCM Lane V/C Ratio	0.32	-	-	0.104	-
HCM Control Delay (s)	19.6	-	-	8.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.4	-	-	0.3	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	11	166	9	12	172
Future Vol, veh/h	12	11	166	9	12	172
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	-	-	530	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	14	13	193	10	14	200

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	421	193	0	0	203	0
Stage 1	193	-	-	-	-	-
Stage 2	228	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	587	846	-	-	1363	-
Stage 1	837	-	-	-	-	-
Stage 2	808	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	580	846	-	-	1363	-
Mov Cap-2 Maneuver	580	-	-	-	-	-
Stage 1	827	-	-	-	-	-
Stage 2	808	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	683	1363	-
HCM Lane V/C Ratio	-	-	0.039	0.01	-
HCM Control Delay (s)	-	-	10.5	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	1	29	71	79	10
Future Vol, veh/h	3	1	29	71	79	10
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	0	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	4	1	35	87	96	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	259	102	108	0	-	0
Stage 1	102	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	728	950	1476	-	-	-
Stage 1	920	-	-	-	-	-
Stage 2	869	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	711	950	1476	-	-	-
Mov Cap-2 Maneuver	711	-	-	-	-	-
Stage 1	898	-	-	-	-	-
Stage 2	869	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	2.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1476	-	711	950	-	-
HCM Lane V/C Ratio	0.024	-	0.005	0.001	-	-
HCM Control Delay (s)	7.5	-	10.1	8.8	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	0	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	75	141	32	83	153
Future Vol, veh/h	30	75	141	32	83	153
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	250	-
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	32	80	150	34	88	163

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	508	94	0	0	186	0
Stage 1	169	-	-	-	-	-
Stage 2	339	-	-	-	-	-
Critical Hdwy	6.095	7.145	-	-	5.345	-
Critical Hdwy Stg 1	6.645	-	-	-	-	-
Critical Hdwy Stg 2	5.445	-	-	-	-	-
Follow-up Hdwy	3.6785	3.9285	-	-	3.1285	-
Pot Cap-1 Maneuver	531	800	-	-	945	-
Stage 1	780	-	-	-	-	-
Stage 2	693	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	481	798	-	-	943	-
Mov Cap-2 Maneuver	512	-	-	-	-	-
Stage 1	706	-	-	-	-	-
Stage 2	693	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	3.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	512	798	943	-
HCM Lane V/C Ratio	-	-	0.062	0.1	0.094	-
HCM Control Delay (s)	-	-	12.5	10	9.2	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.3	0.3	-

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	1	12	64	7	8	68	50	6	33	9	62	28
Future Vol, veh/h	1	12	64	7	8	68	50	6	33	9	62	28
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	13	71	8	9	76	56	7	37	10	69	31
Number of Lanes	0	1	1	0	1	1	0	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.4	8.5	8.2	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	82%	0%
Vol Thru, %	0%	79%	0%	90%	0%	58%	18%	70%
Vol Right, %	0%	21%	0%	10%	0%	42%	0%	30%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	42	13	71	8	118	76	20
LT Vol	6	0	13	0	8	0	62	0
Through Vol	0	33	0	64	0	68	14	14
RT Vol	0	9	0	7	0	50	0	6
Lane Flow Rate	7	47	14	79	9	131	84	22
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.011	0.066	0.022	0.11	0.014	0.174	0.131	0.031
Departure Headway (Hd)	5.746	5.093	5.606	5.035	5.57	4.771	5.59	4.97
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	624	704	639	712	644	753	643	721
Service Time	3.474	2.821	3.334	2.762	3.294	2.494	3.316	2.695
HCM Lane V/C Ratio	0.011	0.067	0.022	0.111	0.014	0.174	0.131	0.031
HCM Control Delay	8.5	8.2	8.5	8.4	8.4	8.5	9.2	7.9
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0	0.2	0.1	0.4	0	0.6	0.4	0.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes, Configurations	
Traffic Vol, veh/h	6
Future Vol, veh/h	6
Peak Hour Factor	0.90
Heavy Vehicles, %	3
Mvmt Flow	7
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	99	15	20	82	18	25	68	24	16	47	11
Future Vol, veh/h	8	99	15	20	82	18	25	68	24	16	47	11
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	9	110	17	22	91	20	28	76	27	18	52	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	8.5	8.5	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	7%	17%	22%
Vol Thru, %	58%	81%	68%	64%
Vol Right, %	21%	12%	15%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	117	122	120	74
LT Vol	25	8	20	16
Through Vol	68	99	82	47
RT Vol	24	15	18	11
Lane Flow Rate	130	136	133	82
Geometry Grp	1	1	1	1
Degree of Util (X)	0.166	0.171	0.169	0.107
Departure Headway (Hd)	4.593	4.546	4.552	4.685
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	780	789	788	764
Service Time	2.625	2.577	2.583	2.719
HCM Lane V/C Ratio	0.167	0.172	0.169	0.107
HCM Control Delay	8.5	8.5	8.5	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.6	0.6	0.4

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	121	18	82	109	132	9	136	72	97	130	8
Future Vol, veh/h	9	121	18	82	109	132	9	136	72	97	130	8
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	10	139	21	94	125	152	10	156	83	111	149	9
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	12.3	13.5	13.8	12.1
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	65%	0%	87%	0%	45%	0%	94%
Vol Right, %	0%	35%	0%	13%	0%	55%	0%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	208	9	139	82	241	97	138
LT Vol	9	0	9	0	82	0	97	0
Through Vol	0	136	0	121	0	109	0	130
RT Vol	0	72	0	18	0	132	0	8
Lane Flow Rate	10	239	10	160	94	277	111	159
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.021	0.427	0.021	0.298	0.183	0.469	0.221	0.29
Departure Headway (Hd)	7.181	6.425	7.322	6.719	6.987	6.089	7.14	6.59
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	496	557	486	530	511	587	499	542
Service Time	4.964	4.207	5.114	4.51	4.764	3.866	4.925	4.374
HCM Lane V/C Ratio	0.02	0.429	0.021	0.302	0.184	0.472	0.222	0.293
HCM Control Delay	10.1	14	10.3	12.4	11.3	14.2	12	12.1
HCM Lane LOS	B	B	B	B	B	B	B	B
HCM 95th-tile Q	0.1	2.1	0.1	1.2	0.7	2.5	0.8	1.2



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	13	237	66	7	268	343	183	52	124	221	121	73
Future Volume (vph)	13	237	66	7	268	343	183	52	124	221	121	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
Lane Util. Factor	1.00	0.95			0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.97			1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97
Flt Protected	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	3390			3400	1845	1568	1752	3505	1568	1752	3415
Flt Permitted	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	3390			3400	1845	1568	1752	3505	1568	1752	3415
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	14	255	71	8	288	369	197	56	133	238	130	78
RTOR Reduction (vph)	0	27	0	0	0	0	123	0	0	187	0	12
Lane Group Flow (vph)	14	299	0	0	296	369	74	56	133	51	130	82
Turn Type	Prot	NA		Prot	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases							8			2		
Actuated Green, G (s)	0.6	16.4			7.5	23.3	23.3	3.5	13.2	13.2	6.4	16.1
Effective Green, g (s)	0.6	16.4			7.5	23.3	23.3	3.5	13.2	13.2	6.4	16.1
Actuated g/C Ratio	0.01	0.26			0.12	0.38	0.38	0.06	0.21	0.21	0.10	0.26
Clearance Time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
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)	16	895			410	692	588	98	745	333	180	885
v/s Ratio Prot	0.01	0.09			c0.09	c0.20		0.03	c0.04		c0.07	c0.02
v/s Ratio Perm							0.05			0.03		
v/c Ratio	0.88	0.33			0.72	0.53	0.13	0.57	0.18	0.15	0.72	0.09
Uniform Delay, d1	30.7	18.4			26.3	15.2	12.7	28.6	20.0	19.9	27.0	17.5
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	161.3	0.2			6.2	0.8	0.1	7.8	0.1	0.2	13.3	0.0
Delay (s)	192.0	18.7			32.5	15.9	12.8	36.4	20.1	20.1	40.3	17.5
Level of Service	F	B			C	B	B	D	C	C	D	B
Approach Delay (s)		25.8				20.9			22.2			30.8
Approach LOS		C				C			C			C

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	62.1	Sum of lost time (s)	18.6
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	15
Future Volume (vph)	15
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	16
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	85	10	7	63	22	10	78	10	33	74	18
Future Vol, veh/h	18	85	10	7	63	22	10	78	10	33	74	18
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	19	89	11	7	66	23	11	82	11	35	78	19
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.4	8.2	8.3	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	16%	8%	26%
Vol Thru, %	80%	75%	68%	59%
Vol Right, %	10%	9%	24%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	98	113	92	125
LT Vol	10	18	7	33
Through Vol	78	85	63	74
RT Vol	10	10	22	18
Lane Flow Rate	103	119	97	132
Geometry Grp	1	1	1	1
Degree of Util (X)	0.131	0.152	0.121	0.166
Departure Headway (Hd)	4.566	4.59	4.511	4.541
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	785	781	794	791
Service Time	2.594	2.616	2.539	2.567
HCM Lane V/C Ratio	0.131	0.152	0.122	0.167
HCM Control Delay	8.3	8.4	8.2	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.5	0.4	0.6

Intersection	
Intersection Delay, s/veh	24
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	20	43	184	38	6	192	145	100	58	5	105	53
Future Vol, veh/h	20	43	184	38	6	192	145	100	58	5	105	53
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	63	271	56	9	282	213	147	85	7	154	78
Number of Lanes	0	1	1	0	1	1	1	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	31.9	23.4	17.7	19.3
HCM LOS	D	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	80%	0%
Vol Thru, %	0%	92%	0%	83%	0%	100%	0%	20%	31%
Vol Right, %	0%	8%	0%	17%	0%	0%	100%	0%	69%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	63	63	222	6	192	145	132	85
LT Vol	100	0	63	0	6	0	0	105	0
Through Vol	0	58	0	184	0	192	0	27	27
RT Vol	0	5	0	38	0	0	145	0	58
Lane Flow Rate	147	93	93	326	9	282	213	193	124
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.405	0.241	0.239	0.785	0.023	0.68	0.471	0.513	0.299
Departure Headway (Hd)	9.922	9.348	9.294	8.653	9.185	8.669	7.946	9.556	8.648
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	362	384	386	418	389	418	452	377	415
Service Time	7.696	7.121	7.058	6.416	6.948	6.431	5.708	7.322	6.415
HCM Lane V/C Ratio	0.406	0.242	0.241	0.78	0.023	0.675	0.471	0.512	0.299
HCM Control Delay	19.3	15.1	15	36.7	12.2	28.1	17.6	22	15.1
HCM Lane LOS	C	C	B	E	B	D	C	C	C
HCM 95th-tile Q	1.9	0.9	0.9	6.8	0.1	4.9	2.5	2.8	1.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes Configurations	
Traffic Vol, veh/h	58
Future Vol, veh/h	58
Peak Hour Factor	0.68
Heavy Vehicles, %	3
Mvmt Flow	85
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	1	12	64	7	8	68	50	6	33	9	62	28
Future Vol, veh/h	1	12	64	7	8	68	50	6	33	9	62	28
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	13	71	8	9	76	56	7	37	10	69	31
Number of Lanes	0	1	1	0	1	1	1	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	8.7	8.2	8.4	9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	82%	0%
Vol Thru, %	0%	79%	0%	90%	0%	100%	0%	18%	70%
Vol Right, %	0%	21%	0%	10%	0%	0%	100%	0%	30%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	42	13	71	8	68	50	76	20
LT Vol	6	0	13	0	8	0	0	62	0
Through Vol	0	33	0	64	0	68	0	14	14
RT Vol	0	9	0	7	0	0	50	0	6
Lane Flow Rate	7	47	14	79	9	76	56	84	22
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.011	0.068	0.023	0.115	0.014	0.11	0.07	0.134	0.031
Departure Headway (Hd)	5.918	5.267	5.812	5.24	5.734	5.232	4.53	5.698	5.079
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	604	679	615	683	624	685	789	628	704
Service Time	3.662	3.01	3.551	2.979	3.47	2.967	2.265	3.438	2.819
HCM Lane V/C Ratio	0.012	0.069	0.023	0.116	0.014	0.111	0.071	0.134	0.031
HCM Control Delay	8.7	8.4	8.7	8.7	8.6	8.6	7.6	9.3	8
HCM Lane LOS	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0	0.2	0.1	0.4	0	0.4	0.2	0.5	0.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes, Configurations	
Traffic Vol, veh/h	6
Future Vol, veh/h	6
Peak Hour Factor	0.90
Heavy Vehicles, %	3
Mvmt Flow	7
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection: 1: Grantland Avenue & Barstow Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	98	52	29	28
Average Queue (ft)	30	26	2	4
95th Queue (ft)	60	47	13	19
Link Distance (ft)	652	2486		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			280	250
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Garfield Avenue & Shaw Avenue

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	74	31	76
Average Queue (ft)	19	6	35
95th Queue (ft)	57	26	58
Link Distance (ft)	2578	2466	2553
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Grantland Avenue & Shaw Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	141	184	53	264	53	180	221	159
Average Queue (ft)	64	93	19	138	18	83	91	81
95th Queue (ft)	120	166	51	231	50	142	156	140
Link Distance (ft)		2615		2590		3444		2603
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	325		325		175		175	
Storage Blk Time (%)						0	1	0
Queuing Penalty (veh)						0	2	0

Intersection: 5: Bryan Avenue & Shaw Avenue

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	72	52	54
Average Queue (ft)	22	17	27
95th Queue (ft)	59	46	40
Link Distance (ft)			2590
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250	275	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Hayes Avenue & Shaw Avenue

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	74	118
Average Queue (ft)	20	52
95th Queue (ft)	61	96
Link Distance (ft)	1210	1542
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Grantland Avenue & Stadium Drive

Movement	WB
Directions Served	LR
Maximum Queue (ft)	25
Average Queue (ft)	8
95th Queue (ft)	26
Link Distance (ft)	1258
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Bryan Avenue & Gettysburg Avenue

Movement	EB	EB	NB
Directions Served	L	R	L
Maximum Queue (ft)	25	23	49
Average Queue (ft)	3	5	20
95th Queue (ft)	16	20	43
Link Distance (ft)	1320	1320	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			250
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Grantland Avenue & Ashlan Avenue

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	L
Maximum Queue (ft)	74	74	22	30
Average Queue (ft)	26	24	1	5
95th Queue (ft)	49	48	7	22
Link Distance (ft)	2589	2589	362	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				250
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Bryan Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	UL	TR	L	T	R	L	TR	LT	TR
Maximum Queue (ft)	47	77	30	78	73	52	73	72	70
Average Queue (ft)	25	44	7	43	39	31	29	37	20
95th Queue (ft)	45	66	27	69	60	48	49	57	47
Link Distance (ft)		2589		407			1002	2528	2528
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		250		250	250			
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 13: Hayes Avenue & Ashlan Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	32	49	48	54
Average Queue (ft)	20	27	24	29
95th Queue (ft)	41	41	44	51
Link Distance (ft)	1469	2575	2608	565
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Polk Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	29	51	30	54	23	55	54	77
Average Queue (ft)	3	27	14	32	1	36	33	37
95th Queue (ft)	15	44	38	49	8	51	51	61
Link Distance (ft)		2575		2107		1100		1271
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100		125		75		275	
Storage Blk Time (%)						0		
Queuing Penalty (veh)						0		

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	UL	L	T	R	L	T	T	R	L
Maximum Queue (ft)	97	188	191	376	360	272	42	99	75	71	167	201
Average Queue (ft)	25	128	110	145	64	76	14	52	38	29	79	104
95th Queue (ft)	63	178	166	261	195	163	30	95	67	62	136	176
Link Distance (ft)		352	352			2511	2511		323	323		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			275	275			100			80	150
Storage Blk Time (%)				4	0	0		1		0	9	4
Queuing Penalty (veh)				9	1	0		1		0	4	4

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	179	86
Average Queue (ft)	98	27
95th Queue (ft)	166	67
Link Distance (ft)	2602	2602
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	1	
Queuing Penalty (veh)	3	

Intersection: 17: Grantland Avenue & Shields Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	55	74	67	77
Average Queue (ft)	35	36	32	47
95th Queue (ft)	51	54	49	71
Link Distance (ft)	2601	2580	2582	1625
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 23

Intersection: 1: Grantland Avenue & Barstow Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	55	52	28	46
Average Queue (ft)	28	24	4	3
95th Queue (ft)	53	45	19	21
Link Distance (ft)	652	2486		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			280	250
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Garfield Avenue & Shaw Avenue

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	26	31	31
Average Queue (ft)	5	2	19
95th Queue (ft)	21	14	39
Link Distance (ft)	2578	2466	2553
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Grantland Avenue & Shaw Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	114	140	74	158	31	135	148	174
Average Queue (ft)	42	59	24	102	8	67	60	64
95th Queue (ft)	86	108	52	155	28	112	120	122
Link Distance (ft)		2615		2590		3445		2603
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	325		325		175		175	
Storage Blk Time (%)								0
Queuing Penalty (veh)								0

Intersection: 5: Bryan Avenue & Shaw Avenue

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	54	53	43
Average Queue (ft)	18	20	20
95th Queue (ft)	43	44	39
Link Distance (ft)			2590
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250	275	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Hayes Avenue & Shaw Avenue

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	20	117	77
Average Queue (ft)	1	28	42
95th Queue (ft)	6	77	72
Link Distance (ft)	2549	1210	1542
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Grantland Avenue & Stadium Drive

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	46	26
Average Queue (ft)	11	2
95th Queue (ft)	33	15
Link Distance (ft)	1259	3445
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Bryan Avenue & Gettysburg Avenue

Movement	EB	EB	NB
Directions Served	L	R	L
Maximum Queue (ft)	18	22	24
Average Queue (ft)	2	1	1
95th Queue (ft)	9	10	8
Link Distance (ft)	1320	1320	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			250
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Grantland Avenue & Ashlan Avenue

Movement	WB	WB	SB
Directions Served	L	R	L
Maximum Queue (ft)	50	74	53
Average Queue (ft)	17	28	6
95th Queue (ft)	41	44	29
Link Distance (ft)	2589	2589	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			250
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Bryan Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	UL	TR	L	T	R	L	TR	LT	TR
Maximum Queue (ft)	31	54	30	78	54	24	31	53	23
Average Queue (ft)	8	30	7	32	23	6	20	30	5
95th Queue (ft)	29	43	26	47	44	22	40	44	20
Link Distance (ft)		2589		403			1003	2528	2528
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		250		250	250			
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 13: Hayes Avenue & Ashlan Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	54	79	78	54
Average Queue (ft)	33	35	37	29
95th Queue (ft)	46	55	60	49
Link Distance (ft)	1469	2575	2608	565
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Polk Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	30	69	68	100	30	96	63	72
Average Queue (ft)	5	35	32	52	5	49	31	39
95th Queue (ft)	23	55	51	82	22	78	53	63
Link Distance (ft)		2575		2107		1100		1271
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100		125		75		275	
Storage Blk Time (%)						0		
Queuing Penalty (veh)						0		

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	UL	L	T	R	L	T	T	R	L
Maximum Queue (ft)	52	95	89	385	495	820	124	73	75	55	96	191
Average Queue (ft)	17	46	57	281	235	165	32	37	39	26	52	79
95th Queue (ft)	43	80	86	450	541	523	72	64	71	58	80	148
Link Distance (ft)		352	352			2511	2511		323	323		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			275	275			100			80	150
Storage Blk Time (%)				56	9						1	4
Queuing Penalty (veh)				193	31						1	1

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	168	18
Average Queue (ft)	41	6
95th Queue (ft)	92	18
Link Distance (ft)	2602	2602
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 17: Grantland Avenue & Shields Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	54	77	54	56
Average Queue (ft)	31	33	31	37
95th Queue (ft)	42	50	48	53
Link Distance (ft)	2601	2580	2582	1625
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 226

Appendix G: Existing plus Project (Phase I) Traffic Conditions

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	9	30	23	20	7	15	344	8	10	291	21
Future Vol, veh/h	28	9	30	23	20	7	15	344	8	10	291	21
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	280	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	31	10	33	25	22	8	16	378	9	11	320	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	784	773	332	790	780	383	343	0	0	387	0	0
Stage 1	354	354	-	415	415	-	-	-	-	-	-	-
Stage 2	430	419	-	375	365	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	310	329	707	307	326	662	1210	-	-	1166	-	-
Stage 1	661	629	-	613	591	-	-	-	-	-	-	-
Stage 2	601	588	-	644	622	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	285	322	707	281	319	662	1210	-	-	1166	-	-
Mov Cap-2 Maneuver	285	322	-	281	319	-	-	-	-	-	-	-
Stage 1	652	623	-	605	583	-	-	-	-	-	-	-
Stage 2	564	580	-	599	616	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.1	18.5	0.3	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1210	-	-	397	322	1166	-	-
HCM Lane V/C Ratio	0.014	-	-	0.185	0.171	0.009	-	-
HCM Control Delay (s)	8	-	-	16.1	18.5	8.1	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.6	0	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	52	268	2	1	258	21	3	6	1	25	5	79
Future Vol, veh/h	52	268	2	1	258	21	3	6	1	25	5	79
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	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	69	357	3	1	344	28	4	8	1	33	7	105

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	372	0	0	360	0	0	913	871	359	861	858	358
Stage 1	-	-	-	-	-	-	497	497	-	360	360	-
Stage 2	-	-	-	-	-	-	416	374	-	501	498	-
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	1181	-	-	1193	-	-	253	288	683	275	293	684
Stage 1	-	-	-	-	-	-	553	543	-	656	625	-
Stage 2	-	-	-	-	-	-	612	616	-	550	543	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1181	-	-	1193	-	-	198	267	683	253	271	684
Mov Cap-2 Maneuver	-	-	-	-	-	-	198	267	-	253	271	-
Stage 1	-	-	-	-	-	-	513	503	-	608	624	-
Stage 2	-	-	-	-	-	-	512	615	-	501	503	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0	19.8	16.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	256	1181	-	-	1193	-	-	468
HCM Lane V/C Ratio	0.052	0.059	-	-	0.001	-	-	0.311
HCM Control Delay (s)	19.8	8.2	0	-	8	0	-	16.1
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0	-	-	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	224	18	22	191	83	22	155	40	124	166	97
Future Volume (veh/h)	79	224	18	22	191	83	22	155	40	124	166	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	90	255	20	25	217	94	25	176	45	141	189	110
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	126	469	37	52	287	125	52	249	64	180	273	159
Arrive On Green	0.07	0.28	0.28	0.03	0.24	0.24	0.03	0.18	0.18	0.10	0.25	0.25
Sat Flow, veh/h	1757	1689	132	1757	1222	529	1757	1418	363	1757	1095	637
Grp Volume(v), veh/h	90	0	275	25	0	311	25	0	221	141	0	299
Grp Sat Flow(s),veh/h/ln	1757	0	1821	1757	0	1751	1757	0	1781	1757	0	1732
Q Serve(g_s), s	2.5	0.0	6.3	0.7	0.0	8.1	0.7	0.0	5.7	3.9	0.0	7.7
Cycle Q Clear(g_c), s	2.5	0.0	6.3	0.7	0.0	8.1	0.7	0.0	5.7	3.9	0.0	7.7
Prop In Lane	1.00		0.07	1.00		0.30	1.00		0.20	1.00		0.37
Lane Grp Cap(c), veh/h	126	0	506	52	0	412	52	0	313	180	0	431
V/C Ratio(X)	0.71	0.00	0.54	0.48	0.00	0.75	0.48	0.00	0.71	0.78	0.00	0.69
Avail Cap(c_a), veh/h	193	0	1010	178	0	968	196	0	886	278	0	982
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.3	0.0	15.1	23.5	0.0	17.5	23.5	0.0	19.1	21.5	0.0	16.8
Incr Delay (d2), s/veh	7.2	0.0	0.9	6.9	0.0	2.8	6.9	0.0	2.9	7.5	0.0	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	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	3.3	0.4	0.0	4.2	0.4	0.0	3.1	2.2	0.0	3.9
LnGrp Delay(d),s/veh	29.6	0.0	16.0	30.4	0.0	20.3	30.4	0.0	22.0	29.1	0.0	18.8
LnGrp LOS	C		B	C		C	C		C	C		B
Approach Vol, veh/h		365			336			246			440	
Approach Delay, s/veh		19.4			21.1			22.9			22.1	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	14.7	5.6	19.7	5.6	18.3	7.7	17.6
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	6.0	* 4.2	* 6	* 4.2	* 6
Max Green Setting (Gmax), s	* 7.8	24.5	* 5	27.3	* 5.5	* 28	* 5.4	* 27
Max Q Clear Time (g_c+I1), s	5.9	7.7	2.7	8.3	2.7	9.7	4.5	10.1
Green Ext Time (p_c), s	0.1	0.9	0.0	1.2	0.0	1.5	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	21.3
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	334	51	112	278	24	93
Future Vol, veh/h	334	51	112	278	24	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	-	-	250	-	275	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	402	61	135	335	29	112

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	463	0	1038	433
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	605	-
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	-	-	1093	-	255	621
Stage 1	-	-	-	-	652	-
Stage 2	-	-	-	-	543	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1093	-	223	621
Mov Cap-2 Maneuver	-	-	-	-	223	-
Stage 1	-	-	-	-	571	-
Stage 2	-	-	-	-	543	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	14.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	223	621	-	-	1093	-
HCM Lane V/C Ratio	0.13	0.18	-	-	0.123	-
HCM Control Delay (s)	23.5	12.1	-	-	8.8	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	0.7	-	-	0.4	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	382	59	42	315	61	114
Future Vol, veh/h	382	59	42	315	61	114
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	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	402	62	44	332	64	120

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	464	0	853	433
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	420	-
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	-	-	1092	-	328	621
Stage 1	-	-	-	-	652	-
Stage 2	-	-	-	-	661	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1092	-	312	621
Mov Cap-2 Maneuver	-	-	-	-	312	-
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	661	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	17.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	462	-	-	1092	-
HCM Lane V/C Ratio	0.399	-	-	0.04	-
HCM Control Delay (s)	17.9	-	-	8.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.9	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	0	31	8	0	7	10	183	16	6	192	5
Future Vol, veh/h	16	0	31	8	0	7	10	183	16	6	192	5
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	-	-	-	250	-	530	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	19	0	37	10	0	8	12	218	19	7	229	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	502	507	232	507	491	218	235	0	0	237	0	0
Stage 1	246	246	-	242	242	-	-	-	-	-	-	-
Stage 2	256	261	-	265	249	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	478	467	805	474	477	819	1326	-	-	1324	-	-
Stage 1	756	701	-	759	704	-	-	-	-	-	-	-
Stage 2	746	690	-	738	699	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	468	460	805	447	470	819	1326	-	-	1324	-	-
Mov Cap-2 Maneuver	468	460	-	447	470	-	-	-	-	-	-	-
Stage 1	749	697	-	752	698	-	-	-	-	-	-	-
Stage 2	732	684	-	700	695	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	11.6	0.4	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1326	-	-	468	805	567	1324	-	-
HCM Lane V/C Ratio	0.009	-	-	0.041	0.046	0.031	0.005	-	-
HCM Control Delay (s)	7.7	-	-	13	9.7	11.6	7.7	0	-
HCM Lane LOS	A	-	-	B	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	8	123	114	143	54
Future Vol, veh/h	9	8	123	114	143	54
Conflicting Peds, #/hr	0	0	24	0	0	24
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	12	10	158	146	183	69

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	704	242	276	0	-	0
Stage 1	242	-	-	-	-	-
Stage 2	462	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	402	794	1281	-	-	-
Stage 1	796	-	-	-	-	-
Stage 2	632	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	335	776	1252	-	-	-
Mov Cap-2 Maneuver	335	-	-	-	-	-
Stage 1	680	-	-	-	-	-
Stage 2	617	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	4.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1252	-	335	776	-	-
HCM Lane V/C Ratio	0.126	-	0.034	0.013	-	-
HCM Control Delay (s)	8.3	-	16.1	9.7	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	82	76	88	34	97	132
Future Vol, veh/h	82	76	88	34	97	132
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	0	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	91	84	98	38	108	147

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	480	68	0	0	136	0
Stage 1	117	-	-	-	-	-
Stage 2	363	-	-	-	-	-
Critical Hdwy	6.095	7.145	-	-	5.345	-
Critical Hdwy Stg 1	6.645	-	-	-	-	-
Critical Hdwy Stg 2	5.445	-	-	-	-	-
Follow-up Hdwy	3.6785	3.9285	-	-	3.1285	-
Pot Cap-1 Maneuver	549	831	-	-	997	-
Stage 1	837	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	490	831	-	-	997	-
Mov Cap-2 Maneuver	502	-	-	-	-	-
Stage 1	747	-	-	-	-	-
Stage 2	676	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	3.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	502	831	997	-
HCM Lane V/C Ratio	-	-	0.181	0.102	0.108	-
HCM Control Delay (s)	-	-	13.8	9.8	9	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.3	0.4	-

Intersection	
Intersection Delay, s/veh	41.9
Intersection LOS	E

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	20	44	203	40	6	198	145	101	58	5	105	53
Future Vol, veh/h	20	44	203	40	6	198	145	101	58	5	105	53
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	65	299	59	9	291	213	149	85	7	154	78
Number of Lanes	0	1	1	0	1	1	0	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	28.4	80.9	16.3	17.4
HCM LOS	D	F	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	80%	0%
Vol Thru, %	0%	92%	0%	84%	0%	58%	20%	31%
Vol Right, %	0%	8%	0%	16%	0%	42%	0%	69%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	63	64	243	6	343	132	85
LT Vol	101	0	64	0	6	0	105	0
Through Vol	0	58	0	203	0	198	27	27
RT Vol	0	5	0	40	0	145	0	58
Lane Flow Rate	149	93	94	357	9	504	193	124
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.373	0.218	0.216	0.767	0.02	1.05	0.47	0.274
Departure Headway (Hd)	9.444	8.865	8.578	7.941	8.312	7.491	9.117	8.202
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	383	408	421	457	432	489	398	441
Service Time	7.144	6.565	6.278	5.641	6.03	5.209	6.817	5.902
HCM Lane V/C Ratio	0.389	0.228	0.223	0.781	0.021	1.031	0.485	0.281
HCM Control Delay	17.7	14	13.6	32.3	11.2	82.1	19.6	14
HCM Lane LOS	C	B	B	D	B	F	C	B
HCM 95th-tile Q	1.7	0.8	0.8	6.6	0.1	15.3	2.4	1.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes Configurations	
Traffic Vol, veh/h	58
Future Vol, veh/h	58
Peak Hour Factor	0.68
Heavy Vehicles, %	3
Mvmt Flow	85
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	50	9	16	49	5	6	25	19	25	49	3
Future Vol, veh/h	3	50	9	16	49	5	6	25	19	25	49	3
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	3	56	10	18	54	6	7	28	21	28	54	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.8	7.5	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	5%	23%	32%
Vol Thru, %	50%	81%	70%	64%
Vol Right, %	38%	15%	7%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	62	70	77
LT Vol	6	3	16	25
Through Vol	25	50	49	49
RT Vol	19	9	5	3
Lane Flow Rate	56	69	78	86
Geometry Grp	1	1	1	1
Degree of Util (X)	0.064	0.082	0.092	0.102
Departure Headway (Hd)	4.172	4.278	4.251	4.288
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	863	843	829	822
Service Time	2.176	2.278	2.35	2.387
HCM Lane V/C Ratio	0.065	0.082	0.094	0.105
HCM Control Delay	7.5	7.7	7.8	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.3	0.3

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	91	3	28	61	36	3	84	68	95	77	8
Future Vol, veh/h	3	91	3	28	61	36	3	84	68	95	77	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	3	96	3	29	64	38	3	88	72	100	81	8
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9.4	9	9.3	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	55%	0%	97%	0%	63%	0%	91%
Vol Right, %	0%	45%	0%	3%	0%	37%	0%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	152	3	94	28	97	95	85
LT Vol	3	0	3	0	28	0	95	0
Through Vol	0	84	0	91	0	61	0	77
RT Vol	0	68	0	3	0	36	0	8
Lane Flow Rate	3	160	3	99	29	102	100	89
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.005	0.226	0.005	0.154	0.05	0.151	0.162	0.131
Departure Headway (Hd)	5.893	5.074	6.112	5.586	6.078	5.312	5.842	5.273
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	605	704	583	638	587	671	611	676
Service Time	3.654	2.835	3.88	3.353	3.842	3.076	3.603	3.033
HCM Lane V/C Ratio	0.005	0.227	0.005	0.155	0.049	0.152	0.164	0.132
HCM Control Delay	8.7	9.3	8.9	9.4	9.2	9	9.7	8.8
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0	0.9	0	0.5	0.2	0.5	0.6	0.4

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	23	455	89	1	271	239	80	65	96	330	193	172
Future Volume (vph)	23	455	89	1	271	239	80	65	96	330	193	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
Lane Util. Factor	1.00	0.95			0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.98			1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97
Flt Protected	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	3419			3400	1845	1568	1752	3505	1568	1752	3400
Flt Permitted	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	3419			3400	1845	1568	1752	3505	1568	1752	3400
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	31	607	119	1	361	319	107	87	128	440	257	229
RTOR Reduction (vph)	0	15	0	0	0	0	69	0	0	141	0	21
Lane Group Flow (vph)	31	711	0	0	362	319	38	87	128	299	257	265
Turn Type	Prot	NA		Prot	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases							8			2		
Actuated Green, G (s)	3.3	25.8			10.1	32.6	32.6	7.9	23.1	23.1	13.2	28.4
Effective Green, g (s)	3.3	25.8			10.1	32.6	32.6	7.9	23.1	23.1	13.2	28.4
Actuated g/C Ratio	0.04	0.28			0.11	0.36	0.36	0.09	0.25	0.25	0.15	0.31
Clearance Time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
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)	63	971			378	662	562	152	891	398	254	1063
v/s Ratio Prot	0.02	c0.21			c0.11	0.17		0.05	0.04		c0.15	0.08
v/s Ratio Perm							0.02			c0.19		
v/c Ratio	0.49	0.73			0.96	0.48	0.07	0.57	0.14	0.75	1.01	0.25
Uniform Delay, d1	42.9	29.4			40.1	22.6	19.1	39.8	26.2	31.2	38.8	23.3
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	5.9	2.9			35.0	0.6	0.1	5.1	0.1	7.8	59.5	0.1
Delay (s)	48.9	32.3			75.1	23.1	19.2	45.0	26.3	39.0	98.3	23.4
Level of Service	D	C			E	C	B	D	C	D	F	C
Approach Delay (s)		32.9				46.5			37.3			58.9
Approach LOS		C				D			D			E

Intersection Summary			
HCM 2000 Control Delay	43.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.8	Sum of lost time (s)	18.6
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	43
Future Volume (vph)	43
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.75
Adj. Flow (vph)	57
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
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	24	105	4	15	137	16	17	72	12	27	130	53
Future Vol, veh/h	24	105	4	15	137	16	17	72	12	27	130	53
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	127	5	18	165	19	20	87	14	33	157	64
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.9	10.2	9.4	10.6
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	18%	9%	13%
Vol Thru, %	71%	79%	82%	62%
Vol Right, %	12%	3%	10%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	133	168	210
LT Vol	17	24	15	27
Through Vol	72	105	137	130
RT Vol	12	4	16	53
Lane Flow Rate	122	160	202	253
Geometry Grp	1	1	1	1
Degree of Util (X)	0.178	0.235	0.29	0.344
Departure Headway (Hd)	5.261	5.269	5.15	5.007
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	683	684	700	724
Service Time	3.283	3.275	3.156	3.007
HCM Lane V/C Ratio	0.179	0.234	0.289	0.349
HCM Control Delay	9.4	9.9	10.2	10.6
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	0.6	0.9	1.2	1.5

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	11	20	9	28	11	24	283	14	17	317	20
Future Vol, veh/h	18	11	20	9	28	11	24	283	14	17	317	20
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	280	-	-	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	20	12	22	10	31	12	27	314	16	19	352	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	799	785	363	794	788	322	374	0	0	330	0	0
Stage 1	401	401	-	376	376	-	-	-	-	-	-	-
Stage 2	398	384	-	418	412	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	302	323	680	305	322	717	1179	-	-	1224	-	-
Stage 1	624	599	-	643	615	-	-	-	-	-	-	-
Stage 2	626	610	-	610	593	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	266	310	680	278	309	717	1179	-	-	1224	-	-
Mov Cap-2 Maneuver	266	310	-	278	309	-	-	-	-	-	-	-
Stage 1	610	589	-	628	601	-	-	-	-	-	-	-
Stage 2	570	596	-	569	584	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.4	17.3	0.6	0.4
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1179	-	-	370	347	1224	-	-
HCM Lane V/C Ratio	0.023	-	-	0.147	0.154	0.015	-	-
HCM Control Delay (s)	8.1	-	-	16.4	17.3	8	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.5	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	32	236	2	4	238	21	1	1	2	13	6	34
Future Vol, veh/h	32	236	2	4	238	21	1	1	2	13	6	34
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	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	35	259	2	4	262	23	1	1	2	14	7	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	285	0	0	261	0	0	634	623	260	614	613	274
Stage 1	-	-	-	-	-	-	330	330	-	282	282	-
Stage 2	-	-	-	-	-	-	304	293	-	332	331	-
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	1271	-	-	1298	-	-	390	401	776	403	406	762
Stage 1	-	-	-	-	-	-	681	644	-	723	676	-
Stage 2	-	-	-	-	-	-	703	668	-	679	643	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1271	-	-	1298	-	-	356	387	776	390	391	762
Mov Cap-2 Maneuver	-	-	-	-	-	-	356	387	-	390	391	-
Stage 1	-	-	-	-	-	-	659	623	-	700	673	-
Stage 2	-	-	-	-	-	-	659	665	-	654	622	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.1	12.2	12.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	502	1271	-	-	1298	-	-	568
HCM Lane V/C Ratio	0.009	0.028	-	-	0.003	-	-	0.103
HCM Control Delay (s)	12.2	7.9	0	-	7.8	0	-	12.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	196	10	34	235	116	6	143	52	105	153	59
Future Volume (veh/h)	69	196	10	34	235	116	6	143	52	105	153	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	72	204	10	35	245	121	6	149	54	109	159	61
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	112	516	25	68	315	156	14	216	78	139	303	116
Arrive On Green	0.06	0.30	0.30	0.04	0.27	0.27	0.01	0.17	0.17	0.08	0.24	0.24
Sat Flow, veh/h	1757	1744	85	1757	1167	576	1757	1293	469	1757	1271	488
Grp Volume(v), veh/h	72	0	214	35	0	366	6	0	203	109	0	220
Grp Sat Flow(s),veh/h/ln	1757	0	1830	1757	0	1743	1757	0	1762	1757	0	1759
Q Serve(g_s), s	1.9	0.0	4.5	1.0	0.0	9.4	0.2	0.0	5.3	3.0	0.0	5.3
Cycle Q Clear(g_c), s	1.9	0.0	4.5	1.0	0.0	9.4	0.2	0.0	5.3	3.0	0.0	5.3
Prop In Lane	1.00		0.05	1.00		0.33	1.00		0.27	1.00		0.28
Lane Grp Cap(c), veh/h	112	0	541	68	0	471	14	0	294	139	0	419
V/C Ratio(X)	0.64	0.00	0.40	0.51	0.00	0.78	0.43	0.00	0.69	0.78	0.00	0.53
Avail Cap(c_a), veh/h	210	0	1035	181	0	968	181	0	917	246	0	1020
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	13.7	22.9	0.0	16.4	24.0	0.0	19.1	22.0	0.0	16.1
Incr Delay (d2), s/veh	6.0	0.0	0.5	5.9	0.0	2.8	19.2	0.0	2.9	9.2	0.0	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	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	2.3	0.6	0.0	4.8	0.2	0.0	2.8	1.8	0.0	2.7
LnGrp Delay(d),s/veh	28.2	0.0	14.1	28.8	0.0	19.2	43.2	0.0	22.0	31.2	0.0	17.2
LnGrp LOS	C		B	C		B	D		C	C		B
Approach Vol, veh/h		286			401			209			329	
Approach Delay, s/veh		17.7			20.0			22.6			21.8	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	14.1	6.1	20.4	4.6	17.6	7.3	19.2
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	6.0	* 4.2	* 6	* 4.2	* 6
Max Green Setting (Gmax), s	* 6.8	25.3	* 5	27.5	* 5	* 28	* 5.8	* 27
Max Q Clear Time (g_c+I1), s	5.0	7.3	3.0	6.5	2.2	7.3	3.9	11.4
Green Ext Time (p_c), s	0.0	0.8	0.0	0.9	0.0	1.1	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	20.4
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	318	43	83	369	37	44
Future Vol, veh/h	318	43	83	369	37	44
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	275	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	349	47	91	405	41	48

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	398	0	962	375
Stage 1	-	-	-	-	375	-
Stage 2	-	-	-	-	587	-
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	-	-	1155	-	283	669
Stage 1	-	-	-	-	693	-
Stage 2	-	-	-	-	554	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1153	-	260	668
Mov Cap-2 Maneuver	-	-	-	-	260	-
Stage 1	-	-	-	-	637	-
Stage 2	-	-	-	-	554	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	15.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	260	668	-	-	1153	-
HCM Lane V/C Ratio	0.156	0.072	-	-	0.079	-
HCM Control Delay (s)	21.4	10.8	-	-	8.4	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	0.2	-	-	0.3	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	349	57	107	436	37	69
Future Vol, veh/h	349	57	107	436	37	69
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	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	379	62	116	474	40	75

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	441	0	1116	410
Stage 1	-	-	-	-	410	-
Stage 2	-	-	-	-	706	-
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	-	-	1114	-	229	639
Stage 1	-	-	-	-	668	-
Stage 2	-	-	-	-	488	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1114	-	197	639
Mov Cap-2 Maneuver	-	-	-	-	197	-
Stage 1	-	-	-	-	574	-
Stage 2	-	-	-	-	488	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	19.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	358	-	-	1114	-
HCM Lane V/C Ratio	0.322	-	-	0.104	-
HCM Control Delay (s)	19.8	-	-	8.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.4	-	-	0.3	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	21	12	0	11	37	166	9	12	172	15
Future Vol, veh/h	10	0	21	12	0	11	37	166	9	12	172	15
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	-	-	-	250	-	530	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	12	0	24	14	0	13	43	193	10	14	200	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	528	526	209	528	524	193	217	0	0	203	0	0
Stage 1	237	237	-	279	279	-	-	-	-	-	-	-
Stage 2	291	289	-	249	245	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	459	455	829	459	457	846	1347	-	-	1363	-	-
Stage 1	764	707	-	725	678	-	-	-	-	-	-	-
Stage 2	715	671	-	753	702	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	437	435	829	431	437	846	1347	-	-	1363	-	-
Mov Cap-2 Maneuver	437	435	-	431	437	-	-	-	-	-	-	-
Stage 1	740	699	-	702	656	-	-	-	-	-	-	-
Stage 2	682	650	-	722	694	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	11.7	1.4	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1347	-	-	437	829	563	1363	-	-
HCM Lane V/C Ratio	0.032	-	-	0.027	0.029	0.048	0.01	-	-
HCM Control Delay (s)	7.8	-	-	13.5	9.5	11.7	7.7	0	-
HCM Lane LOS	A	-	-	B	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	1	29	71	79	10
Future Vol, veh/h	3	1	29	71	79	10
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	0	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	4	1	35	87	96	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	259	102	108	0	-	0
Stage 1	102	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	728	950	1476	-	-	-
Stage 1	920	-	-	-	-	-
Stage 2	869	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	711	950	1476	-	-	-
Mov Cap-2 Maneuver	711	-	-	-	-	-
Stage 1	898	-	-	-	-	-
Stage 2	869	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	2.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1476	-	711	950	-	-
HCM Lane V/C Ratio	0.024	-	0.005	0.001	-	-
HCM Control Delay (s)	7.5	-	10.1	8.8	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	0	-	-

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	96	157	32	100	157
Future Vol, veh/h	30	96	157	32	100	157
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	250	-
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	32	102	167	34	106	167

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	565	103	0	0	203	0
Stage 1	186	-	-	-	-	-
Stage 2	379	-	-	-	-	-
Critical Hdwy	6.095	7.145	-	-	5.345	-
Critical Hdwy Stg 1	6.645	-	-	-	-	-
Critical Hdwy Stg 2	5.445	-	-	-	-	-
Follow-up Hdwy	3.6785	3.9285	-	-	3.1285	-
Pot Cap-1 Maneuver	495	790	-	-	929	-
Stage 1	762	-	-	-	-	-
Stage 2	665	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	438	788	-	-	927	-
Mov Cap-2 Maneuver	473	-	-	-	-	-
Stage 1	674	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	3.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	473	788	927	-
HCM Lane V/C Ratio	-	-	0.067	0.13	0.115	-
HCM Control Delay (s)	-	-	13.2	10.2	9.4	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.4	0.4	-

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	1	13	78	9	8	83	50	10	33	9	62	28
Future Vol, veh/h	1	13	78	9	8	83	50	10	33	9	62	28
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	14	87	10	9	92	56	11	37	10	69	31
Number of Lanes	0	1	1	0	1	1	0	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.6	8.8	8.4	9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	82%	0%
Vol Thru, %	0%	79%	0%	90%	0%	62%	18%	67%
Vol Right, %	0%	21%	0%	10%	0%	38%	0%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	42	14	87	8	133	76	21
LT Vol	10	0	14	0	8	0	62	0
Through Vol	0	33	0	78	0	83	14	14
RT Vol	0	9	0	9	0	50	0	7
Lane Flow Rate	11	47	16	97	9	148	84	23
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.018	0.067	0.024	0.136	0.014	0.199	0.133	0.033
Departure Headway (Hd)	5.841	5.188	5.646	5.071	5.61	4.844	5.686	5.042
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	613	690	635	708	639	742	631	710
Service Time	3.579	2.925	3.374	2.799	3.337	2.57	3.421	2.776
HCM Lane V/C Ratio	0.018	0.068	0.025	0.137	0.014	0.199	0.133	0.032
HCM Control Delay	8.7	8.3	8.5	8.6	8.4	8.8	9.3	7.9
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.1	0.5	0	0.7	0.5	0.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes Configurations	
Traffic Vol, veh/h	7
Future Vol, veh/h	7
Peak Hour Factor	0.90
Heavy Vehicles, %	3
Mvmt Flow	8
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	111	16	20	95	18	26	68	24	16	47	12
Future Vol, veh/h	9	111	16	20	95	18	26	68	24	16	47	12
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	10	123	18	22	106	20	29	76	27	18	52	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	8.7	8.7	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	7%	15%	21%
Vol Thru, %	58%	82%	71%	63%
Vol Right, %	20%	12%	14%	16%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	118	136	133	75
LT Vol	26	9	20	16
Through Vol	68	111	95	47
RT Vol	24	16	18	12
Lane Flow Rate	131	151	148	83
Geometry Grp	1	1	1	1
Degree of Util (X)	0.17	0.192	0.188	0.11
Departure Headway (Hd)	4.671	4.579	4.589	4.754
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	767	783	780	753
Service Time	2.706	2.612	2.623	2.793
HCM Lane V/C Ratio	0.171	0.193	0.19	0.11
HCM Control Delay	8.7	8.7	8.7	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.7	0.7	0.4

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	132	18	82	121	132	9	136	72	97	130	8
Future Vol, veh/h	9	132	18	82	121	132	9	136	72	97	130	8
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	10	152	21	94	139	152	10	156	83	111	149	9
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	12.8	14.1	14.2	12.3
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	65%	0%	88%	0%	48%	0%	94%
Vol Right, %	0%	35%	0%	12%	0%	52%	0%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	208	9	150	82	253	97	138
LT Vol	9	0	9	0	82	0	97	0
Through Vol	0	136	0	132	0	121	0	130
RT Vol	0	72	0	18	0	132	0	8
Lane Flow Rate	10	239	10	172	94	291	111	159
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.021	0.44	0.021	0.329	0.184	0.497	0.227	0.299
Departure Headway (Hd)	7.38	6.623	7.47	6.874	7.149	6.268	7.341	6.79
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	487	547	480	524	505	579	492	531
Service Time	5.087	4.33	5.196	4.599	4.849	3.968	5.05	4.498
HCM Lane V/C Ratio	0.021	0.437	0.021	0.328	0.186	0.503	0.226	0.299
HCM Control Delay	10.2	14.4	10.4	12.9	11.5	15	12.2	12.4
HCM Lane LOS	B	B	B	B	B	B	B	B
HCM 95th-tile Q	0.1	2.2	0.1	1.4	0.7	2.8	0.9	1.2



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	13	248	66	7	268	355	183	52	124	221	121	73
Future Volume (vph)	13	248	66	7	268	355	183	52	124	221	121	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
Lane Util. Factor	1.00	0.95			0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.97			1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97
Flt Protected	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	3394			3400	1845	1568	1752	3505	1568	1752	3415
Flt Permitted	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	3394			3400	1845	1568	1752	3505	1568	1752	3415
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	14	267	71	8	288	382	197	56	133	238	130	78
RTOR Reduction (vph)	0	26	0	0	0	0	123	0	0	188	0	12
Lane Group Flow (vph)	14	312	0	0	296	382	74	56	133	50	130	82
Turn Type	Prot	NA		Prot	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases							8			2		
Actuated Green, G (s)	0.6	16.7			7.4	23.5	23.5	3.5	13.2	13.2	6.4	16.1
Effective Green, g (s)	0.6	16.7			7.4	23.5	23.5	3.5	13.2	13.2	6.4	16.1
Actuated g/C Ratio	0.01	0.27			0.12	0.38	0.38	0.06	0.21	0.21	0.10	0.26
Clearance Time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
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)	16	909			403	695	591	98	742	332	179	882
v/s Ratio Prot	0.01	0.09			c0.09	c0.21		0.03	c0.04		c0.07	c0.02
v/s Ratio Perm							0.05			0.03		
v/c Ratio	0.88	0.34			0.73	0.55	0.13	0.57	0.18	0.15	0.73	0.09
Uniform Delay, d1	30.8	18.4			26.5	15.2	12.7	28.7	20.1	20.0	27.1	17.6
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	161.3	0.2			6.8	0.9	0.1	7.8	0.1	0.2	13.6	0.0
Delay (s)	192.1	18.6			33.3	16.1	12.8	36.5	20.2	20.2	40.7	17.6
Level of Service	F	B			C	B	B	D	C	C	D	B
Approach Delay (s)		25.5				21.2			22.3			31.0
Approach LOS		C				C			C			C

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	18.6
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	15
Future Volume (vph)	15
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	16
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	85	10	7	63	22	10	91	10	35	75	19
Future Vol, veh/h	20	85	10	7	63	22	10	91	10	35	75	19
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	21	89	11	7	66	23	11	96	11	37	79	20
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	8.2	8.4	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	17%	8%	27%
Vol Thru, %	82%	74%	68%	58%
Vol Right, %	9%	9%	24%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	111	115	92	129
LT Vol	10	20	7	35
Through Vol	91	85	63	75
RT Vol	10	10	22	19
Lane Flow Rate	117	121	97	136
Geometry Grp	1	1	1	1
Degree of Util (X)	0.149	0.156	0.123	0.172
Departure Headway (Hd)	4.586	4.637	4.558	4.566
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	782	774	786	785
Service Time	2.616	2.668	2.589	2.596
HCM Lane V/C Ratio	0.15	0.156	0.123	0.173
HCM Control Delay	8.4	8.5	8.2	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.6	0.4	0.6

Intersection	
Intersection Delay, s/veh	28
Intersection LOS	D

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	20	44	203	40	6	198	145	101	58	5	105	53
Future Vol, veh/h	20	44	203	40	6	198	145	101	58	5	105	53
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	65	299	59	9	291	213	149	85	7	154	78
Number of Lanes	0	1	1	0	1	1	1	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	41.3	25.6	18.4	20.1
HCM LOS	E	D	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	80%	0%
Vol Thru, %	0%	92%	0%	84%	0%	100%	0%	20%	31%
Vol Right, %	0%	8%	0%	16%	0%	0%	100%	0%	69%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	63	64	243	6	198	145	132	85
LT Vol	101	0	64	0	6	0	0	105	0
Through Vol	0	58	0	203	0	198	0	27	27
RT Vol	0	5	0	40	0	0	145	0	58
Lane Flow Rate	149	93	94	357	9	291	213	193	124
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.42	0.247	0.246	0.871	0.023	0.717	0.482	0.526	0.307
Departure Headway (Hd)	10.171	9.595	9.417	8.779	9.386	8.869	8.145	9.796	8.887
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	354	373	381	411	381	408	441	367	404
Service Time	7.95	7.373	7.189	6.55	7.158	6.64	5.916	7.572	6.662
HCM Lane V/C Ratio	0.421	0.249	0.247	0.869	0.024	0.713	0.483	0.526	0.307
HCM Control Delay	20.2	15.5	15.3	48.2	12.4	31.3	18.3	23	15.6
HCM Lane LOS	C	C	C	E	B	D	C	C	C
HCM 95th-tile Q	2	1	1	8.7	0.1	5.5	2.6	2.9	1.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes Configurations	
Traffic Vol, veh/h	58
Future Vol, veh/h	58
Peak Hour Factor	0.68
Heavy Vehicles, %	3
Mvmt Flow	85
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	1	13	78	9	8	83	50	10	33	9	62	28
Future Vol, veh/h	1	13	78	9	8	83	50	10	33	9	62	28
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	14	87	10	9	92	56	11	37	10	69	31
Number of Lanes	0	1	1	0	1	1	1	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	8.9	8.5	8.6	9.2
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	82%	0%
Vol Thru, %	0%	79%	0%	90%	0%	100%	0%	18%	67%
Vol Right, %	0%	21%	0%	10%	0%	0%	100%	0%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	42	14	87	8	83	50	76	21
LT Vol	10	0	14	0	8	0	0	62	0
Through Vol	0	33	0	78	0	83	0	14	14
RT Vol	0	9	0	9	0	0	50	0	7
Lane Flow Rate	11	47	16	97	9	92	56	84	23
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.019	0.07	0.025	0.142	0.014	0.136	0.071	0.136	0.033
Departure Headway (Hd)	6.022	5.37	5.871	5.295	5.799	5.297	4.594	5.81	5.167
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	593	665	609	676	616	676	777	616	690
Service Time	3.776	3.124	3.618	3.043	3.542	3.039	2.336	3.561	2.918
HCM Lane V/C Ratio	0.019	0.071	0.026	0.143	0.015	0.136	0.072	0.136	0.033
HCM Control Delay	8.9	8.5	8.8	8.9	8.6	8.9	7.7	9.5	8.1
HCM Lane LOS	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.1	0.5	0	0.5	0.2	0.5	0.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes Configurations	
Traffic Vol, veh/h	7
Future Vol, veh/h	7
Peak Hour Factor	0.90
Heavy Vehicles, %	3
Mvmt Flow	8
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection: 1: Grantland Avenue & Barstow Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	63	65	29	29
Average Queue (ft)	31	26	3	5
95th Queue (ft)	48	53	18	22
Link Distance (ft)	652	2486		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			280	250
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Garfield Avenue & Shaw Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	73	53	51	62
Average Queue (ft)	9	2	8	31
95th Queue (ft)	39	17	32	45
Link Distance (ft)	2578	2615	2466	2553
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Grantland Avenue & Shaw Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	96	225	53	164	134	199	175	184
Average Queue (ft)	48	72	13	93	21	73	73	76
95th Queue (ft)	89	145	43	149	71	137	137	147
Link Distance (ft)		2615		2590		3433		2603
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	325		325		175		175	
Storage Blk Time (%)						0	0	1
Queuing Penalty (veh)						0	0	1

Intersection: 5: Bryan Avenue & Shaw Avenue

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	69	31	89
Average Queue (ft)	19	11	34
95th Queue (ft)	45	33	63
Link Distance (ft)			2590
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250	275	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Hayes Avenue & Shaw Avenue

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	74	91
Average Queue (ft)	17	44
95th Queue (ft)	52	76
Link Distance (ft)	1210	1542
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Grantland Avenue & Gettysburg Avenue/Stadium Drive

Movement	EB	EB	WB
Directions Served	L	TR	LTR
Maximum Queue (ft)	25	24	23
Average Queue (ft)	11	16	12
95th Queue (ft)	30	33	31
Link Distance (ft)		1471	1258
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Bryan Avenue & Gettysburg Avenue

Movement	EB	EB	NB
Directions Served	L	R	L
Maximum Queue (ft)	19	23	44
Average Queue (ft)	5	6	14
95th Queue (ft)	19	21	37
Link Distance (ft)	1320	1320	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			250
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Grantland Avenue & Ashlan Avenue

Movement	WB	WB	SB
Directions Served	L	R	L
Maximum Queue (ft)	54	44	48
Average Queue (ft)	29	26	7
95th Queue (ft)	52	37	28
Link Distance (ft)	2589	2589	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			250
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Bryan Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	UL	TR	L	T	R	L	TR	LT	TR
Maximum Queue (ft)	53	117	52	78	71	53	55	54	47
Average Queue (ft)	28	50	12	43	39	29	31	36	25
95th Queue (ft)	49	87	40	68	61	43	51	54	39
Link Distance (ft)		2589		407			1002	2528	2528
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		250		250	250			
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 13: Hayes Avenue & Ashlan Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	52	32	53	73
Average Queue (ft)	26	29	26	27
95th Queue (ft)	43	38	48	51
Link Distance (ft)	1469	2575	2608	565
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Polk Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	27	54	51	66	29	78	54	72
Average Queue (ft)	4	30	18	37	2	39	30	31
95th Queue (ft)	18	41	43	55	13	64	56	53
Link Distance (ft)		2575		2107		1100		1271
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100		125		75		275	
Storage Blk Time (%)						0		
Queuing Penalty (veh)						0		

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	UL	L	T	R	L	T	T	R	L
Maximum Queue (ft)	72	202	191	385	495	921	42	90	93	154	165	210
Average Queue (ft)	23	116	107	354	413	566	13	41	37	34	76	94
95th Queue (ft)	60	175	175	458	656	1039	32	78	72	95	133	172
Link Distance (ft)		352	352			2511	2511		323	323		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			275	275			100			80	150
Storage Blk Time (%)				82	17	2		0	0	0	7	3
Queuing Penalty (veh)				197	41	6		0	0	0	4	2

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	144	154
Average Queue (ft)	69	27
95th Queue (ft)	128	82
Link Distance (ft)	2602	2602
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 17: Grantland Avenue & Shields Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	79	79	79	102
Average Queue (ft)	36	38	35	48
95th Queue (ft)	59	60	54	74
Link Distance (ft)	2601	2580	2582	1625
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 251

Intersection: 1: Grantland Avenue & Barstow Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	64	54	31	28
Average Queue (ft)	23	34	5	1
95th Queue (ft)	49	49	23	9
Link Distance (ft)	652	2486		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			280	250
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Garfield Avenue & Shaw Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	76	25	31	60
Average Queue (ft)	10	1	3	21
95th Queue (ft)	37	8	16	42
Link Distance (ft)	2578	2615	2466	2553
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Grantland Avenue & Shaw Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	73	161	93	244	31	159	118	160
Average Queue (ft)	43	73	30	113	6	79	63	66
95th Queue (ft)	77	132	69	194	25	133	103	122
Link Distance (ft)		2615		2590		3432		2603
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	325		325		175		175	
Storage Blk Time (%)						0		0
Queuing Penalty (veh)						0		0

Intersection: 5: Bryan Avenue & Shaw Avenue

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	52	72	43
Average Queue (ft)	21	26	20
95th Queue (ft)	45	51	40
Link Distance (ft)			2590
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250	275	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Hayes Avenue & Shaw Avenue

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	152	115
Average Queue (ft)	41	38
95th Queue (ft)	110	79
Link Distance (ft)	1210	1542
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Grantland Avenue & Gettysburg Avenue/Stadium Drive

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	LTR	L	LTR
Maximum Queue (ft)	28	61	47	22	28
Average Queue (ft)	7	16	13	3	2
95th Queue (ft)	25	43	36	16	15
Link Distance (ft)		1471	1259		3432
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	250			250	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9: Bryan Avenue & Gettysburg Avenue

Movement	EB	EB	NB
Directions Served	L	R	L
Maximum Queue (ft)	18	21	50
Average Queue (ft)	2	1	3
95th Queue (ft)	10	7	21
Link Distance (ft)	1320	1320	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			250
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Grantland Avenue & Ashlan Avenue

Movement	WB	WB	SB
Directions Served	L	R	L
Maximum Queue (ft)	44	48	62
Average Queue (ft)	18	30	17
95th Queue (ft)	40	39	47
Link Distance (ft)	2589	2589	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			250
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Bryan Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	UL	TR	L	T	R	L	TR	LT	TR
Maximum Queue (ft)	30	65	31	54	62	25	46	51	28
Average Queue (ft)	10	33	3	28	26	5	21	28	5
95th Queue (ft)	32	49	18	43	48	20	41	37	21
Link Distance (ft)		2589		403			1003	2528	2528
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		250		250	250			
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 13: Hayes Avenue & Ashlan Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	65	74	52	54
Average Queue (ft)	34	33	30	27
95th Queue (ft)	48	53	48	50
Link Distance (ft)	1469	2575	2608	565
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Polk Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	30	91	76	153	30	114	72	66
Average Queue (ft)	7	39	40	64	8	50	34	37
95th Queue (ft)	26	66	69	109	29	79	58	56
Link Distance (ft)		2575		2107		1100		1271
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100		125		75		275	
Storage Blk Time (%)		0		1		1		
Queuing Penalty (veh)		0		0		0		

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	UL	L	T	R	L	T	T	R	L
Maximum Queue (ft)	31	100	118	385	495	1490	86	90	73	72	74	178
Average Queue (ft)	10	58	59	309	301	442	31	37	36	31	44	68
95th Queue (ft)	33	92	100	476	584	1292	65	79	65	67	69	133
Link Distance (ft)		352	352			2511	2511		323	323		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			275	275			100			80	150
Storage Blk Time (%)				67	18	0		0		0	0	3
Queuing Penalty (veh)				237	64	1		0		0	0	1

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	190	43
Average Queue (ft)	39	7
95th Queue (ft)	103	26
Link Distance (ft)	2602	2602
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: Grantland Avenue & Shields Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	55	68	73	73
Average Queue (ft)	33	33	35	37
95th Queue (ft)	51	54	52	58
Link Distance (ft)	2601	2580	2582	1625
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 304

Appendix H: Existing plus Project (Phase I & Phase II) Traffic Conditions

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	9	30	25	20	7	15	392	10	10	304	21
Future Vol, veh/h	28	9	30	25	20	7	15	392	10	10	304	21
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	280	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	31	10	33	27	22	8	16	431	11	11	334	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	852	842	346	858	848	437	357	0	0	442	0	0
Stage 1	368	368	-	469	469	-	-	-	-	-	-	-
Stage 2	484	474	-	389	379	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	278	300	695	276	297	617	1196	-	-	1113	-	-
Stage 1	650	620	-	573	559	-	-	-	-	-	-	-
Stage 2	562	556	-	633	613	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	254	293	695	252	290	617	1196	-	-	1113	-	-
Mov Cap-2 Maneuver	254	293	-	252	290	-	-	-	-	-	-	-
Stage 1	642	614	-	566	552	-	-	-	-	-	-	-
Stage 2	526	549	-	587	607	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.4	20.4	0.3	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1196	-	-	364	290	1113	-	-
HCM Lane V/C Ratio	0.014	-	-	0.202	0.197	0.01	-	-
HCM Control Delay (s)	8.1	-	-	17.4	20.4	8.3	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.7	0	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	52	296	2	1	260	24	3	6	1	27	5	79
Future Vol, veh/h	52	296	2	1	260	24	3	6	1	27	5	79
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	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	69	395	3	1	347	32	4	8	1	36	7	105

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	379	0	0	398	0	0	956	916	397	904	901	363
Stage 1	-	-	-	-	-	-	535	535	-	365	365	-
Stage 2	-	-	-	-	-	-	421	381	-	539	536	-
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	1174	-	-	1155	-	-	237	271	650	257	277	680
Stage 1	-	-	-	-	-	-	527	522	-	652	622	-
Stage 2	-	-	-	-	-	-	608	612	-	525	522	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1174	-	-	1155	-	-	185	250	650	236	256	680
Mov Cap-2 Maneuver	-	-	-	-	-	-	185	250	-	236	256	-
Stage 1	-	-	-	-	-	-	487	483	-	603	621	-
Stage 2	-	-	-	-	-	-	508	611	-	477	483	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0	21	17.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	239	1174	-	-	1155	-	-	444
HCM Lane V/C Ratio	0.056	0.059	-	-	0.001	-	-	0.333
HCM Control Delay (s)	21	8.3	0	-	8.1	0	-	17.1
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0	-	-	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	224	21	43	191	83	27	205	120	124	181	97
Future Volume (veh/h)	79	224	21	43	191	83	27	205	120	124	181	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	90	255	24	49	217	94	31	233	136	141	206	110
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	115	405	38	82	275	119	59	283	165	179	370	198
Arrive On Green	0.07	0.24	0.24	0.05	0.23	0.23	0.03	0.26	0.26	0.10	0.33	0.33
Sat Flow, veh/h	1757	1661	156	1757	1222	529	1757	1094	638	1757	1133	605
Grp Volume(v), veh/h	90	0	279	49	0	311	31	0	369	141	0	316
Grp Sat Flow(s),veh/h/ln	1757	0	1817	1757	0	1751	1757	0	1732	1757	0	1738
Q Serve(g_s), s	3.0	0.0	8.0	1.6	0.0	9.8	1.0	0.0	11.7	4.6	0.0	8.8
Cycle Q Clear(g_c), s	3.0	0.0	8.0	1.6	0.0	9.8	1.0	0.0	11.7	4.6	0.0	8.8
Prop In Lane	1.00		0.09	1.00		0.30	1.00		0.37	1.00		0.35
Lane Grp Cap(c), veh/h	115	0	443	82	0	395	59	0	448	179	0	568
V/C Ratio(X)	0.78	0.00	0.63	0.59	0.00	0.79	0.52	0.00	0.82	0.79	0.00	0.56
Avail Cap(c_a), veh/h	162	0	847	150	0	813	174	0	725	234	0	819
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.9	0.0	19.8	27.4	0.0	21.4	27.8	0.0	20.4	25.7	0.0	16.2
Incr Delay (d2), s/veh	14.7	0.0	1.5	6.7	0.0	3.5	6.9	0.0	4.1	12.5	0.0	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	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	4.2	0.9	0.0	5.1	0.6	0.0	6.0	2.9	0.0	4.3
LnGrp Delay(d),s/veh	41.6	0.0	21.2	34.0	0.0	24.9	34.7	0.0	24.5	38.2	0.0	17.1
LnGrp LOS	D		C	C		C	C		C	D		B
Approach Vol, veh/h		369			360			400			457	
Approach Delay, s/veh		26.2			26.2			25.3			23.6	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	21.2	6.9	20.3	6.2	25.1	8.0	19.2
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	6.0	* 4.2	* 6	* 4.2	* 6
Max Green Setting (Gmax), s	* 7.8	24.5	* 5	27.3	* 5.8	* 28	* 5.4	* 27
Max Q Clear Time (g_c+I1), s	6.6	13.7	3.6	10.0	3.0	10.8	5.0	11.8
Green Ext Time (p_c), s	0.0	1.4	0.0	1.2	0.0	1.6	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	25.2
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	410	51	112	298	24	93
Future Vol, veh/h	410	51	112	298	24	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	-	-	250	-	275	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	494	61	135	359	29	112

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	555	0	1154	525
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	629	-
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	-	-	1010	-	217	551
Stage 1	-	-	-	-	591	-
Stage 2	-	-	-	-	529	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1010	-	188	551
Mov Cap-2 Maneuver	-	-	-	-	188	-
Stage 1	-	-	-	-	512	-
Stage 2	-	-	-	-	529	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	16.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	188	551	-	-	1010	-
HCM Lane V/C Ratio	0.154	0.203	-	-	0.134	-
HCM Control Delay (s)	27.6	13.2	-	-	9.1	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	0.8	-	-	0.5	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	455	59	42	333	61	114
Future Vol, veh/h	455	59	42	333	61	114
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	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	479	62	44	351	64	120

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	541	0	949	510
Stage 1	-	-	-	-	510	-
Stage 2	-	-	-	-	439	-
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	-	-	1023	-	288	561
Stage 1	-	-	-	-	601	-
Stage 2	-	-	-	-	648	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1023	-	273	561
Mov Cap-2 Maneuver	-	-	-	-	273	-
Stage 1	-	-	-	-	569	-
Stage 2	-	-	-	-	648	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	20.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	410	-	-	1023	-
HCM Lane V/C Ratio	0.449	-	-	0.043	-
HCM Control Delay (s)	20.7	-	-	8.7	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	97	2	59	8	1	7	21	237	16	6	208	28
Future Vol, veh/h	97	2	59	8	1	7	21	237	16	6	208	28
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	-	-	-	250	-	530	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	115	2	70	10	1	8	25	282	19	7	248	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	625	630	265	647	627	282	281	0	0	301	0	0
Stage 1	279	279	-	332	332	-	-	-	-	-	-	-
Stage 2	346	351	-	315	295	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	396	397	771	383	399	755	1276	-	-	1254	-	-
Stage 1	725	678	-	679	643	-	-	-	-	-	-	-
Stage 2	668	630	-	694	667	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	383	386	771	339	388	755	1276	-	-	1254	-	-
Mov Cap-2 Maneuver	383	386	-	339	388	-	-	-	-	-	-	-
Stage 1	711	673	-	665	630	-	-	-	-	-	-	-
Stage 2	646	617	-	624	662	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.3	13.3	0.6	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1276	-	-	383	747	451	1254	-	-
HCM Lane V/C Ratio	0.02	-	-	0.302	0.097	0.042	0.006	-	-
HCM Control Delay (s)	7.9	-	-	18.4	10.3	13.3	7.9	0	-
HCM Lane LOS	A	-	-	C	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.2	0.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	8	123	114	143	54
Future Vol, veh/h	9	8	123	114	143	54
Conflicting Peds, #/hr	0	0	24	0	0	24
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	12	10	158	146	183	69

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	704	242	276	0	-	0
Stage 1	242	-	-	-	-	-
Stage 2	462	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	402	794	1281	-	-	-
Stage 1	796	-	-	-	-	-
Stage 2	632	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	335	776	1252	-	-	-
Mov Cap-2 Maneuver	335	-	-	-	-	-
Stage 1	680	-	-	-	-	-
Stage 2	617	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	4.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1252	-	335	776	-	-
HCM Lane V/C Ratio	0.126	-	0.034	0.013	-	-
HCM Control Delay (s)	8.3	-	16.1	9.7	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	4.0
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	0	39	109
Demand Flow Rate, veh/h	0	40	112
Vehicles Circulating, veh/h	112	0	0
Vehicles Exiting, veh/h	0	112	40
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	0.0	3.6	4.1
Approach LOS	-	A	A

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	0	40	112
Cap Entry Lane, veh/h	1010	1130	1130
Entry HV Adj Factor	1.000	0.975	0.973
Flow Entry, veh/h	0	39	109
Cap Entry, veh/h	1010	1102	1100
V/C Ratio	0.000	0.035	0.099
Control Delay, s/veh	3.6	3.6	4.1
LOS	A	A	A
95th %tile Queue, veh	0	0	0

Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	54	17	29	82	10	81	10	94	34	106	151	16
Future Vol, veh/h	54	17	29	82	10	81	10	94	34	106	151	16
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	230	-	0	250	-	-	250	-	0
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	60	19	32	91	11	90	11	104	38	118	168	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	473	568	168	584	567	71	186	0	0	142	0	0
Stage 1	404	404	-	145	145	-	-	-	-	-	-	-
Stage 2	69	164	-	439	422	-	-	-	-	-	-	-
Critical Hdwy	6.795	6.545	6.245	6.795	6.545	7.145	4.145	-	-	5.345	-	-
Critical Hdwy Stg 1	6.145	5.545	-	7.345	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.745	5.545	-	6.145	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.6785	4.0285	3.3285	3.6785	4.0285	3.9285	2.2285	-	-	3.1285	-	-
Pot Cap-1 Maneuver	505	430	873	432	431	827	1381	-	-	991	-	-
Stage 1	599	596	-	783	774	-	-	-	-	-	-	-
Stage 2	891	760	-	574	585	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	397	376	873	362	377	827	1381	-	-	991	-	-
Mov Cap-2 Maneuver	397	376	-	362	377	-	-	-	-	-	-	-
Stage 1	594	525	-	777	768	-	-	-	-	-	-	-
Stage 2	776	754	-	469	515	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.9	14.2	0.6	3.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1381	-	-	397	586	362	377	827	991	-	-
HCM Lane V/C Ratio	0.008	-	-	0.151	0.087	0.252	0.029	0.109	0.119	-	-
HCM Control Delay (s)	7.6	-	-	15.7	11.7	18.3	14.8	9.9	9.1	-	-
HCM Lane LOS	A	-	-	C	B	C	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.3	1	0.1	0.4	0.4	-	-

Intersection	
Intersection Delay, s/veh	49.3
Intersection LOS	E

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	20	52	219	41	6	208	145	101	58	5	105	53
Future Vol, veh/h	20	52	219	41	6	208	145	101	58	5	105	53
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	76	322	60	9	306	213	149	85	7	154	78
Number of Lanes	0	1	1	0	1	1	0	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	33.2	98.2	16.7	18
HCM LOS	D	F	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	80%	0%
Vol Thru, %	0%	92%	0%	84%	0%	59%	20%	30%
Vol Right, %	0%	8%	0%	16%	0%	41%	0%	70%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	63	72	260	6	353	132	89
LT Vol	101	0	72	0	6	0	105	0
Through Vol	0	58	0	219	0	208	27	27
RT Vol	0	5	0	41	0	145	0	62
Lane Flow Rate	149	93	106	382	9	519	193	130
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.382	0.223	0.246	0.821	0.021	1.104	0.48	0.29
Departure Headway (Hd)	9.666	9.085	8.717	8.084	8.472	7.659	9.318	8.39
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	374	397	415	451	425	478	389	431
Service Time	7.366	6.785	6.417	5.784	6.172	5.359	7.018	6.09
HCM Lane V/C Ratio	0.398	0.234	0.255	0.847	0.021	1.086	0.496	0.302
HCM Control Delay	18.2	14.4	14.2	38.4	11.4	99.7	20.3	14.5
HCM Lane LOS	C	B	B	E	B	F	C	B
HCM 95th-tile Q	1.7	0.8	1	7.7	0.1	17.3	2.5	1.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lane Configurations	
Traffic Vol, veh/h	62
Future Vol, veh/h	62
Peak Hour Factor	0.68
Heavy Vehicles, %	3
Mvmt Flow	91
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	60	12	16	55	5	7	25	19	25	49	4
Future Vol, veh/h	5	60	12	16	55	5	7	25	19	25	49	4
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	6	67	13	18	61	6	8	28	21	28	54	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	7.9	7.6	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	6%	21%	32%
Vol Thru, %	49%	78%	72%	63%
Vol Right, %	37%	16%	7%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	51	77	76	78
LT Vol	7	5	16	25
Through Vol	25	60	55	49
RT Vol	19	12	5	4
Lane Flow Rate	57	86	84	87
Geometry Grp	1	1	1	1
Degree of Util (X)	0.067	0.102	0.103	0.107
Departure Headway (Hd)	4.234	4.288	4.371	4.428
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	848	838	822	812
Service Time	2.249	2.301	2.383	2.442
HCM Lane V/C Ratio	0.067	0.103	0.102	0.107
HCM Control Delay	7.6	7.8	7.9	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.3	0.4

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	3	99	3	28	66	36	3	84	68	95	77	8
Future Vol, veh/h	3	99	3	28	66	36	3	84	68	95	77	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	3	104	3	29	69	38	3	88	72	100	81	8
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9.5	9.1	9.4	9.4
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	55%	0%	97%	0%	65%	0%	91%
Vol Right, %	0%	45%	0%	3%	0%	35%	0%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	152	3	102	28	102	95	85
LT Vol	3	0	3	0	28	0	95	0
Through Vol	0	84	0	99	0	66	0	77
RT Vol	0	68	0	3	0	36	0	8
Lane Flow Rate	3	160	3	107	29	107	100	89
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.005	0.227	0.005	0.167	0.05	0.159	0.163	0.132
Departure Headway (Hd)	5.933	5.114	6.123	5.598	6.092	5.34	5.882	5.313
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	600	698	581	637	585	668	607	671
Service Time	3.697	2.878	3.892	3.367	3.859	3.106	3.645	3.075
HCM Lane V/C Ratio	0.005	0.229	0.005	0.168	0.05	0.16	0.165	0.133
HCM Control Delay	8.7	9.4	8.9	9.5	9.2	9.1	9.8	8.9
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0	0.9	0	0.6	0.2	0.6	0.6	0.5



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	23	460	90	1	271	242	80	65	96	330	193	172
Future Volume (vph)	23	460	90	1	271	242	80	65	96	330	193	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
Lane Util. Factor	1.00	0.95			0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.98			1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97
Flt Protected	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	3419			3400	1845	1568	1752	3505	1568	1752	3400
Flt Permitted	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	3419			3400	1845	1568	1752	3505	1568	1752	3400
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	31	613	120	1	361	323	107	87	128	440	257	229
RTOR Reduction (vph)	0	15	0	0	0	0	69	0	0	139	0	21
Lane Group Flow (vph)	31	718	0	0	362	323	38	87	128	301	257	265
Turn Type	Prot	NA		Prot	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases							8			2		
Actuated Green, G (s)	3.3	25.9			10.1	32.7	32.7	7.9	23.2	23.2	13.2	28.5
Effective Green, g (s)	3.3	25.9			10.1	32.7	32.7	7.9	23.2	23.2	13.2	28.5
Actuated g/C Ratio	0.04	0.28			0.11	0.36	0.36	0.09	0.25	0.25	0.15	0.31
Clearance Time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
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)	63	973			377	662	563	152	893	399	254	1064
v/s Ratio Prot	0.02	c0.21			c0.11	0.18		0.05	0.04		c0.15	0.08
v/s Ratio Perm							0.02			c0.19		
v/c Ratio	0.49	0.74			0.96	0.49	0.07	0.57	0.14	0.75	1.01	0.25
Uniform Delay, d1	43.0	29.5			40.3	22.6	19.1	39.9	26.2	31.3	38.9	23.3
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	5.9	3.0			35.9	0.6	0.1	5.1	0.1	7.9	59.5	0.1
Delay (s)	49.0	32.4			76.1	23.2	19.2	45.1	26.3	39.1	98.4	23.4
Level of Service	D	C			E	C	B	D	C	D	F	C
Approach Delay (s)		33.1				46.9			37.4			58.9
Approach LOS		C				D			D			E

Intersection Summary			
HCM 2000 Control Delay	43.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	91.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	43
Future Volume (vph)	43
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.75
Adj. Flow (vph)	57
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	105	4	15	137	21	17	78	12	37	155	62
Future Vol, veh/h	25	105	4	15	137	21	17	78	12	37	155	62
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	30	127	5	18	165	25	20	94	14	45	187	75
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.3	10.7	9.7	11.9
HCM LOS	B	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	19%	9%	15%
Vol Thru, %	73%	78%	79%	61%
Vol Right, %	11%	3%	12%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	107	134	173	254
LT Vol	17	25	15	37
Through Vol	78	105	137	155
RT Vol	12	4	21	62
Lane Flow Rate	129	161	208	306
Geometry Grp	1	1	1	1
Degree of Util (X)	0.194	0.245	0.308	0.43
Departure Headway (Hd)	5.405	5.466	5.318	5.058
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	664	657	675	713
Service Time	3.44	3.502	3.351	3.087
HCM Lane V/C Ratio	0.194	0.245	0.308	0.429
HCM Control Delay	9.7	10.3	10.7	11.9
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.7	1	1.3	2.2

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	18	11	20	11	28	11	24	311	18	17	370	20
Future Vol, veh/h	18	11	20	11	28	11	24	311	18	17	370	20
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	280	-	-	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	20	12	22	12	31	12	27	346	20	19	411	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	892	880	422	887	881	356	433	0	0	366	0	0
Stage 1	460	460	-	410	410	-	-	-	-	-	-	-
Stage 2	432	420	-	477	471	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	262	285	630	264	284	686	1121	-	-	1187	-	-
Stage 1	579	564	-	617	594	-	-	-	-	-	-	-
Stage 2	600	588	-	567	558	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	228	274	630	239	273	686	1121	-	-	1187	-	-
Mov Cap-2 Maneuver	228	274	-	239	273	-	-	-	-	-	-	-
Stage 1	565	555	-	602	580	-	-	-	-	-	-	-
Stage 2	544	574	-	526	549	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.3	19.5	0.6	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1121	-	-	325	304	1187	-	-
HCM Lane V/C Ratio	0.024	-	-	0.168	0.183	0.016	-	-
HCM Control Delay (s)	8.3	-	-	18.3	19.5	8.1	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.7	0	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	32	238	2	4	239	24	1	1	2	17	6	34
Future Vol, veh/h	32	238	2	4	239	24	1	1	2	17	6	34
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	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	35	262	2	4	263	26	1	1	2	19	7	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	289	0	0	264	0	0	639	630	263	619	618	276
Stage 1	-	-	-	-	-	-	333	333	-	284	284	-
Stage 2	-	-	-	-	-	-	306	297	-	335	334	-
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	1267	-	-	1294	-	-	387	397	773	400	404	760
Stage 1	-	-	-	-	-	-	679	642	-	721	675	-
Stage 2	-	-	-	-	-	-	702	666	-	677	641	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1267	-	-	1294	-	-	353	383	773	387	389	760
Mov Cap-2 Maneuver	-	-	-	-	-	-	353	383	-	387	389	-
Stage 1	-	-	-	-	-	-	657	621	-	698	672	-
Stage 2	-	-	-	-	-	-	658	663	-	652	620	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.1	12.3	12.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	498	1267	-	-	1294	-	-	548
HCM Lane V/C Ratio	0.009	0.028	-	-	0.003	-	-	0.114
HCM Control Delay (s)	12.3	7.9	0	-	7.8	0	-	12.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	196	16	104	235	116	10	175	101	105	208	59
Future Volume (veh/h)	69	196	16	104	235	116	10	175	101	105	208	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	72	204	17	108	245	121	10	182	105	109	217	61
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	108	415	35	138	308	152	23	237	136	139	390	110
Arrive On Green	0.06	0.25	0.25	0.08	0.26	0.26	0.01	0.22	0.22	0.08	0.28	0.28
Sat Flow, veh/h	1757	1680	140	1757	1167	576	1757	1099	634	1757	1386	390
Grp Volume(v), veh/h	72	0	221	108	0	366	10	0	287	109	0	278
Grp Sat Flow(s),veh/h/ln	1757	0	1820	1757	0	1743	1757	0	1733	1757	0	1776
Q Serve(g_s), s	2.2	0.0	5.6	3.2	0.0	10.5	0.3	0.0	8.4	3.3	0.0	7.2
Cycle Q Clear(g_c), s	2.2	0.0	5.6	3.2	0.0	10.5	0.3	0.0	8.4	3.3	0.0	7.2
Prop In Lane	1.00		0.08	1.00		0.33	1.00		0.37	1.00		0.22
Lane Grp Cap(c), veh/h	108	0	450	138	0	461	23	0	373	139	0	500
V/C Ratio(X)	0.67	0.00	0.49	0.78	0.00	0.79	0.44	0.00	0.77	0.78	0.00	0.56
Avail Cap(c_a), veh/h	203	0	925	203	0	896	164	0	800	206	0	899
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	17.3	24.3	0.0	18.4	26.3	0.0	19.8	24.3	0.0	16.4
Incr Delay (d2), s/veh	7.0	0.0	0.8	11.3	0.0	3.1	12.9	0.0	3.4	11.0	0.0	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	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	2.9	2.0	0.0	5.4	0.2	0.0	4.3	2.0	0.0	3.6
LnGrp Delay(d),s/veh	31.6	0.0	18.1	35.6	0.0	21.5	39.2	0.0	23.2	35.3	0.0	17.4
LnGrp LOS	C		B	D		C	D		C	D		B
Approach Vol, veh/h		293			474			297			387	
Approach Delay, s/veh		21.5			24.8			23.7			22.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	17.6	8.4	19.3	4.9	21.1	7.5	20.2
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	6.0	* 4.2	* 6	* 4.2	* 6
Max Green Setting (Gmax), s	* 6.3	24.8	* 6.2	27.3	* 5	* 27	* 6.2	* 28
Max Q Clear Time (g_c+I1), s	5.3	10.4	5.2	7.6	2.3	9.2	4.2	12.5
Green Ext Time (p_c), s	0.0	1.2	0.0	0.9	0.0	1.4	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	23.3
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	364	43	83	432	37	44
Future Vol, veh/h	364	43	83	432	37	44
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	275	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	400	47	91	475	41	48

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	449	0	1083	426
Stage 1	-	-	-	-	426	-
Stage 2	-	-	-	-	657	-
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	-	-	1106	-	239	626
Stage 1	-	-	-	-	657	-
Stage 2	-	-	-	-	514	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1104	-	219	625
Mov Cap-2 Maneuver	-	-	-	-	219	-
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	514	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	17.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	219	625	-	-	1104	-
HCM Lane V/C Ratio	0.186	0.077	-	-	0.083	-
HCM Control Delay (s)	25.1	11.2	-	-	8.6	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	0.3	-	-	0.3	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	394	57	107	497	37	69
Future Vol, veh/h	394	57	107	497	37	69
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	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	428	62	116	540	40	75

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	490	0	1231	459
Stage 1	-	-	-	-	459	-
Stage 2	-	-	-	-	772	-
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	-	-	1068	-	195	600
Stage 1	-	-	-	-	634	-
Stage 2	-	-	-	-	454	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1068	-	165	600
Mov Cap-2 Maneuver	-	-	-	-	165	-
Stage 1	-	-	-	-	536	-
Stage 2	-	-	-	-	454	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	23.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	312	-	-	1068	-
HCM Lane V/C Ratio	0.369	-	-	0.109	-
HCM Control Delay (s)	23.1	-	-	8.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.6	-	-	0.4	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	61	3	40	12	2	11	78	200	9	12	224	94
Future Vol, veh/h	61	3	40	12	2	11	78	200	9	12	224	94
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	-	-	-	250	-	530	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	71	3	47	14	2	13	91	233	10	14	260	109

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	771	768	315	783	812	233	369	0	0	243	0	0
Stage 1	343	343	-	415	415	-	-	-	-	-	-	-
Stage 2	428	425	-	368	397	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	316	331	723	310	312	804	1184	-	-	1317	-	-
Stage 1	670	636	-	613	591	-	-	-	-	-	-	-
Stage 2	603	585	-	650	602	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	288	301	723	268	284	804	1184	-	-	1317	-	-
Mov Cap-2 Maneuver	288	301	-	268	284	-	-	-	-	-	-	-
Stage 1	618	627	-	566	545	-	-	-	-	-	-	-
Stage 2	545	540	-	596	594	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.1	15.2	2.3	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1184	-	-	288	659	382	1317	-	-
HCM Lane V/C Ratio	0.077	-	-	0.246	0.076	0.076	0.011	-	-
HCM Control Delay (s)	8.3	-	-	21.5	10.9	15.2	7.8	0	-
HCM Lane LOS	A	-	-	C	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.9	0.2	0.2	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	2	30	71	79	10
Future Vol, veh/h	3	2	30	71	79	10
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	0	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	4	2	37	87	96	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	263	102	108	0	-	0
Stage 1	102	-	-	-	-	-
Stage 2	161	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	724	950	1476	-	-	-
Stage 1	920	-	-	-	-	-
Stage 2	865	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	706	950	1476	-	-	-
Mov Cap-2 Maneuver	706	-	-	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	865	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	2.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1476	-	706	950	-	-
HCM Lane V/C Ratio	0.025	-	0.005	0.003	-	-
HCM Control Delay (s)	7.5	-	10.1	8.8	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	0	-	-

Intersection	
Intersection Delay, s/veh	4.1
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	0	126	72
Demand Flow Rate, veh/h	0	130	74
Vehicles Circulating, veh/h	74	0	0
Vehicles Exiting, veh/h	0	74	130
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	0.0	4.3	3.8
Approach LOS	-	A	A

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	0	130	74
Cap Entry Lane, veh/h	1049	1130	1130
Entry HV Adj Factor	1.000	0.969	0.973
Flow Entry, veh/h	0	126	72
Cap Entry, veh/h	1049	1095	1099
V/C Ratio	0.000	0.115	0.065
Control Delay, s/veh	3.4	4.3	3.8
LOS	A	A	A
95th %tile Queue, veh	0	0	0

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	34	16	16	30	20	107	44	187	32	108	168	52
Future Vol, veh/h	34	16	16	30	20	107	44	187	32	108	168	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	230	-	0	250	-	-	250	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	36	17	17	32	21	114	47	199	34	115	179	55

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	593	738	179	766	776	119	234	0	0	235	0	0
Stage 1	409	409	-	312	312	-	-	-	-	-	-	-
Stage 2	184	329	-	454	464	-	-	-	-	-	-	-
Critical Hdwy	6.795	6.545	6.245	6.795	6.545	7.145	4.145	-	-	5.345	-	-
Critical Hdwy Stg 1	6.145	5.545	-	7.345	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.745	5.545	-	6.145	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.6785	4.0285	3.3285	3.6785	4.0285	3.9285	2.2285	-	-	3.1285	-	-
Pot Cap-1 Maneuver	426	343	860	332	326	772	1325	-	-	897	-	-
Stage 1	596	593	-	605	655	-	-	-	-	-	-	-
Stage 2	760	644	-	564	561	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	300	288	860	273	274	771	1325	-	-	895	-	-
Mov Cap-2 Maneuver	300	288	-	273	274	-	-	-	-	-	-	-
Stage 1	575	517	-	583	631	-	-	-	-	-	-	-
Stage 2	604	620	-	466	489	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.4	13.4	1.3	3.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1325	-	-	300	431	273	274	771	895	-	-
HCM Lane V/C Ratio	0.035	-	-	0.121	0.079	0.117	0.078	0.148	0.128	-	-
HCM Control Delay (s)	7.8	-	-	18.6	14.1	19.9	19.2	10.5	9.6	-	-
HCM Lane LOS	A	-	-	C	B	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.3	0.4	0.3	0.5	0.4	-	-

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	1	19	94	10	8	104	50	11	33	9	62	28
Future Vol, veh/h	1	19	94	10	8	104	50	11	33	9	62	28
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	21	104	11	9	116	56	12	37	10	69	31
Number of Lanes	0	1	1	0	1	1	0	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.9	9.2	8.6	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	82%	0%
Vol Thru, %	0%	79%	0%	90%	0%	68%	18%	48%
Vol Right, %	0%	21%	0%	10%	0%	32%	0%	52%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	42	20	104	8	154	76	29
LT Vol	11	0	20	0	8	0	62	0
Through Vol	0	33	0	94	0	104	14	14
RT Vol	0	9	0	10	0	50	0	15
Lane Flow Rate	12	47	22	116	9	171	84	32
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.02	0.069	0.035	0.165	0.014	0.235	0.136	0.045
Departure Headway (Hd)	5.987	5.332	5.702	5.131	5.67	4.939	5.818	5.044
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	597	670	628	699	631	727	616	708
Service Time	3.735	3.08	3.437	2.866	3.402	2.671	3.563	2.788
HCM Lane V/C Ratio	0.02	0.07	0.035	0.166	0.014	0.235	0.136	0.045
HCM Control Delay	8.9	8.5	8.6	8.9	8.5	9.2	9.5	8
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.1	0.6	0	0.9	0.5	0.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lane Configurations	
Traffic Vol, veh/h	15
Future Vol, veh/h	15
Peak Hour Factor	0.90
Heavy Vehicles, %	3
Mvmt Flow	17
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	121	19	20	109	18	29	68	24	16	47	14
Future Vol, veh/h	11	121	19	20	109	18	29	68	24	16	47	14
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	12	134	21	22	121	20	32	76	27	18	52	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	8.9	8.8	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	7%	14%	21%
Vol Thru, %	56%	80%	74%	61%
Vol Right, %	20%	13%	12%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	121	151	147	77
LT Vol	29	11	20	16
Through Vol	68	121	109	47
RT Vol	24	19	18	14
Lane Flow Rate	134	168	163	86
Geometry Grp	1	1	1	1
Degree of Util (X)	0.178	0.215	0.21	0.115
Departure Headway (Hd)	4.76	4.615	4.634	4.828
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	752	775	773	740
Service Time	2.804	2.656	2.676	2.874
HCM Lane V/C Ratio	0.178	0.217	0.211	0.116
HCM Control Delay	8.8	8.9	8.9	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.8	0.8	0.4

Intersection	
Intersection Delay, s/veh	14
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	140	18	82	133	132	9	136	72	97	130	9
Future Vol, veh/h	10	140	18	82	133	132	9	136	72	97	130	9
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	11	161	21	94	153	152	10	156	83	111	149	10
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	13.2	15	14.6	12.5
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	65%	0%	89%	0%	50%	0%	94%
Vol Right, %	0%	35%	0%	11%	0%	50%	0%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	208	10	158	82	265	97	139
LT Vol	9	0	10	0	82	0	97	0
Through Vol	0	136	0	140	0	133	0	130
RT Vol	0	72	0	18	0	132	0	9
Lane Flow Rate	10	239	11	182	94	305	111	160
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.021	0.446	0.024	0.35	0.189	0.536	0.23	0.305
Departure Headway (Hd)	7.475	6.717	7.53	6.937	7.203	6.338	7.435	6.878
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	479	536	476	519	501	573	483	522
Service Time	5.214	4.455	5.27	4.677	4.903	4.038	5.176	4.619
HCM Lane V/C Ratio	0.021	0.446	0.023	0.351	0.188	0.532	0.23	0.307
HCM Control Delay	10.4	14.8	10.5	13.4	11.6	16.1	12.4	12.6
HCM Lane LOS	B	B	B	B	B	C	B	B
HCM 95th-tile Q	0.1	2.3	0.1	1.6	0.7	3.2	0.9	1.3



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	13	254	66	7	268	364	183	53	124	221	121	73
Future Volume (vph)	13	254	66	7	268	364	183	53	124	221	121	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
Lane Util. Factor	1.00	0.95			0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.97			1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97
Flt Protected	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	3396			3400	1845	1568	1752	3505	1568	1752	3415
Flt Permitted	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	3396			3400	1845	1568	1752	3505	1568	1752	3415
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	14	273	71	8	288	391	197	57	133	238	130	78
RTOR Reduction (vph)	0	25	0	0	0	0	122	0	0	188	0	12
Lane Group Flow (vph)	14	319	0	0	296	391	75	57	133	50	130	82
Turn Type	Prot	NA		Prot	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases							8			2		
Actuated Green, G (s)	0.6	16.8			7.4	23.6	23.6	3.5	13.2	13.2	6.4	16.1
Effective Green, g (s)	0.6	16.8			7.4	23.6	23.6	3.5	13.2	13.2	6.4	16.1
Actuated g/C Ratio	0.01	0.27			0.12	0.38	0.38	0.06	0.21	0.21	0.10	0.26
Clearance Time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
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)	16	914			403	697	593	98	741	331	179	881
v/s Ratio Prot	0.01	0.09			c0.09	c0.21		0.03	c0.04		c0.07	c0.02
v/s Ratio Perm							0.05			0.03		
v/c Ratio	0.88	0.35			0.73	0.56	0.13	0.58	0.18	0.15	0.73	0.09
Uniform Delay, d1	30.9	18.4			26.6	15.3	12.7	28.7	20.2	20.0	27.2	17.6
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	161.3	0.2			6.8	1.0	0.1	8.5	0.1	0.2	13.6	0.0
Delay (s)	192.1	18.6			33.4	16.3	12.8	37.2	20.3	20.3	40.8	17.6
Level of Service	F	B			C	B	B	D	C	C	D	B
Approach Delay (s)		25.4				21.2			22.5			31.1
Approach LOS		C				C			C			C

Intersection Summary			
HCM 2000 Control Delay	23.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	62.4	Sum of lost time (s)	18.6
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	15
Future Volume (vph)	15
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	16
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	85	10	7	63	33	10	139	10	44	86	22
Future Vol, veh/h	32	85	10	7	63	33	10	139	10	44	86	22
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	34	89	11	7	66	35	11	146	11	46	91	23
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	8.6	9.1	9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	25%	7%	29%
Vol Thru, %	87%	67%	61%	57%
Vol Right, %	6%	8%	32%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	159	127	103	152
LT Vol	10	32	7	44
Through Vol	139	85	63	86
RT Vol	10	10	33	22
Lane Flow Rate	167	134	108	160
Geometry Grp	1	1	1	1
Degree of Util (X)	0.219	0.181	0.142	0.209
Departure Headway (Hd)	4.705	4.864	4.72	4.71
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	760	735	756	760
Service Time	2.75	2.913	2.771	2.756
HCM Lane V/C Ratio	0.22	0.182	0.143	0.211
HCM Control Delay	9.1	9	8.6	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.7	0.5	0.8

Intersection	
Intersection Delay, s/veh	33.6
Intersection LOS	D

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	20	52	219	41	6	208	145	101	58	5	105	53
Future Vol, veh/h	20	52	219	41	6	208	145	101	58	5	105	53
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	76	322	60	9	306	213	149	85	7	154	78
Number of Lanes	0	1	1	0	1	1	1	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	53.5	29.5	19.2	21.1
HCM LOS	F	D	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	80%	0%
Vol Thru, %	0%	92%	0%	84%	0%	100%	0%	20%	30%
Vol Right, %	0%	8%	0%	16%	0%	0%	100%	0%	70%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	63	72	260	6	208	145	132	89
LT Vol	101	0	72	0	6	0	0	105	0
Through Vol	0	58	0	219	0	208	0	27	27
RT Vol	0	5	0	41	0	0	145	0	62
Lane Flow Rate	149	93	106	382	9	306	213	193	130
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.432	0.255	0.282	0.951	0.024	0.774	0.497	0.541	0.331
Departure Headway (Hd)	10.482	9.904	9.592	8.958	9.627	9.108	8.383	10.077	9.155
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	343	361	374	405	371	398	429	358	392
Service Time	8.276	7.698	7.373	6.738	7.406	6.888	6.162	7.865	6.942
HCM Lane V/C Ratio	0.434	0.258	0.283	0.943	0.024	0.769	0.497	0.539	0.332
HCM Control Delay	21.1	16.1	16.1	63.9	12.6	37.1	19.2	24.2	16.4
HCM Lane LOS	C	C	C	F	B	E	C	C	C
HCM 95th-tile Q	2.1	1	1.1	10.8	0.1	6.5	2.7	3.1	1.4

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lane Configurations	
Traffic Vol, veh/h	62
Future Vol, veh/h	62
Peak Hour Factor	0.68
Heavy Vehicles, %	3
Mvmt Flow	91
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	1	19	94	10	8	104	50	11	33	9	62	28
Future Vol, veh/h	1	19	94	10	8	104	50	11	33	9	62	28
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	21	104	11	9	116	56	12	37	10	69	31
Number of Lanes	0	1	1	0	1	1	1	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	9.2	8.8	8.8	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	82%	0%
Vol Thru, %	0%	79%	0%	90%	0%	100%	0%	18%	48%
Vol Right, %	0%	21%	0%	10%	0%	0%	100%	0%	52%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	42	20	104	8	104	50	76	29
LT Vol	11	0	20	0	8	0	0	62	0
Through Vol	0	33	0	94	0	104	0	14	14
RT Vol	0	9	0	10	0	0	50	0	15
Lane Flow Rate	12	47	22	116	9	116	56	84	32
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.021	0.072	0.037	0.173	0.015	0.173	0.072	0.14	0.046
Departure Headway (Hd)	6.184	5.531	5.954	5.384	5.889	5.387	4.683	5.957	5.185
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	576	643	599	663	606	663	760	599	686
Service Time	3.956	3.304	3.716	3.145	3.647	3.144	2.441	3.722	2.949
HCM Lane V/C Ratio	0.021	0.073	0.037	0.175	0.015	0.175	0.074	0.14	0.047
HCM Control Delay	9.1	8.7	8.9	9.3	8.7	9.3	7.8	9.7	8.2
HCM Lane LOS	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.1	0.6	0	0.6	0.2	0.5	0.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lane Configurations	
Traffic Vol, veh/h	15
Future Vol, veh/h	15
Peak Hour Factor	0.90
Heavy Vehicles, %	3
Mvmt Flow	17
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection: 1: Grantland Avenue & Barstow Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	92	68	28	28
Average Queue (ft)	30	30	3	3
95th Queue (ft)	57	58	15	16
Link Distance (ft)	652	2486		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			280	250
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Garfield Avenue & Shaw Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	111	20	54	112
Average Queue (ft)	18	1	11	37
95th Queue (ft)	61	7	39	68
Link Distance (ft)	2578	2615	2466	2553
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Grantland Avenue & Shaw Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	118	178	94	306	74	220	137	182
Average Queue (ft)	53	96	37	119	23	115	71	82
95th Queue (ft)	105	157	76	215	60	171	122	148
Link Distance (ft)		2615		2590		3433		2603
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	325		325		175		175	
Storage Blk Time (%)				0		1		0
Queuing Penalty (veh)				0		0		0

Intersection: 5: Bryan Avenue & Shaw Avenue

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	55	31	53
Average Queue (ft)	28	11	32
95th Queue (ft)	54	33	47
Link Distance (ft)			2590
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250	275	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Hayes Avenue & Shaw Avenue

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	74	78
Average Queue (ft)	13	43
95th Queue (ft)	46	70
Link Distance (ft)	1210	1542
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Grantland Avenue & Gettysburg Avenue/Stadium Drive

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	LTR	L	LTR
Maximum Queue (ft)	69	60	46	19	25
Average Queue (ft)	29	24	14	1	3
95th Queue (ft)	52	48	34	9	16
Link Distance (ft)		1459	1258		3433
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	250			250	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9: Bryan Avenue & Gettysburg Avenue

Movement	EB	EB	NB	SB
Directions Served	L	R	L	TR
Maximum Queue (ft)	18	22	63	24
Average Queue (ft)	5	6	21	2
95th Queue (ft)	18	22	47	14
Link Distance (ft)	1320	1320		2590
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			250	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Ashlan Avenue & Project Driveway

Movement	SB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	2
95th Queue (ft)	14
Link Distance (ft)	940
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Grantland Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	SB
Directions Served	L	TR	L	T	R	L
Maximum Queue (ft)	59	44	90	31	63	57
Average Queue (ft)	24	14	31	10	32	10
95th Queue (ft)	44	34	53	32	53	37
Link Distance (ft)		898		2589	2589	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	250		230			250
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 12: Bryan Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	UL	TR	L	T	R	L	TR	LT	TR
Maximum Queue (ft)	62	98	30	77	78	88	72	66	51
Average Queue (ft)	29	57	7	52	41	37	30	35	24
95th Queue (ft)	50	87	28	78	65	61	54	53	47
Link Distance (ft)		2589		407			1002	2528	2528
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		250		250	250			
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 13: Hayes Avenue & Ashlan Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	55	70	48	75
Average Queue (ft)	31	32	24	33
95th Queue (ft)	47	56	45	54
Link Distance (ft)	1469	2575	2608	565
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Polk Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	29	99	47	74	30	67	78	75
Average Queue (ft)	5	33	14	39	4	40	33	31
95th Queue (ft)	21	56	39	65	19	61	58	51
Link Distance (ft)		2575		2107		1100		1271
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100		125		75		275	
Storage Blk Time (%)		0				0		
Queuing Penalty (veh)		0				0		

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	UL	L	T	R	L	T	T	R	L
Maximum Queue (ft)	74	191	231	385	495	1259	40	112	75	78	138	238
Average Queue (ft)	17	118	106	357	408	623	12	49	34	24	81	114
95th Queue (ft)	48	174	176	448	641	1337	27	94	65	60	129	191
Link Distance (ft)		352	352			2511	2511		323	323		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			275	275			100			80	150
Storage Blk Time (%)				84	19	1		1		1	7	6
Queuing Penalty (veh)				203	46	2		0		2	4	6

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	248	56
Average Queue (ft)	101	19
95th Queue (ft)	190	49
Link Distance (ft)	2602	2602
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	1	
Queuing Penalty (veh)	3	

Intersection: 17: Grantland Avenue & Shields Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	64	56	54	94
Average Queue (ft)	35	39	34	47
95th Queue (ft)	54	56	49	75
Link Distance (ft)	2601	2580	2582	1625
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 266

Intersection: 1: Grantland Avenue & Barstow Avenue

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	L
Maximum Queue (ft)	74	53	46	22	26
Average Queue (ft)	26	27	7	1	1
95th Queue (ft)	57	56	29	7	8
Link Distance (ft)	652	2486		2603	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			280		250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Garfield Avenue & Shaw Avenue

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	31	31	77
Average Queue (ft)	5	5	25
95th Queue (ft)	22	23	49
Link Distance (ft)	2578	2466	2553
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Grantland Avenue & Shaw Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	116	156	118	215	31	274	148	170
Average Queue (ft)	46	77	58	129	5	96	80	79
95th Queue (ft)	85	130	105	206	22	175	138	146
Link Distance (ft)		2615		2590		3432		2603
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	325		325		175		175	
Storage Blk Time (%)						1		0
Queuing Penalty (veh)						0		0

Intersection: 5: Bryan Avenue & Shaw Avenue

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	51	53	74
Average Queue (ft)	19	23	24
95th Queue (ft)	43	52	45
Link Distance (ft)			2590
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250	275	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Hayes Avenue & Shaw Avenue

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	113	143
Average Queue (ft)	32	47
95th Queue (ft)	77	96
Link Distance (ft)	1210	1542
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Grantland Avenue & Gettysburg Avenue/Stadium Drive

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	LTR	L	LTR
Maximum Queue (ft)	70	60	23	25	29
Average Queue (ft)	26	20	14	13	1
95th Queue (ft)	53	41	32	29	10
Link Distance (ft)		1459	1259		3432
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	250			250	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9: Bryan Avenue & Gettysburg Avenue

Movement	EB	EB	NB
Directions Served	L	R	L
Maximum Queue (ft)	18	23	24
Average Queue (ft)	3	3	1
95th Queue (ft)	14	15	8
Link Distance (ft)	1320	1320	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			250
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Ashlan Avenue & Parc West Drive

Movement	SB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	3
95th Queue (ft)	17
Link Distance (ft)	948
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Grantland Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	TR	L	T	R	L	L
Maximum Queue (ft)	46	20	61	31	31	27	44
Average Queue (ft)	15	10	21	11	28	6	11
95th Queue (ft)	34	23	47	33	37	23	33
Link Distance (ft)		909		2589	2589		
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	250		230			250	250
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 12: Bryan Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	UL	TR	L	T	R	L	TR	LT	TR
Maximum Queue (ft)	27	50	31	98	31	28	64	41	29
Average Queue (ft)	8	30	10	32	25	6	27	26	9
95th Queue (ft)	26	44	30	56	36	23	51	36	27
Link Distance (ft)		2589		403			1003	2528	2528
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		250		250	250			
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 13: Hayes Avenue & Ashlan Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	53	65	77	55
Average Queue (ft)	34	36	32	33
95th Queue (ft)	47	50	56	52
Link Distance (ft)	1469	2575	2608	565
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Polk Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	30	90	56	166	30	92	56	71
Average Queue (ft)	6	36	32	64	7	47	31	43
95th Queue (ft)	26	63	53	110	26	76	55	63
Link Distance (ft)		2575		2107		1100		1271
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100		125		75		275	
Storage Blk Time (%)		0		1		1		
Queuing Penalty (veh)		0		0		0		

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	UL	L	T	R	L	T	T	R	L
Maximum Queue (ft)	53	97	129	312	309	155	56	93	92	79	113	142
Average Queue (ft)	9	49	59	202	84	71	23	37	34	28	54	71
95th Queue (ft)	32	79	106	331	248	128	46	72	60	62	88	128
Link Distance (ft)		352	352			2511	2511		323	323		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			275	275			100			80	150
Storage Blk Time (%)				9	0			0	0	0	1	0
Queuing Penalty (veh)				32	2			0	0	0	1	0

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	124	43
Average Queue (ft)	29	8
95th Queue (ft)	67	29
Link Distance (ft)	2602	2602
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: Grantland Avenue & Shields Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	57	79	76	73
Average Queue (ft)	34	32	37	37
95th Queue (ft)	52	55	57	62
Link Distance (ft)	2601	2580	2582	1625
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 35

Appendix I: Existing plus Project (Buildout) Traffic Conditions

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↑		↰	↑	
Traffic Vol, veh/h	28	9	30	28	20	7	15	444	12	10	316	21
Future Vol, veh/h	28	9	30	28	20	7	15	444	12	10	316	21
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	280	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	31	10	33	31	22	8	16	488	13	11	347	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	923	914	359	929	919	495	370	0	0	501	0	0
Stage 1	381	381	-	527	527	-	-	-	-	-	-	-
Stage 2	542	533	-	402	392	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	249	272	683	247	270	573	1183	-	-	1058	-	-
Stage 1	639	612	-	533	527	-	-	-	-	-	-	-
Stage 2	523	523	-	623	605	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	226	265	683	224	264	573	1183	-	-	1058	-	-
Mov Cap-2 Maneuver	226	265	-	224	264	-	-	-	-	-	-	-
Stage 1	630	606	-	526	520	-	-	-	-	-	-	-
Stage 2	487	516	-	577	599	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.9	23.2	0.3	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1183	-	-	332	258	1058	-	-
HCM Lane V/C Ratio	0.014	-	-	0.222	0.234	0.01	-	-
HCM Control Delay (s)	8.1	-	-	18.9	23.2	8.4	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.9	0	-	-

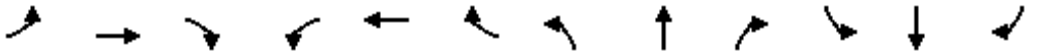
Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	52	268	3	1	258	21	6	13	1	25	9	79
Future Vol, veh/h	52	268	3	1	258	21	6	13	1	25	9	79
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	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	69	357	4	1	344	28	8	17	1	33	12	105

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	372	0	0	361	0	0	916	871	359	866	859	358
Stage 1	-	-	-	-	-	-	497	497	-	360	360	-
Stage 2	-	-	-	-	-	-	419	374	-	506	499	-
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	1181	-	-	1192	-	-	252	288	683	272	293	684
Stage 1	-	-	-	-	-	-	553	543	-	656	625	-
Stage 2	-	-	-	-	-	-	610	616	-	547	542	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1181	-	-	1192	-	-	195	267	683	243	271	684
Mov Cap-2 Maneuver	-	-	-	-	-	-	195	267	-	243	271	-
Stage 1	-	-	-	-	-	-	513	503	-	608	624	-
Stage 2	-	-	-	-	-	-	506	615	-	489	502	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0	21.3	17
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	247	1181	-	-	1192	-	-	449
HCM Lane V/C Ratio	0.108	0.059	-	-	0.001	-	-	0.336
HCM Control Delay (s)	21.3	8.2	0	-	8	0	-	17
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0.2	-	-	0	-	-	1.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	224	18	68	191	83	21	258	210	124	195	97
Future Volume (veh/h)	79	224	18	68	191	83	21	258	210	124	195	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	90	255	20	77	217	94	24	293	239	141	222	110
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	115	380	30	98	263	114	47	315	257	176	475	235
Arrive On Green	0.07	0.22	0.22	0.06	0.22	0.22	0.03	0.33	0.33	0.10	0.41	0.41
Sat Flow, veh/h	1757	1689	132	1757	1222	529	1757	941	768	1757	1165	577
Grp Volume(v), veh/h	90	0	275	77	0	311	24	0	532	141	0	332
Grp Sat Flow(s),veh/h/ln	1757	0	1821	1757	0	1751	1757	0	1709	1757	0	1743
Q Serve(g_s), s	3.6	0.0	9.9	3.1	0.0	12.1	1.0	0.0	21.5	5.6	0.0	10.0
Cycle Q Clear(g_c), s	3.6	0.0	9.9	3.1	0.0	12.1	1.0	0.0	21.5	5.6	0.0	10.0
Prop In Lane	1.00		0.07	1.00		0.30	1.00		0.45	1.00		0.33
Lane Grp Cap(c), veh/h	115	0	410	98	0	377	47	0	571	176	0	711
V/C Ratio(X)	0.78	0.00	0.67	0.79	0.00	0.82	0.52	0.00	0.93	0.80	0.00	0.47
Avail Cap(c_a), veh/h	133	0	695	123	0	666	135	0	590	187	0	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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.0	0.0	25.3	33.4	0.0	26.8	34.4	0.0	23.0	31.5	0.0	15.5
Incr Delay (d2), s/veh	22.9	0.0	1.9	22.6	0.0	4.6	8.5	0.0	21.4	20.8	0.0	0.5
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	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	5.2	2.1	0.0	6.4	0.6	0.0	13.4	3.8	0.0	4.9
LnGrp Delay(d),s/veh	55.9	0.0	27.2	56.0	0.0	31.4	42.9	0.0	44.4	52.3	0.0	16.0
LnGrp LOS	E		C	E		C	D		D	D		B
Approach Vol, veh/h		365			388			556			473	
Approach Delay, s/veh		34.3			36.2			44.4			26.8	
Approach LOS		C			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	29.9	8.2	22.1	6.1	35.2	8.9	21.4
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	6.0	* 4.2	* 6	* 4.2	* 6
Max Green Setting (Gmax), s	* 7.6	24.7	* 5	27.3	* 5.5	* 28	* 5.4	* 27
Max Q Clear Time (g_c+I1), s	7.6	23.5	5.1	11.9	3.0	12.0	5.6	14.1
Green Ext Time (p_c), s	0.0	0.4	0.0	1.1	0.0	1.7	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	35.9
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	496	51	112	320	24	93
Future Vol, veh/h	496	51	112	320	24	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	-	-	250	-	275	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	598	61	135	386	29	112

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	659	0	1285	629
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	656	-
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	-	-	924	-	181	480
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	514	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	924	-	155	480
Mov Cap-2 Maneuver	-	-	-	-	155	-
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	514	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	18.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	155	480	-	-	924	-
HCM Lane V/C Ratio	0.187	0.233	-	-	0.146	-
HCM Control Delay (s)	33.5	14.8	-	-	9.6	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	0.9	-	-	0.5	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	539	59	42	354	61	114
Future Vol, veh/h	539	59	42	354	61	114
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	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	567	62	44	373	64	120

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	629	0	1059	598
Stage 1	-	-	-	-	598	-
Stage 2	-	-	-	-	461	-
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	-	-	948	-	247	500
Stage 1	-	-	-	-	547	-
Stage 2	-	-	-	-	633	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	948	-	232	500
Mov Cap-2 Maneuver	-	-	-	-	232	-
Stage 1	-	-	-	-	515	-
Stage 2	-	-	-	-	633	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	25.5
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	356	-	-	948	-
HCM Lane V/C Ratio	0.517	-	-	0.047	-
HCM Control Delay (s)	25.5	-	-	9	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	2.8	-	-	0.1	-

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	173	4	63	8	2	7	26	298	16	6	224	47
Future Vol, veh/h	173	4	63	8	2	7	26	298	16	6	224	47
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	-	-	-	250	-	530	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	206	5	75	10	2	8	31	355	19	7	267	56

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	741	745	295	766	754	355	323	0	0	374	0	0
Stage 1	309	309	-	417	417	-	-	-	-	-	-	-
Stage 2	432	436	-	349	337	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	331	341	742	318	337	687	1231	-	-	1179	-	-
Stage 1	699	658	-	611	590	-	-	-	-	-	-	-
Stage 2	600	578	-	665	639	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	317	330	742	276	326	687	1231	-	-	1179	-	-
Mov Cap-2 Maneuver	317	330	-	276	326	-	-	-	-	-	-	-
Stage 1	682	653	-	596	575	-	-	-	-	-	-	-
Stage 2	575	564	-	589	635	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	28.4	15.1	0.6	0.2
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1231	-	-	317	691	375	1179	-	-
HCM Lane V/C Ratio	0.025	-	-	0.65	0.115	0.054	0.006	-	-
HCM Control Delay (s)	8	-	-	35.2	10.9	15.1	8.1	0	-
HCM Lane LOS	A	-	-	E	B	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	4.3	0.4	0.2	0	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	9	124	114	143	54
Future Vol, veh/h	9	9	124	114	143	54
Conflicting Peds, #/hr	0	0	24	0	0	24
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	12	12	159	146	183	69

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	706	242	276	0	-	0
Stage 1	242	-	-	-	-	-
Stage 2	464	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	401	794	1281	-	-	-
Stage 1	796	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	334	776	1252	-	-	-
Mov Cap-2 Maneuver	334	-	-	-	-	-
Stage 1	679	-	-	-	-	-
Stage 2	616	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	4.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1252	-	334	776	-	-
HCM Lane V/C Ratio	0.127	-	0.035	0.015	-	-
HCM Control Delay (s)	8.3	-	16.2	9.7	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	4.9
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	0	82	236
Demand Flow Rate, veh/h	0	84	243
Vehicles Circulating, veh/h	243	0	0
Vehicles Exiting, veh/h	0	243	84
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	0.0	3.9	5.3
Approach LOS	-	A	A

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	0	84	243
Cap Entry Lane, veh/h	886	1130	1130
Entry HV Adj Factor	1.000	0.976	0.971
Flow Entry, veh/h	0	82	236
Cap Entry, veh/h	886	1103	1097
V/C Ratio	0.000	0.074	0.215
Control Delay, s/veh	4.1	3.9	5.3
LOS	A	A	A
95th %tile Queue, veh	0	0	1

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	115	37	65	82	21	80	22	100	34	95	166	32
Future Vol, veh/h	115	37	65	82	21	80	22	100	34	95	166	32
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	230	-	0	250	-	-	250	-	0
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	128	41	72	91	23	89	24	111	38	106	184	36

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	500	593	184	649	610	75	220	0	0	149	0	0
Stage 1	396	396	-	178	178	-	-	-	-	-	-	-
Stage 2	104	197	-	471	432	-	-	-	-	-	-	-
Critical Hdwy	6.795	6.545	6.245	6.795	6.545	7.145	4.145	-	-	5.345	-	-
Critical Hdwy Stg 1	6.145	5.545	-	7.345	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.745	5.545	-	6.145	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.6785	4.0285	3.3285	3.6785	4.0285	3.9285	2.2285	-	-	3.1285	-	-
Pot Cap-1 Maneuver	486	416	855	393	407	822	1341	-	-	983	-	-
Stage 1	605	601	-	744	749	-	-	-	-	-	-	-
Stage 2	849	735	-	552	579	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	373	364	855	298	357	822	1341	-	-	983	-	-
Mov Cap-2 Maneuver	373	364	-	298	357	-	-	-	-	-	-	-
Stage 1	594	536	-	731	736	-	-	-	-	-	-	-
Stage 2	720	722	-	416	516	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.4	16.1	1.1	3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1341	-	-	373	574	298	357	822	983	-	-
HCM Lane V/C Ratio	0.018	-	-	0.343	0.197	0.306	0.065	0.108	0.107	-	-
HCM Control Delay (s)	7.7	-	-	19.6	12.8	22.3	15.8	9.9	9.1	-	-
HCM Lane LOS	A	-	-	C	B	C	C	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.5	0.7	1.3	0.2	0.4	0.4	-	-

Intersection	
Intersection Delay, s/veh	51.2
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	20	60	220	40	6	213	145	101	58	5	105	53
Future Vol, veh/h	20	60	220	40	6	213	145	101	58	5	105	53
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	88	324	59	9	313	213	149	85	7	154	78
Number of Lanes	0	1	1	0	1	1	0	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	33.5	103.8	16.8	18.1
HCM LOS	D	F	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	80%	0%
Vol Thru, %	0%	92%	0%	85%	0%	59%	20%	28%
Vol Right, %	0%	8%	0%	15%	0%	41%	0%	72%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	63	80	260	6	358	132	94
LT Vol	101	0	80	0	6	0	105	0
Through Vol	0	58	0	220	0	213	27	27
RT Vol	0	5	0	40	0	145	0	67
Lane Flow Rate	149	93	118	382	9	526	193	138
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.381	0.224	0.274	0.827	0.021	1.12	0.479	0.306
Departure Headway (Hd)	9.731	9.149	8.758	8.128	8.465	7.656	9.364	8.423
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	373	395	413	447	423	474	387	429
Service Time	7.431	6.849	6.458	5.828	6.215	5.406	7.064	6.123
HCM Lane V/C Ratio	0.399	0.235	0.286	0.855	0.021	1.11	0.499	0.322
HCM Control Delay	18.3	14.5	14.7	39.3	11.4	105.3	20.4	14.8
HCM Lane LOS	C	B	B	E	B	F	C	B
HCM 95th-tile Q	1.7	0.8	1.1	7.9	0.1	17.9	2.5	1.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes, Configurations	
Traffic Vol, veh/h	67
Future Vol, veh/h	67
Peak Hour Factor	0.68
Heavy Vehicles, %	3
Mvmt Flow	99
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	56	14	16	58	5	9	25	19	25	49	4
Future Vol, veh/h	6	56	14	16	58	5	9	25	19	25	49	4
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	7	62	16	18	64	6	10	28	21	28	54	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	7.9	7.6	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	8%	20%	32%
Vol Thru, %	47%	74%	73%	63%
Vol Right, %	36%	18%	6%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	53	76	79	78
LT Vol	9	6	16	25
Through Vol	25	56	58	49
RT Vol	19	14	5	4
Lane Flow Rate	59	84	88	87
Geometry Grp	1	1	1	1
Degree of Util (X)	0.07	0.1	0.107	0.107
Departure Headway (Hd)	4.255	4.283	4.376	4.437
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	844	839	822	810
Service Time	2.267	2.296	2.387	2.448
HCM Lane V/C Ratio	0.07	0.1	0.107	0.107
HCM Control Delay	7.6	7.8	7.9	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.4	0.4

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	93	3	28	67	36	3	84	68	95	77	9
Future Vol, veh/h	4	93	3	28	67	36	3	84	68	95	77	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	4	98	3	29	71	38	3	88	72	100	81	9
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9.4	9.1	9.4	9.4
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	55%	0%	97%	0%	65%	0%	90%
Vol Right, %	0%	45%	0%	3%	0%	35%	0%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	152	4	96	28	103	95	86
LT Vol	3	0	4	0	28	0	95	0
Through Vol	0	84	0	93	0	67	0	77
RT Vol	0	68	0	3	0	36	0	9
Lane Flow Rate	3	160	4	101	29	108	100	91
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.005	0.227	0.007	0.157	0.05	0.161	0.163	0.133
Departure Headway (Hd)	5.921	5.102	6.124	5.598	6.086	5.336	5.87	5.293
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	602	699	581	637	585	668	608	674
Service Time	3.685	2.866	3.896	3.369	3.854	3.103	3.632	3.055
HCM Lane V/C Ratio	0.005	0.229	0.007	0.159	0.05	0.162	0.164	0.135
HCM Control Delay	8.7	9.4	8.9	9.4	9.2	9.1	9.8	8.9
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0	0.9	0	0.6	0.2	0.6	0.6	0.5



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	24	452	91	1	271	242	80	66	96	330	193	172
Future Volume (vph)	24	452	91	1	271	242	80	66	96	330	193	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
Lane Util. Factor	1.00	0.95			0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.97			1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97
Flt Protected	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	3417			3400	1845	1568	1752	3505	1568	1752	3397
Flt Permitted	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	3417			3400	1845	1568	1752	3505	1568	1752	3397
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	32	603	121	1	361	323	107	88	128	440	257	229
RTOR Reduction (vph)	0	15	0	0	0	0	69	0	0	143	0	22
Lane Group Flow (vph)	32	709	0	0	362	323	38	88	128	297	257	266
Turn Type	Prot	NA		Prot	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases							8			2		
Actuated Green, G (s)	3.4	25.7			10.1	32.4	32.4	7.9	22.9	22.9	13.2	28.2
Effective Green, g (s)	3.4	25.7			10.1	32.4	32.4	7.9	22.9	22.9	13.2	28.2
Actuated g/C Ratio	0.04	0.28			0.11	0.36	0.36	0.09	0.25	0.25	0.15	0.31
Clearance Time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
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)	65	970			379	660	561	152	886	396	255	1058
v/s Ratio Prot	0.02	c0.21			c0.11	0.18		0.05	0.04		c0.15	0.08
v/s Ratio Perm							0.02			c0.19		
v/c Ratio	0.49	0.73			0.96	0.49	0.07	0.58	0.14	0.75	1.01	0.25
Uniform Delay, d1	42.7	29.3			40.0	22.6	19.1	39.7	26.2	31.2	38.6	23.3
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	5.8	2.9			34.4	0.6	0.1	5.3	0.1	7.8	58.4	0.1
Delay (s)	48.5	32.1			74.4	23.2	19.2	45.0	26.3	39.0	97.0	23.4
Level of Service	D	C			E	C	B	D	C	D	F	C
Approach Delay (s)		32.8				46.0			37.3			58.1
Approach LOS		C				D			D			E

Intersection Summary			
HCM 2000 Control Delay	42.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.5	Sum of lost time (s)	18.6
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	44
Future Volume (vph)	44
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.75
Adj. Flow (vph)	59
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	105	4	15	137	27	17	86	12	49	179	71
Future Vol, veh/h	27	105	4	15	137	27	17	86	12	49	179	71
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	33	127	5	18	165	33	20	104	14	59	216	86
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.7	11.3	10.1	13.6
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	20%	8%	16%
Vol Thru, %	75%	77%	77%	60%
Vol Right, %	10%	3%	15%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	115	136	179	299
LT Vol	17	27	15	49
Through Vol	86	105	137	179
RT Vol	12	4	27	71
Lane Flow Rate	139	164	216	360
Geometry Grp	1	1	1	1
Degree of Util (X)	0.214	0.259	0.33	0.515
Departure Headway (Hd)	5.569	5.695	5.512	5.149
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	643	629	651	699
Service Time	3.617	3.742	3.555	3.187
HCM Lane V/C Ratio	0.216	0.261	0.332	0.515
HCM Control Delay	10.1	10.7	11.3	13.6
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	0.8	1	1.4	3

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	11	20	14	28	11	24	340	22	17	426	20
Future Vol, veh/h	18	11	20	14	28	11	24	340	22	17	426	20
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	280	-	-	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	20	12	22	16	31	12	27	378	24	19	473	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	988	978	484	983	977	390	495	0	0	402	0	0
Stage 1	522	522	-	444	444	-	-	-	-	-	-	-
Stage 2	466	456	-	539	533	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	225	249	581	227	250	656	1064	-	-	1151	-	-
Stage 1	536	529	-	591	573	-	-	-	-	-	-	-
Stage 2	575	566	-	525	523	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	193	239	581	203	240	656	1064	-	-	1151	-	-
Mov Cap-2 Maneuver	193	239	-	203	240	-	-	-	-	-	-	-
Stage 1	523	520	-	576	559	-	-	-	-	-	-	-
Stage 2	519	552	-	485	514	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.8	22.7	0.5	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1064	-	-	282	262	1151	-	-
HCM Lane V/C Ratio	0.025	-	-	0.193	0.225	0.016	-	-
HCM Control Delay (s)	8.5	-	-	20.8	22.7	8.2	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	0.8	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	32	236	6	4	238	21	3	7	2	13	14	34
Future Vol, veh/h	32	236	6	4	238	21	3	7	2	13	14	34
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	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	35	259	7	4	262	23	3	8	2	14	15	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	285	0	0	266	0	0	641	626	263	620	618	274
Stage 1	-	-	-	-	-	-	333	333	-	282	282	-
Stage 2	-	-	-	-	-	-	308	293	-	338	336	-
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	1271	-	-	1292	-	-	386	399	773	399	404	762
Stage 1	-	-	-	-	-	-	679	642	-	723	676	-
Stage 2	-	-	-	-	-	-	700	668	-	674	640	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1271	-	-	1292	-	-	346	385	773	381	389	762
Mov Cap-2 Maneuver	-	-	-	-	-	-	346	385	-	381	389	-
Stage 1	-	-	-	-	-	-	657	621	-	700	673	-
Stage 2	-	-	-	-	-	-	648	665	-	643	620	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.1	14.1	12.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	408	1271	-	-	1292	-	-	532
HCM Lane V/C Ratio	0.032	0.028	-	-	0.003	-	-	0.126
HCM Control Delay (s)	14.1	7.9	0	-	7.8	0	-	12.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	196	9	182	235	116	6	208	159	105	267	59
Future Volume (veh/h)	69	196	9	182	235	116	6	208	159	105	267	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	72	204	9	190	245	121	6	217	166	109	278	61
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	102	357	16	197	301	149	14	261	199	139	498	109
Arrive On Green	0.06	0.20	0.20	0.11	0.26	0.26	0.01	0.27	0.27	0.08	0.34	0.34
Sat Flow, veh/h	1757	1754	77	1757	1167	576	1757	971	743	1757	1466	322
Grp Volume(v), veh/h	72	0	213	190	0	366	6	0	383	109	0	339
Grp Sat Flow(s),veh/h/ln	1757	0	1831	1757	0	1743	1757	0	1714	1757	0	1788
Q Serve(g_s), s	2.4	0.0	6.3	6.5	0.0	11.9	0.2	0.0	12.7	3.7	0.0	9.4
Cycle Q Clear(g_c), s	2.4	0.0	6.3	6.5	0.0	11.9	0.2	0.0	12.7	3.7	0.0	9.4
Prop In Lane	1.00		0.04	1.00		0.33	1.00		0.43	1.00		0.18
Lane Grp Cap(c), veh/h	102	0	372	197	0	449	14	0	460	139	0	607
V/C Ratio(X)	0.71	0.00	0.57	0.96	0.00	0.81	0.43	0.00	0.83	0.79	0.00	0.56
Avail Cap(c_a), veh/h	180	0	826	197	0	812	145	0	722	145	0	786
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.0	0.0	21.7	26.7	0.0	21.1	29.9	0.0	20.9	27.4	0.0	16.3
Incr Delay (d2), s/veh	8.6	0.0	1.4	53.2	0.0	3.6	19.6	0.0	4.8	23.4	0.0	0.8
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	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	3.3	6.0	0.0	6.1	0.2	0.0	6.6	2.7	0.0	4.8
LnGrp Delay(d),s/veh	36.6	0.0	23.1	79.9	0.0	24.8	49.5	0.0	25.7	50.8	0.0	17.1
LnGrp LOS	D		C	E		C	D		C	D		B
Approach Vol, veh/h		285			556			389			448	
Approach Delay, s/veh		26.5			43.6			26.1			25.3	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	22.2	11.0	18.3	4.7	26.5	7.7	21.6
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	6.0	* 4.2	* 6	* 4.2	* 6
Max Green Setting (Gmax), s	* 5	25.5	* 6.8	27.3	* 5	* 27	* 6.2	* 28
Max Q Clear Time (g_c+I1), s	5.7	14.7	8.5	8.3	2.2	11.4	4.4	13.9
Green Ext Time (p_c), s	0.0	1.5	0.0	0.9	0.0	1.6	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	31.8
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	418	43	83	505	37	44
Future Vol, veh/h	418	43	83	505	37	44
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	275	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	459	47	91	555	41	48

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	508	0	1222	485
Stage 1	-	-	-	-	485	-
Stage 2	-	-	-	-	737	-
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	-	-	1052	-	197	580
Stage 1	-	-	-	-	617	-
Stage 2	-	-	-	-	472	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1050	-	179	579
Mov Cap-2 Maneuver	-	-	-	-	179	-
Stage 1	-	-	-	-	562	-
Stage 2	-	-	-	-	472	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	20.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	179	579	-	-	1050	-
HCM Lane V/C Ratio	0.227	0.084	-	-	0.087	-
HCM Control Delay (s)	30.9	11.8	-	-	8.8	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.8	0.3	-	-	0.3	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	446	57	107	568	37	69
Future Vol, veh/h	446	57	107	568	37	69
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	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	485	62	116	617	40	75

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	547	0	1365	516
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	849	-
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	-	-	1017	-	162	557
Stage 1	-	-	-	-	597	-
Stage 2	-	-	-	-	418	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1017	-	134	557
Mov Cap-2 Maneuver	-	-	-	-	134	-
Stage 1	-	-	-	-	493	-
Stage 2	-	-	-	-	418	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	28.6
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	265	-	-	1017	-
HCM Lane V/C Ratio	0.435	-	-	0.114	-
HCM Control Delay (s)	28.6	-	-	9	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	2.1	-	-	0.4	-

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	109	6	43	12	4	11	91	238	9	12	282	165
Future Vol, veh/h	109	6	43	12	4	11	91	238	9	12	282	165
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	-	-	-	250	-	530	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	127	7	50	14	5	13	106	277	10	14	328	192

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	955	951	424	970	1037	277	520	0	0	287	0	0
Stage 1	452	452	-	489	489	-	-	-	-	-	-	-
Stage 2	503	499	-	481	548	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	237	259	628	232	230	759	1041	-	-	1269	-	-
Stage 1	585	569	-	559	548	-	-	-	-	-	-	-
Stage 2	549	542	-	564	515	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	209	229	628	190	203	759	1041	-	-	1269	-	-
Mov Cap-2 Maneuver	209	229	-	190	203	-	-	-	-	-	-	-
Stage 1	525	560	-	502	492	-	-	-	-	-	-	-
Stage 2	480	487	-	504	507	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	35.5	19.7	2.4	0.2
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1041	-	-	209	518	277	1269	-	-
HCM Lane V/C Ratio	0.102	-	-	0.606	0.11	0.113	0.011	-	-
HCM Control Delay (s)	8.8	-	-	45.7	12.8	19.7	7.9	0	-
HCM Lane LOS	A	-	-	E	B	C	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	3.5	0.4	0.4	0	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	3	31	71	79	10
Future Vol, veh/h	3	3	31	71	79	10
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	0	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	4	4	38	87	96	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	265	102	108	0	-	0
Stage 1	102	-	-	-	-	-
Stage 2	163	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	722	950	1476	-	-	-
Stage 1	920	-	-	-	-	-
Stage 2	864	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	703	950	1476	-	-	-
Mov Cap-2 Maneuver	703	-	-	-	-	-
Stage 1	896	-	-	-	-	-
Stage 2	864	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	2.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1476	-	703	950	-	-
HCM Lane V/C Ratio	0.026	-	0.005	0.004	-	-
HCM Control Delay (s)	7.5	-	10.1	8.8	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	0	-	-

Intersection	
Intersection Delay, s/veh	5.2
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	0	276	154
Demand Flow Rate, veh/h	0	284	159
Vehicles Circulating, veh/h	159	0	0
Vehicles Exiting, veh/h	0	159	284
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	0.0	5.6	4.5
Approach LOS	-	A	A

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	0	284	159
Cap Entry Lane, veh/h	964	1130	1130
Entry HV Adj Factor	1.000	0.972	0.969
Flow Entry, veh/h	0	276	154
Cap Entry, veh/h	964	1098	1094
V/C Ratio	0.000	0.251	0.141
Control Delay, s/veh	3.7	5.6	4.5
LOS	A	A	A
95th %tile Queue, veh	0	1	0

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	34	36	30	44	100	100	207	32	102	177	110
Future Vol, veh/h	72	34	36	30	44	100	100	207	32	102	177	110
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	230	-	0	250	-	-	250	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	77	36	38	32	47	106	106	220	34	109	188	117

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	730	874	188	953	974	129	305	0	0	256	0	0
Stage 1	406	406	-	451	451	-	-	-	-	-	-	-
Stage 2	324	468	-	502	523	-	-	-	-	-	-	-
Critical Hdwy	6.795	6.545	6.245	6.795	6.545	7.145	4.145	-	-	5.345	-	-
Critical Hdwy Stg 1	6.145	5.545	-	7.345	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.745	5.545	-	6.145	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.6785	4.0285	3.3285	3.6785	4.0285	3.9285	2.2285	-	-	3.1285	-	-
Pot Cap-1 Maneuver	350	286	850	253	250	760	1248	-	-	878	-	-
Stage 1	598	595	-	487	568	-	-	-	-	-	-	-
Stage 2	626	558	-	531	527	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	210	229	850	180	200	759	1248	-	-	876	-	-
Mov Cap-2 Maneuver	210	229	-	180	200	-	-	-	-	-	-	-
Stage 1	547	521	-	445	519	-	-	-	-	-	-	-
Stage 2	448	509	-	413	462	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.6	18.3	2.4	2.5
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1248	-	-	210	367	180	200	759	876	-	-
HCM Lane V/C Ratio	0.085	-	-	0.365	0.203	0.177	0.234	0.14	0.124	-	-
HCM Control Delay (s)	8.2	-	-	31.7	17.3	29.3	28.4	10.5	9.7	-	-
HCM Lane LOS	A	-	-	D	C	D	D	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1.6	0.7	0.6	0.9	0.5	0.4	-	-

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	1	26	100	9	8	115	50	8	33	9	62	28
Future Vol, veh/h	1	26	100	9	8	115	50	8	33	9	62	28
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	29	111	10	9	128	56	9	37	10	69	31
Number of Lanes	0	1	1	0	1	1	0	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9	9.4	8.6	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	82%	0%
Vol Thru, %	0%	79%	0%	92%	0%	70%	18%	37%
Vol Right, %	0%	21%	0%	8%	0%	30%	0%	63%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	42	27	109	8	165	76	38
LT Vol	8	0	27	0	8	0	62	0
Through Vol	0	33	0	100	0	115	14	14
RT Vol	0	9	0	9	0	50	0	24
Lane Flow Rate	9	47	30	121	9	183	84	42
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.015	0.07	0.048	0.174	0.014	0.254	0.138	0.059
Departure Headway (Hd)	6.068	5.413	5.732	5.171	5.701	4.986	5.882	5.027
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	588	659	624	693	627	719	608	710
Service Time	3.824	3.169	3.473	2.912	3.44	2.725	3.632	2.776
HCM Lane V/C Ratio	0.015	0.071	0.048	0.175	0.014	0.255	0.138	0.059
HCM Control Delay	8.9	8.6	8.8	9	8.5	9.4	9.6	8.1
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0	0.2	0.2	0.6	0	1	0.5	0.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes, Configurations	
Traffic Vol, veh/h	24
Future Vol, veh/h	24
Peak Hour Factor	0.90
Heavy Vehicles, %	3
Mvmt Flow	27
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	122	21	20	114	18	31	68	24	16	47	16
Future Vol, veh/h	12	122	21	20	114	18	31	68	24	16	47	16
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	13	136	23	22	127	20	34	76	27	18	52	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	9	8.9	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	8%	13%	20%
Vol Thru, %	55%	79%	75%	59%
Vol Right, %	20%	14%	12%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	123	155	152	79
LT Vol	31	12	20	16
Through Vol	68	122	114	47
RT Vol	24	21	18	16
Lane Flow Rate	137	172	169	88
Geometry Grp	1	1	1	1
Degree of Util (X)	0.182	0.221	0.218	0.118
Departure Headway (Hd)	4.793	4.629	4.653	4.843
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	746	773	768	737
Service Time	2.838	2.673	2.697	2.892
HCM Lane V/C Ratio	0.184	0.223	0.22	0.119
HCM Control Delay	8.9	9	9	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.8	0.8	0.4

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	11	139	18	82	136	132	9	136	72	97	130	10
Future Vol, veh/h	11	139	18	82	136	132	9	136	72	97	130	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	13	160	21	94	156	152	10	156	83	111	149	11
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	13.2	15.2	14.6	12.6
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	65%	0%	89%	0%	51%	0%	93%
Vol Right, %	0%	35%	0%	11%	0%	49%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	208	11	157	82	268	97	140
LT Vol	9	0	11	0	82	0	97	0
Through Vol	0	136	0	139	0	136	0	130
RT Vol	0	72	0	18	0	132	0	10
Lane Flow Rate	10	239	13	180	94	308	111	161
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.022	0.447	0.026	0.348	0.189	0.543	0.231	0.308
Departure Headway (Hd)	7.49	6.731	7.544	6.951	7.212	6.351	7.449	6.887
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	478	536	475	518	500	573	483	521
Service Time	5.229	4.471	5.288	4.695	4.912	4.051	5.189	4.627
HCM Lane V/C Ratio	0.021	0.446	0.027	0.347	0.188	0.538	0.23	0.309
HCM Control Delay	10.4	14.8	10.5	13.4	11.6	16.3	12.4	12.7
HCM Lane LOS	B	B	B	B	B	C	B	B
HCM 95th-tile Q	0.1	2.3	0.1	1.5	0.7	3.2	0.9	1.3



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	14	251	67	7	268	364	183	54	124	221	121	73
Future Volume (vph)	14	251	67	7	268	364	183	54	124	221	121	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
Lane Util. Factor	1.00	0.95			0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.97			1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97
Flt Protected	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	3394			3400	1845	1568	1752	3505	1568	1752	3411
Flt Permitted	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	3394			3400	1845	1568	1752	3505	1568	1752	3411
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	15	270	72	8	288	391	197	58	133	238	130	78
RTOR Reduction (vph)	0	26	0	0	0	0	123	0	0	187	0	13
Lane Group Flow (vph)	15	316	0	0	296	391	74	58	133	51	130	82
Turn Type	Prot	NA		Prot	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases							8			2		
Actuated Green, G (s)	0.6	16.7			7.4	23.5	23.5	3.5	13.3	13.3	6.4	16.2
Effective Green, g (s)	0.6	16.7			7.4	23.5	23.5	3.5	13.3	13.3	6.4	16.2
Actuated g/C Ratio	0.01	0.27			0.12	0.38	0.38	0.06	0.21	0.21	0.10	0.26
Clearance Time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
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)	16	908			403	694	590	98	747	334	179	885
v/s Ratio Prot	0.01	0.09			c0.09	c0.21		0.03	c0.04		c0.07	c0.02
v/s Ratio Perm							0.05			0.03		
v/c Ratio	0.94	0.35			0.73	0.56	0.13	0.59	0.18	0.15	0.73	0.09
Uniform Delay, d1	30.9	18.5			26.6	15.4	12.7	28.8	20.1	20.0	27.2	17.5
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	191.7	0.2			6.8	1.1	0.1	9.2	0.1	0.2	13.6	0.0
Delay (s)	222.6	18.7			33.4	16.4	12.8	38.0	20.2	20.2	40.8	17.6
Level of Service	F	B			C	B	B	D	C	C	D	B
Approach Delay (s)		27.3				21.3			22.6			31.0
Approach LOS		C				C			C			C

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	62.4	Sum of lost time (s)	18.6
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	16
Future Volume (vph)	16
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	17
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	85	10	7	63	46	10	184	10	52	98	25
Future Vol, veh/h	45	85	10	7	63	46	10	184	10	52	98	25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	47	89	11	7	66	48	11	194	11	55	103	26
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	8.9	9.9	9.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	32%	6%	30%
Vol Thru, %	90%	61%	54%	56%
Vol Right, %	5%	7%	40%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	204	140	116	175
LT Vol	10	45	7	52
Through Vol	184	85	63	98
RT Vol	10	10	46	25
Lane Flow Rate	215	147	122	184
Geometry Grp	1	1	1	1
Degree of Util (X)	0.288	0.208	0.166	0.249
Departure Headway (Hd)	4.832	5.091	4.886	4.863
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	739	699	728	733
Service Time	2.897	3.165	2.962	2.93
HCM Lane V/C Ratio	0.291	0.21	0.168	0.251
HCM Control Delay	9.9	9.5	8.9	9.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.2	0.8	0.6	1

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	173	4	63	8	2	7	26	298	16	6	224	47
Future Vol, veh/h	173	4	63	8	2	7	26	298	16	6	224	47
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	-	-	-	250	-	530	-	-	250
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	206	5	75	10	2	8	31	355	19	7	267	56

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	713	717	267	766	754	355	323	0	0	374	0	0
Stage 1	281	281	-	417	417	-	-	-	-	-	-	-
Stage 2	432	436	-	349	337	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	346	354	769	318	337	687	1231	-	-	1179	-	-
Stage 1	724	677	-	611	590	-	-	-	-	-	-	-
Stage 2	600	578	-	665	639	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	331	343	769	277	326	687	1231	-	-	1179	-	-
Mov Cap-2 Maneuver	331	343	-	277	326	-	-	-	-	-	-	-
Stage 1	706	672	-	596	575	-	-	-	-	-	-	-
Stage 2	575	564	-	592	635	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.2	15.1	0.6	0.2
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1231	-	-	331	716	376	1179	-	-
HCM Lane V/C Ratio	0.025	-	-	0.622	0.111	0.054	0.006	-	-
HCM Control Delay (s)	8	-	-	32.2	10.7	15.1	8.1	0	-
HCM Lane LOS	A	-	-	D	B	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	3.9	0.4	0.2	0	-	-

Intersection	
Intersection Delay, s/veh	35
Intersection LOS	D

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	20	60	220	40	6	213	145	101	58	5	105	53
Future Vol, veh/h	20	60	220	40	6	213	145	101	58	5	105	53
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	88	324	59	9	313	213	149	85	7	154	78
Number of Lanes	0	1	1	0	1	1	1	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	55.1	31.7	19.5	21.5
HCM LOS	F	D	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	80%	0%
Vol Thru, %	0%	92%	0%	85%	0%	100%	0%	20%	28%
Vol Right, %	0%	8%	0%	15%	0%	0%	100%	0%	72%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	63	80	260	6	213	145	132	94
LT Vol	101	0	80	0	6	0	0	105	0
Through Vol	0	58	0	220	0	213	0	27	27
RT Vol	0	5	0	40	0	0	145	0	67
Lane Flow Rate	149	93	118	382	9	313	213	193	138
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.438	0.258	0.317	0.962	0.024	0.801	0.502	0.547	0.353
Departure Headway (Hd)	10.61	10.032	9.685	9.053	9.722	9.204	8.478	10.176	9.242
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	339	357	371	401	367	392	424	354	388
Service Time	8.409	7.831	7.469	6.837	7.508	6.99	6.263	7.969	7.034
HCM Lane V/C Ratio	0.44	0.261	0.318	0.953	0.025	0.798	0.502	0.545	0.356
HCM Control Delay	21.5	16.3	16.9	66.8	12.7	40.4	19.6	24.7	17
HCM Lane LOS	C	C	C	F	B	E	C	C	C
HCM 95th-tile Q	2.1	1	1.3	11	0.1	7	2.7	3.1	1.6

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes, Configurations	
Traffic Vol, veh/h	67
Future Vol, veh/h	67
Peak Hour Factor	0.68
Heavy Vehicles, %	3
Mvmt Flow	99
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

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	109	6	43	12	4	11	91	238	9	12	282	165
Future Vol, veh/h	109	6	43	12	4	11	91	238	9	12	282	165
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	-	-	-	250	-	530	-	-	250
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	127	7	50	14	5	13	106	277	10	14	328	192

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	859	855	328	970	1037	277	520	0	0	287	0	0
Stage 1	356	356	-	489	489	-	-	-	-	-	-	-
Stage 2	503	499	-	481	548	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	275	294	711	232	230	759	1041	-	-	1269	-	-
Stage 1	659	627	-	559	548	-	-	-	-	-	-	-
Stage 2	549	542	-	564	515	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	242	260	711	193	203	759	1041	-	-	1269	-	-
Mov Cap-2 Maneuver	242	260	-	193	203	-	-	-	-	-	-	-
Stage 1	592	617	-	502	492	-	-	-	-	-	-	-
Stage 2	480	487	-	510	507	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.9	19.5	2.4	0.2
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1041	-	-	242	586	280	1269	-	-
HCM Lane V/C Ratio	0.102	-	-	0.524	0.097	0.112	0.011	-	-
HCM Control Delay (s)	8.8	-	-	35.1	11.8	19.5	7.9	0	-
HCM Lane LOS	A	-	-	E	B	C	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	2.8	0.3	0.4	0	-	-

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	1	26	100	9	8	115	50	8	33	9	62	28
Future Vol, veh/h	1	26	100	9	8	115	50	8	33	9	62	28
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	29	111	10	9	128	56	9	37	10	69	31
Number of Lanes	0	1	1	0	1	1	1	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	9.3	9	8.9	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	0%	82%	0%
Vol Thru, %	0%	79%	0%	92%	0%	100%	0%	18%	37%
Vol Right, %	0%	21%	0%	8%	0%	0%	100%	0%	63%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	42	27	109	8	115	50	76	38
LT Vol	8	0	27	0	8	0	0	62	0
Through Vol	0	33	0	100	0	115	0	14	14
RT Vol	0	9	0	9	0	0	50	0	24
Lane Flow Rate	9	47	30	121	9	128	56	84	42
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.016	0.073	0.05	0.183	0.015	0.193	0.073	0.141	0.061
Departure Headway (Hd)	6.279	5.626	5.999	5.438	5.937	5.434	4.731	6.023	5.17
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	566	631	594	655	600	657	751	592	687
Service Time	4.061	3.408	3.769	3.208	3.703	3.201	2.497	3.796	2.943
HCM Lane V/C Ratio	0.016	0.074	0.051	0.185	0.015	0.195	0.075	0.142	0.061
HCM Control Delay	9.2	8.9	9.1	9.4	8.8	9.5	7.9	9.8	8.3
HCM Lane LOS	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0	0.2	0.2	0.7	0	0.7	0.2	0.5	0.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes, Configurations	
Traffic Vol, veh/h	24
Future Vol, veh/h	24
Peak Hour Factor	0.90
Heavy Vehicles, %	3
Mvmt Flow	27
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection: 1: Grantland Avenue & Barstow Avenue

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	L
Maximum Queue (ft)	63	78	29	22	30
Average Queue (ft)	31	24	4	1	3
95th Queue (ft)	57	57	19	7	17
Link Distance (ft)	652	2486		2603	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			280		250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Garfield Avenue & Shaw Avenue

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	62	55	78
Average Queue (ft)	12	15	31
95th Queue (ft)	43	43	54
Link Distance (ft)	2578	2466	2553
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Grantland Avenue & Shaw Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	118	221	94	192	94	374	141	118
Average Queue (ft)	60	95	49	112	16	214	81	78
95th Queue (ft)	116	162	90	174	51	351	136	126
Link Distance (ft)		2615		2590		3432		2603
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	325		325		175		175	
Storage Blk Time (%)						22		
Queuing Penalty (veh)						5		

Intersection: 5: Bryan Avenue & Shaw Avenue

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	53	53	76
Average Queue (ft)	28	23	34
95th Queue (ft)	52	50	62
Link Distance (ft)			2590
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250	275	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Hayes Avenue & Shaw Avenue

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	120	140
Average Queue (ft)	22	58
95th Queue (ft)	67	110
Link Distance (ft)	1210	1542
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Grantland Avenue & Gettysburg Avenue/Stadium Drive

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	LTR	L	LT
Maximum Queue (ft)	110	53	23	21	23
Average Queue (ft)	49	28	7	4	2
95th Queue (ft)	86	47	25	18	11
Link Distance (ft)		1459	1258		3432
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	250			250	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9: Bryan Avenue & Gettysburg Avenue

Movement	EB	EB	NB	SB
Directions Served	L	R	L	TR
Maximum Queue (ft)	19	23	52	24
Average Queue (ft)	3	1	18	1
95th Queue (ft)	14	11	42	8
Link Distance (ft)	1320	1320		2590
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			250	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Ashlan Avenue & Parc West Drive

Movement	SB
Directions Served	LR
Maximum Queue (ft)	53
Average Queue (ft)	10
95th Queue (ft)	35
Link Distance (ft)	940
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Grantland Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	TR	L	T	R	L	L
Maximum Queue (ft)	86	44	70	30	55	23	65
Average Queue (ft)	34	23	31	13	28	3	8
95th Queue (ft)	65	41	53	35	41	15	29
Link Distance (ft)		898		2589	2589		
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	250		230			250	250
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 12: Bryan Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	UL	TR	L	T	R	L	TR	LT	TR
Maximum Queue (ft)	54	100	30	101	118	111	52	53	70
Average Queue (ft)	32	50	3	57	41	32	28	36	26
95th Queue (ft)	49	85	18	89	78	66	51	55	48
Link Distance (ft)		2589		407			1002	2528	2528
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		250		250	250			
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 13: Hayes Avenue & Ashlan Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	49	50	48	54
Average Queue (ft)	29	28	23	31
95th Queue (ft)	41	45	42	45
Link Distance (ft)	1469	2575	2608	565
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Polk Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	TR	TR	L	TR
Maximum Queue (ft)	28	48	31	75	55	52	63
Average Queue (ft)	4	29	13	37	37	30	31
95th Queue (ft)	20	42	36	59	54	44	51
Link Distance (ft)		2575		2107	1100		1271
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	100		125			275	
Storage Blk Time (%)					0		
Queuing Penalty (veh)					0		

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	UL	L	T	R	L	T	T	R	L
Maximum Queue (ft)	55	191	198	385	495	1190	62	97	96	90	120	194
Average Queue (ft)	21	124	108	259	217	265	16	39	40	34	68	108
95th Queue (ft)	57	196	184	440	540	758	38	77	72	70	103	177
Link Distance (ft)		352	352			2511	2511		323	323		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			275	275			100			80	150
Storage Blk Time (%)				41	15	0		2	0	0	3	4
Queuing Penalty (veh)				99	37	0		1	0	1	2	4

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	176	152
Average Queue (ft)	73	35
95th Queue (ft)	141	101
Link Distance (ft)	2602	2602
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	1	
Queuing Penalty (veh)	2	

Intersection: 17: Grantland Avenue & Shields Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	68	77	68	77
Average Queue (ft)	36	38	34	46
95th Queue (ft)	57	58	50	66
Link Distance (ft)	2601	2580	2582	1625
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 150

Intersection: 1: Grantland Avenue & Barstow Avenue

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	L
Maximum Queue (ft)	75	78	31	22	28
Average Queue (ft)	31	30	8	1	7
95th Queue (ft)	59	61	30	7	26
Link Distance (ft)	652	2486		2603	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			280		250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Garfield Avenue & Shaw Avenue

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	43	31	71
Average Queue (ft)	5	9	31
95th Queue (ft)	24	33	52
Link Distance (ft)	2578	2466	2553
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Grantland Avenue & Shaw Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	114	185	202	261	53	266	186	243
Average Queue (ft)	55	104	129	127	10	134	97	112
95th Queue (ft)	104	169	201	212	34	226	161	202
Link Distance (ft)		2615		2590		3432		2603
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	325		325		175		175	
Storage Blk Time (%)						3	1	2
Queuing Penalty (veh)						0	3	2

Intersection: 5: Bryan Avenue & Shaw Avenue

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	73	73	61
Average Queue (ft)	26	24	20
95th Queue (ft)	53	58	42
Link Distance (ft)			2590
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250	275	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Hayes Avenue & Shaw Avenue

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	155	136
Average Queue (ft)	47	44
95th Queue (ft)	121	84
Link Distance (ft)	1210	1542
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Grantland Avenue & Gettysburg Avenue/Stadium Drive

Movement	EB	EB	WB	NB	SB	SB
Directions Served	L	TR	LTR	L	LT	R
Maximum Queue (ft)	52	30	24	46	74	22
Average Queue (ft)	34	22	11	13	6	1
95th Queue (ft)	53	35	29	35	34	7
Link Distance (ft)		1459	1259		3432	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	250			250		250
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 9: Bryan Avenue & Gettysburg Avenue

Movement	EB	EB
Directions Served	L	R
Maximum Queue (ft)	18	22
Average Queue (ft)	2	1
95th Queue (ft)	10	10
Link Distance (ft)	1320	1320
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Ashlan Avenue & Parc West Drive

Movement	SB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	3
95th Queue (ft)	17
Link Distance (ft)	948
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Grantland Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	R
Maximum Queue (ft)	68	43	52	70	42	51	22	44	8
Average Queue (ft)	29	18	23	29	26	21	1	15	0
95th Queue (ft)	57	33	45	57	37	43	7	33	4
Link Distance (ft)		909		2589	2589		362		358
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		230			250		250	
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 12: Bryan Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	UL	TR	L	T	R	L	TR	LT	TR
Maximum Queue (ft)	31	54	30	52	61	28	63	53	40
Average Queue (ft)	15	34	9	32	24	7	26	29	17
95th Queue (ft)	39	49	31	42	48	26	49	44	36
Link Distance (ft)		2589		403			1003	2528	2528
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		250		250	250			
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 13: Hayes Avenue & Ashlan Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	56	53	68	67
Average Queue (ft)	37	33	35	30
95th Queue (ft)	53	42	54	58
Link Distance (ft)	1469	2575	2608	565
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Polk Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	30	53	73	121	31	80	65	77
Average Queue (ft)	11	34	36	59	5	49	33	37
95th Queue (ft)	33	50	60	90	22	76	54	61
Link Distance (ft)		2575		2107		1100		1271
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100		125		75		275	
Storage Blk Time (%)				0		1		
Queuing Penalty (veh)				0		0		

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	UL	L	T	R	L	T	T	R	L
Maximum Queue (ft)	52	76	96	385	495	898	78	93	76	100	94	124
Average Queue (ft)	10	52	56	318	334	302	34	37	38	30	49	56
95th Queue (ft)	37	78	95	441	587	762	62	71	66	67	78	105
Link Distance (ft)		352	352			2511	2511		323	323		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			275	275			100			80	150
Storage Blk Time (%)				66	18	0		0		0	1	
Queuing Penalty (veh)				240	64	0		0		1	0	

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	87	42
Average Queue (ft)	34	8
95th Queue (ft)	74	27
Link Distance (ft)	2602	2602
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: Grantland Avenue & Shields Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	68	74	106	77
Average Queue (ft)	35	31	46	38
95th Queue (ft)	53	55	74	58
Link Distance (ft)	2601	2580	2582	1625
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 312

Appendix J: Near Term plus Project (Buildout) Traffic Conditions

Intersection	
Int Delay, s/veh	55.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↑		↰	↑	
Traffic Vol, veh/h	28	10	50	92	21	25	29	769	41	14	602	21
Future Vol, veh/h	28	10	50	92	21	25	29	769	41	14	602	21
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	280	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	31	11	55	101	23	27	32	845	45	15	662	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1661	1658	674	1669	1647	868	685	0	0	890	0	0
Stage 1	704	704	-	932	932	-	-	-	-	-	-	-
Stage 2	957	954	-	737	715	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	77	97	453	~ 76	99	350	904	-	-	757	-	-
Stage 1	426	438	-	318	344	-	-	-	-	-	-	-
Stage 2	308	336	-	409	433	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	55	92	453	~ 58	94	350	904	-	-	757	-	-
Mov Cap-2 Maneuver	55	92	-	~ 58	94	-	-	-	-	-	-	-
Stage 1	411	429	-	307	332	-	-	-	-	-	-	-
Stage 2	255	324	-	343	424	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	102.4	$ 620.6	0.3	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	904	-	-	121	73	757	-	-
HCM Lane V/C Ratio	0.035	-	-	0.799	2.077	0.02	-	-
HCM Control Delay (s)	9.1	-	-	102.4	$ 620.6	9.9	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.7	13.9	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

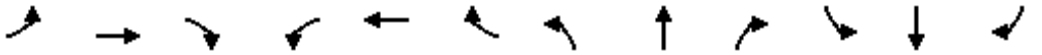
Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	52	283	3	4	268	25	6	13	6	45	9	79
Future Vol, veh/h	52	283	3	4	268	25	6	13	6	45	9	79
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	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	69	377	4	5	357	33	8	17	8	60	12	105

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	390	0	0	381	0	0	959	917	379	914	903	374
Stage 1	-	-	-	-	-	-	517	517	-	384	384	-
Stage 2	-	-	-	-	-	-	442	400	-	530	519	-
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	1163	-	-	1172	-	-	236	271	666	253	276	670
Stage 1	-	-	-	-	-	-	539	532	-	637	610	-
Stage 2	-	-	-	-	-	-	592	600	-	531	531	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1163	-	-	1172	-	-	180	249	666	222	254	670
Mov Cap-2 Maneuver	-	-	-	-	-	-	180	249	-	222	254	-
Stage 1	-	-	-	-	-	-	499	492	-	589	607	-
Stage 2	-	-	-	-	-	-	487	597	-	468	491	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.1	20.6	23
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	264	1163	-	-	1172	-	-	374
HCM Lane V/C Ratio	0.126	0.06	-	-	0.005	-	-	0.474
HCM Control Delay (s)	20.6	8.3	0	-	8.1	0	-	23
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0.2	-	-	0	-	-	2.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	230	53	136	194	219	34	494	257	177	535	100
Future Volume (veh/h)	82	230	53	136	194	219	34	494	257	177	535	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	93	261	60	155	220	249	39	561	292	201	608	114
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	108	348	80	134	201	228	54	473	246	165	720	135
Arrive On Green	0.06	0.24	0.24	0.08	0.25	0.25	0.03	0.41	0.41	0.09	0.48	0.48
Sat Flow, veh/h	1757	1452	334	1757	791	895	1757	1144	595	1757	1511	283
Grp Volume(v), veh/h	93	0	321	155	0	469	39	0	853	201	0	722
Grp Sat Flow(s),veh/h/ln	1757	0	1786	1757	0	1687	1757	0	1740	1757	0	1795
Q Serve(g_s), s	6.0	0.0	19.2	8.8	0.0	29.3	2.5	0.0	47.7	10.8	0.0	40.6
Cycle Q Clear(g_c), s	6.0	0.0	19.2	8.8	0.0	29.3	2.5	0.0	47.7	10.8	0.0	40.6
Prop In Lane	1.00		0.19	1.00		0.53	1.00		0.34	1.00		0.16
Lane Grp Cap(c), veh/h	108	0	427	134	0	429	54	0	720	165	0	855
V/C Ratio(X)	0.86	0.00	0.75	1.16	0.00	1.09	0.72	0.00	1.19	1.22	0.00	0.84
Avail Cap(c_a), veh/h	108	0	427	134	0	429	78	0	720	165	0	855
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.6	0.0	40.7	53.2	0.0	43.0	55.4	0.0	33.8	52.2	0.0	26.4
Incr Delay (d2), s/veh	46.0	0.0	7.3	125.7	0.0	71.4	16.3	0.0	97.1	142.0	0.0	7.8
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	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	10.3	8.9	0.0	22.1	1.5	0.0	42.2	11.7	0.0	21.9
LnGrp Delay(d),s/veh	99.6	0.0	47.9	179.0	0.0	114.4	71.7	0.0	130.9	194.2	0.0	34.2
LnGrp LOS	F		D	F		F	E		F	F		C
Approach Vol, veh/h		414			624			892			923	
Approach Delay, s/veh		59.5			130.4			128.3			69.1	
Approach LOS		E			F			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	53.7	13.0	33.6	7.8	60.9	11.3	35.3
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	6.0	* 4.2	* 6	* 4.2	* 6
Max Green Setting (Gmax), s	* 11	47.7	* 8.8	27.3	* 5.1	* 55	* 7.1	* 29
Max Q Clear Time (g_c+I1), s	12.8	49.7	10.8	21.2	4.5	42.6	8.0	31.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	0.0	3.8	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	99.6
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	45.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	564	147	202	448	105	193
Future Vol, veh/h	564	147	202	448	105	193
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	275	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	680	177	243	540	127	233

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	857	0	1795	769
Stage 1	-	-	-	-	769	-
Stage 2	-	-	-	-	1026	-
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	-	-	779	-	~ 88	399
Stage 1	-	-	-	-	456	-
Stage 2	-	-	-	-	344	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	779	-	~ 61	399
Mov Cap-2 Maneuver	-	-	-	-	~ 61	-
Stage 1	-	-	-	-	314	-
Stage 2	-	-	-	-	344	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.6	243.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	61	399	-	-	779	-
HCM Lane V/C Ratio	2.074	0.583	-	-	0.312	-
HCM Control Delay (s)	$ 642.5	25.9	-	-	11.7	-
HCM Lane LOS	F	D	-	-	B	-
HCM 95th %tile Q(veh)	12.1	3.6	-	-	1.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	46.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	729	69	84	549	86	206
Future Vol, veh/h	729	69	84	549	86	206
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	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	767	73	88	578	91	217

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	840	0	1558	804
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	754	-
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	-	-	791	-	123	381
Stage 1	-	-	-	-	439	-
Stage 2	-	-	-	-	463	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	791	-	103	381
Mov Cap-2 Maneuver	-	-	-	-	103	-
Stage 1	-	-	-	-	367	-
Stage 2	-	-	-	-	463	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	269.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	212	-	-	791	-
HCM Lane V/C Ratio	1.45	-	-	0.112	-
HCM Control Delay (s)	269.2	-	-	10.1	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	18.2	-	-	0.4	-

Intersection	
Int Delay, s/veh	440.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	173	4	63	46	2	187	26	413	16	238	433	47
Future Vol, veh/h	173	4	63	46	2	187	26	413	16	238	433	47
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	-	-	-	250	-	530	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	206	5	75	55	2	223	31	492	19	283	515	56

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1785	1682	543	1703	1691	492	571	0	0	511	0	0
Stage 1	1109	1109	-	554	554	-	-	-	-	-	-	-
Stage 2	676	573	-	1149	1137	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	~ 63	94	538	72	93	575	997	-	-	1049	-	-
Stage 1	253	284	-	515	512	-	-	-	-	-	-	-
Stage 2	441	502	-	240	275	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 25	55	538	~ 39	54	575	997	-	-	1049	-	-
Mov Cap-2 Maneuver	~ 25	55	-	~ 39	54	-	-	-	-	-	-	-
Stage 1	245	171	-	499	496	-	-	-	-	-	-	-
Stage 2	261	486	-	121	165	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 2573	$ 453.1	0.5	3.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	997	-	-	25	353	152	1049	-	-
HCM Lane V/C Ratio	0.031	-	-	8.238	0.226	1.841	0.27	-	-
HCM Control Delay (s)	8.7	-	-	$ 3562.5	18.2	$ 453.1	9.7	0	-
HCM Lane LOS	A	-	-	F	C	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	25.6	0.9	21	1.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	9	27	0	16	124	236	25	11	312	57
Future Vol, veh/h	10	0	9	27	0	16	124	236	25	11	312	57
Conflicting Peds, #/hr	0	0	0	0	0	0	24	0	0	0	0	24
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	250	250	-	-	250	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	13	0	12	35	0	21	159	303	32	14	400	73

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1137	1142	461	1108	1162	319	497	0	0	335	0	0
Stage 1	489	489	-	637	637	-	-	-	-	-	-	-
Stage 2	648	653	-	471	525	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	178	200	598	186	194	719	1062	-	-	1219	-	-
Stage 1	559	548	-	464	470	-	-	-	-	-	-	-
Stage 2	457	462	-	571	528	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	148	164	584	160	159	719	1038	-	-	1219	-	-
Mov Cap-2 Maneuver	148	164	-	160	159	-	-	-	-	-	-	-
Stage 1	462	529	-	393	398	-	-	-	-	-	-	-
Stage 2	376	391	-	553	510	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22	24.9	2.9	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1038	-	-	148	-	584	160	719	1219	-	-
HCM Lane V/C Ratio	0.153	-	-	0.087	-	0.02	0.216	0.029	0.012	-	-
HCM Control Delay (s)	9.1	-	-	31.6	0	11.3	33.6	10.2	8	-	-
HCM Lane LOS	A	-	-	D	A	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.3	-	0.1	0.8	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	4.9
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	2	86	236
Demand Flow Rate, veh/h	2	88	243
Vehicles Circulating, veh/h	243	0	4
Vehicles Exiting, veh/h	4	245	84
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.2	3.9	5.3
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	2	88	243
Cap Entry Lane, veh/h	886	1130	1125
Entry HV Adj Factor	0.971	0.976	0.971
Flow Entry, veh/h	2	86	236
Cap Entry, veh/h	860	1103	1093
V/C Ratio	0.002	0.078	0.216
Control Delay, s/veh	4.2	3.9	5.3
LOS	A	A	A
95th %tile Queue, veh	0	0	1

Intersection	
Int Delay, s/veh	84.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	117	37	65	117	21	113	23	24	262	81	258	240	34
Future Vol, veh/h	117	37	65	117	21	113	23	24	262	81	258	240	34
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	250	-	-	230	-	0	-	250	-	-	250	-	0
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	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	130	41	72	130	23	126	26	27	291	90	287	267	38

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	1075	1328	267	1359	1321	191	-	305	0	0	381	0	0
Stage 1	841	841	-	442	442	-	-	-	-	-	-	-	-
Stage 2	234	487	-	917	879	-	-	-	-	-	-	-	-
Critical Hdwy	6.795	6.545	6.245	6.795	6.545	7.145	-	4.145	-	-	5.345	-	-
Critical Hdwy Stg 1	6.145	5.545	-	7.345	5.545	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.745	5.545	-	6.145	5.545	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.6785	4.0285	3.3285	3.6785	4.0285	3.9285	-	2.2285	-	-	3.1285	-	-
Pot Cap-1 Maneuver	212	153	768	139	155	695	-	1248	-	-	768	-	-
Stage 1	347	378	-	494	573	-	-	-	-	-	-	-	-
Stage 2	710	547	-	315	363	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	~ 102	96	768	~ 61	97	695	~	~	-	-	768	-	-
Mov Cap-2 Maneuver	~ 102	96	-	~ 61	97	-	-	-	-	-	-	-	-
Stage 1	347	237	-	494	573	-	-	-	-	-	-	-	-
Stage 2	558	547	-	148	227	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	155.3	$ 320.4		6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	~	-	-	102	217	61	97	695	768	-	-
HCM Lane V/C Ratio	~	-	-	1.275	0.522	2.131	0.241	0.181	0.373	-	-
HCM Control Delay (s)	-	-	-	257.2	38.4	$ 666.9	53.5	11.3	12.5	-	-
HCM Lane LOS	-	-	-	F	E	F	F	B	B	-	-
HCM 95th %tile Q(veh)	~	-	-	8.9	2.7	12.5	0.9	0.7	1.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	194
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	20	133	293	65	7	346	166	156	75	6	134	75
Future Vol, veh/h	20	133	293	65	7	346	166	156	75	6	134	75
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	29	196	431	96	10	509	244	229	110	9	197	110
Number of Lanes	0	1	1	0	1	1	0	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	142.5	437	29.7	41
HCM LOS	F	F	D	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	78%	0%
Vol Thru, %	0%	93%	0%	82%	0%	68%	22%	17%
Vol Right, %	0%	7%	0%	18%	0%	32%	0%	83%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	156	81	153	358	7	512	172	227
LT Vol	156	0	153	0	7	0	134	0
Through Vol	0	75	0	293	0	346	38	38
RT Vol	0	6	0	65	0	166	0	189
Lane Flow Rate	229	119	225	526	10	753	252	333
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.648	0.318	0.601	1.314	0.028	1.913	0.676	0.803
Departure Headway (Hd)	12.223	11.628	11.409	10.739	10.504	9.74	11.636	10.59
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	298	311	319	342	343	384	313	346
Service Time	9.923	9.328	9.109	8.439	8.204	7.44	9.336	8.29
HCM Lane V/C Ratio	0.768	0.383	0.705	1.538	0.029	1.961	0.805	0.962
HCM Control Delay	34.9	19.7	29.9	190.6	13.5	442.8	35.5	45.1
HCM Lane LOS	D	C	D	F	B	F	E	E
HCM 95th-tile Q	4.2	1.3	3.7	21	0.1	47.7	4.6	6.8

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes Configurations	
Traffic Vol, veh/h	189
Future Vol, veh/h	189
Peak Hour Factor	0.68
Heavy Vehicles, %	3
Mvmt Flow	278
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

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	35	120	43	22	106	21	54	82	21	35	84	53
Future Vol, veh/h	35	120	43	22	106	21	54	82	21	35	84	53
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	39	133	48	24	118	23	60	91	23	39	93	59
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.4	9.9	10.1	10
HCM LOS	B	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	18%	15%	20%
Vol Thru, %	52%	61%	71%	49%
Vol Right, %	13%	22%	14%	31%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	157	198	149	172
LT Vol	54	35	22	35
Through Vol	82	120	106	84
RT Vol	21	43	21	53
Lane Flow Rate	174	220	166	191
Geometry Grp	1	1	1	1
Degree of Util (X)	0.254	0.311	0.239	0.271
Departure Headway (Hd)	5.248	5.095	5.199	5.111
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	686	708	690	705
Service Time	3.277	3.107	3.228	3.123
HCM Lane V/C Ratio	0.254	0.311	0.241	0.271
HCM Control Delay	10.1	10.4	9.9	10
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	1	1.3	0.9	1.1

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	159	17	30	95	54	15	137	75	106	109	22
Future Vol, veh/h	35	159	17	30	95	54	15	137	75	106	109	22
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	37	167	18	32	100	57	16	144	79	112	115	23
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	11.6	10.9	12	10.9
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	65%	0%	90%	0%	64%	0%	83%
Vol Right, %	0%	35%	0%	10%	0%	36%	0%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	212	35	176	30	149	106	131
LT Vol	15	0	35	0	30	0	106	0
Through Vol	0	137	0	159	0	95	0	109
RT Vol	0	75	0	17	0	54	0	22
Lane Flow Rate	16	223	37	185	32	157	112	138
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.029	0.369	0.07	0.32	0.06	0.266	0.207	0.232
Departure Headway (Hd)	6.707	5.948	6.803	6.227	6.869	6.104	6.679	6.053
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	533	603	526	576	520	587	537	592
Service Time	4.456	3.698	4.554	3.978	4.623	3.857	4.428	3.802
HCM Lane V/C Ratio	0.03	0.37	0.07	0.321	0.062	0.267	0.209	0.233
HCM Control Delay	9.7	12.2	10.1	11.9	10.1	11.1	11.2	10.6
HCM Lane LOS	A	B	B	B	B	B	B	B
HCM 95th-tile Q	0.1	1.7	0.2	1.4	0.2	1.1	0.8	0.9



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	24	525	99	1	282	270	80	84	96	362	193	173
Future Volume (vph)	24	525	99	1	282	270	80	84	96	362	193	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
Lane Util. Factor	1.00	0.95			0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.98			1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97
Flt Protected	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	3421			3400	1845	1568	1752	3505	1568	1752	3398
Flt Permitted	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	3421			3400	1845	1568	1752	3505	1568	1752	3398
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	32	700	132	1	376	360	107	112	128	483	257	231
RTOR Reduction (vph)	0	14	0	0	0	0	68	0	0	125	0	21
Lane Group Flow (vph)	32	818	0	0	377	360	39	112	128	358	257	269
Turn Type	Prot	NA		Prot	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases							8			2		
Actuated Green, G (s)	3.4	29.4			10.0	36.0	36.0	9.1	27.1	27.1	13.1	31.1
Effective Green, g (s)	3.4	29.4			10.0	36.0	36.0	9.1	27.1	27.1	13.1	31.1
Actuated g/C Ratio	0.03	0.30			0.10	0.37	0.37	0.09	0.28	0.28	0.13	0.32
Clearance Time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
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)	60	1024			346	676	574	162	967	432	233	1076
v/s Ratio Prot	0.02	c0.24			c0.11	0.20		0.06	0.04		c0.15	c0.08
v/s Ratio Perm							0.03			c0.23		
v/c Ratio	0.53	0.80			1.09	0.53	0.07	0.69	0.13	0.83	1.10	0.25
Uniform Delay, d1	46.6	31.7			44.1	24.5	20.2	43.2	26.7	33.4	42.6	24.9
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	8.8	4.4			74.5	0.8	0.1	12.0	0.1	12.3	89.3	0.1
Delay (s)	55.4	36.1			118.6	25.3	20.3	55.2	26.8	45.7	131.8	25.0
Level of Service	E	D			F	C	C	E	C	D	F	C
Approach Delay (s)		36.8				66.3			43.8			75.2
Approach LOS		D				E			D			E

Intersection Summary			
HCM 2000 Control Delay	53.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	98.2	Sum of lost time (s)	18.6
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	44
Future Volume (vph)	44
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.75
Adj. Flow (vph)	59
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection	
Intersection Delay, s/veh	20.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	107	4	15	144	68	19	130	12	65	253	96
Future Vol, veh/h	56	107	4	15	144	68	19	130	12	65	253	96
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	67	129	5	18	173	82	23	157	14	78	305	116
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.1	15.5	13.2	29.4
HCM LOS	B	C	B	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	34%	7%	16%
Vol Thru, %	81%	64%	63%	61%
Vol Right, %	7%	2%	30%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	161	167	227	414
LT Vol	19	56	15	65
Through Vol	130	107	144	253
RT Vol	12	4	68	96
Lane Flow Rate	194	201	273	499
Geometry Grp	1	1	1	1
Degree of Util (X)	0.354	0.381	0.488	0.812
Departure Headway (Hd)	6.565	6.813	6.421	5.858
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	545	525	558	619
Service Time	4.634	4.882	4.485	3.909
HCM Lane V/C Ratio	0.356	0.383	0.489	0.806
HCM Control Delay	13.2	14.1	15.5	29.4
HCM Lane LOS	B	B	C	D
HCM 95th-tile Q	1.6	1.8	2.7	8.2

Intersection	
Int Delay, s/veh	20.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	12	30	49	29	21	34	574	58	34	691	20
Future Vol, veh/h	18	12	30	49	29	21	34	574	58	34	691	20
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	280	-	-	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	20	13	33	54	32	23	38	638	64	38	768	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1629	1633	779	1624	1612	670	790	0	0	702	0	0
Stage 1	855	855	-	746	746	-	-	-	-	-	-	-
Stage 2	774	778	-	878	866	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	81	101	394	82	104	455	826	-	-	891	-	-
Stage 1	351	373	-	404	419	-	-	-	-	-	-	-
Stage 2	390	405	-	341	369	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	53	92	394	62	95	455	826	-	-	891	-	-
Mov Cap-2 Maneuver	53	92	-	62	95	-	-	-	-	-	-	-
Stage 1	335	357	-	385	400	-	-	-	-	-	-	-
Stage 2	325	386	-	288	353	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	78.6	270.4	0.5	0.4
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	826	-	-	110	87	891	-	-
HCM Lane V/C Ratio	0.046	-	-	0.606	1.264	0.042	-	-
HCM Control Delay (s)	9.6	-	-	78.6	270.4	9.2	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	3	8	0.1	-	-

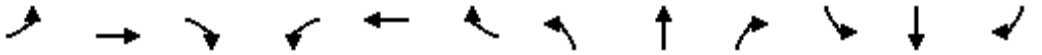
Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	32	247	6	8	252	26	3	7	6	17	14	34
Future Vol, veh/h	32	247	6	8	252	26	3	7	6	17	14	34
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	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	35	271	7	9	277	29	3	8	7	19	15	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	306	0	0	278	0	0	681	669	275	662	658	292
Stage 1	-	-	-	-	-	-	345	345	-	310	310	-
Stage 2	-	-	-	-	-	-	336	324	-	352	348	-
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	1249	-	-	1279	-	-	363	377	761	374	383	745
Stage 1	-	-	-	-	-	-	668	634	-	698	657	-
Stage 2	-	-	-	-	-	-	676	648	-	663	632	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1249	-	-	1279	-	-	323	361	761	353	367	745
Mov Cap-2 Maneuver	-	-	-	-	-	-	323	361	-	353	367	-
Stage 1	-	-	-	-	-	-	646	613	-	675	651	-
Stage 2	-	-	-	-	-	-	621	642	-	628	611	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.2	13.6	13.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	438	1249	-	-	1279	-	-	493
HCM Lane V/C Ratio	0.04	0.028	-	-	0.007	-	-	0.145
HCM Control Delay (s)	13.6	8	0	-	7.8	0	-	13.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	203	21	213	239	230	24	375	214	240	457	65
Future Volume (veh/h)	76	203	21	213	239	230	24	375	214	240	457	65
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	79	211	22	222	249	240	25	391	223	250	476	68
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	100	384	40	221	262	252	42	355	202	247	692	99
Arrive On Green	0.06	0.23	0.23	0.13	0.30	0.30	0.02	0.32	0.32	0.14	0.44	0.44
Sat Flow, veh/h	1757	1643	171	1757	864	833	1757	1104	630	1757	1579	226
Grp Volume(v), veh/h	79	0	233	222	0	489	25	0	614	250	0	544
Grp Sat Flow(s),veh/h/ln	1757	0	1814	1757	0	1698	1757	0	1734	1757	0	1805
Q Serve(g_s), s	5.1	0.0	12.9	14.4	0.0	32.3	1.6	0.0	36.8	16.1	0.0	27.7
Cycle Q Clear(g_c), s	5.1	0.0	12.9	14.4	0.0	32.3	1.6	0.0	36.8	16.1	0.0	27.7
Prop In Lane	1.00		0.09	1.00		0.49	1.00		0.36	1.00		0.13
Lane Grp Cap(c), veh/h	100	0	424	221	0	514	42	0	557	247	0	791
V/C Ratio(X)	0.79	0.00	0.55	1.00	0.00	0.95	0.59	0.00	1.10	1.01	0.00	0.69
Avail Cap(c_a), veh/h	101	0	433	221	0	525	78	0	557	247	0	791
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.3	0.0	38.6	50.0	0.0	39.1	55.3	0.0	38.8	49.2	0.0	25.8
Incr Delay (d2), s/veh	33.0	0.0	1.4	61.6	0.0	27.3	12.6	0.0	68.9	60.2	0.0	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	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	6.6	10.7	0.0	19.0	0.9	0.0	28.2	11.9	0.0	14.3
LnGrp Delay(d),s/veh	86.3	0.0	40.0	111.6	0.0	66.4	67.9	0.0	107.7	109.4	0.0	28.4
LnGrp LOS	F		D	F		E	E		F	F		C
Approach Vol, veh/h		312			711			639			794	
Approach Delay, s/veh		51.7			80.5			106.1			53.9	
Approach LOS		D			F			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.3	42.8	18.6	32.7	6.9	56.2	10.7	40.6
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	6.0	* 4.2	* 6	* 4.2	* 6
Max Green Setting (Gmax), s	* 16	36.8	* 14	27.3	* 5.1	* 49	* 6.6	* 35
Max Q Clear Time (g_c+I1), s	18.1	38.8	16.4	14.9	3.6	29.7	7.1	34.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	0.0	3.2	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	74.9
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	37.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	533	146	207	581	112	110
Future Vol, veh/h	533	146	207	581	112	110
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	275	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	586	160	227	638	123	121

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	748	0	1760	668
Stage 1	-	-	-	-	668	-
Stage 2	-	-	-	-	1092	-
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	-	-	856	-	~ 92	456
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	320	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	854	-	~ 67	455
Mov Cap-2 Maneuver	-	-	-	-	~ 67	-
Stage 1	-	-	-	-	372	-
Stage 2	-	-	-	-	320	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.8	275.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	67	455	-	-	854	-
HCM Lane V/C Ratio	1.837	0.266	-	-	0.266	-
HCM Control Delay (s)	$ 529.7	15.8	-	-	10.7	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	11.1	1.1	-	-	1.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	69.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	642	84	209	754	53	149
Future Vol, veh/h	642	84	209	754	53	149
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	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	698	91	227	820	58	162

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	789	0	2018	744
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	1274	-
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	-	-	826	-	64	413
Stage 1	-	-	-	-	468	-
Stage 2	-	-	-	-	262	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	826	-	~ 32	413
Mov Cap-2 Maneuver	-	-	-	-	~ 32	-
Stage 1	-	-	-	-	232	-
Stage 2	-	-	-	-	262	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	$ 638.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	100	-	-	826	-
HCM Lane V/C Ratio	2.196	-	-	0.275	-
HCM Control Delay (s)	$ 638.6	-	-	11	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	19.2	-	-	1.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	94.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	109	6	43	66	4	169	91	327	9	88	440	165
Future Vol, veh/h	109	6	43	66	4	169	91	327	9	88	440	165
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	-	-	-	250	-	530	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	127	7	50	77	5	197	106	380	10	102	512	192

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1510	1414	608	1433	1500	380	704	0	0	390	0	0
Stage 1	812	812	-	592	592	-	-	-	-	-	-	-
Stage 2	698	602	-	841	908	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	~ 98	137	494	111	121	665	889	-	-	1163	-	-
Stage 1	371	391	-	491	492	-	-	-	-	-	-	-
Stage 2	429	487	-	358	353	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 54	103	494	~ 76	91	665	889	-	-	1163	-	-
Mov Cap-2 Maneuver	~ 54	103	-	~ 76	91	-	-	-	-	-	-	-
Stage 1	327	333	-	433	433	-	-	-	-	-	-	-
Stage 2	263	429	-	268	300	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 542	233.4	2	1.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	889	-	-	54	337	205	1163	-	-
HCM Lane V/C Ratio	0.119	-	-	2.347	0.169	1.356	0.088	-	-
HCM Control Delay (s)	9.6	-	-	$ 777.6	17.8	233.4	8.4	0	-
HCM Lane LOS	A	-	-	F	C	F	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	12.8	0.6	15.7	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	0	3	25	0	21	31	225	26	16	194	12
Future Vol, veh/h	7	0	3	25	0	21	31	225	26	16	194	12
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	250	250	-	-	250	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	9	0	4	30	0	26	38	274	32	20	237	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	664	667	245	653	658	290	252	0	0	306	0	0
Stage 1	285	285	-	366	366	-	-	-	-	-	-	-
Stage 2	379	382	-	287	292	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	373	378	791	379	383	747	1307	-	-	1249	-	-
Stage 1	720	674	-	651	621	-	-	-	-	-	-	-
Stage 2	641	611	-	718	669	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	348	361	791	364	366	747	1307	-	-	1249	-	-
Mov Cap-2 Maneuver	348	361	-	364	366	-	-	-	-	-	-	-
Stage 1	699	663	-	632	603	-	-	-	-	-	-	-
Stage 2	601	593	-	703	658	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.8	13.2	0.9	0.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1307	-	-	348	-	791	364	747	1249	-	-
HCM Lane V/C Ratio	0.029	-	-	0.025	-	0.005	0.084	0.034	0.016	-	-
HCM Control Delay (s)	7.8	-	-	15.6	0	9.6	15.8	10	7.9	-	-
HCM Lane LOS	A	-	-	C	A	A	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	0	0.3	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	5.3
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	4	279	154
Demand Flow Rate, veh/h	4	287	159
Vehicles Circulating, veh/h	159	0	3
Vehicles Exiting, veh/h	3	163	284
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.9	5.7	4.5
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	4	287	159
Cap Entry Lane, veh/h	964	1130	1127
Entry HV Adj Factor	0.971	0.972	0.969
Flow Entry, veh/h	4	279	154
Cap Entry, veh/h	936	1098	1091
V/C Ratio	0.004	0.254	0.141
Control Delay, s/veh	3.9	5.7	4.5
LOS	A	A	A
95th %tile Queue, veh	0	1	0

Intersection	
Int Delay, s/veh	30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	74	34	38	84	44	118	9	101	291	90	183	306	112
Future Vol, veh/h	74	34	38	84	44	118	9	101	291	90	183	306	112
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	250	-	-	230	-	0	-	250	-	-	250	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	79	36	40	89	47	126	10	107	310	96	195	326	119

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	1098	1358	326	1408	1429	205	-	445	0	0	408	0	0
Stage 1	716	716	-	594	594	-	-	-	-	-	-	-	-
Stage 2	382	642	-	814	835	-	-	-	-	-	-	-	-
Critical Hdwy	6.795	6.545	6.245	6.795	6.545	7.145	-	4.145	-	-	5.345	-	-
Critical Hdwy Stg 1	6.145	5.545	-	7.345	5.545	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.745	5.545	-	6.145	5.545	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.6785	4.0285	3.3285	3.6785	4.0285	3.9285	-	2.2285	-	-	3.1285	-	-
Pot Cap-1 Maneuver	205	147	712	129	133	681	-	1107	-	-	746	-	-
Stage 1	407	431	-	389	490	-	-	-	-	-	-	-	-
Stage 2	578	466	-	359	380	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	85	108	712	~ 73	98	680	~ -12	~ -12	-	-	745	-	-
Mov Cap-2 Maneuver	85	108	-	~ 73	98	-	-	-	-	-	-	-	-
Stage 1	407	318	-	389	489	-	-	-	-	-	-	-	-
Stage 2	426	465	-	222	280	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	100.5	112.9		3.5
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	85	196	73	98	680	745	-	-
HCM Lane V/C Ratio	-	-	-	0.926	0.391	1.224	0.478	0.185	0.261	-	-
HCM Control Delay (s)	-	-	-	164.6	34.7	277.1	71.5	11.5	11.5	-	-
HCM Lane LOS	-	-	-	F	D	F	F	B	B	-	-
HCM 95th %tile Q(veh)	-	-	-	5.1	1.7	6.9	2.1	0.7	1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	13.3
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	1	124	211	45	9	193	80	25	69	10	94	47
Future Vol, veh/h	1	124	211	45	9	193	80	25	69	10	94	47
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	138	234	50	10	214	89	28	77	11	104	52
Number of Lanes	0	1	1	0	1	1	0	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	13.5	15.2	11.2	11.7
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	80%	0%
Vol Thru, %	0%	87%	0%	82%	0%	71%	20%	24%
Vol Right, %	0%	13%	0%	18%	0%	29%	0%	76%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	79	125	256	9	273	118	99
LT Vol	25	0	125	0	9	0	94	0
Through Vol	0	69	0	211	0	193	24	24
RT Vol	0	10	0	45	0	80	0	75
Lane Flow Rate	28	88	139	284	10	303	131	109
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.059	0.171	0.259	0.48	0.019	0.519	0.263	0.192
Departure Headway (Hd)	7.624	7.022	6.707	6.075	6.871	6.154	7.258	6.307
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	467	507	533	592	519	582	492	566
Service Time	5.415	4.812	4.475	3.843	4.641	3.924	5.036	4.084
HCM Lane V/C Ratio	0.06	0.174	0.261	0.48	0.019	0.521	0.266	0.193
HCM Control Delay	10.9	11.3	11.8	14.4	9.8	15.4	12.6	10.6
HCM Lane LOS	B	B	B	B	A	C	B	B
HCM 95th-tile Q	0.2	0.6	1	2.6	0.1	3	1	0.7

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes Configurations	
Traffic Vol, veh/h	75
Future Vol, veh/h	75
Peak Hour Factor	0.90
Heavy Vehicles, %	3
Mvmt Flow	83
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

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	47	200	54	25	183	32	60	137	29	26	111	48
Future Vol, veh/h	47	200	54	25	183	32	60	137	29	26	111	48
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	52	222	60	28	203	36	67	152	32	29	123	53
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.8	13.8	13.9	12.6
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	16%	10%	14%
Vol Thru, %	61%	66%	76%	60%
Vol Right, %	13%	18%	13%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	226	301	240	185
LT Vol	60	47	25	26
Through Vol	137	200	183	111
RT Vol	29	54	32	48
Lane Flow Rate	251	334	267	206
Geometry Grp	1	1	1	1
Degree of Util (X)	0.431	0.547	0.447	0.354
Departure Headway (Hd)	6.185	5.885	6.032	6.193
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	580	615	600	580
Service Time	4.238	3.898	4.048	4.248
HCM Lane V/C Ratio	0.433	0.543	0.445	0.355
HCM Control Delay	13.9	15.8	13.8	12.6
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	2.2	3.3	2.3	1.6

Intersection	
Intersection Delay, s/veh	28.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	196	35	90	198	148	27	177	77	105	195	51
Future Vol, veh/h	36	196	35	90	198	148	27	177	77	105	195	51
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	41	225	40	103	228	170	31	203	89	121	224	59
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	23.2	38.6	26.1	22.8
HCM LOS	C	E	D	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	70%	0%	85%	0%	57%	0%	79%
Vol Right, %	0%	30%	0%	15%	0%	43%	0%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	254	36	231	90	346	105	246
LT Vol	27	0	36	0	90	0	105	0
Through Vol	0	177	0	196	0	198	0	195
RT Vol	0	77	0	35	0	148	0	51
Lane Flow Rate	31	292	41	266	103	398	121	283
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.079	0.682	0.105	0.629	0.251	0.873	0.302	0.656
Departure Headway (Hd)	9.149	8.409	9.161	8.531	8.729	7.902	9.018	8.348
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	391	429	391	422	412	457	398	433
Service Time	6.91	6.169	6.925	6.295	6.486	5.658	6.78	6.11
HCM Lane V/C Ratio	0.079	0.681	0.105	0.63	0.25	0.871	0.304	0.654
HCM Control Delay	12.7	27.5	13	24.8	14.4	44.9	15.7	25.8
HCM Lane LOS	B	D	B	C	B	E	C	D
HCM 95th-tile Q	0.3	5	0.3	4.2	1	9.1	1.3	4.6



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	14	308	88	7	305	434	183	68	125	243	121	74
Future Volume (vph)	14	308	88	7	305	434	183	68	125	243	121	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
Lane Util. Factor	1.00	0.95			0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.97			1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97
Flt Protected	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	3388			3400	1845	1568	1752	3505	1568	1752	3413
Flt Permitted	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	3388			3400	1845	1568	1752	3505	1568	1752	3413
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	15	331	95	8	328	467	197	73	134	261	130	80
RTOR Reduction (vph)	0	28	0	0	0	0	119	0	0	208	0	13
Lane Group Flow (vph)	15	398	0	0	336	467	78	73	134	53	130	84
Turn Type	Prot	NA		Prot	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases							8			2		
Actuated Green, G (s)	0.6	18.0			7.4	24.8	24.8	5.7	12.7	12.7	6.3	13.3
Effective Green, g (s)	0.6	18.0			7.4	24.8	24.8	5.7	12.7	12.7	6.3	13.3
Actuated g/C Ratio	0.01	0.29			0.12	0.39	0.39	0.09	0.20	0.20	0.10	0.21
Clearance Time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
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)	16	968			399	726	617	158	706	316	175	720
v/s Ratio Prot	0.01	0.12			c0.10	c0.25		0.04	c0.04		c0.07	0.02
v/s Ratio Perm							0.05			0.03		
v/c Ratio	0.94	0.41			0.84	0.64	0.13	0.46	0.19	0.17	0.74	0.12
Uniform Delay, d1	31.2	18.2			27.2	15.5	12.2	27.2	20.9	20.8	27.6	20.1
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	191.7	0.3			14.8	2.0	0.1	2.1	0.1	0.3	15.6	0.1
Delay (s)	222.9	18.5			42.0	17.5	12.3	29.3	21.0	21.0	43.2	20.2
Level of Service	F	B			D	B	B	C	C	C	D	C
Approach Delay (s)		25.4				24.7			22.3			33.3
Approach LOS		C				C			C			C

Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	63.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	16
Future Volume (vph)	16
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	17
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	91	12	7	65	64	10	275	10	81	148	47
Future Vol, veh/h	70	91	12	7	65	64	10	275	10	81	148	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	74	96	13	7	68	67	11	289	11	85	156	49
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.4	10.4	13	12.5
HCM LOS	B	B	B	B

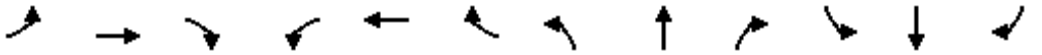
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	40%	5%	29%
Vol Thru, %	93%	53%	48%	54%
Vol Right, %	3%	7%	47%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	295	173	136	276
LT Vol	10	70	7	81
Through Vol	275	91	65	148
RT Vol	10	12	64	47
Lane Flow Rate	311	182	143	291
Geometry Grp	1	1	1	1
Degree of Util (X)	0.462	0.297	0.225	0.432
Departure Headway (Hd)	5.352	5.867	5.649	5.354
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	671	610	633	671
Service Time	3.401	3.925	3.709	3.404
HCM Lane V/C Ratio	0.463	0.298	0.226	0.434
HCM Control Delay	13	11.4	10.4	12.5
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	2.4	1.2	0.9	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	10	50	92	21	25	29	769	41	14	602	21
Future Volume (veh/h)	28	10	50	92	21	25	29	769	41	14	602	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	31	11	55	101	23	27	32	845	45	15	662	23
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	58	20	99	129	88	103	60	946	50	32	938	33
Arrive On Green	0.03	0.07	0.07	0.07	0.11	0.11	0.03	0.54	0.54	0.02	0.53	0.53
Sat Flow, veh/h	1757	268	1340	1757	775	909	1757	1736	92	1757	1772	62
Grp Volume(v), veh/h	31	0	66	101	0	50	32	0	890	15	0	685
Grp Sat Flow(s),veh/h/ln	1757	0	1608	1757	0	1684	1757	0	1828	1757	0	1834
Q Serve(g_s), s	1.1	0.0	2.5	3.5	0.0	1.7	1.1	0.0	27.1	0.5	0.0	17.6
Cycle Q Clear(g_c), s	1.1	0.0	2.5	3.5	0.0	1.7	1.1	0.0	27.1	0.5	0.0	17.6
Prop In Lane	1.00		0.83	1.00		0.54	1.00		0.05	1.00		0.03
Lane Grp Cap(c), veh/h	58	0	118	129	0	191	60	0	996	32	0	970
V/C Ratio(X)	0.53	0.00	0.56	0.78	0.00	0.26	0.53	0.00	0.89	0.47	0.00	0.71
Avail Cap(c_a), veh/h	148	0	489	168	0	531	140	0	1215	140	0	1218
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.9	0.0	28.1	28.6	0.0	25.4	29.8	0.0	12.7	30.5	0.0	11.1
Incr Delay (d2), s/veh	7.3	0.0	4.1	16.3	0.0	0.7	7.2	0.0	7.6	10.1	0.0	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	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.2	2.3	0.0	0.8	0.7	0.0	15.5	0.3	0.0	9.1
LnGrp Delay(d),s/veh	37.1	0.0	32.2	44.9	0.0	26.1	37.0	0.0	20.3	40.6	0.0	12.5
LnGrp LOS	D		C	D		C	D		C	D		B
Approach Vol, veh/h		97			151			922			700	
Approach Delay, s/veh		33.7			38.7			20.8			13.1	
Approach LOS		C			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.4	39.1	8.8	9.5	6.3	38.1	6.3	12.0
Change Period (Y+Rc), s	* 4.2	4.9	* 4.2	4.9	* 4.2	4.9	* 4.2	4.9
Max Green Setting (Gmax), s	* 5	41.7	* 6	19.1	* 5	41.7	* 5.3	19.8
Max Q Clear Time (g_c+I1), s	2.5	29.1	5.5	4.5	3.1	19.6	3.1	3.7
Green Ext Time (p_c), s	0.0	5.1	0.0	0.2	0.0	4.5	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	20.1
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	230	53	136	194	219	34	494	257	177	535	100
Future Volume (veh/h)	82	230	53	136	194	219	34	494	257	177	535	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	93	261	60	155	220	249	39	561	292	201	608	114
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	117	293	67	172	431	648	57	592	503	316	734	138
Arrive On Green	0.07	0.20	0.20	0.16	0.39	0.39	0.03	0.32	0.32	0.18	0.49	0.49
Sat Flow, veh/h	1757	1452	334	1757	1845	1568	1757	1845	1568	1757	1511	283
Grp Volume(v), veh/h	93	0	321	155	220	249	39	561	292	201	0	722
Grp Sat Flow(s),veh/h/ln	1757	0	1786	1757	1845	1568	1757	1845	1568	1757	0	1795
Q Serve(g_s), s	5.5	0.0	18.5	9.2	9.6	1.9	2.3	31.5	11.8	11.2	0.0	36.7
Cycle Q Clear(g_c), s	5.5	0.0	18.5	9.2	9.6	1.9	2.3	31.5	11.8	11.2	0.0	36.7
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	117	0	361	172	431	648	57	592	503	316	0	872
V/C Ratio(X)	0.79	0.00	0.89	0.90	0.51	0.38	0.69	0.95	0.58	0.64	0.00	0.83
Avail Cap(c_a), veh/h	144	0	460	172	510	715	85	604	513	316	0	872
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00	0.76	0.00	0.76
Uniform Delay (d), s/veh	48.8	0.0	41.2	43.8	27.7	7.4	50.8	35.1	15.3	40.3	0.0	23.5
Incr Delay (d2), s/veh	21.4	0.0	16.1	38.7	0.9	0.3	13.9	26.1	4.8	3.2	0.0	6.9
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	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	10.7	6.3	4.9	2.5	1.3	20.3	5.7	5.8	0.0	19.7
LnGrp Delay(d),s/veh	70.2	0.0	57.2	82.5	28.6	7.8	64.6	61.2	20.1	43.4	0.0	30.4
LnGrp LOS	E		E	F	C	A	E	E	C	D		C
Approach Vol, veh/h		414			624			892			923	
Approach Delay, s/veh		60.1			33.7			47.9			33.2	
Approach LOS		E			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.0	40.0	14.6	27.4	7.6	56.4	11.3	30.7
Change Period (Y+Rc), s	4.9	* 6	* 4.2	6.0	* 4.2	4.9	* 4.2	* 6
Max Green Setting (Gmax), s	13.2	* 35	* 10	27.3	* 5.1	43.9	* 8.7	* 29
Max Q Clear Time (g_c+I1), s	13.2	33.5	11.2	20.5	4.3	38.7	7.5	11.6
Green Ext Time (p_c), s	0.0	0.6	0.0	0.9	0.0	2.1	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	41.8
HCM 2010 LOS	D

Notes

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	564	147	202	448	105	193
Future Volume (veh/h)	564	147	202	448	105	193
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1900	1845	1845	1845	1845
Adj Flow Rate, veh/h	680	177	243	540	127	233
Adj No. of Lanes	1	0	1	1	1	1
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	759	198	249	1326	300	268
Arrive On Green	0.18	0.18	0.19	0.96	0.17	0.17
Sat Flow, veh/h	1412	368	1757	1845	1757	1568
Grp Volume(v), veh/h	0	857	243	540	127	233
Grp Sat Flow(s),veh/h/ln	0	1780	1757	1845	1757	1568
Q Serve(g_s), s	0.0	49.9	14.6	2.2	6.8	15.3
Cycle Q Clear(g_c), s	0.0	49.9	14.6	2.2	6.8	15.3
Prop In Lane		0.21	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	957	249	1326	300	268
V/C Ratio(X)	0.00	0.90	0.98	0.41	0.42	0.87
Avail Cap(c_a), veh/h	0	957	249	1326	447	399
HCM Platoon Ratio	0.33	0.33	1.33	1.33	1.00	1.00
Upstream Filter(I)	0.00	0.67	0.92	0.92	1.00	1.00
Uniform Delay (d), s/veh	0.0	40.7	42.9	0.7	39.3	42.8
Incr Delay (d2), s/veh	0.0	9.1	48.3	0.9	0.9	12.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	27.0	10.4	1.2	3.4	7.6
LnGrp Delay(d),s/veh	0.0	49.7	91.2	1.6	40.2	55.6
LnGrp LOS		D	F	A	D	E
Approach Vol, veh/h	857			783	360	
Approach Delay, s/veh	49.7			29.4	50.2	
Approach LOS	D			C	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		24.1	19.2	62.7				81.9
Change Period (Y+Rc), s		6.0	* 4.2	5.7				5.7
Max Green Setting (Gmax), s		27.0	* 15	48.1				67.3
Max Q Clear Time (g_c+I1), s		17.3	16.6	51.9				4.2
Green Ext Time (p_c), s		0.8	0.0	0.0				3.4

Intersection Summary	
HCM 2010 Ctrl Delay	41.8
HCM 2010 LOS	D

Notes

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	729	69	84	549	86	206
Future Volume (veh/h)	729	69	84	549	86	206
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1900	1845	1845	1845	1845
Adj Flow Rate, veh/h	767	73	88	578	91	217
Adj No. of Lanes	1	0	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	815	78	342	1364	282	251
Arrive On Green	0.33	0.33	0.19	0.74	0.16	0.16
Sat Flow, veh/h	1659	158	1757	1845	1757	1568
Grp Volume(v), veh/h	0	840	88	578	91	217
Grp Sat Flow(s),veh/h/ln	0	1817	1757	1845	1757	1568
Q Serve(g_s), s	0.0	47.6	4.5	12.6	4.9	14.3
Cycle Q Clear(g_c), s	0.0	47.6	4.5	12.6	4.9	14.3
Prop In Lane		0.09	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	892	342	1364	282	251
V/C Ratio(X)	0.00	0.94	0.26	0.42	0.32	0.86
Avail Cap(c_a), veh/h	0	941	342	1364	449	401
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.43	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	34.1	36.2	5.2	39.4	43.4
Incr Delay (d2), s/veh	0.0	10.1	0.4	1.0	0.7	10.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	26.5	2.2	6.6	2.4	7.0
LnGrp Delay(d),s/veh	0.0	44.2	36.6	6.2	40.1	54.2
LnGrp LOS		D	D	A	D	D
Approach Vol, veh/h	840			666	308	
Approach Delay, s/veh	44.2			10.2	50.0	
Approach LOS	D			B	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		22.3	25.9	57.8				83.7
Change Period (Y+Rc), s		5.3	5.3	* 5.7				5.3
Max Green Setting (Gmax), s		27.1	8.8	* 55				68.3
Max Q Clear Time (g_c+I1), s		16.3	6.5	49.6				14.6
Green Ext Time (p_c), s		0.7	0.0	2.4				3.8

Intersection Summary	
HCM 2010 Ctrl Delay	32.7
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	4	63	46	2	187	26	413	16	238	433	47
Future Volume (veh/h)	173	4	63	46	2	187	26	413	16	238	433	47
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	206	5	75	55	2	223	31	492	19	283	515	56
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	2	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	241	7	111	384	2	269	483	534	454	317	684	306
Arrive On Green	0.14	0.08	0.08	0.22	0.17	0.17	0.27	0.29	0.29	0.18	0.20	0.20
Sat Flow, veh/h	1757	99	1484	1757	14	1556	1757	1845	1568	1757	3505	1568
Grp Volume(v), veh/h	206	0	80	55	0	225	31	492	19	283	515	56
Grp Sat Flow(s),veh/h/ln	1757	0	1583	1757	0	1570	1757	1845	1568	1757	1752	1568
Q Serve(g_s), s	10.5	0.0	4.5	2.3	0.0	12.6	1.2	23.6	0.8	14.4	12.7	2.7
Cycle Q Clear(g_c), s	10.5	0.0	4.5	2.3	0.0	12.6	1.2	23.6	0.8	14.4	12.7	2.7
Prop In Lane	1.00		0.94	1.00		0.99	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	241	0	119	384	0	272	483	534	454	317	684	306
V/C Ratio(X)	0.86	0.00	0.67	0.14	0.00	0.83	0.06	0.92	0.04	0.89	0.75	0.18
Avail Cap(c_a), veh/h	256	0	594	384	0	515	483	579	492	344	1549	693
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.6	0.0	41.2	28.8	0.0	36.5	24.5	31.5	23.4	36.6	34.7	30.7
Incr Delay (d2), s/veh	22.8	0.0	6.5	0.2	0.0	6.3	0.1	19.5	0.0	23.0	1.7	0.3
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	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.0	2.2	1.1	0.0	6.0	0.6	14.9	0.3	9.0	6.3	1.2
LnGrp Delay(d),s/veh	61.4	0.0	47.7	29.0	0.0	42.8	24.5	51.0	23.4	59.6	36.4	31.0
LnGrp LOS	E		D	C		D	C	D	C	E	D	C
Approach Vol, veh/h		286			280			542			854	
Approach Delay, s/veh		57.5			40.1			48.5			43.7	
Approach LOS		E			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.7	32.4	25.7	12.6	29.3	23.8	18.2	20.0
Change Period (Y+Rc), s	4.2	* 6	5.7	* 5.7	4.2	* 6	* 5.7	4.2
Max Green Setting (Gmax), s	17.9	* 29	9.0	* 34	6.2	* 40	* 13	30.0
Max Q Clear Time (g_c+I1), s	16.4	25.6	4.3	6.5	3.2	14.7	12.5	14.6
Green Ext Time (p_c), s	0.1	0.8	0.0	0.4	0.0	3.2	0.0	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	46.5
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	117	37	65	117	21	113	23	24	262	81	258	240
Future Volume (vph)	117	37	65	117	21	113	23	24	262	81	258	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.7		4.2	5.7	5.7		4.2	6.0	6.0	4.2	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00	0.95	1.00	1.00	1.00
Frt	1.00	0.90		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	1668		1752	1845	1568		1752	3505	1568	1752	1845
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	1668		1752	1845	1568		1752	3505	1568	1752	1845
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	130	41	72	130	23	126	26	27	291	90	287	267
RTOR Reduction (vph)	0	56	0	0	0	103	0	0	0	68	0	0
Lane Group Flow (vph)	130	57	0	130	23	23	0	53	291	23	287	267
Turn Type	Prot	NA		Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	5	2		1	6
Permitted Phases						8				2		
Actuated Green, G (s)	13.6	23.9		8.9	19.2	19.2		6.7	26.5	26.5	26.6	46.4
Effective Green, g (s)	13.6	23.9		8.9	19.2	19.2		6.7	26.5	26.5	26.6	46.4
Actuated g/C Ratio	0.13	0.23		0.08	0.18	0.18		0.06	0.25	0.25	0.25	0.44
Clearance Time (s)	4.2	5.7		4.2	5.7	5.7		4.2	6.0	6.0	4.2	6.0
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)	224	376		147	334	284		110	876	392	439	807
v/s Ratio Prot	c0.07	c0.03		c0.07	0.01			c0.03	0.08		c0.16	c0.14
v/s Ratio Perm						0.01				0.01		
v/c Ratio	0.58	0.15		0.88	0.07	0.08		0.48	0.33	0.06	0.65	0.33
Uniform Delay, d1	43.5	32.9		48.0	36.0	36.1		48.0	32.5	30.2	35.6	19.6
Progression Factor	1.00	1.00		0.83	0.84	6.54		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8	0.2		31.9	0.1	0.1		3.3	1.0	0.3	3.5	1.1
Delay (s)	47.3	33.1		71.9	30.2	236.1		51.3	33.5	30.5	39.1	20.7
Level of Service	D	C		E	C	F		D	C	C	D	C
Approach Delay (s)		40.7			142.6				35.1			29.4
Approach LOS		D			F				D			C

Intersection Summary			
HCM 2000 Control Delay	53.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	34
Future Volume (vph)	34
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	38
RTOR Reduction (vph)	21
Lane Group Flow (vph)	17
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	46.4
Effective Green, g (s)	46.4
Actuated g/C Ratio	0.44
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	686
v/s Ratio Prot	
v/s Ratio Perm	0.01
v/c Ratio	0.02
Uniform Delay, d1	16.9
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	17.0
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary



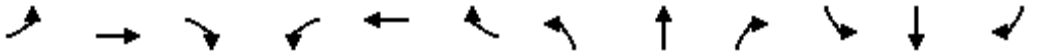
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	20	133	293	65	7	346	166	156	75	6	134	75
Future Volume (vph)	20	133	293	65	7	346	166	156	75	6	134	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	5.7		4.2	5.7	5.7	4.2	6.0		4.2	6.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	0.95
Frpb, ped/bikes		1.00	1.00		1.00	1.00	0.98	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
Frt		1.00	0.97		1.00	1.00	0.85	1.00	0.99		1.00	1.00
Flt Protected		0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)		1752	1790		1752	1845	1533	1752	1824		1752	3505
Flt Permitted		0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)		1752	1790		1752	1845	1533	1752	1824		1752	3505
Peak-hour factor, PHF	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Adj. Flow (vph)	29	196	431	96	10	509	244	229	110	9	197	110
RTOR Reduction (vph)	0	0	6	0	0	0	154	0	3	0	0	0
Lane Group Flow (vph)	0	225	521	0	10	509	90	229	116	0	197	110
Confl. Peds. (#/hr)		1		1	1		1	1				
Turn Type	Prot	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA
Protected Phases	7	7	4		3	8		5	2		1	6
Permitted Phases							8					
Actuated Green, G (s)		19.3	57.2		1.0	38.9	38.9	14.2	14.8		12.9	13.5
Effective Green, g (s)		19.3	57.2		1.0	38.9	38.9	14.2	14.8		12.9	13.5
Actuated g/C Ratio		0.18	0.54		0.01	0.37	0.37	0.13	0.14		0.12	0.13
Clearance Time (s)		4.2	5.7		4.2	5.7	5.7	4.2	6.0		4.2	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		318	965		16	677	562	234	254		213	446
v/s Ratio Prot		c0.13	0.29		c0.01	c0.28		c0.13	c0.06		0.11	0.03
v/s Ratio Perm							0.06					
v/c Ratio		0.71	0.54		0.62	0.75	0.16	0.98	0.45		0.92	0.25
Uniform Delay, d1		40.7	15.9		52.3	29.3	22.6	45.7	41.9		46.1	41.7
Progression Factor		0.70	0.65		1.00	1.00	1.00	1.00	1.00		0.90	0.88
Incremental Delay, d2		6.8	2.1		57.6	7.5	0.6	52.2	1.3		38.2	0.3
Delay (s)		35.2	12.4		109.9	36.9	23.2	97.9	43.2		79.4	36.8
Level of Service		D	B		F	D	C	F	D		E	D
Approach Delay (s)			19.2			33.4			79.2			56.9
Approach LOS			B			C			E			E

Intersection Summary			
HCM 2000 Control Delay	41.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	189
Future Volume (vph)	189
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1547
Flt Permitted	1.00
Satd. Flow (perm)	1547
Peak-hour factor, PHF	0.68
Adj. Flow (vph)	278
RTOR Reduction (vph)	243
Lane Group Flow (vph)	35
Confl. Peds. (#/hr)	1
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	13.5
Effective Green, g (s)	13.5
Actuated g/C Ratio	0.13
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	197
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.18
Uniform Delay, d1	41.3
Progression Factor	1.18
Incremental Delay, d2	0.4
Delay (s)	49.0
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	12	30	49	29	21	34	574	58	34	691	20
Future Volume (veh/h)	18	12	30	49	29	21	34	574	58	34	691	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	20	13	33	54	32	23	38	638	64	38	768	22
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
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	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	40	29	75	81	87	62	65	989	99	65	1069	31
Arrive On Green	0.02	0.06	0.06	0.05	0.09	0.09	0.04	0.60	0.60	0.04	0.60	0.60
Sat Flow, veh/h	1757	463	1175	1757	999	718	1757	1650	166	1757	1785	51
Grp Volume(v), veh/h	20	0	46	54	0	55	38	0	702	38	0	790
Grp Sat Flow(s),veh/h/ln	1757	0	1637	1757	0	1718	1757	0	1815	1757	0	1836
Q Serve(g_s), s	0.8	0.0	1.9	2.2	0.0	2.2	1.5	0.0	18.1	1.5	0.0	21.7
Cycle Q Clear(g_c), s	0.8	0.0	1.9	2.2	0.0	2.2	1.5	0.0	18.1	1.5	0.0	21.7
Prop In Lane	1.00		0.72	1.00		0.42	1.00		0.09	1.00		0.03
Lane Grp Cap(c), veh/h	40	0	104	81	0	149	65	0	1088	65	0	1100
V/C Ratio(X)	0.50	0.00	0.44	0.67	0.00	0.37	0.58	0.00	0.65	0.58	0.00	0.72
Avail Cap(c_a), veh/h	123	0	437	128	0	463	125	0	1088	125	0	1100
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.6	0.0	32.3	33.6	0.0	30.9	33.9	0.0	9.4	33.9	0.0	10.1
Incr Delay (d2), s/veh	9.2	0.0	2.9	9.1	0.0	1.5	8.0	0.0	3.0	8.0	0.0	4.0
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	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.0	1.3	0.0	1.1	0.9	0.0	9.9	0.9	0.0	12.0
LnGrp Delay(d),s/veh	43.7	0.0	35.2	42.8	0.0	32.4	42.0	0.0	12.3	42.0	0.0	14.1
LnGrp LOS	D		D	D		C	D		B	D		B
Approach Vol, veh/h		66			109			740			828	
Approach Delay, s/veh		37.8			37.5			13.9			15.4	
Approach LOS		D			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	47.8	7.5	9.4	6.9	47.8	5.8	11.1
Change Period (Y+Rc), s	* 4.2	4.9	* 4.2	4.9	* 4.2	* 4.9	* 4.2	4.9
Max Green Setting (Gmax), s	* 5.1	42.4	* 5.2	19.1	* 5.1	* 43	* 5	19.3
Max Q Clear Time (g_c+I1), s	3.5	20.1	4.2	3.9	3.5	23.7	2.8	4.2
Green Ext Time (p_c), s	0.0	4.8	0.0	0.1	0.0	5.3	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	17.0
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	203	21	213	239	230	24	375	214	240	457	65
Future Volume (veh/h)	76	203	21	213	239	230	24	375	214	240	457	65
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	79	211	22	222	249	240	25	391	223	250	476	68
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	101	252	26	228	449	798	324	428	364	467	512	73
Arrive On Green	0.06	0.15	0.15	0.09	0.16	0.16	0.18	0.23	0.23	0.27	0.32	0.32
Sat Flow, veh/h	1757	1643	171	1757	1845	1568	1757	1845	1568	1757	1579	226
Grp Volume(v), veh/h	79	0	233	222	249	240	25	391	223	250	0	544
Grp Sat Flow(s),veh/h/ln	1757	0	1814	1757	1845	1568	1757	1845	1568	1757	0	1805
Q Serve(g_s), s	4.4	0.0	12.5	12.6	12.4	1.9	1.2	20.7	12.7	12.2	0.0	29.1
Cycle Q Clear(g_c), s	4.4	0.0	12.5	12.6	12.4	1.9	1.2	20.7	12.7	12.2	0.0	29.1
Prop In Lane	1.00		0.09	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	101	0	278	228	449	798	324	428	364	467	0	586
V/C Ratio(X)	0.78	0.00	0.84	0.97	0.55	0.30	0.08	0.91	0.61	0.54	0.00	0.93
Avail Cap(c_a), veh/h	177	0	495	228	563	895	324	452	384	467	0	639
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.88	0.88	0.88	1.00	1.00	1.00	0.78	0.00	0.78
Uniform Delay (d), s/veh	46.5	0.0	41.1	45.5	36.8	6.3	33.7	37.4	34.4	31.4	0.0	32.7
Incr Delay (d2), s/veh	12.2	0.0	6.7	47.9	0.9	0.2	0.1	26.3	7.5	0.9	0.0	19.5
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	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	6.8	9.2	6.5	2.5	0.6	13.7	6.3	6.0	0.0	17.7
LnGrp Delay(d),s/veh	58.7	0.0	47.8	93.4	37.8	6.5	33.8	63.7	41.9	32.4	0.0	52.2
LnGrp LOS	E		D	F	D	A	C	E	D	C		D
Approach Vol, veh/h		312			711			639			794	
Approach Delay, s/veh		50.6			44.6			54.9			45.9	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.8	29.2	18.7	21.3	22.6	37.3	10.0	30.1
Change Period (Y+Rc), s	4.2	* 6	5.7	* 6	4.2	* 4.9	* 4.2	5.7
Max Green Setting (Gmax), s	14.8	* 25	13.0	* 27	5.0	* 35	* 10	30.5
Max Q Clear Time (g_c+I1), s	14.2	22.7	14.6	14.5	3.2	31.1	6.4	14.4
Green Ext Time (p_c), s	0.0	0.6	0.0	0.8	0.0	1.3	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	48.5
HCM 2010 LOS	D

Notes

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	533	146	207	581	112	110
Future Volume (veh/h)	533	146	207	581	112	110
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1900	1845	1845	1845	1845
Adj Flow Rate, veh/h	586	160	227	638	123	121
Adj No. of Lanes	1	0	1	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	830	227	255	1442	178	158
Arrive On Green	0.79	0.79	0.10	0.52	0.10	0.10
Sat Flow, veh/h	1396	381	1757	1845	1757	1568
Grp Volume(v), veh/h	0	746	227	638	123	121
Grp Sat Flow(s),veh/h/ln	0	1777	1757	1845	1757	1568
Q Serve(g_s), s	0.0	19.9	12.8	21.4	6.8	7.5
Cycle Q Clear(g_c), s	0.0	19.9	12.8	21.4	6.8	7.5
Prop In Lane		0.21	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	1057	255	1442	178	158
V/C Ratio(X)	0.00	0.71	0.89	0.44	0.69	0.76
Avail Cap(c_a), veh/h	0	1057	255	1442	474	423
HCM Platoon Ratio	1.33	1.33	0.67	0.67	1.00	1.00
Upstream Filter(I)	0.00	0.69	0.81	0.81	1.00	1.00
Uniform Delay (d), s/veh	0.0	6.3	44.4	10.3	43.4	43.8
Incr Delay (d2), s/veh	0.0	2.8	25.6	0.8	4.8	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.2	8.0	11.3	3.5	3.6
LnGrp Delay(d),s/veh	0.0	9.1	70.0	11.1	48.2	51.2
LnGrp LOS		A	E	B	D	D
Approach Vol, veh/h	746			865	244	
Approach Delay, s/veh	9.1			26.6	49.7	
Approach LOS	A			C	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		16.1	18.7	65.2				83.9
Change Period (Y+Rc), s		6.0	* 4.2	5.7				5.7
Max Green Setting (Gmax), s		27.0	* 15	42.6				61.3
Max Q Clear Time (g_c+I1), s		9.5	14.8	21.9				23.4
Green Ext Time (p_c), s		0.6	0.0	4.8				4.1

Intersection Summary	
HCM 2010 Ctrl Delay	22.6
HCM 2010 LOS	C

Notes

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	642	84	209	754	53	149
Future Volume (veh/h)	642	84	209	754	53	149
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1900	1845	1845	1845	1845
Adj Flow Rate, veh/h	698	91	227	820	58	162
Adj No. of Lanes	1	0	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	701	91	480	1417	221	197
Arrive On Green	0.58	0.58	0.27	0.77	0.13	0.13
Sat Flow, veh/h	1599	209	1757	1845	1757	1568
Grp Volume(v), veh/h	0	789	227	820	58	162
Grp Sat Flow(s),veh/h/ln	0	1808	1757	1845	1757	1568
Q Serve(g_s), s	0.0	43.4	10.8	18.6	3.0	10.1
Cycle Q Clear(g_c), s	0.0	43.4	10.8	18.6	3.0	10.1
Prop In Lane		0.12	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	792	480	1417	221	197
V/C Ratio(X)	0.00	1.00	0.47	0.58	0.26	0.82
Avail Cap(c_a), veh/h	0	792	480	1417	474	423
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.60	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.8	30.3	4.8	39.5	42.6
Incr Delay (d2), s/veh	0.0	23.9	0.7	1.7	0.6	8.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	26.6	5.3	9.8	1.5	4.8
LnGrp Delay(d),s/veh	0.0	44.7	31.1	6.6	40.1	50.8
LnGrp LOS		D	C	A	D	D
Approach Vol, veh/h	789			1047	220	
Approach Delay, s/veh	44.7			11.9	48.0	
Approach LOS	D			B	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		17.9	32.6	49.5				82.1
Change Period (Y+Rc), s		5.3	5.3	* 5.7				5.3
Max Green Setting (Gmax), s		27.0	14.0	* 44				62.4
Max Q Clear Time (g_c+I1), s		12.1	12.8	45.4				20.6
Green Ext Time (p_c), s		0.5	0.1	0.0				6.5

Intersection Summary	
HCM 2010 Ctrl Delay	28.3
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	6	43	66	4	169	91	327	9	88	440	165
Future Volume (veh/h)	109	6	43	66	4	169	91	327	9	88	440	165
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	127	7	50	77	5	197	106	380	10	102	512	192
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	2	1
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	161	11	80	306	6	238	639	913	776	128	653	292
Arrive On Green	0.09	0.06	0.06	0.17	0.15	0.15	0.36	0.49	0.49	0.07	0.19	0.19
Sat Flow, veh/h	1757	196	1401	1757	39	1535	1757	1845	1568	1757	3505	1568
Grp Volume(v), veh/h	127	0	57	77	0	202	106	380	10	102	512	192
Grp Sat Flow(s),veh/h/ln	1757	0	1597	1757	0	1574	1757	1845	1568	1757	1752	1568
Q Serve(g_s), s	7.1	0.0	3.5	3.8	0.0	12.4	4.1	13.1	0.1	5.7	13.9	11.4
Cycle Q Clear(g_c), s	7.1	0.0	3.5	3.8	0.0	12.4	4.1	13.1	0.1	5.7	13.9	11.4
Prop In Lane	1.00		0.88	1.00		0.98	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	161	0	91	306	0	244	639	913	776	128	653	292
V/C Ratio(X)	0.79	0.00	0.63	0.25	0.00	0.83	0.17	0.42	0.01	0.80	0.78	0.66
Avail Cap(c_a), veh/h	207	0	484	306	0	472	639	913	776	172	946	423
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	0.0	46.1	35.7	0.0	41.0	21.6	16.1	2.6	45.6	38.8	37.7
Incr Delay (d2), s/veh	14.4	0.0	6.9	0.4	0.0	7.1	0.1	1.4	0.0	16.7	9.2	11.0
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	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	1.7	1.9	0.0	5.9	2.0	7.0	0.1	3.4	7.6	5.8
LnGrp Delay(d),s/veh	58.9	0.0	53.0	36.1	0.0	48.1	21.7	17.5	2.7	62.3	47.9	48.8
LnGrp LOS	E		D	D		D	C	B	A	E	D	D
Approach Vol, veh/h		184			279			496			806	
Approach Delay, s/veh		57.1			44.7			18.1			50.0	
Approach LOS		E			D			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	55.5	21.6	11.4	42.3	24.6	13.3	19.7
Change Period (Y+Rc), s	* 4.2	6.0	4.2	* 5.7	6.0	* 6	* 4.2	* 4.2
Max Green Setting (Gmax), s	* 9.8	29.8	10.0	* 30	12.6	* 27	* 12	* 30
Max Q Clear Time (g_c+I1), s	7.7	15.1	5.8	5.5	6.1	15.9	9.1	14.4
Green Ext Time (p_c), s	0.0	1.7	0.0	0.2	0.1	2.7	0.1	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	40.9
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	74	34	38	84	44	118	9	101	291	90	183	306
Future Volume (vph)	74	34	38	84	44	118	9	101	291	90	183	306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.7		4.2	5.7	5.7		4.2	6.0	6.0	4.2	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00	0.95	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.98	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	0.92		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	1699		1752	1845	1568		1752	3505	1531	1752	1845
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	1699		1752	1845	1568		1752	3505	1531	1752	1845
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)	79	36	40	89	47	126	10	107	310	96	195	326
RTOR Reduction (vph)	0	33	0	0	0	109	0	0	0	62	0	0
Lane Group Flow (vph)	79	43	0	89	47	17	0	117	310	34	195	326
Confl. Peds. (#/hr)										2	2	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	5	2		1	6
Permitted Phases						8				2		
Actuated Green, G (s)	10.1	17.0		6.8	13.7	13.7		11.3	35.6	35.6	20.5	44.8
Effective Green, g (s)	10.1	17.0		6.8	13.7	13.7		11.3	35.6	35.6	20.5	44.8
Actuated g/C Ratio	0.10	0.17		0.07	0.14	0.14		0.11	0.36	0.36	0.20	0.45
Clearance Time (s)	4.2	5.7		4.2	5.7	5.7		4.2	6.0	6.0	4.2	6.0
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)	176	288		119	252	214		197	1247	545	359	826
v/s Ratio Prot	c0.05	0.03		c0.05	c0.03			c0.07	0.09		c0.11	c0.18
v/s Ratio Perm						0.01				0.02		
v/c Ratio	0.45	0.15		0.75	0.19	0.08		0.59	0.25	0.06	0.54	0.39
Uniform Delay, d1	42.3	35.3		45.8	38.2	37.7		42.2	22.8	21.2	35.6	18.5
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	0.68	0.37
Incremental Delay, d2	1.8	0.2		22.3	0.4	0.2		4.7	0.5	0.2	1.6	1.4
Delay (s)	44.1	35.6		68.1	38.6	37.8		46.9	23.2	21.4	25.9	8.3
Level of Service	D	D		E	D	D		D	C	C	C	A
Approach Delay (s)		39.9			48.2				28.2			14.3
Approach LOS		D			D				C			B

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	112
Future Volume (vph)	112
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	119
RTOR Reduction (vph)	66
Lane Group Flow (vph)	53
Confl. Peds. (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	44.8
Effective Green, g (s)	44.8
Actuated g/C Ratio	0.45
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	702
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.08
Uniform Delay, d1	15.8
Progression Factor	0.74
Incremental Delay, d2	0.2
Delay (s)	11.8
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	124	211	45	9	193	80	25	69	10	94	47
Future Volume (vph)	1	124	211	45	9	193	80	25	69	10	94	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	5.7		4.2	5.7	5.7	4.2	6.0		4.2	6.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	0.95
Frpb, ped/bikes		1.00	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	1.00
Frt		1.00	0.97		1.00	1.00	0.85	1.00	0.98		1.00	1.00
Flt Protected		0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)		1752	1792		1751	1845	1568	1749	1810		1752	3505
Flt Permitted		0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)		1752	1792		1751	1845	1568	1749	1810		1752	3505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1	138	234	50	10	214	89	28	77	11	104	52
RTOR Reduction (vph)	0	0	8	0	0	0	66	0	8	0	0	0
Lane Group Flow (vph)	0	139	276	0	10	214	23	28	80	0	104	52
Confl. Peds. (#/hr)				2	2			4				
Turn Type	Prot	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA
Protected Phases	7	7	4		3	8		5	2		1	6
Permitted Phases							8					
Actuated Green, G (s)		9.4	24.6		0.6	15.8	15.8	0.6	8.1		6.6	14.1
Effective Green, g (s)		9.4	24.6		0.6	15.8	15.8	0.6	8.1		6.6	14.1
Actuated g/C Ratio		0.16	0.41		0.01	0.26	0.26	0.01	0.13		0.11	0.23
Clearance Time (s)		4.2	5.7		4.2	5.7	5.7	4.2	6.0		4.2	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		274	734		17	485	412	17	244		192	823
v/s Ratio Prot		c0.08	0.15		0.01	c0.12		c0.02	c0.04		c0.06	0.01
v/s Ratio Perm							0.01					
v/c Ratio		0.51	0.38		0.59	0.44	0.06	1.65	0.33		0.54	0.06
Uniform Delay, d1		23.2	12.3		29.6	18.4	16.5	29.7	23.5		25.3	17.8
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		1.5	0.3		42.8	0.6	0.1	461.3	0.8		3.1	0.0
Delay (s)		24.7	12.7		72.3	19.1	16.6	491.0	24.3		28.4	17.9
Level of Service		C	B		E	B	B	F	C		C	B
Approach Delay (s)			16.6			20.1			136.9			22.4
Approach LOS			B			C			F			C

Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	75
Future Volume (vph)	75
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1545
Flt Permitted	1.00
Satd. Flow (perm)	1545
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	83
RTOR Reduction (vph)	63
Lane Group Flow (vph)	20
Confl. Peds. (#/hr)	4
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	14.1
Effective Green, g (s)	14.1
Actuated g/C Ratio	0.23
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	363
v/s Ratio Prot	
v/s Ratio Perm	0.01
v/c Ratio	0.05
Uniform Delay, d1	17.8
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	17.8
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary

Intersection: 1: Grantland Avenue & Barstow Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	53	72	127	71	72	306	75	227
Average Queue (ft)	18	30	58	23	22	126	15	97
95th Queue (ft)	47	63	107	55	54	247	49	184
Link Distance (ft)		652		2486		2584		2566
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	250		250		280		250	
Storage Blk Time (%)						0		
Queuing Penalty (veh)						0		

Intersection: 2: Garfield Avenue & Shaw Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	53	24	55	96
Average Queue (ft)	17	1	20	38
95th Queue (ft)	47	8	50	66
Link Distance (ft)	2578	2615	2466	2553
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Grantland Avenue & Shaw Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	161	285	150	177	169	255	557	370	255	544
Average Queue (ft)	63	184	84	104	61	65	302	137	159	299
95th Queue (ft)	123	277	143	172	136	170	490	335	284	476
Link Distance (ft)		2615		2578			1909			2584
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	325		325		250	175		250	175	
Storage Blk Time (%)						0	32		7	24
Queuing Penalty (veh)						0	94		43	42

Intersection: 5: Bryan Avenue & Shaw Avenue

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	697	210	236	178	244
Average Queue (ft)	262	143	64	69	69
95th Queue (ft)	507	217	140	134	135
Link Distance (ft)	2578		2549		2590
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		250		275	
Storage Blk Time (%)			0		
Queuing Penalty (veh)			0		

Intersection: 6: Hayes Avenue & Shaw Avenue

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	577	154	262	120	264
Average Queue (ft)	146	66	67	68	89
95th Queue (ft)	364	124	172	116	163
Link Distance (ft)	2549		1198	1536	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		250			250
Storage Blk Time (%)			0		1
Queuing Penalty (veh)			0		0

Intersection: 7: Grantland Avenue & Gettysburg Avenue/Stadium Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	T	R
Maximum Queue (ft)	196	91	70	190	85	387	14	231	246	139	32
Average Queue (ft)	98	33	30	60	18	205	3	136	120	41	15
95th Queue (ft)	163	69	62	122	54	347	13	213	206	111	36
Link Distance (ft)		1453		1258		895			1475	1475	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250		250		250		530	250			250
Storage Blk Time (%)						7		0	0		
Queuing Penalty (veh)						3		0	0		

Intersection: 9: Bryan Avenue & Gettysburg Avenue

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	R	L	TR	L	L	TR
Maximum Queue (ft)	24	23	48	24	82	31	74
Average Queue (ft)	6	7	17	11	23	4	5
95th Queue (ft)	19	24	39	30	55	19	29
Link Distance (ft)	1320			2533			2590
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		250	250		250	150	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 10: Ashlan Avenue & Project Driveway

Movement	SB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	6
95th Queue (ft)	25
Link Distance (ft)	940
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Grantland Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	UL	T	T	R	L	T	R
Maximum Queue (ft)	200	105	176	94	74	92	227	134	63	312	319	12
Average Queue (ft)	82	43	72	28	31	38	111	28	27	164	127	2
95th Queue (ft)	156	92	144	79	54	78	180	88	57	274	264	9
Link Distance (ft)		898		2576	2576		362	362			366	366
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		230			250			250	250		
Storage Blk Time (%)										4	1	
Queuing Penalty (veh)										10	4	

Intersection: 12: Bryan Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB	SB
Directions Served	UL	TR	L	T	R	L	TR	L	T	T	R
Maximum Queue (ft)	201	152	52	358	110	242	238	158	113	99	93
Average Queue (ft)	106	58	8	164	47	132	70	90	43	10	49
95th Queue (ft)	190	133	30	282	83	210	156	134	94	45	81
Link Distance (ft)		2576		407			1002		2516	2516	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250		250		250	250		150			150
Storage Blk Time (%)				3		0	0	0			
Queuing Penalty (veh)				4		0	0	0			

Intersection: 13: Hayes Avenue & Ashlan Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	79	79	54	97
Average Queue (ft)	47	37	36	42
95th Queue (ft)	73	59	53	72
Link Distance (ft)	1469	2575	2608	565
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Polk Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	49	95	53	100	30	101	78	74
Average Queue (ft)	20	47	18	48	10	49	38	34
95th Queue (ft)	43	77	43	83	33	81	59	52
Link Distance (ft)		2575		2107		1100		1271
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100		125		75		275	
Storage Blk Time (%)		0				1		
Queuing Penalty (veh)		0				0		

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	UL	L	T	R	L	T	T	R	L
Maximum Queue (ft)	73	226	228	283	294	189	42	116	75	74	158	249
Average Queue (ft)	25	158	146	173	82	82	12	52	38	25	80	117
95th Queue (ft)	58	213	215	270	202	152	28	89	66	63	126	212
Link Distance (ft)		352	352			2511	2511		323	323		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			275	275			100			80	150
Storage Blk Time (%)				1	0			2		0	8	8
Queuing Penalty (veh)				3	1			1		0	4	6

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	304	208
Average Queue (ft)	98	34
95th Queue (ft)	220	102
Link Distance (ft)	2602	2602
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	2	
Queuing Penalty (veh)	3	

Intersection: 16: Grantland Avenue & Dakota Avenue

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 17: Grantland Avenue & Shields Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	92	64	77	151
Average Queue (ft)	46	41	41	76
95th Queue (ft)	73	61	66	124
Link Distance (ft)	2601	2580	2582	1625
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 221

Intersection: 1: Grantland Avenue & Barstow Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	77	71	71	74	74	339	53	330
Average Queue (ft)	21	33	32	31	28	125	24	177
95th Queue (ft)	53	57	59	70	61	257	57	319
Link Distance (ft)		652		2486		2584		2566
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	250		250		280		250	
Storage Blk Time (%)						0		3
Queuing Penalty (veh)						0		1

Intersection: 2: Garfield Avenue & Shaw Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	71	25	31	50
Average Queue (ft)	6	1	9	27
95th Queue (ft)	33	8	32	45
Link Distance (ft)	2578	2615	2466	2553
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Grantland Avenue & Shaw Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	131	246	202	325	116	74	494	370	255	789
Average Queue (ft)	70	142	132	104	49	33	186	88	197	266
95th Queue (ft)	111	222	206	190	90	70	357	225	314	487
Link Distance (ft)		2615		2578			1910			2584
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	325		325		250	175		250	175	
Storage Blk Time (%)				1			14		11	19
Queuing Penalty (veh)				4			33		57	46

Intersection: 5: Bryan Avenue & Shaw Avenue

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	434	336	263	196	118
Average Queue (ft)	262	156	69	81	44
95th Queue (ft)	439	267	182	138	77
Link Distance (ft)	2578		2549		2590
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		250		275	
Storage Blk Time (%)		2	0		
Queuing Penalty (veh)		12	0		

Intersection: 6: Hayes Avenue & Shaw Avenue

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	568	305	284	133	119
Average Queue (ft)	152	133	90	46	66
95th Queue (ft)	332	218	211	97	119
Link Distance (ft)	2549		1198	1536	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		250			250
Storage Blk Time (%)		2	0		
Queuing Penalty (veh)		14	1		

Intersection: 7: Grantland Avenue & Gettysburg Avenue/Stadium Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	T	R
Maximum Queue (ft)	168	67	74	182	130	327	14	120	219	161	54
Average Queue (ft)	72	14	39	68	51	106	2	62	99	55	29
95th Queue (ft)	132	41	76	129	103	240	9	113	179	135	56
Link Distance (ft)		1453		1257		895			1474	1474	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250		250		250		530	250			250
Storage Blk Time (%)						2					
Queuing Penalty (veh)						2					

Intersection: 9: Bryan Avenue & Gettysburg Avenue

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	R	L	TR	L	L
Maximum Queue (ft)	16	22	25	47	45	25
Average Queue (ft)	1	1	14	11	3	2
95th Queue (ft)	7	7	33	34	19	14
Link Distance (ft)	1320			2533		
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		250	250		250	150
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 10: Ashlan Avenue & Parc West Drive

Movement	SB
Directions Served	LR
Maximum Queue (ft)	66
Average Queue (ft)	2
95th Queue (ft)	22
Link Distance (ft)	948
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Grantland Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	UL	T	T	R	L	T	R
Maximum Queue (ft)	189	120	129	98	54	139	213	166	89	223	211	85
Average Queue (ft)	45	38	55	26	31	80	106	36	33	111	83	21
95th Queue (ft)	108	93	100	66	51	130	187	118	68	205	172	57
Link Distance (ft)		909		2576	2576		362	362			358	358
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		230			250			250	250		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 12: Bryan Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	UL	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	266	212	31	139	52	49	109	94	95	72
Average Queue (ft)	76	53	7	54	24	18	41	49	27	22
95th Queue (ft)	164	125	27	105	47	45	78	84	66	45
Link Distance (ft)		2576		403			1003		2516	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	250		250		250	250		150		150
Storage Blk Time (%)	1									
Queuing Penalty (veh)	3									

Intersection: 13: Hayes Avenue & Ashlan Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	127	74	56	93
Average Queue (ft)	63	41	39	42
95th Queue (ft)	99	60	57	68
Link Distance (ft)	1469	2575	2608	565
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Polk Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	52	158	55	168	56	136	90	154
Average Queue (ft)	18	65	39	97	24	68	35	68
95th Queue (ft)	44	114	58	155	47	110	66	110
Link Distance (ft)		2575		2107		1100		1271
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100		125		75		275	
Storage Blk Time (%)		3		4	0	4		
Queuing Penalty (veh)		1		3	0	1		

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	UL	L	T	R	L	T	T	R	L
Maximum Queue (ft)	53	117	116	384	457	381	62	115	119	55	123	121
Average Queue (ft)	12	63	76	208	130	108	22	50	41	27	58	64
95th Queue (ft)	37	107	116	354	326	214	46	93	73	64	95	106
Link Distance (ft)		352	352			2511	2511		323	323		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			275	275			100			80	150
Storage Blk Time (%)				18	1			1	0		1	
Queuing Penalty (veh)				80	3			1	0		1	

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	93	56
Average Queue (ft)	30	7
95th Queue (ft)	63	31
Link Distance (ft)	2602	2602
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 16: Grantland Avenue & Dakota Avenue

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 17: Grantland Avenue & Shields Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	74	55	101	77
Average Queue (ft)	37	35	57	51
95th Queue (ft)	56	51	94	76
Link Distance (ft)	2601	2580	2582	1625
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 263

Appendix K: Cumulative Year 2035 No Project Traffic Conditions

Intersection	
Int Delay, s/veh	227.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↑		↰	↑	
Traffic Vol, veh/h	57	242	59	87	48	25	29	662	37	14	575	21
Future Vol, veh/h	57	242	59	87	48	25	29	662	37	14	575	21
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	280	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	62	263	64	95	52	27	32	720	40	15	625	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1511	1491	637	1634	1482	740	648	0	0	760	0	0
Stage 1	667	667	-	804	804	-	-	-	-	-	-	-
Stage 2	844	824	-	830	678	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	98	~ 123	475	~ 80	125	415	933	-	-	847	-	-
Stage 1	447	455	-	375	394	-	-	-	-	-	-	-
Stage 2	356	386	-	363	450	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 58	~ 117	475	-	119	415	933	-	-	847	-	-
Mov Cap-2 Maneuver	~ 58	~ 117	-	-	119	-	-	-	-	-	-	-
Stage 1	432	447	-	362	381	-	-	-	-	-	-	-
Stage 2	277	373	-	127	442	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	1179.7		0.4	0.2
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	933	-	-	113	-	847	-	-
HCM Lane V/C Ratio	0.034	-	-	3.444	-	0.018	-	-
HCM Control Delay (s)	9	-	-	$ 1179.7	-	9.3	-	-
HCM Lane LOS	A	-	-	F	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	38.3	-	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

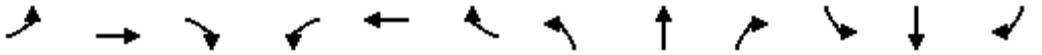
Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	57	454	2	4	383	27	12	23	6	45	5	79
Future Vol, veh/h	57	454	2	4	383	27	12	23	6	45	5	79
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	62	493	2	4	416	29	13	25	7	49	5	86

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	445	0	0	495	0	0	1102	1071	494	1073	1058	431
Stage 1	-	-	-	-	-	-	618	618	-	439	439	-
Stage 2	-	-	-	-	-	-	484	453	-	634	619	-
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	1110	-	-	1064	-	-	188	220	573	197	224	622
Stage 1	-	-	-	-	-	-	475	479	-	595	576	-
Stage 2	-	-	-	-	-	-	562	568	-	466	479	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1110	-	-	1064	-	-	149	202	573	165	206	622
Mov Cap-2 Maneuver	-	-	-	-	-	-	149	202	-	165	206	-
Stage 1	-	-	-	-	-	-	438	442	-	549	573	-
Stage 2	-	-	-	-	-	-	477	565	-	401	442	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.1	28.1	26.6
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	200	1110	-	-	1064	-	-	304
HCM Lane V/C Ratio	0.223	0.056	-	-	0.004	-	-	0.461
HCM Control Delay (s)	28.1	8.4	0	-	8.4	0	-	26.6
HCM Lane LOS	D	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.8	0.2	-	-	0	-	-	2.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	359	53	89	292	219	49	383	80	177	503	100
Future Volume (veh/h)	127	359	53	89	292	219	49	383	80	177	503	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	138	390	58	97	317	238	53	416	87	192	547	109
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	161	549	82	120	308	231	702	982	205	217	570	114
Arrive On Green	0.09	0.35	0.35	0.07	0.31	0.31	0.40	0.66	0.66	0.12	0.38	0.38
Sat Flow, veh/h	1757	1570	233	1757	979	735	1757	1480	310	1757	1494	298
Grp Volume(v), veh/h	138	0	448	97	0	555	53	0	503	192	0	656
Grp Sat Flow(s),veh/h/ln	1757	0	1803	1757	0	1715	1757	0	1790	1757	0	1792
Q Serve(g_s), s	9.3	0.0	25.8	6.5	0.0	37.7	2.2	0.0	15.8	12.9	0.0	42.8
Cycle Q Clear(g_c), s	9.3	0.0	25.8	6.5	0.0	37.7	2.2	0.0	15.8	12.9	0.0	42.8
Prop In Lane	1.00		0.13	1.00		0.43	1.00		0.17	1.00		0.17
Lane Grp Cap(c), veh/h	161	0	631	120	0	539	702	0	1188	217	0	684
V/C Ratio(X)	0.86	0.00	0.71	0.81	0.00	1.03	0.08	0.00	0.42	0.89	0.00	0.96
Avail Cap(c_a), veh/h	161	0	631	146	0	539	702	0	1188	217	0	703
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.09	0.00	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.7	0.0	33.7	55.1	0.0	41.2	22.3	0.0	9.4	51.8	0.0	36.2
Incr Delay (d2), s/veh	34.0	0.0	3.7	2.6	0.0	20.4	0.0	0.0	1.1	32.5	0.0	25.8
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	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	13.5	3.3	0.0	20.9	1.1	0.0	8.1	8.2	0.0	26.0
LnGrp Delay(d),s/veh	87.7	0.0	37.5	57.7	0.0	61.5	22.4	0.0	10.6	84.3	0.0	62.0
LnGrp LOS	F		D	E		F	C		B	F		E
Approach Vol, veh/h		586			652			556			848	
Approach Delay, s/veh		49.3			61.0			11.7			67.0	
Approach LOS		D			E			B			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	86.9	12.4	48.0	55.2	50.7	17.0	43.4
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	6.0	6.0	* 4.9	6.0	* 5.7
Max Green Setting (Gmax), s	* 15	36.4	* 10	38.4	5.2	* 47	11.0	* 38
Max Q Clear Time (g_c+I1), s	14.9	17.8	8.5	27.8	4.2	44.8	11.3	39.7
Green Ext Time (p_c), s	0.0	2.6	0.0	1.7	0.0	0.9	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	49.9
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	540	24	69	661	420	58	1177	87	391	1002	25
Future Volume (veh/h)	23	540	24	69	661	420	58	1177	87	391	1002	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	25	587	26	75	718	457	63	1279	95	425	1089	27
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	45	609	27	91	381	242	81	1050	78	723	2431	60
Arrive On Green	0.03	0.35	0.35	0.05	0.36	0.36	0.02	0.10	0.10	0.41	0.70	0.70
Sat Flow, veh/h	1757	1753	78	1757	1055	671	1757	3309	245	1757	3495	87
Grp Volume(v), veh/h	25	0	613	75	0	1175	63	676	698	425	546	570
Grp Sat Flow(s),veh/h/ln	1757	0	1831	1757	0	1726	1757	1752	1801	1757	1752	1829
Q Serve(g_s), s	1.7	0.0	39.4	5.1	0.0	43.3	4.3	38.1	38.1	22.5	16.5	16.5
Cycle Q Clear(g_c), s	1.7	0.0	39.4	5.1	0.0	43.3	4.3	38.1	38.1	22.5	16.5	16.5
Prop In Lane	1.00		0.04	1.00		0.39	1.00		0.14	1.00		0.05
Lane Grp Cap(c), veh/h	45	0	636	91	0	623	81	556	572	723	1219	1272
V/C Ratio(X)	0.55	0.00	0.96	0.83	0.00	1.89	0.78	1.22	1.22	0.59	0.45	0.45
Avail Cap(c_a), veh/h	73	0	642	91	0	623	82	556	572	723	1219	1272
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.50	0.00	0.50	1.00	0.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.8	0.0	38.4	56.4	0.0	38.4	58.5	53.7	53.7	27.4	8.1	8.1
Incr Delay (d2), s/veh	5.2	0.0	17.1	43.9	0.0	405.0	4.3	98.5	100.6	1.2	1.2	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	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	23.0	3.6	0.0	90.7	2.2	33.7	35.0	11.1	8.3	8.6
LnGrp Delay(d),s/veh	63.0	0.0	55.6	100.3	0.0	443.3	62.8	152.2	154.3	28.7	9.3	9.2
LnGrp LOS	E		E	F		F	E	F	F	C	A	A
Approach Vol, veh/h		638			1250			1437			1541	
Approach Delay, s/veh		55.9			422.7			149.3			14.6	
Approach LOS		E			F			F			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	56.2	43.8	10.4	47.4	9.7	90.3	8.8	49.0
Change Period (Y+Rc), s	5.7	* 5.7	* 4.2	5.7	* 4.2	5.7	5.7	* 5.7
Max Green Setting (Gmax), s	13.8	* 38	* 6.2	42.1	* 5.6	46.3	5.0	* 43
Max Q Clear Time (g_c+I1), s	24.5	40.1	7.1	41.4	6.3	18.5	3.7	45.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.0	7.2	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	164.6
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	525.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	561	267	202	764	348	193
Future Vol, veh/h	561	267	202	764	348	193
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	275	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	610	290	220	830	378	210

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	900	0	2025	755
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	1270	-
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	-	-	751	-	~ 63	407
Stage 1	-	-	-	-	462	-
Stage 2	-	-	-	-	~ 263	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	751	-	~ 45	407
Mov Cap-2 Maneuver	-	-	-	-	~ 45	-
Stage 1	-	-	-	-	~ 327	-
Stage 2	-	-	-	-	~ 263	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	$ 2263.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	45	407	-	-	751	-
HCM Lane V/C Ratio	8.406	0.515	-	-	0.292	-
HCM Control Delay (s)	$ 3506.1	22.9	-	-	11.8	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	44.8	2.9	-	-	1.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	123.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	756	84	126	819	90	218
Future Vol, veh/h	756	84	126	819	90	218
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	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	796	88	133	862	95	229

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	884	0	1968	840
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	1128	-
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	-	-	761	-	~ 69	364
Stage 1	-	-	-	-	422	-
Stage 2	-	-	-	-	308	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	761	-	~ 46	364
Mov Cap-2 Maneuver	-	-	-	-	~ 46	-
Stage 1	-	-	-	-	281	-
Stage 2	-	-	-	-	308	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	$ 835.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	121	-	-	761	-
HCM Lane V/C Ratio	2.679	-	-	0.174	-
HCM Control Delay (s)	$ 835.3	-	-	10.7	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	29.5	-	-	0.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	46.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	46	187	1341	16	238	875
Future Vol, veh/h	46	187	1341	16	238	875
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	-	-	530	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	53	217	1559	19	277	1017

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3130	1559	0	0	1578	0
Stage 1	1559	-	-	-	-	-
Stage 2	1571	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	~ 12	~ 138	-	-	414	-
Stage 1	190	-	-	-	-	-
Stage 2	187	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	~ 138	-	-	414	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	187	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 512.4	0	6.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	138	414	-
HCM Lane V/C Ratio	-	-	1.963	0.668	-
HCM Control Delay (s)	-	-	$ 512.4	29.5	0
HCM Lane LOS	-	-	F	D	A
HCM 95th %tile Q(veh)	-	-	21.4	4.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	203	29	161	27	262	249	1012	87	311	691	91
Future Volume (veh/h)	52	203	29	161	27	262	249	1012	87	311	691	91
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1845
Adj Flow Rate, veh/h	60	236	34	187	31	305	290	1177	101	362	803	106
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	1
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	77	295	43	129	30	291	238	793	68	202	812	691
Arrive On Green	0.04	0.19	0.19	0.07	0.20	0.20	0.14	0.47	0.47	0.23	0.88	0.88
Sat Flow, veh/h	1757	1577	227	1757	147	1443	1757	1676	144	1757	1845	1568
Grp Volume(v), veh/h	60	0	270	187	0	336	290	0	1278	362	803	106
Grp Sat Flow(s),veh/h/ln	1757	0	1805	1757	0	1590	1757	0	1819	1757	1845	1568
Q Serve(g_s), s	4.1	0.0	17.2	8.8	0.0	24.2	16.2	0.0	56.8	13.8	48.1	1.1
Cycle Q Clear(g_c), s	4.1	0.0	17.2	8.8	0.0	24.2	16.2	0.0	56.8	13.8	48.1	1.1
Prop In Lane	1.00		0.13	1.00		0.91	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	77	0	338	129	0	321	238	0	861	202	812	691
V/C Ratio(X)	0.78	0.00	0.80	1.45	0.00	1.05	1.22	0.00	1.48	1.79	0.99	0.15
Avail Cap(c_a), veh/h	102	0	338	129	0	321	238	0	861	202	875	743
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.46	0.46	0.46
Uniform Delay (d), s/veh	56.8	0.0	46.6	55.6	0.0	47.9	51.9	0.0	31.6	46.2	6.9	4.1
Incr Delay (d2), s/veh	23.7	0.0	12.8	241.0	0.0	63.3	131.1	0.0	224.4	365.4	18.9	0.2
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	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	9.8	12.9	0.0	16.2	16.5	0.0	82.1	27.1	25.7	0.5
LnGrp Delay(d),s/veh	80.5	0.0	59.4	296.6	0.0	111.2	183.0	0.0	256.0	411.6	25.8	4.3
LnGrp LOS	F		E	F		F	F		F	F	C	A
Approach Vol, veh/h		330			523			1568			1271	
Approach Delay, s/veh		63.3			177.5			242.5			133.9	
Approach LOS		E			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	62.5	13.0	28.4	21.8	58.7	11.2	30.2
Change Period (Y+Rc), s	* 4.2	5.7	* 4.2	6.0	5.7	* 5.7	6.0	* 6
Max Green Setting (Gmax), s	* 14	54.9	* 8.8	22.4	11.8	* 57	7.0	* 24
Max Q Clear Time (g_c+I1), s	15.8	58.8	10.8	19.2	18.2	50.1	6.1	26.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	3.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	179.9
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	81.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	58	243	215	50	64	161	172	236	76	50	141	130
Future Vol, veh/h	58	243	215	50	64	161	172	236	76	50	141	130
Conflicting Peds, #/hr	0	0	0	0	0	0	24	0	0	0	0	24
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	250	250	-	-	250	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	67	283	250	58	74	187	200	274	88	58	164	151

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1229	1142	264	1340	1173	318	339	0	0	362	0	0
Stage 1	380	380	-	718	718	-	-	-	-	-	-	-
Stage 2	849	762	-	622	455	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	154	~ 200	772	129	191	720	1215	-	-	1191	-	-
Stage 1	640	612	-	419	432	-	-	-	-	-	-	-
Stage 2	354	412	-	473	567	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 57	~ 155	754	-	148	720	1187	-	-	1191	-	-
Mov Cap-2 Maneuver	~ 57	~ 155	-	-	148	-	-	-	-	-	-	-
Stage 1	520	569	-	349	359	-	-	-	-	-	-	-
Stage 2	173	343	-	151	527	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	247.7		3.1	1.3
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1187	-	-	57	155	754	-	343	1191	-	-
HCM Lane V/C Ratio	0.168	-	-	1.183	1.823	0.332	-	0.763	0.049	-	-
HCM Control Delay (s)	8.6	-	-	297.3	$ 444.3	12.1	-	42.4	8.2	-	-
HCM Lane LOS	A	-	-	F	F	B	-	E	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	5.7	21	1.5	-	6	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	10.4

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	117	212	23	1046	115	238	808
Future Vol, veh/h	117	212	23	1046	115	238	808
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	0	250	-	-	250	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3
Mvmt Flow	136	247	27	1216	134	277	940

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	2831	675	-	0	0	1350	0
Stage 1	1337	-	-	-	-	-	-
Stage 2	1494	-	-	-	-	-	-
Critical Hdwy	6.095	7.145	-	-	-	5.345	-
Critical Hdwy Stg 1	6.645	-	-	-	-	-	-
Critical Hdwy Stg 2	5.445	-	-	-	-	-	-
Follow-up Hdwy	3.6785	3.9285	-	-	-	3.1285	-
Pot Cap-1 Maneuver	~ 25	339	-	-	-	~ 263	-
Stage 1	152	-	-	-	-	-	-
Stage 2	199	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	0	339	-	-	-	~ 263	-
Mov Cap-2 Maneuver	0	-	-	-	-	-	-
Stage 1	0	-	-	-	-	-	-
Stage 2	199	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s			25.4
HCM LOS	-		

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	-	339	~ 263	-
HCM Lane V/C Ratio	-	-	-	-	0.727	1.052	-
HCM Control Delay (s)	-	-	-	-	39.3	111.8	-
HCM Lane LOS	-	-	-	-	E	F	-
HCM 95th %tile Q(veh)	-	-	-	-	5.4	11.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	111.3
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	20	116	257	99	33	265	254	174	149	18	174	157
Future Vol, veh/h	20	116	257	99	33	265	254	174	149	18	174	157
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	23	135	299	115	38	308	295	202	173	21	202	183
Number of Lanes	0	1	1	0	1	1	0	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	74.2	261.8	26.7	40.9
HCM LOS	F	F	D	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	69%	0%
Vol Thru, %	0%	89%	0%	72%	0%	51%	31%	30%
Vol Right, %	0%	11%	0%	28%	0%	49%	0%	70%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	174	167	136	356	33	519	253	259
LT Vol	174	0	136	0	33	0	174	0
Through Vol	0	149	0	257	0	265	79	79
RT Vol	0	18	0	99	0	254	0	180
Lane Flow Rate	202	194	158	414	38	603	294	301
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.575	0.521	0.432	1.05	0.107	1.535	0.793	0.743
Departure Headway (Hd)	11.492	10.879	10.906	10.17	10.337	9.452	10.931	10.048
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	316	334	332	360	349	392	335	364
Service Time	9.192	8.579	8.606	7.87	8.037	7.152	8.631	7.748
HCM Lane V/C Ratio	0.639	0.581	0.476	1.15	0.109	1.538	0.878	0.827
HCM Control Delay	28.6	24.8	21.6	94.3	14.3	277.5	45	36.8
HCM Lane LOS	D	C	C	F	B	F	E	E
HCM 95th-tile Q	3.4	2.9	2.1	13	0.4	32.3	6.5	5.8

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes Configurations	
Traffic Vol, veh/h	180
Future Vol, veh/h	180
Peak Hour Factor	0.86
Heavy Vehicles, %	3
Mvmt Flow	209
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Intersection Delay, s/veh	20.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	296	44	22	326	21	77	82	49	35	108	51
Future Vol, veh/h	31	296	44	22	326	21	77	82	49	35	108	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	34	322	48	24	354	23	84	89	53	38	117	55
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	23.6	23.6	15.6	15
HCM LOS	C	C	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	37%	8%	6%	18%
Vol Thru, %	39%	80%	88%	56%
Vol Right, %	24%	12%	6%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	208	371	369	194
LT Vol	77	31	22	35
Through Vol	82	296	326	108
RT Vol	49	44	21	51
Lane Flow Rate	226	403	401	211
Geometry Grp	1	1	1	1
Degree of Util (X)	0.44	0.71	0.709	0.411
Departure Headway (Hd)	7.012	6.334	6.367	7.013
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	509	569	566	510
Service Time	5.112	4.416	4.451	5.112
HCM Lane V/C Ratio	0.444	0.708	0.708	0.414
HCM Control Delay	15.6	23.6	23.6	15
HCM Lane LOS	C	C	C	B
HCM 95th-tile Q	2.2	5.7	5.7	2

Intersection	
Intersection Delay, s/veh	248.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	392	36	30	288	54	15	515	180	156	511	21
Future Vol, veh/h	34	392	36	30	288	54	15	515	180	156	511	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	36	413	38	32	303	57	16	542	189	164	538	22
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	141.8	77.1	440.9	213.9
HCM LOS	F	F	F	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	74%	0%	92%	0%	84%	0%	96%
Vol Right, %	0%	26%	0%	8%	0%	16%	0%	4%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	695	34	428	30	342	156	532
LT Vol	15	0	34	0	30	0	156	0
Through Vol	0	515	0	392	0	288	0	511
RT Vol	0	180	0	36	0	54	0	21
Lane Flow Rate	16	732	36	451	32	360	164	560
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.044	1.923	0.101	1.198	0.09	0.964	0.461	1.492
Departure Headway (Hd)	11.49	10.764	12.738	12.134	13.445	12.782	12.905	12.335
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	314	344	283	302	268	288	281	302
Service Time	9.19	8.464	10.438	9.834	11.145	10.482	10.605	10.035
HCM Lane V/C Ratio	0.051	2.128	0.127	1.493	0.119	1.25	0.584	1.854
HCM Control Delay	14.7	450.1	16.9	151.7	17.5	82.3	26.2	269
HCM Lane LOS	B	F	C	F	C	F	D	F
HCM 95th-tile Q	0.1	44.1	0.3	15.8	0.3	9.5	2.3	24.6



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	31	612	124	1	282	209	80	49	117	400	221	197
Future Volume (vph)	31	612	124	1	282	209	80	49	117	400	221	197
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
Lane Util. Factor	1.00	0.95			0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.97			1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98
Flt Protected	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	3416			3400	1845	1568	1752	3505	1568	1752	3448
Flt Permitted	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	3416			3400	1845	1568	1752	3505	1568	1752	3448
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	665	135	1	307	227	87	53	127	435	240	214
RTOR Reduction (vph)	0	15	0	0	0	0	56	0	0	143	0	9
Lane Group Flow (vph)	34	785	0	0	308	227	31	53	127	292	240	231
Turn Type	Prot	NA		Prot	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases							8			2		
Actuated Green, G (s)	3.4	27.7			9.1	33.4	33.4	4.7	23.8	23.8	13.2	32.3
Effective Green, g (s)	3.4	27.7			9.1	33.4	33.4	4.7	23.8	23.8	13.2	32.3
Actuated g/C Ratio	0.04	0.30			0.10	0.36	0.36	0.05	0.26	0.26	0.14	0.35
Clearance Time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
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)	64	1024			334	666	566	89	902	403	250	1205
v/s Ratio Prot	0.02	c0.23			c0.09	0.12		0.03	0.04		c0.14	0.07
v/s Ratio Perm							0.02			c0.19		
v/c Ratio	0.53	0.77			0.92	0.34	0.06	0.60	0.14	0.72	0.96	0.19
Uniform Delay, d1	43.7	29.4			41.3	21.5	19.2	42.9	26.4	31.3	39.3	20.9
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	8.2	3.5			30.0	0.3	0.0	10.3	0.1	6.3	45.2	0.1
Delay (s)	51.9	32.9			71.3	21.8	19.3	53.2	26.5	37.6	84.6	21.0
Level of Service	D	C			E	C	B	D	C	D	F	C
Approach Delay (s)		33.7				45.9			36.7			52.8
Approach LOS		C				D			D			D

Intersection Summary			
HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	92.4	Sum of lost time (s)	18.6
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	24
Future Volume (vph)	24
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	26
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection	
Int Delay, s/veh	232.6

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	197	44	29	1188	25	49	940
Future Vol, veh/h	197	44	29	1188	25	49	940
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	250	0	250	-	0	150	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3
Mvmt Flow	214	48	32	1291	27	53	1022

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	2419	1291	-	0	0	1318	0
Stage 1	1291	-	-	-	-	-	-
Stage 2	1128	-	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	-	2.227	-
Pot Cap-1 Maneuver	~ 35	198	-	-	-	521	-
Stage 1	257	-	-	-	-	-	-
Stage 2	308	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	~ 31	198	-	-	-	521	-
Mov Cap-2 Maneuver	~ 31	-	-	-	-	-	-
Stage 1	231	-	-	-	-	-	-
Stage 2	308	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, $	2383.2		0.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	31	198	521	-
HCM Lane V/C Ratio	-	-	-	6.907	0.242	0.102	-
HCM Control Delay (s)	-	-	-	$ 2909	28.9	12.7	-
HCM Lane LOS	-	-	-	F	D	B	-
HCM 95th %tile Q(veh)	-	-	-	26	0.9	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	715.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	196	145	5	32	421	297	20	776	16	142	746	208
Future Vol, veh/h	196	145	5	32	421	297	20	776	16	142	746	208
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	213	158	5	35	458	323	22	843	17	154	811	226
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	160.1	568	675.3	1022
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	57%	4%	13%
Vol Thru, %	96%	42%	56%	68%
Vol Right, %	2%	1%	40%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	812	346	750	1096
LT Vol	20	196	32	142
Through Vol	776	145	421	746
RT Vol	16	5	297	208
Lane Flow Rate	883	376	815	1191
Geometry Grp	1	1	1	1
Degree of Util (X)	2.364	1.019	2.133	3.164
Departure Headway (Hd)	22.181	31.881	19.965	18.666
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	177	120	196	214
Service Time	20.181	29.881	17.965	16.666
HCM Lane V/C Ratio	4.989	3.133	4.158	5.565
HCM Control Delay	675.3	160.1	568	1022
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	32.1	6.7	30.3	56.2

Intersection	
Int Delay, s/veh	58.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↑		↰	↑	
Traffic Vol, veh/h	31	114	33	44	65	25	34	607	50	34	574	20
Future Vol, veh/h	31	114	33	44	65	25	34	607	50	34	574	20
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	280	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	34	124	36	48	71	27	37	660	54	37	624	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1519	1497	635	1550	1481	687	646	0	0	714	0	0
Stage 1	709	709	-	761	761	-	-	-	-	-	-	-
Stage 2	810	788	-	789	720	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	97	~ 122	477	92	125	445	935	-	-	882	-	-
Stage 1	423	436	-	396	413	-	-	-	-	-	-	-
Stage 2	372	401	-	382	431	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	44	~ 112	477	-	115	445	935	-	-	882	-	-
Mov Cap-2 Maneuver	44	~ 112	-	-	115	-	-	-	-	-	-	-
Stage 1	406	418	-	380	396	-	-	-	-	-	-	-
Stage 2	276	385	-	238	413	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 535.5		0.4	0.5
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	935	-	-	99	-	882	-	-
HCM Lane V/C Ratio	0.04	-	-	1.954	-	0.042	-	-
HCM Control Delay (s)	9	-	-	$ 535.5	-	9.3	-	-
HCM Lane LOS	A	-	-	F	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	16.3	-	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

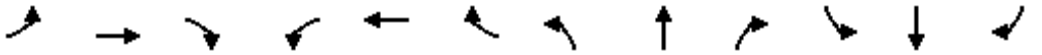
Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	38	433	2	11	371	34	2	1	26	33	33	34
Future Vol, veh/h	38	433	2	11	371	34	2	1	26	33	33	34
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	41	471	2	12	403	37	2	1	28	36	36	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	440	0	0	473	0	0	1036	1018	472	1015	1001	422
Stage 1	-	-	-	-	-	-	554	554	-	446	446	-
Stage 2	-	-	-	-	-	-	482	464	-	569	555	-
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	1115	-	-	1084	-	-	209	236	590	216	242	630
Stage 1	-	-	-	-	-	-	515	512	-	590	572	-
Stage 2	-	-	-	-	-	-	564	562	-	505	512	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1115	-	-	1084	-	-	165	221	590	195	227	630
Mov Cap-2 Maneuver	-	-	-	-	-	-	165	221	-	195	227	-
Stage 1	-	-	-	-	-	-	489	486	-	561	563	-
Stage 2	-	-	-	-	-	-	490	554	-	456	486	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.2	13.1	26.9
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	478	1115	-	-	1084	-	-	271
HCM Lane V/C Ratio	0.066	0.037	-	-	0.011	-	-	0.401
HCM Control Delay (s)	13.1	8.4	0	-	8.4	0	-	26.9
HCM Lane LOS	B	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	1.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	375	21	60	376	230	24	304	104	240	335	65
Future Volume (veh/h)	131	375	21	60	376	230	24	304	104	240	335	65
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	136	391	22	62	392	240	25	317	108	250	349	68
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	151	433	24	290	369	226	269	333	113	264	388	76
Arrive On Green	0.09	0.25	0.25	0.16	0.34	0.34	0.15	0.25	0.25	0.15	0.26	0.26
Sat Flow, veh/h	1757	1730	97	1757	1072	657	1757	1317	449	1757	1501	292
Grp Volume(v), veh/h	136	0	413	62	0	632	25	0	425	250	0	417
Grp Sat Flow(s),veh/h/ln	1757	0	1827	1757	0	1729	1757	0	1765	1757	0	1793
Q Serve(g_s), s	9.2	0.0	26.3	3.7	0.0	41.3	1.5	0.0	28.4	16.9	0.0	27.0
Cycle Q Clear(g_c), s	9.2	0.0	26.3	3.7	0.0	41.3	1.5	0.0	28.4	16.9	0.0	27.0
Prop In Lane	1.00		0.05	1.00		0.38	1.00		0.25	1.00		0.16
Lane Grp Cap(c), veh/h	151	0	457	290	0	595	269	0	446	264	0	464
V/C Ratio(X)	0.90	0.00	0.90	0.21	0.00	1.06	0.09	0.00	0.95	0.95	0.00	0.90
Avail Cap(c_a), veh/h	151	0	630	290	0	595	269	0	446	264	0	648
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.09	0.00	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.3	0.0	43.6	43.4	0.0	39.4	43.7	0.0	44.2	50.5	0.0	43.0
Incr Delay (d2), s/veh	45.7	0.0	13.1	0.0	0.0	32.0	0.1	0.0	32.4	41.5	0.0	23.0
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	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	14.8	1.8	0.0	25.0	0.7	0.0	17.8	11.2	0.0	16.3
LnGrp Delay(d),s/veh	100.0	0.0	56.6	43.4	0.0	71.4	43.8	0.0	76.6	92.0	0.0	66.0
LnGrp LOS	F		E	D		F	D		E	F		E
Approach Vol, veh/h		549			694			450			667	
Approach Delay, s/veh		67.4			68.9			74.8			75.8	
Approach LOS		E			E			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.2	36.3	25.5	36.0	22.6	35.9	14.5	47.0
Change Period (Y+Rc), s	4.2	* 6	5.7	* 6	4.2	* 4.9	* 4.2	5.7
Max Green Setting (Gmax), s	18.0	* 30	9.9	* 41	6.0	* 43	* 10	41.3
Max Q Clear Time (g_c+I1), s	18.9	30.4	5.7	28.3	3.5	29.0	11.2	43.3
Green Ext Time (p_c), s	0.0	0.0	0.0	1.7	0.0	2.1	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	71.6
HCM 2010 LOS	E

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	564	105	130	540	433	93	706	56	547	1613	125
Future Volume (veh/h)	48	564	105	130	540	433	93	706	56	547	1613	125
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	52	613	114	141	587	471	101	767	61	595	1753	136
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	67	511	95	100	350	281	85	855	68	969	2560	196
Arrive On Green	0.04	0.34	0.34	0.06	0.37	0.37	0.02	0.09	0.09	0.55	0.78	0.78
Sat Flow, veh/h	1757	1514	281	1757	949	761	1757	3289	262	1757	3299	253
Grp Volume(v), veh/h	52	0	727	141	0	1058	101	409	419	595	922	967
Grp Sat Flow(s),veh/h/ln	1757	0	1795	1757	0	1710	1757	1752	1799	1757	1752	1800
Q Serve(g_s), s	3.5	0.0	40.5	6.8	0.0	44.3	5.8	27.7	27.7	27.5	29.8	31.2
Cycle Q Clear(g_c), s	3.5	0.0	40.5	6.8	0.0	44.3	5.8	27.7	27.7	27.5	29.8	31.2
Prop In Lane	1.00		0.16	1.00		0.45	1.00		0.15	1.00		0.14
Lane Grp Cap(c), veh/h	67	0	606	100	0	631	85	456	468	969	1360	1397
V/C Ratio(X)	0.78	0.00	1.20	1.42	0.00	1.68	1.19	0.90	0.90	0.61	0.68	0.69
Avail Cap(c_a), veh/h	73	0	606	100	0	631	85	483	496	969	1360	1397
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.00	0.53	1.00	0.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.2	0.0	39.8	56.6	0.0	37.9	59.0	53.3	53.3	18.2	6.4	6.5
Incr Delay (d2), s/veh	22.6	0.0	98.6	236.1	0.0	311.7	95.9	2.9	2.8	1.2	2.7	2.8
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	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	36.6	9.8	0.0	75.5	5.1	13.8	14.2	13.5	15.1	16.2
LnGrp Delay(d),s/veh	79.8	0.0	138.3	292.7	0.0	349.6	154.9	56.1	56.1	19.4	9.1	9.4
LnGrp LOS	E		F	F		F	F	E	E	B	A	A
Approach Vol, veh/h		779			1199			929			2484	
Approach Delay, s/veh		134.4			342.9			66.9			11.7	
Approach LOS		F			F			E			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	73.0	36.9	12.5	46.2	10.0	99.9	8.7	50.0
Change Period (Y+Rc), s	5.7	* 5.7	5.7	* 5.7	* 4.2	5.7	* 4.2	5.7
Max Green Setting (Gmax), s	19.8	* 33	6.8	* 41	* 5.8	47.1	* 5	42.3
Max Q Clear Time (g_c+I1), s	29.5	29.7	8.8	42.5	7.8	33.2	5.5	46.3
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.0	10.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	112.6
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	784.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	693	410	207	758	334	110
Future Vol, veh/h	693	410	207	758	334	110
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	275	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	753	446	225	824	363	120

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1201	0	2252	978
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	1274	-
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	-	-	578	-	~ 45	303
Stage 1	-	-	-	-	~ 363	-
Stage 2	-	-	-	-	~ 262	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	577	-	~ 27	302
Mov Cap-2 Maneuver	-	-	-	-	~ 27	-
Stage 1	-	-	-	-	~ 221	-
Stage 2	-	-	-	-	~ 262	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	$ 4429
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	27	302	-	-	577	-
HCM Lane V/C Ratio	13.446	0.396	-	-	0.39	-
HCM Control Delay (s)	$ 5879.6	24.5	-	-	15.2	-
HCM Lane LOS	F	C	-	-	C	-
HCM 95th %tile Q(veh)	45	1.8	-	-	1.8	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	677.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	804	101	227	955	69	149
Future Vol, veh/h	804	101	227	955	69	149
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	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	874	110	247	1038	75	162

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	984	0	2461	929
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	1532	-
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	-	-	698	-	~ 33	323
Stage 1	-	-	-	-	383	-
Stage 2	-	-	-	-	196	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	698	-	~ 5	323
Mov Cap-2 Maneuver	-	-	-	-	~ 5	-
Stage 1	-	-	-	-	~ 63	-
Stage 2	-	-	-	-	196	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	$ 7150.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	15	-	-	698	-
HCM Lane V/C Ratio	15.797	-	-	0.353	-
HCM Control Delay (s)	$ 7150.7	-	-	13	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	30.6	-	-	1.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	246.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	66	169	864	9	88	1224
Future Vol, veh/h	66	169	864	9	88	1224
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	-	-	530	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	73	188	960	10	98	1360

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2516	960	0	0	970	0
Stage 1	960	-	-	-	-	-
Stage 2	1556	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	~ 31	310	-	-	706	-
Stage 1	370	-	-	-	-	-
Stage 2	190	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 13	310	-	-	706	-
Mov Cap-2 Maneuver	~ 13	-	-	-	-	-
Stage 1	160	-	-	-	-	-
Stage 2	190	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 2536.4	0	0.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	42	706	-
HCM Lane V/C Ratio	-	-	6.217	0.138	-
HCM Control Delay (s)	-	-	$ 2536.4	10.9	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	30.6	0.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	122	85	56	112	77	77	668	130	611	1095	144
Future Volume (veh/h)	106	122	85	56	112	77	77	668	130	611	1095	144
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1845
Adj Flow Rate, veh/h	123	142	99	65	130	90	90	777	151	710	1273	167
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	1
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	100	160	112	81	165	114	85	598	116	378	1043	886
Arrive On Green	0.06	0.16	0.16	0.05	0.16	0.16	0.05	0.40	0.40	0.43	1.00	1.00
Sat Flow, veh/h	1757	1013	707	1757	1017	704	1757	1501	292	1757	1845	1568
Grp Volume(v), veh/h	123	0	241	65	0	220	90	0	928	710	1273	167
Grp Sat Flow(s),veh/h/ln	1757	0	1720	1757	0	1720	1757	0	1793	1757	1845	1568
Q Serve(g_s), s	6.8	0.0	16.5	4.4	0.0	14.7	5.8	0.0	47.8	25.8	67.8	0.0
Cycle Q Clear(g_c), s	6.8	0.0	16.5	4.4	0.0	14.7	5.8	0.0	47.8	25.8	67.8	0.0
Prop In Lane	1.00		0.41	1.00		0.41	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	100	0	272	81	0	279	85	0	715	378	1043	886
V/C Ratio(X)	1.24	0.00	0.89	0.81	0.00	0.79	1.06	0.00	1.30	1.88	1.22	0.19
Avail Cap(c_a), veh/h	100	0	340	81	0	321	85	0	715	378	1043	886
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	56.6	0.0	49.5	56.7	0.0	48.3	57.1	0.0	36.1	34.2	0.0	0.0
Incr Delay (d2), s/veh	166.4	0.0	20.2	43.5	0.0	10.9	114.9	0.0	144.4	396.8	100.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	0.0	9.4	3.1	0.0	7.9	5.5	0.0	52.3	54.0	29.0	0.0
LnGrp Delay(d),s/veh	223.0	0.0	69.7	100.2	0.0	59.2	173.1	0.0	180.5	431.0	100.2	0.0
LnGrp LOS	F		E	F		E	F		F	F	F	A
Approach Vol, veh/h		364			285			1018			2150	
Approach Delay, s/veh		121.5			68.6			179.8			201.7	
Approach LOS		F			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.0	53.5	11.5	25.0	10.0	73.5	11.0	25.5
Change Period (Y+Rc), s	* 4.2	5.7	6.0	* 6	* 4.2	5.7	* 4.2	6.0
Max Green Setting (Gmax), s	* 26	44.9	5.5	* 24	* 5.8	64.9	* 6.8	22.4
Max Q Clear Time (g_c+I1), s	27.8	49.8	6.4	18.5	7.8	69.8	8.8	16.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	178.3
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	118.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	97	346	324	68	14	137	53	225	65	109	305	168
Future Vol, veh/h	97	346	324	68	14	137	53	225	65	109	305	168
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	250	250	-	-	250	-	-	150	-	-
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	108	384	360	76	16	152	59	250	72	121	339	187

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1163	1115	433	1451	1172	286	526	0	0	322	0	0
Stage 1	675	675	-	404	404	-	-	-	-	-	-	-
Stage 2	488	440	-	1047	768	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	171	~ 207	621	108	191	751	1036	-	-	1232	-	-
Stage 1	442	452	-	621	597	-	-	-	-	-	-	-
Stage 2	559	576	-	274	409	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	112	~ 176	621	-	163	751	1036	-	-	1232	-	-
Mov Cap-2 Maneuver	112	~ 176	-	-	163	-	-	-	-	-	-	-
Stage 1	417	408	-	586	563	-	-	-	-	-	-	-
Stage 2	409	543	-	~ 6	369	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	294.3		1.3	1.5
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1036	-	-	112	176	621	-	563	1232	-	-
HCM Lane V/C Ratio	0.057	-	-	0.962	2.184	0.58	-	0.298	0.098	-	-
HCM Control Delay (s)	8.7	-	-	146.9	$ 593.8	18.5	-	14.1	8.2	-	-
HCM Lane LOS	A	-	-	F	F	C	-	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	6.1	30.7	3.7	-	1.2	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	149.3

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	84	93	9	781	90	245	1029
Future Vol, veh/h	84	93	9	781	90	245	1029
Conflicting Peds, #/hr	0	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	0	250	-	-	250	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3
Mvmt Flow	93	103	10	868	100	272	1143

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	2627	486	-	0	0	970	0
Stage 1	940	-	-	-	-	-	-
Stage 2	1687	-	-	-	-	-	-
Critical Hdwy	6.095	7.145	-	-	-	5.345	-
Critical Hdwy Stg 1	6.645	-	-	-	-	-	-
Critical Hdwy Stg 2	5.445	-	-	-	-	-	-
Follow-up Hdwy	3.6785	3.9285	-	-	-	3.1285	-
Pot Cap-1 Maneuver	~ 33	450	-	-	-	403	-
Stage 1	269	-	-	-	-	-	-
Stage 2	160	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	~ 11	449	-	-	-	402	-
Mov Cap-2 Maneuver	~ 11	-	-	-	-	-	-
Stage 1	~ 87	-	-	-	-	-	-
Stage 2	160	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, $	1924.3		5.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	11	449	402	-
HCM Lane V/C Ratio	-	-	-	8.485	0.23	0.677	-
HCM Control Delay (s)	-	-	$	4037.7	15.4	30.8	-
HCM Lane LOS	-	-	-	F	C	D	-
HCM 95th %tile Q(veh)	-	-	-	13	0.9	4.8	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	44.1
Intersection LOS	E

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	1	110	199	58	37	146	104	23	215	44	214	389
Future Vol, veh/h	1	110	199	58	37	146	104	23	215	44	214	389
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	122	221	64	41	162	116	26	239	49	238	432
Number of Lanes	0	1	1	0	1	1	0	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	24.4	25.4	27.9	70.1
HCM LOS	C	D	D	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	52%	0%
Vol Thru, %	0%	83%	0%	77%	0%	58%	48%	77%
Vol Right, %	0%	17%	0%	23%	0%	42%	0%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	259	111	257	37	250	409	252
LT Vol	23	0	111	0	37	0	214	0
Through Vol	0	215	0	199	0	146	195	195
RT Vol	0	44	0	58	0	104	0	57
Lane Flow Rate	26	288	123	286	41	278	454	279
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.066	0.688	0.314	0.673	0.107	0.659	1.086	0.635
Departure Headway (Hd)	9.6	8.955	9.498	8.812	9.699	8.873	8.617	8.181
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	375	406	381	414	372	411	427	444
Service Time	7.3	6.655	7.198	6.512	7.399	6.573	6.317	5.881
HCM Lane V/C Ratio	0.069	0.709	0.323	0.691	0.11	0.676	1.063	0.628
HCM Control Delay	13	29.2	16.5	27.8	13.6	27.1	98.4	24.1
HCM Lane LOS	B	D	C	D	B	D	F	C
HCM 95th-tile Q	0.2	5	1.3	4.8	0.4	4.6	15.5	4.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes, Configurations	
Traffic Vol, veh/h	57
Future Vol, veh/h	57
Peak Hour Factor	0.90
Heavy Vehicles, %	3
Mvmt Flow	63
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Intersection Delay, s/veh	18.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	329	50	25	151	32	54	137	45	26	111	43
Future Vol, veh/h	43	329	50	25	151	32	54	137	45	26	111	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	47	358	54	27	164	35	59	149	49	28	121	47
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	24.4	13.5	14.9	13.2
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	23%	10%	12%	14%
Vol Thru, %	58%	78%	73%	62%
Vol Right, %	19%	12%	15%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	236	422	208	180
LT Vol	54	43	25	26
Through Vol	137	329	151	111
RT Vol	45	50	32	43
Lane Flow Rate	257	459	226	196
Geometry Grp	1	1	1	1
Degree of Util (X)	0.459	0.749	0.397	0.356
Departure Headway (Hd)	6.441	5.875	6.318	6.555
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	557	615	567	548
Service Time	4.499	3.919	4.374	4.618
HCM Lane V/C Ratio	0.461	0.746	0.399	0.358
HCM Control Delay	14.9	24.4	13.5	13.2
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	2.4	6.6	1.9	1.6

Intersection	
Intersection Delay, s/veh	210.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	178	54	98	171	148	59	513	145	162	552	49
Future Vol, veh/h	34	178	54	98	171	148	59	513	145	162	552	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	37	193	59	107	186	161	64	558	158	176	600	53
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	31.5	43.9	337.8	244.7
HCM LOS	D	E	F	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	78%	0%	77%	0%	54%	0%	92%
Vol Right, %	0%	22%	0%	23%	0%	46%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	59	658	34	232	98	319	162	601
LT Vol	59	0	34	0	98	0	162	0
Through Vol	0	513	0	178	0	171	0	552
RT Vol	0	145	0	54	0	148	0	49
Lane Flow Rate	64	715	37	252	107	347	176	653
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.168	1.74	0.103	0.657	0.285	0.848	0.457	1.593
Departure Headway (Hd)	10.363	9.674	12.175	11.463	11.564	10.682	10.756	10.166
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	348	386	296	318	313	343	338	366
Service Time	8.063	7.374	9.875	9.163	9.264	8.382	8.456	7.866
HCM Lane V/C Ratio	0.184	1.852	0.125	0.792	0.342	1.012	0.521	1.784
HCM Control Delay	15.1	366.7	16.3	33.7	18.8	51.6	22.2	304.7
HCM Lane LOS	C	F	C	D	C	F	C	F
HCM 95th-tile Q	0.6	40.4	0.3	4.3	1.1	7.6	2.3	32.7



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	21	388	111	7	305	413	183	66	153	273	245	148
Future Volume (vph)	21	388	111	7	305	413	183	66	153	273	245	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
Lane Util. Factor	1.00	0.95			0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.97			1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98
Flt Protected	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	3388			3400	1845	1568	1752	3505	1568	1752	3419
Flt Permitted	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	3388			3400	1845	1568	1752	3505	1568	1752	3419
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	23	417	119	8	328	444	197	71	165	294	263	159
RTOR Reduction (vph)	0	25	0	0	0	0	123	0	0	188	0	17
Lane Group Flow (vph)	23	511	0	0	336	444	74	71	165	106	263	173
Turn Type	Prot	NA		Prot	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases							8			2		
Actuated Green, G (s)	1.6	21.1			9.3	28.8	28.8	6.9	14.2	14.2	13.5	20.8
Effective Green, g (s)	1.6	21.1			9.3	28.8	28.8	6.9	14.2	14.2	13.5	20.8
Actuated g/C Ratio	0.02	0.28			0.12	0.38	0.38	0.09	0.19	0.19	0.18	0.27
Clearance Time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
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)	36	932			412	692	588	157	648	290	308	927
v/s Ratio Prot	0.01	0.15			c0.10	c0.24		0.04	0.05		c0.15	0.05
v/s Ratio Perm							0.05			c0.07		
v/c Ratio	0.64	0.55			0.82	0.64	0.13	0.45	0.25	0.36	0.85	0.19
Uniform Delay, d1	37.3	23.7			32.9	19.7	15.7	33.1	26.7	27.3	30.6	21.5
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	31.7	0.7			11.8	2.0	0.1	2.1	0.2	0.8	19.9	0.1
Delay (s)	68.9	24.4			44.6	21.7	15.8	35.2	26.9	28.1	50.6	21.6
Level of Service	E	C			D	C	B	D	C	C	D	C
Approach Delay (s)		26.2				28.4			28.7			38.4
Approach LOS		C				C			C			D

Intersection Summary			
HCM 2000 Control Delay	29.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	76.7	Sum of lost time (s)	18.6
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	29
Future Volume (vph)	29
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	31
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection	
Int Delay, s/veh	84.6

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	108	23	15	962	26	114	1072
Future Vol, veh/h	108	23	15	962	26	114	1072
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	250	0	250	-	0	150	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3
Mvmt Flow	117	25	16	1046	28	124	1165

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	2459	1046	-	0	0	1074	0
Stage 1	1046	-	-	-	-	-	-
Stage 2	1413	-	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	-	2.227	-
Pot Cap-1 Maneuver	~ 33	276	-	-	-	645	-
Stage 1	337	-	-	-	-	-	-
Stage 2	224	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	~ 27	276	-	-	-	645	-
Mov Cap-2 Maneuver	~ 27	-	-	-	-	-	-
Stage 1	272	-	-	-	-	-	-
Stage 2	224	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 1488.8		1.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	27	276	645	-
HCM Lane V/C Ratio	-	-	-	4.348	0.091	0.192	-
HCM Control Delay (s)	-	-	$	1801.7	19.3	11.9	-
HCM Lane LOS	-	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	-	14.4	0.3	0.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	485.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	108	160	17	11	125	131	22	668	20	354	596	182
Future Vol, veh/h	108	160	17	11	125	131	22	668	20	354	596	182
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	114	168	18	12	132	138	23	703	21	373	627	192
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	48	42.3	350.1	784.9
HCM LOS	E	E	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	38%	4%	31%
Vol Thru, %	94%	56%	47%	53%
Vol Right, %	3%	6%	49%	16%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	710	285	267	1132
LT Vol	22	108	11	354
Through Vol	668	160	125	596
RT Vol	20	17	131	182
Lane Flow Rate	747	300	281	1192
Geometry Grp	1	1	1	1
Degree of Util (X)	1.688	0.732	0.672	2.683
Departure Headway (Hd)	11.496	14.187	14.262	9.565
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	321	258	256	393
Service Time	9.496	12.187	12.262	7.565
HCM Lane V/C Ratio	2.327	1.163	1.098	3.033
HCM Control Delay	350.1	48	42.3	784.9
HCM Lane LOS	F	E	E	F
HCM 95th-tile Q	32.9	5.1	4.3	83.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	242	59	87	48	25	29	662	37	14	575	21
Future Volume (veh/h)	57	242	59	87	48	25	29	662	37	14	575	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	62	263	64	95	52	27	32	720	40	15	625	23
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	356	312	76	121	85	44	57	782	43	31	773	28
Arrive On Green	0.20	0.22	0.22	0.07	0.07	0.07	0.03	0.45	0.45	0.02	0.44	0.44
Sat Flow, veh/h	1757	1434	349	1757	1145	595	1757	1731	96	1757	1768	65
Grp Volume(v), veh/h	62	0	327	95	0	79	32	0	760	15	0	648
Grp Sat Flow(s),veh/h/ln	1757	0	1783	1757	0	1740	1757	0	1828	1757	0	1833
Q Serve(g_s), s	2.2	0.0	13.1	4.0	0.0	3.3	1.3	0.0	29.1	0.6	0.0	23.0
Cycle Q Clear(g_c), s	2.2	0.0	13.1	4.0	0.0	3.3	1.3	0.0	29.1	0.6	0.0	23.0
Prop In Lane	1.00		0.20	1.00		0.34	1.00		0.05	1.00		0.04
Lane Grp Cap(c), veh/h	356	0	388	121	0	130	57	0	826	31	0	802
V/C Ratio(X)	0.17	0.00	0.84	0.79	0.00	0.61	0.56	0.00	0.92	0.48	0.00	0.81
Avail Cap(c_a), veh/h	356	0	561	139	0	564	118	0	916	118	0	918
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.6	0.0	28.0	34.2	0.0	33.5	35.6	0.0	19.2	36.3	0.0	18.3
Incr Delay (d2), s/veh	0.2	0.0	7.7	22.3	0.0	4.5	8.3	0.0	13.4	10.8	0.0	4.8
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	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	7.3	2.7	0.0	1.7	0.8	0.0	17.6	0.4	0.0	12.6
LnGrp Delay(d),s/veh	24.8	0.0	35.7	56.5	0.0	38.0	43.9	0.0	32.6	47.1	0.0	23.1
LnGrp LOS	C		D	E		D	D		C	D		C
Approach Vol, veh/h		389			174			792			663	
Approach Delay, s/veh		34.0			48.1			33.1			23.7	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.5	38.6	9.3	21.1	6.6	37.5	20.0	10.5
Change Period (Y+Rc), s	* 4.2	4.9	* 4.2	4.9	* 4.2	4.9	4.9	* 4.9
Max Green Setting (Gmax), s	* 5	37.4	* 5.9	23.5	* 5	37.4	5.2	* 24
Max Q Clear Time (g_c+I1), s	2.6	31.1	6.0	15.1	3.3	25.0	4.2	5.3
Green Ext Time (p_c), s	0.0	2.6	0.0	1.1	0.0	3.3	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	31.5
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	359	53	89	292	219	49	383	80	177	503	100
Future Volume (veh/h)	127	359	53	89	292	219	49	383	80	177	503	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	138	390	58	97	317	238	53	416	87	192	547	109
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	165	422	63	212	574	602	68	516	108	249	573	114
Arrive On Green	0.09	0.27	0.27	0.12	0.31	0.31	0.04	0.35	0.35	0.07	0.38	0.38
Sat Flow, veh/h	1757	1570	233	1757	1845	1568	1757	1480	310	3408	1494	298
Grp Volume(v), veh/h	138	0	448	97	317	238	53	0	503	192	0	656
Grp Sat Flow(s),veh/h/ln	1757	0	1803	1757	1845	1568	1757	0	1790	1704	0	1792
Q Serve(g_s), s	9.0	0.0	28.0	6.0	16.6	12.8	3.5	0.0	29.5	6.4	0.0	41.3
Cycle Q Clear(g_c), s	9.0	0.0	28.0	6.0	16.6	12.8	3.5	0.0	29.5	6.4	0.0	41.3
Prop In Lane	1.00		0.13	1.00		1.00	1.00		0.17	1.00		0.17
Lane Grp Cap(c), veh/h	165	0	484	212	574	602	68	0	624	249	0	687
V/C Ratio(X)	0.84	0.00	0.92	0.46	0.55	0.40	0.78	0.00	0.81	0.77	0.00	0.96
Avail Cap(c_a), veh/h	194	0	550	212	574	602	91	0	639	282	0	712
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.50	0.50	0.50	1.00	0.00	1.00	0.56	0.00	0.56
Uniform Delay (d), s/veh	51.7	0.0	41.3	47.5	33.2	25.9	55.3	0.0	34.2	52.8	0.0	34.8
Incr Delay (d2), s/veh	23.3	0.0	25.9	0.8	1.9	1.0	26.0	0.0	7.4	6.4	0.0	15.5
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	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	17.4	2.9	8.8	5.7	2.2	0.0	15.8	3.2	0.0	23.4
LnGrp Delay(d),s/veh	75.0	0.0	67.2	48.2	35.2	26.9	81.2	0.0	41.6	59.2	0.0	50.3
LnGrp LOS	E		E	D	D	C	F		D	E		D
Approach Vol, veh/h		586			652			556			848	
Approach Delay, s/veh		69.0			34.1			45.3			52.3	
Approach LOS		E			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	46.5	19.7	37.2	8.7	50.4	15.1	41.8
Change Period (Y+Rc), s	* 4.2	6.0	5.7	* 6	* 4.2	* 6	* 4.2	5.7
Max Green Setting (Gmax), s	* 9.6	41.4	9.2	* 35	* 6	* 46	* 13	32.1
Max Q Clear Time (g_c+I1), s	8.4	31.5	8.0	30.0	5.5	43.3	11.0	18.6
Green Ext Time (p_c), s	0.1	1.9	0.0	1.1	0.0	1.1	0.1	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	50.1
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	540	24	69	661	420	58	1177	87	391	1002	25
Future Volume (veh/h)	23	540	24	69	661	420	58	1177	87	391	1002	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	25	587	26	75	718	457	63	1279	95	425	1089	27
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	42	709	317	92	764	744	494	1522	113	450	1416	35
Arrive On Green	0.03	0.27	0.27	0.02	0.07	0.07	0.28	0.32	0.32	0.26	0.28	0.28
Sat Flow, veh/h	1757	3505	1568	1757	3505	1568	1757	4784	355	1757	5055	125
Grp Volume(v), veh/h	25	587	26	75	718	457	63	898	476	425	723	393
Grp Sat Flow(s),veh/h/ln	1757	1752	1568	1757	1752	1568	1757	1679	1782	1757	1679	1823
Q Serve(g_s), s	1.6	18.3	0.8	4.9	23.7	16.3	3.1	28.9	28.9	27.5	22.9	22.9
Cycle Q Clear(g_c), s	1.6	18.3	0.8	4.9	23.7	16.3	3.1	28.9	28.9	27.5	22.9	22.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.20	1.00		0.07
Lane Grp Cap(c), veh/h	42	709	317	92	764	744	494	1068	567	450	940	510
V/C Ratio(X)	0.60	0.83	0.08	0.81	0.94	0.61	0.13	0.84	0.84	0.94	0.77	0.77
Avail Cap(c_a), veh/h	76	731	327	92	764	744	494	1068	567	466	1624	881
HCM Platoon Ratio	1.33	1.33	1.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	0.85	0.85	0.85	0.57	0.57	0.57	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.6	40.5	9.4	56.4	53.1	13.4	31.1	36.8	36.8	42.3	38.3	38.3
Incr Delay (d2), s/veh	8.0	4.8	0.1	35.4	17.2	1.3	0.1	4.8	8.6	27.6	6.0	10.7
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	0.0
%ile BackOfQ(50%),veh/ln	0.9	9.3	0.3	3.3	13.3	7.4	1.5	14.0	15.5	16.8	11.4	13.1
LnGrp Delay(d),s/veh	63.6	45.3	9.5	91.9	70.2	14.7	31.1	41.6	45.4	69.9	44.3	49.0
LnGrp LOS	E	D	A	F	E	B	C	D	D	E	D	D
Approach Vol, veh/h		638			1250			1437			1541	
Approach Delay, s/veh		44.6			51.2			42.4			52.6	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.9	42.6	10.3	29.2	38.3	38.2	8.5	31.0
Change Period (Y+Rc), s	* 4.2	5.7	* 4.2	5.7	5.7	* 5.7	5.7	* 5.7
Max Green Setting (Gmax), s	* 31	35.1	* 6.1	24.2	9.8	* 56	5.0	* 25
Max Q Clear Time (g_c+I1), s	29.5	30.9	6.9	20.3	5.1	24.9	3.6	25.7
Green Ext Time (p_c), s	0.2	2.8	0.0	1.3	0.0	7.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	48.2
HCM 2010 LOS	D

Notes

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	561	267	202	764	348	193
Future Volume (vph)	561	267	202	764	348	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	4.2	5.7	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1568	1752	3505	1752	1568
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1568	1752	3505	1752	1568
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	610	290	220	830	378	210
RTOR Reduction (vph)	0	166	0	0	0	155
Lane Group Flow (vph)	610	125	220	830	378	55
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Actuated Green, G (s)	49.8	49.8	19.7	73.7	30.6	30.6
Effective Green, g (s)	49.8	49.8	19.7	73.7	30.6	30.6
Actuated g/C Ratio	0.43	0.43	0.17	0.64	0.26	0.26
Clearance Time (s)	5.7	5.7	4.2	5.7	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1504	673	297	2226	462	413
v/s Ratio Prot	c0.17		c0.13	0.24	c0.22	
v/s Ratio Perm		0.08				0.04
v/c Ratio	0.41	0.18	0.74	0.37	0.82	0.13
Uniform Delay, d1	22.9	20.5	45.7	10.1	40.1	32.6
Progression Factor	0.71	0.66	0.90	1.04	0.71	0.38
Incremental Delay, d2	0.4	0.3	8.4	0.4	10.5	0.1
Delay (s)	16.6	13.8	49.7	10.9	39.1	12.5
Level of Service	B	B	D	B	D	B
Approach Delay (s)	15.7			19.0	29.6	
Approach LOS	B			B	C	

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	756	84	126	819	90	218
Future Volume (vph)	756	84	126	819	90	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7		4.2	5.7	5.7	5.7
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1820		1752	1845	1752	1568
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1820		1752	1845	1752	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	796	88	133	862	95	229
RTOR Reduction (vph)	3	0	0	0	0	204
Lane Group Flow (vph)	881	0	133	862	95	25
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Actuated Green, G (s)	74.4		13.1	91.7	12.9	12.9
Effective Green, g (s)	74.4		13.1	91.7	12.9	12.9
Actuated g/C Ratio	0.64		0.11	0.79	0.11	0.11
Clearance Time (s)	5.7		4.2	5.7	5.7	5.7
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1167		197	1458	194	174
v/s Ratio Prot	c0.48		c0.08	0.47	c0.05	
v/s Ratio Perm						0.02
v/c Ratio	0.76		0.68	0.59	0.49	0.15
Uniform Delay, d1	14.5		49.4	4.8	48.5	46.6
Progression Factor	0.54		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4		8.8	1.8	1.9	0.4
Delay (s)	12.1		58.2	6.5	50.4	47.0
Level of Service	B		E	A	D	D
Approach Delay (s)	12.1			13.5	48.0	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	46	187	1341	16	238	875
Future Volume (vph)	46	187	1341	16	238	875
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2		6.0	6.0	4.2	6.0
Lane Util. Factor	1.00		0.95	1.00	1.00	0.95
Frt	0.89		1.00	0.85	1.00	1.00
Flt Protected	0.99		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1629		3505	1568	1752	3505
Flt Permitted	0.99		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1629		3505	1568	1752	3505
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	53	217	1559	19	277	1017
RTOR Reduction (vph)	127	0	0	8	0	0
Lane Group Flow (vph)	143	0	1559	11	277	1017
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	3		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	8.8		67.8	67.8	14.8	86.8
Effective Green, g (s)	8.8		67.8	67.8	14.8	86.8
Actuated g/C Ratio	0.08		0.58	0.58	0.13	0.75
Clearance Time (s)	4.2		6.0	6.0	4.2	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	123		2048	916	223	2622
v/s Ratio Prot	c0.09		c0.44		c0.16	0.29
v/s Ratio Perm				0.01		
v/c Ratio	1.17		0.76	0.01	1.24	0.39
Uniform Delay, d1	53.6		18.0	10.1	50.6	5.2
Progression Factor	1.00		0.61	0.72	1.36	2.10
Incremental Delay, d2	132.5		2.3	0.0	137.1	0.4
Delay (s)	186.1		13.2	7.3	206.1	11.2
Level of Service	F		B	A	F	B
Approach Delay (s)	186.1		13.2			53.0
Approach LOS	F		B			D

Intersection Summary			
HCM 2000 Control Delay	44.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	203	29	161	27	262	249	1012	87	311	691	91
Future Volume (veh/h)	52	203	29	161	27	262	249	1012	87	311	691	91
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1900	1845	1845	1845
Adj Flow Rate, veh/h	60	236	34	187	31	305	290	1177	101	362	803	106
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	2	1
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	77	272	231	209	439	373	317	1292	111	454	1278	572
Arrive On Green	0.04	0.15	0.15	0.12	0.24	0.24	0.24	0.36	0.36	0.09	0.12	0.12
Sat Flow, veh/h	1757	1845	1568	1757	1845	1568	1757	4725	405	1757	3505	1568
Grp Volume(v), veh/h	60	236	34	187	31	305	290	836	442	362	803	106
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1757	1845	1568	1757	1679	1773	1757	1752	1568
Q Serve(g_s), s	3.9	14.5	1.5	12.2	1.5	11.3	18.7	27.5	27.5	23.5	25.3	7.1
Cycle Q Clear(g_c), s	3.9	14.5	1.5	12.2	1.5	11.3	18.7	27.5	27.5	23.5	25.3	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	77	272	231	209	439	373	317	918	485	454	1278	572
V/C Ratio(X)	0.78	0.87	0.15	0.89	0.07	0.82	0.92	0.91	0.91	0.80	0.63	0.19
Avail Cap(c_a), veh/h	145	356	303	209	439	373	362	952	503	454	1278	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.61	0.61	0.61	0.79	0.79	0.79
Uniform Delay (d), s/veh	54.9	48.4	20.3	50.4	34.3	11.7	43.2	35.6	35.6	50.1	43.5	35.5
Incr Delay (d2), s/veh	15.4	16.2	0.3	35.1	0.1	13.3	17.8	9.9	16.6	7.7	1.9	0.6
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	0.0
%ile BackOfQ(50%),veh/ln	2.2	8.6	0.7	8.0	0.8	6.3	10.6	14.0	15.7	12.4	12.7	3.2
LnGrp Delay(d),s/veh	70.3	64.5	20.5	85.5	34.3	25.0	61.0	45.4	52.1	57.8	45.4	36.1
LnGrp LOS	E	E	C	F	C	C	E	D	D	E	D	D
Approach Vol, veh/h		330			523			1568			1271	
Approach Delay, s/veh		61.0			47.2			50.2			48.2	
Approach LOS		E			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	35.7	37.4	19.8	23.1	25.1	48.0	9.3	33.6
Change Period (Y+Rc), s	5.7	* 5.7	6.0	* 6	* 4.2	5.7	* 4.2	6.0
Max Green Setting (Gmax), s	26.8	* 33	13.8	* 22	* 24	35.8	* 9.6	26.6
Max Q Clear Time (g_c+I1), s	25.5	29.5	14.2	16.5	20.7	27.3	5.9	13.3
Green Ext Time (p_c), s	0.2	2.2	0.0	0.6	0.3	3.4	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	50.0
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	243	215	50	64	161	172	236	76	50	141	130
Future Volume (veh/h)	58	243	215	50	64	161	172	236	76	50	141	130
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.92
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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	67	283	250	58	74	187	200	274	88	58	164	151
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	119	334	284	75	259	220	797	330	281	740	271	211
Arrive On Green	0.07	0.18	0.18	0.04	0.14	0.14	0.45	0.18	0.18	0.42	0.15	0.15
Sat Flow, veh/h	1757	1845	1568	1757	1845	1568	1757	1845	1568	1757	1845	1440
Grp Volume(v), veh/h	67	283	250	58	74	187	200	274	88	58	164	151
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1757	1845	1568	1757	1845	1568	1757	1845	1440
Q Serve(g_s), s	4.3	17.2	6.1	3.8	4.2	13.5	8.1	16.6	4.8	2.3	9.7	11.6
Cycle Q Clear(g_c), s	4.3	17.2	6.1	3.8	4.2	13.5	8.1	16.6	4.8	2.3	9.7	11.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	119	334	284	75	259	220	797	330	281	740	271	211
V/C Ratio(X)	0.56	0.85	0.88	0.78	0.29	0.85	0.25	0.83	0.31	0.08	0.61	0.71
Avail Cap(c_a), veh/h	179	509	433	164	493	419	797	668	568	740	429	335
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	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80	0.85	0.85	0.85
Uniform Delay (d), s/veh	52.4	45.9	5.3	55.0	44.7	48.7	19.5	45.9	29.3	20.1	46.3	47.2
Incr Delay (d2), s/veh	4.1	8.1	12.7	15.7	0.6	8.9	0.1	17.4	2.3	0.0	8.2	16.0
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	0.0
%ile BackOfQ(50%),veh/ln	2.2	9.6	3.6	2.2	2.2	6.4	4.0	10.0	2.2	1.1	5.5	5.6
LnGrp Delay(d),s/veh	56.5	54.0	18.0	70.7	45.3	57.6	19.7	63.3	31.6	20.1	54.6	63.2
LnGrp LOS	E	D	B	E	D	E	B	E	C	C	D	E
Approach Vol, veh/h		600			319			562			373	
Approach Delay, s/veh		39.3			57.1			42.8			52.7	
Approach LOS		D			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	53.1	26.8	9.1	27.0	56.8	23.0	13.9	22.3
Change Period (Y+Rc), s	4.2	* 6	* 4.2	6.0	4.2	* 6	6.0	* 6
Max Green Setting (Gmax), s	10.8	* 42	* 11	32.0	25.8	* 27	11.8	* 31
Max Q Clear Time (g_c+I1), s	4.3	18.6	5.8	19.2	10.1	13.6	6.3	15.5
Green Ext Time (p_c), s	0.0	1.6	0.0	1.8	0.4	1.0	0.0	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	46.1
HCM 2010 LOS	D

Notes



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	117	212	23	1046	115	238	808
Future Volume (vph)	117	212	23	1046	115	238	808
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.7	4.2	6.0	6.0	4.2	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	1568	1752	3505	1568	1752	3505
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	1568	1752	3505	1568	1752	3505
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	136	247	27	1216	134	277	940
RTOR Reduction (vph)	0	193	0	0	55	0	0
Lane Group Flow (vph)	136	54	27	1216	79	277	940
Turn Type	Prot	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	3		5	2		1	6
Permitted Phases		8			2		
Actuated Green, G (s)	9.0	25.3	3.9	55.7	55.7	19.1	70.9
Effective Green, g (s)	9.0	25.3	3.9	55.7	55.7	19.1	70.9
Actuated g/C Ratio	0.08	0.22	0.03	0.48	0.48	0.16	0.61
Clearance Time (s)	4.2	5.7	4.2	6.0	6.0	4.2	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	135	341	58	1683	752	288	2142
v/s Ratio Prot	c0.08		0.02	c0.35		c0.16	0.27
v/s Ratio Perm		c0.03			0.05		
v/c Ratio	1.01	0.16	0.47	0.72	0.11	0.96	0.44
Uniform Delay, d1	53.5	36.7	55.0	24.0	16.5	48.1	12.0
Progression Factor	1.00	1.00	1.18	0.33	0.24	0.85	0.68
Incremental Delay, d2	79.4	0.2	4.7	2.2	0.2	41.2	0.6
Delay (s)	132.9	36.9	69.7	10.2	4.2	81.9	8.8
Level of Service	F	D	E	B	A	F	A
Approach Delay (s)	71.0			10.8			25.4
Approach LOS	E			B			C

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	20	116	257	99	33	265	254	174	149	18	174	157
Future Volume (vph)	20	116	257	99	33	265	254	174	149	18	174	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	5.7		4.2	5.7	5.7	4.2	6.0		4.2	6.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	0.95
Frpb, ped/bikes		1.00	1.00		1.00	1.00	0.98	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
Frt		1.00	0.96		1.00	1.00	0.85	1.00	0.98		1.00	1.00
Flt Protected		0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)		1752	1761		1752	1845	1534	1752	1815		1752	3505
Flt Permitted		0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)		1752	1761		1752	1845	1534	1752	1815		1752	3505
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	23	135	299	115	38	308	295	202	173	21	202	183
RTOR Reduction (vph)	0	0	14	0	0	0	226	0	6	0	0	0
Lane Group Flow (vph)	0	158	400	0	38	308	69	202	188	0	202	183
Confl. Peds. (#/hr)				1			1					
Turn Type	Prot	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA
Protected Phases	7	7	4		3	8		5	2		1	6
Permitted Phases							8					
Actuated Green, G (s)		11.3	26.0		2.8	17.5	17.5	14.3	14.5		11.7	11.9
Effective Green, g (s)		11.3	26.0		2.8	17.5	17.5	14.3	14.5		11.7	11.9
Actuated g/C Ratio		0.15	0.35		0.04	0.23	0.23	0.19	0.19		0.16	0.16
Clearance Time (s)		4.2	5.7		4.2	5.7	5.7	4.2	6.0		4.2	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		263	609		65	429	357	333	350		272	555
v/s Ratio Prot		0.09	c0.23		0.02	c0.17		c0.12	0.10		c0.12	0.05
v/s Ratio Perm							0.04					
v/c Ratio		0.60	0.66		0.58	0.72	0.19	0.61	0.54		0.74	0.33
Uniform Delay, d1		29.8	20.8		35.6	26.5	23.1	27.8	27.3		30.3	28.1
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		3.8	2.6		12.7	5.7	0.3	3.1	1.6		10.4	0.4
Delay (s)		33.6	23.3		48.3	32.2	23.4	30.9	28.9		40.7	28.4
Level of Service		C	C		D	C	C	C	C		D	C
Approach Delay (s)			26.2			29.1			29.9			32.2
Approach LOS			C			C			C			C

Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	75.1	Sum of lost time (s)	20.1
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	180
Future Volume (vph)	180
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1548
Flt Permitted	1.00
Satd. Flow (perm)	1548
Peak-hour factor, PHF	0.86
Adj. Flow (vph)	209
RTOR Reduction (vph)	176
Lane Group Flow (vph)	33
Confl. Peds. (#/hr)	1
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	11.9
Effective Green, g (s)	11.9
Actuated g/C Ratio	0.16
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	245
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.14
Uniform Delay, d1	27.2
Progression Factor	1.00
Incremental Delay, d2	0.3
Delay (s)	27.4
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	392	36	30	288	54	15	515	180	156	511	21
Future Volume (veh/h)	34	392	36	30	288	54	15	515	180	156	511	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	36	413	38	32	303	57	16	542	189	164	538	22
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	60	463	43	56	444	84	176	597	508	199	601	25
Arrive On Green	0.03	0.28	0.28	0.03	0.29	0.29	0.10	0.32	0.32	0.11	0.34	0.34
Sat Flow, veh/h	1757	1664	153	1757	1510	284	1757	1845	1568	1757	1760	72
Grp Volume(v), veh/h	36	0	451	32	0	360	16	542	189	164	0	560
Grp Sat Flow(s),veh/h/ln	1757	0	1818	1757	0	1795	1757	1845	1568	1757	0	1832
Q Serve(g_s), s	1.6	0.0	19.3	1.5	0.0	14.3	0.7	22.8	7.5	7.4	0.0	23.5
Cycle Q Clear(g_c), s	1.6	0.0	19.3	1.5	0.0	14.3	0.7	22.8	7.5	7.4	0.0	23.5
Prop In Lane	1.00		0.08	1.00		0.16	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	60	0	505	56	0	528	176	597	508	199	0	626
V/C Ratio(X)	0.60	0.00	0.89	0.57	0.00	0.68	0.09	0.91	0.37	0.82	0.00	0.89
Avail Cap(c_a), veh/h	108	0	608	108	0	609	176	654	556	213	0	767
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.5	0.0	28.1	38.7	0.0	25.2	33.1	26.2	21.0	35.1	0.0	25.3
Incr Delay (d2), s/veh	9.1	0.0	13.7	9.0	0.0	2.6	0.2	15.7	0.5	21.4	0.0	11.4
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	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	11.6	0.8	0.0	7.5	0.3	14.2	3.3	4.8	0.0	13.8
LnGrp Delay(d),s/veh	47.7	0.0	41.8	47.7	0.0	27.8	33.3	41.9	21.5	56.5	0.0	36.6
LnGrp LOS	D		D	D		C	C	D	C	E		D
Approach Vol, veh/h		487			392			747			724	
Approach Delay, s/veh		42.2			29.4			36.6			41.1	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	31.5	7.9	28.2	12.3	32.6	7.0	29.1
Change Period (Y+Rc), s	4.2	* 5.3	5.3	* 5.7	4.2	* 4.9	* 4.2	5.3
Max Green Setting (Gmax), s	9.8	* 29	5.0	* 27	5.0	* 34	* 5	27.5
Max Q Clear Time (g_c+I1), s	9.4	24.8	3.5	21.3	2.7	25.5	3.6	16.3
Green Ext Time (p_c), s	0.0	1.4	0.0	1.2	0.0	2.2	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	38.0
HCM 2010 LOS	D

Notes



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	197	44	29	1188	25	49	940
Future Volume (vph)	197	44	29	1188	25	49	940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2	6.0		4.2	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	1.00	1.00		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	1568	1752	3494		1752	3505
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	1568	1752	3494		1752	3505
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	214	48	32	1291	27	53	1022
RTOR Reduction (vph)	0	35	0	1	0	0	0
Lane Group Flow (vph)	214	13	32	1317	0	53	1022
Turn Type	Prot	Perm	Prot	NA		Prot	NA
Protected Phases	3		5	2		1	6
Permitted Phases		8					
Actuated Green, G (s)	19.5	30.4	8.7	64.5		6.7	62.5
Effective Green, g (s)	19.5	30.4	8.7	64.5		6.7	62.5
Actuated g/C Ratio	0.17	0.26	0.07	0.56		0.06	0.54
Clearance Time (s)	4.2	4.2	4.2	6.0		4.2	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	294	410	131	1942		101	1888
v/s Ratio Prot	c0.12		0.02	c0.38		0.03	c0.29
v/s Ratio Perm		c0.01					
v/c Ratio	0.73	0.03	0.24	0.68		0.52	0.54
Uniform Delay, d1	45.7	31.8	50.6	18.4		53.1	17.4
Progression Factor	1.00	1.00	0.66	0.46		1.19	0.50
Incremental Delay, d2	8.7	0.0	0.7	1.3		4.3	1.0
Delay (s)	54.4	31.9	34.1	9.8		67.7	9.8
Level of Service	D	C	C	A		E	A
Approach Delay (s)	50.3			10.4			12.6
Approach LOS	D			B			B

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	145	5	32	421	297	20	776	16	142	746	208
Future Volume (veh/h)	196	145	5	32	421	297	20	776	16	142	746	208
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	213	158	5	35	458	323	22	843	17	154	811	226
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	240	664	21	51	491	417	38	941	19	252	1089	303
Arrive On Green	0.14	0.37	0.37	0.03	0.27	0.27	0.02	0.27	0.27	0.05	0.13	0.13
Sat Flow, veh/h	1757	1778	56	1757	1845	1568	1757	3514	71	1757	2709	755
Grp Volume(v), veh/h	213	0	163	35	458	323	22	420	440	154	525	512
Grp Sat Flow(s),veh/h/ln	1757	0	1835	1757	1845	1568	1757	1752	1832	1757	1752	1711
Q Serve(g_s), s	13.8	0.0	7.1	2.3	28.1	14.7	1.4	26.8	26.8	10.0	33.4	33.4
Cycle Q Clear(g_c), s	13.8	0.0	7.1	2.3	28.1	14.7	1.4	26.8	26.8	10.0	33.4	33.4
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.04	1.00		0.44
Lane Grp Cap(c), veh/h	240	0	685	51	491	417	38	469	491	252	705	688
V/C Ratio(X)	0.89	0.00	0.24	0.68	0.93	0.77	0.57	0.90	0.90	0.61	0.74	0.74
Avail Cap(c_a), veh/h	254	0	685	100	509	433	76	518	542	252	705	688
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.83	0.83
Uniform Delay (d), s/veh	49.2	0.0	25.0	55.8	41.6	17.5	56.2	40.9	40.9	52.1	44.6	44.6
Incr Delay (d2), s/veh	28.2	0.0	0.2	14.9	24.0	8.3	12.7	22.3	21.6	3.6	5.9	6.0
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	0.0
%ile BackOfQ(50%),veh/ln	8.6	0.0	3.6	1.3	17.6	7.3	0.8	15.9	16.5	5.1	17.4	17.0
LnGrp Delay(d),s/veh	77.4	0.0	25.2	70.6	65.6	25.8	68.9	63.2	62.5	55.7	50.5	50.6
LnGrp LOS	E		C	E	E	C	E	E	E	E	D	D
Approach Vol, veh/h		376			816			882			1191	
Approach Delay, s/veh		54.7			50.0			63.0			51.2	
Approach LOS		D			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.3	36.8	7.6	49.3	6.7	52.3	20.1	36.9
Change Period (Y+Rc), s	5.7	* 5.7	* 4.2	6.0	* 4.2	5.7	* 4.2	6.0
Max Green Setting (Gmax), s	12.8	* 34	* 6.6	42.2	* 5	42.1	* 17	32.0
Max Q Clear Time (g_c+I1), s	12.0	28.8	4.3	9.1	3.4	35.4	15.8	30.1
Green Ext Time (p_c), s	0.0	2.3	0.0	0.8	0.0	3.2	0.1	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	54.5
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	114	33	44	65	25	34	607	50	34	574	20
Future Volume (veh/h)	31	114	33	44	65	25	34	607	50	34	574	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	34	124	36	48	71	27	37	660	54	37	624	22
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	64	180	52	82	180	68	68	770	63	68	832	29
Arrive On Green	0.04	0.13	0.13	0.05	0.14	0.14	0.04	0.46	0.46	0.04	0.47	0.47
Sat Flow, veh/h	1757	1375	399	1757	1274	485	1757	1683	138	1757	1771	62
Grp Volume(v), veh/h	34	0	160	48	0	98	37	0	714	37	0	646
Grp Sat Flow(s),veh/h/ln	1757	0	1774	1757	0	1759	1757	0	1820	1757	0	1834
Q Serve(g_s), s	1.1	0.0	5.0	1.6	0.0	2.9	1.2	0.0	20.3	1.2	0.0	16.7
Cycle Q Clear(g_c), s	1.1	0.0	5.0	1.6	0.0	2.9	1.2	0.0	20.3	1.2	0.0	16.7
Prop In Lane	1.00		0.22	1.00		0.28	1.00		0.08	1.00		0.03
Lane Grp Cap(c), veh/h	64	0	232	82	0	248	68	0	833	68	0	861
V/C Ratio(X)	0.53	0.00	0.69	0.59	0.00	0.39	0.54	0.00	0.86	0.54	0.00	0.75
Avail Cap(c_a), veh/h	155	0	723	158	0	720	155	0	1191	155	0	1199
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.4	0.0	24.0	27.1	0.0	22.6	27.3	0.0	14.0	27.3	0.0	12.6
Incr Delay (d2), s/veh	6.7	0.0	3.6	6.6	0.0	1.0	6.6	0.0	4.5	6.6	0.0	1.7
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	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.7	0.9	0.0	1.5	0.7	0.0	11.2	0.7	0.0	8.8
LnGrp Delay(d),s/veh	34.1	0.0	27.7	33.7	0.0	23.7	34.0	0.0	18.5	34.0	0.0	14.3
LnGrp LOS	C		C	C		C	C		B	C		B
Approach Vol, veh/h		194			146			751			683	
Approach Delay, s/veh		28.8			26.9			19.3			15.4	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	31.4	6.9	12.5	6.4	32.1	6.3	13.1
Change Period (Y+Rc), s	4.9	* 4.9	* 4.2	4.9	* 4.2	4.9	* 4.2	4.9
Max Green Setting (Gmax), s	5.1	* 38	* 5.2	23.6	* 5.1	37.9	* 5.1	23.7
Max Q Clear Time (g_c+I1), s	3.2	22.3	3.6	7.0	3.2	18.7	3.1	4.9
Green Ext Time (p_c), s	0.0	4.2	0.0	0.7	0.0	4.0	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	19.4
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	375	21	60	376	230	24	304	104	240	335	65
Future Volume (veh/h)	131	375	21	60	376	230	24	304	104	240	335	65
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	136	391	22	62	392	240	25	317	108	250	349	68
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	163	435	24	368	707	743	178	343	117	308	388	76
Arrive On Green	0.09	0.25	0.25	0.21	0.38	0.38	0.10	0.26	0.26	0.09	0.26	0.26
Sat Flow, veh/h	1757	1730	97	1757	1845	1568	1757	1317	449	3408	1501	292
Grp Volume(v), veh/h	136	0	413	62	392	240	25	0	425	250	0	417
Grp Sat Flow(s),veh/h/ln	1757	0	1827	1757	1845	1568	1757	0	1765	1704	0	1793
Q Serve(g_s), s	8.8	0.0	25.4	3.4	19.3	2.7	1.5	0.0	27.2	8.4	0.0	26.1
Cycle Q Clear(g_c), s	8.8	0.0	25.4	3.4	19.3	2.7	1.5	0.0	27.2	8.4	0.0	26.1
Prop In Lane	1.00		0.05	1.00		1.00	1.00		0.25	1.00		0.16
Lane Grp Cap(c), veh/h	163	0	459	368	707	743	178	0	459	308	0	464
V/C Ratio(X)	0.83	0.00	0.90	0.17	0.55	0.32	0.14	0.00	0.93	0.81	0.00	0.90
Avail Cap(c_a), veh/h	209	0	659	368	707	743	178	0	517	353	0	635
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.66	0.66	0.66	1.00	0.00	1.00	0.71	0.00	0.71
Uniform Delay (d), s/veh	51.7	0.0	42.0	37.6	28.0	7.8	47.5	0.0	41.8	51.8	0.0	41.5
Incr Delay (d2), s/veh	19.8	0.0	23.1	0.1	2.1	0.8	0.4	0.0	21.4	8.8	0.0	9.3
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	0.0
%ile BackOfQ(50%),veh/ln	5.2	0.0	15.7	1.7	10.2	3.0	0.7	0.0	15.9	4.3	0.0	14.1
LnGrp Delay(d),s/veh	71.5	0.0	65.1	37.7	30.1	8.6	47.9	0.0	63.2	60.6	0.0	50.8
LnGrp LOS	E		E	D	C	A	D		E	E		D
Approach Vol, veh/h		549			694			450			667	
Approach Delay, s/veh		66.7			23.3			62.3			54.5	
Approach LOS		E			C			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	36.2	30.0	35.2	15.9	34.9	15.0	50.2
Change Period (Y+Rc), s	4.2	* 6	5.7	* 6	4.2	* 4.9	* 4.2	5.7
Max Green Setting (Gmax), s	12.0	* 34	7.8	* 42	6.0	* 41	* 14	36.1
Max Q Clear Time (g_c+I1), s	10.4	29.2	5.4	27.4	3.5	28.1	10.8	21.3
Green Ext Time (p_c), s	0.1	1.0	0.0	1.8	0.0	2.0	0.1	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	49.7
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	564	105	130	540	433	93	706	56	547	1613	125
Future Volume (veh/h)	48	564	105	130	540	433	93	706	56	547	1613	125
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	52	613	114	141	587	471	101	767	61	595	1753	136
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	96	672	301	133	701	757	205	1328	105	497	2060	159
Arrive On Green	0.05	0.19	0.19	0.03	0.07	0.07	0.23	0.56	0.56	0.28	0.43	0.43
Sat Flow, veh/h	1757	3505	1568	1757	3505	1568	1757	4759	377	1757	4768	369
Grp Volume(v), veh/h	52	613	114	141	587	471	101	540	288	595	1233	656
Grp Sat Flow(s),veh/h/ln	1757	1752	1568	1757	1752	1568	1757	1679	1778	1757	1679	1780
Q Serve(g_s), s	3.3	19.9	5.4	8.8	19.2	14.8	5.8	12.2	12.3	32.8	38.3	38.4
Cycle Q Clear(g_c), s	3.3	19.9	5.4	8.8	19.2	14.8	5.8	12.2	12.3	32.8	38.3	38.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.21
Lane Grp Cap(c), veh/h	96	672	301	133	701	757	205	937	496	497	1450	769
V/C Ratio(X)	0.54	0.91	0.38	1.06	0.84	0.62	0.49	0.58	0.58	1.20	0.85	0.85
Avail Cap(c_a), veh/h	96	686	307	133	764	785	205	937	496	497	1583	839
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	0.86	0.86	0.86	0.62	0.62	0.62	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	45.9	22.0	56.5	52.3	11.3	41.5	21.2	21.2	41.6	29.6	29.6
Incr Delay (d2), s/veh	4.5	12.9	0.6	88.3	6.6	1.2	1.1	1.6	3.1	107.2	6.4	11.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	10.8	2.4	7.6	10.0	6.7	2.9	5.8	6.3	30.7	18.9	21.2
LnGrp Delay(d),s/veh	58.0	58.8	22.6	145.0	58.9	12.5	42.6	22.8	24.3	148.8	36.0	41.2
LnGrp LOS	E	E	C	F	E	B	D	C	C	F	D	D
Approach Vol, veh/h		779			1199			929			2484	
Approach Delay, s/veh		53.4			50.8			25.4			64.4	
Approach LOS		D			D			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.0	38.1	13.0	27.9	19.2	55.8	12.0	28.9
Change Period (Y+Rc), s	* 4.2	5.7	* 4.2	5.7	5.7	* 5.7	5.7	* 5.7
Max Green Setting (Gmax), s	* 33	31.9	* 8.8	22.7	10.0	* 55	6.2	* 25
Max Q Clear Time (g_c+I1), s	34.8	14.3	10.8	21.9	7.8	40.4	5.3	21.2
Green Ext Time (p_c), s	0.0	4.5	0.0	0.4	0.0	9.7	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	53.1
HCM 2010 LOS	D

Notes



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	693	410	207	758	334	110
Future Volume (vph)	693	410	207	758	334	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	4.2	5.7	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.97	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	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1529	1752	3505	1752	1568
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1529	1752	3505	1752	1568
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	753	446	225	824	363	120
RTOR Reduction (vph)	0	250	0	0	0	90
Lane Group Flow (vph)	753	196	225	824	363	30
Confl. Peds. (#/hr)		2				
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Actuated Green, G (s)	51.1	51.1	19.7	75.0	29.3	29.3
Effective Green, g (s)	51.1	51.1	19.7	75.0	29.3	29.3
Actuated g/C Ratio	0.44	0.44	0.17	0.65	0.25	0.25
Clearance Time (s)	5.7	5.7	4.2	5.7	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1544	673	297	2266	442	396
v/s Ratio Prot	c0.21		c0.13	0.24	c0.21	
v/s Ratio Perm		0.13				0.02
v/c Ratio	0.49	0.29	0.76	0.36	0.82	0.08
Uniform Delay, d1	23.1	20.8	45.9	9.5	40.9	33.0
Progression Factor	0.47	2.19	0.91	0.77	1.00	1.00
Incremental Delay, d2	0.1	0.1	7.9	0.3	11.6	0.1
Delay (s)	11.0	45.7	49.4	7.6	52.5	33.1
Level of Service	B	D	D	A	D	C
Approach Delay (s)	24.0			16.6	47.7	
Approach LOS	C			B	D	

Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	804	101	227	955	69	149
Future Volume (vph)	804	101	227	955	69	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7		4.2	5.7	5.7	5.7
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1817		1752	1845	1752	1568
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1817		1752	1845	1752	1568
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	874	110	247	1038	75	162
RTOR Reduction (vph)	3	0	0	0	0	145
Lane Group Flow (vph)	981	0	247	1038	75	17
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Actuated Green, G (s)	71.2		17.2	92.6	12.0	12.0
Effective Green, g (s)	71.2		17.2	92.6	12.0	12.0
Actuated g/C Ratio	0.61		0.15	0.80	0.10	0.10
Clearance Time (s)	5.7		4.2	5.7	5.7	5.7
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1115		259	1472	181	162
v/s Ratio Prot	c0.54		c0.14	0.56	c0.04	
v/s Ratio Perm						0.01
v/c Ratio	0.88		0.95	0.71	0.41	0.10
Uniform Delay, d1	18.8		49.0	5.4	48.7	47.1
Progression Factor	0.79		1.00	1.00	1.00	1.00
Incremental Delay, d2	9.4		43.0	2.9	1.5	0.3
Delay (s)	24.3		92.0	8.3	50.2	47.4
Level of Service	C		F	A	D	D
Approach Delay (s)	24.3			24.4	48.3	
Approach LOS	C			C	D	

Intersection Summary			
HCM 2000 Control Delay	26.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	66	169	864	9	88	1224
Future Volume (vph)	66	169	864	9	88	1224
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2		6.0	6.0	4.2	6.0
Lane Util. Factor	1.00		0.95	1.00	1.00	0.95
Frt	0.90		1.00	0.85	1.00	1.00
Flt Protected	0.99		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1642		3505	1568	1752	3505
Flt Permitted	0.99		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1642		3505	1568	1752	3505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	73	188	960	10	98	1360
RTOR Reduction (vph)	81	0	0	4	0	0
Lane Group Flow (vph)	180	0	960	6	98	1360
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	3		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	16.6		64.1	64.1	10.7	79.0
Effective Green, g (s)	16.6		64.1	64.1	10.7	79.0
Actuated g/C Ratio	0.14		0.55	0.55	0.09	0.68
Clearance Time (s)	4.2		6.0	6.0	4.2	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	234		1936	866	161	2387
v/s Ratio Prot	c0.11		0.27		0.06	c0.39
v/s Ratio Perm				0.00		
v/c Ratio	0.77		0.50	0.01	0.61	0.57
Uniform Delay, d1	47.8		16.0	11.7	50.6	9.6
Progression Factor	1.00		0.23	0.05	1.04	0.93
Incremental Delay, d2	14.0		0.8	0.0	5.0	0.8
Delay (s)	61.8		4.5	0.6	57.6	9.7
Level of Service	E		A	A	E	A
Approach Delay (s)	61.8		4.5			12.9
Approach LOS	E		A			B

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	122	85	56	112	77	77	668	130	611	1095	144
Future Volume (veh/h)	106	122	85	56	112	77	77	668	130	611	1095	144
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1900	1845	1845	1845
Adj Flow Rate, veh/h	123	142	99	65	130	90	90	777	151	710	1273	167
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	2	1
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	118	182	154	83	174	148	114	864	167	788	2106	942
Arrive On Green	0.07	0.10	0.10	0.05	0.09	0.09	0.02	0.07	0.07	0.15	0.20	0.20
Sat Flow, veh/h	1757	1845	1568	1757	1845	1568	1757	4240	817	1757	3505	1568
Grp Volume(v), veh/h	123	142	99	65	130	90	90	614	314	710	1273	167
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1757	1845	1568	1757	1679	1700	1757	1752	1568
Q Serve(g_s), s	7.8	8.7	5.9	4.2	8.0	2.5	5.9	21.1	21.3	46.1	38.4	10.3
Cycle Q Clear(g_c), s	7.8	8.7	5.9	4.2	8.0	2.5	5.9	21.1	21.3	46.1	38.4	10.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	118	182	154	83	174	148	114	684	346	788	2106	942
V/C Ratio(X)	1.04	0.78	0.64	0.78	0.75	0.61	0.79	0.90	0.91	0.90	0.60	0.18
Avail Cap(c_a), veh/h	118	369	314	106	356	303	138	692	350	788	2106	942
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88	0.51	0.51	0.51
Uniform Delay (d), s/veh	54.1	51.1	34.7	54.7	51.2	7.8	56.0	52.9	53.0	46.9	33.9	22.7
Incr Delay (d2), s/veh	94.3	7.1	4.4	24.6	6.3	4.0	20.0	15.2	27.0	7.6	0.7	0.2
Initial Q Delay(d3),s/veh	0.5	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	6.9	4.8	2.7	2.6	4.3	1.2	3.5	11.3	12.6	24.1	18.9	4.5
LnGrp Delay(d),s/veh	148.9	58.2	39.1	79.2	57.5	11.8	76.0	68.1	80.0	54.5	34.6	22.9
LnGrp LOS	F	E	D	E	E	B	E	E	F	D	C	C
Approach Vol, veh/h		364			285			1018			2150	
Approach Delay, s/veh		83.7			48.1			72.5			40.3	
Approach LOS		F			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	57.8	29.3	11.5	17.4	11.7	75.4	12.0	16.9
Change Period (Y+Rc), s	5.7	* 5.7	6.0	* 6	* 4.2	5.7	* 4.2	6.0
Max Green Setting (Gmax), s	41.8	* 24	7.0	* 23	* 9.1	56.6	* 7.8	22.4
Max Q Clear Time (g_c+I1), s	48.1	23.3	6.2	10.7	7.9	40.4	9.8	10.0
Green Ext Time (p_c), s	0.0	0.3	0.0	0.7	0.0	8.1	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	53.6
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	346	324	68	14	137	53	225	65	109	305	168
Future Volume (veh/h)	97	346	324	68	14	137	53	225	65	109	305	168
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	108	384	360	76	16	152	59	250	72	121	339	187
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
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	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	352	506	430	108	250	213	94	338	287	154	460	391
Arrive On Green	0.20	0.27	0.27	0.06	0.14	0.14	0.05	0.18	0.18	0.09	0.25	0.25
Sat Flow, veh/h	1757	1845	1568	1757	1845	1568	1757	1845	1568	1757	1845	1568
Grp Volume(v), veh/h	108	384	360	76	16	152	59	250	72	121	339	187
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1757	1845	1568	1757	1845	1568	1757	1845	1568
Q Serve(g_s), s	3.0	10.8	8.3	2.4	0.4	5.2	1.9	7.2	2.2	3.8	9.5	2.8
Cycle Q Clear(g_c), s	3.0	10.8	8.3	2.4	0.4	5.2	1.9	7.2	2.2	3.8	9.5	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	352	506	430	108	250	213	94	338	287	154	460	391
V/C Ratio(X)	0.31	0.76	0.84	0.70	0.06	0.71	0.63	0.74	0.25	0.79	0.74	0.48
Avail Cap(c_a), veh/h	352	849	722	156	761	647	156	722	614	202	771	655
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	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	1.00
Uniform Delay (d), s/veh	19.2	18.8	8.9	26.0	21.3	23.4	26.2	21.8	19.7	25.2	19.5	4.4
Incr Delay (d2), s/veh	0.5	2.4	4.4	8.0	0.1	4.4	6.7	3.2	0.5	13.8	2.3	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	0.0
%ile BackOfQ(50%),veh/ln	1.5	5.8	4.5	1.4	0.2	2.5	1.1	4.0	1.0	2.4	5.1	2.2
LnGrp Delay(d),s/veh	19.7	21.2	13.2	34.0	21.4	27.8	32.9	25.0	20.2	39.1	21.8	5.3
LnGrp LOS	B	C	B	C	C	C	C	C	C	D	C	A
Approach Vol, veh/h		852			244			381			647	
Approach Delay, s/veh		17.6			29.3			25.3			20.3	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	16.3	7.7	21.5	7.2	20.1	15.5	13.7
Change Period (Y+Rc), s	6.0	* 6	4.2	* 6	* 4.2	6.0	4.2	* 6
Max Green Setting (Gmax), s	6.5	* 22	5.0	* 26	* 5	23.6	7.7	* 23
Max Q Clear Time (g_c+I1), s	5.8	9.2	4.4	12.8	3.9	11.5	5.0	7.2
Green Ext Time (p_c), s	0.0	1.1	0.0	2.7	0.0	1.8	0.1	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	21.1
HCM 2010 LOS	C

Notes



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	84	93	9	781	90	245	1029
Future Volume (vph)	84	93	9	781	90	245	1029
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.7	4.2	6.0	6.0	4.2	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	1568	1752	3505	1531	1752	3505
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	1568	1752	3505	1531	1752	3505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	93	103	10	868	100	272	1143
RTOR Reduction (vph)	0	80	0	0	54	0	0
Lane Group Flow (vph)	93	23	10	868	46	272	1143
Confl. Peds. (#/hr)					2		
Turn Type	Prot	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	3		5	2		1	6
Permitted Phases		8			2		
Actuated Green, G (s)	9.7	26.0	1.0	53.0	53.0	21.1	73.1
Effective Green, g (s)	9.7	26.0	1.0	53.0	53.0	21.1	73.1
Actuated g/C Ratio	0.08	0.22	0.01	0.46	0.46	0.18	0.63
Clearance Time (s)	4.2	5.7	4.2	6.0	6.0	4.2	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	146	351	15	1601	699	318	2208
v/s Ratio Prot	c0.05		c0.01	c0.25		c0.16	0.33
v/s Ratio Perm		c0.01			0.03		
v/c Ratio	0.64	0.07	0.67	0.54	0.07	0.86	0.52
Uniform Delay, d1	51.4	35.4	57.3	22.7	17.6	46.0	11.8
Progression Factor	1.00	1.00	0.53	0.36	0.43	1.02	1.30
Incremental Delay, d2	8.8	0.1	68.8	1.2	0.2	16.9	0.7
Delay (s)	60.2	35.5	98.9	9.4	7.8	63.8	16.1
Level of Service	E	D	F	A	A	E	B
Approach Delay (s)	47.2			10.2			25.2
Approach LOS	D			B			C

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	110	199	58	37	146	104	23	215	44	214	389
Future Volume (vph)	1	110	199	58	37	146	104	23	215	44	214	389
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	5.7		4.2	5.7	5.7	4.2	6.0		4.2	6.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	0.95
Frpb, ped/bikes		1.00	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	1.00
Frt		1.00	0.97		1.00	1.00	0.85	1.00	0.97		1.00	1.00
Flt Protected		0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)		1752	1777		1752	1845	1568	1752	1798		1752	3505
Flt Permitted		0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)		1752	1777		1752	1845	1568	1752	1798		1752	3505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1	122	221	64	41	162	116	26	239	49	238	432
RTOR Reduction (vph)	0	0	11	0	0	0	97	0	8	0	0	0
Lane Group Flow (vph)	0	123	274	0	41	162	19	26	280	0	238	432
Confl. Peds. (#/hr)				2								
Turn Type	Prot	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA
Protected Phases	7	7	4		3	8		5	2		1	6
Permitted Phases							8					
Actuated Green, G (s)		11.2	20.7		3.5	13.0	13.0	5.1	20.1		13.7	28.7
Effective Green, g (s)		11.2	20.7		3.5	13.0	13.0	5.1	20.1		13.7	28.7
Actuated g/C Ratio		0.14	0.27		0.04	0.17	0.17	0.07	0.26		0.18	0.37
Clearance Time (s)		4.2	5.7		4.2	5.7	5.7	4.2	6.0		4.2	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		251	470		78	307	260	114	462		307	1288
v/s Ratio Prot		0.07	c0.15		0.02	c0.09		0.01	c0.16		c0.14	0.12
v/s Ratio Perm							0.01					
v/c Ratio		0.49	0.58		0.53	0.53	0.07	0.23	0.61		0.78	0.34
Uniform Delay, d1		30.8	24.9		36.5	29.7	27.5	34.6	25.5		30.7	17.8
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		1.5	1.8		6.3	1.6	0.1	1.0	2.2		11.6	0.2
Delay (s)		32.3	26.8		42.7	31.4	27.6	35.7	27.8		42.3	18.0
Level of Service		C	C		D	C	C	D	C		D	B
Approach Delay (s)			28.5			31.5			28.4			25.7
Approach LOS			C			C			C			C

Intersection Summary			
HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	78.1	Sum of lost time (s)	20.1
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	57
Future Volume (vph)	57
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1544
Flt Permitted	1.00
Satd. Flow (perm)	1544
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	63
RTOR Reduction (vph)	40
Lane Group Flow (vph)	23
Confl. Peds. (#/hr)	4
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	28.7
Effective Green, g (s)	28.7
Actuated g/C Ratio	0.37
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	567
v/s Ratio Prot	
v/s Ratio Perm	0.01
v/c Ratio	0.04
Uniform Delay, d1	15.9
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	15.9
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	178	54	98	171	148	59	513	145	162	552	49
Future Volume (veh/h)	34	178	54	98	171	148	59	513	145	162	552	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	37	193	59	107	186	161	64	558	158	176	600	53
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	63	287	88	136	218	189	121	620	527	213	657	58
Arrive On Green	0.04	0.21	0.21	0.08	0.24	0.24	0.07	0.34	0.34	0.12	0.39	0.39
Sat Flow, veh/h	1757	1357	415	1757	914	791	1757	1845	1568	1757	1671	148
Grp Volume(v), veh/h	37	0	252	107	0	347	64	558	158	176	0	653
Grp Sat Flow(s),veh/h/ln	1757	0	1771	1757	0	1705	1757	1845	1568	1757	0	1819
Q Serve(g_s), s	1.6	0.0	10.0	4.6	0.0	14.9	2.7	22.0	4.0	7.5	0.0	26.0
Cycle Q Clear(g_c), s	1.6	0.0	10.0	4.6	0.0	14.9	2.7	22.0	4.0	7.5	0.0	26.0
Prop In Lane	1.00		0.23	1.00		0.46	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	63	0	375	136	0	407	121	620	527	213	0	715
V/C Ratio(X)	0.59	0.00	0.67	0.79	0.00	0.85	0.53	0.90	0.30	0.83	0.00	0.91
Avail Cap(c_a), veh/h	117	0	582	156	0	607	121	693	589	230	0	807
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.3	0.0	27.7	34.6	0.0	27.8	34.3	24.2	9.1	32.8	0.0	21.9
Incr Delay (d2), s/veh	8.6	0.0	2.1	20.6	0.0	7.5	4.2	13.9	0.3	20.1	0.0	13.7
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	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	5.1	3.0	0.0	7.8	1.4	13.6	2.2	4.8	0.0	15.6
LnGrp Delay(d),s/veh	44.9	0.0	29.8	55.2	0.0	35.3	38.5	38.1	9.4	52.9	0.0	35.6
LnGrp LOS	D		C	E		D	D	D	A	D		D
Approach Vol, veh/h		289			454			780			829	
Approach Delay, s/veh		31.7			40.0			32.3			39.3	
Approach LOS		C			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	31.0	10.1	21.9	9.5	34.9	8.4	23.5
Change Period (Y+Rc), s	4.2	* 5.3	* 4.2	5.7	4.2	* 4.9	5.7	* 5.3
Max Green Setting (Gmax), s	10.0	* 29	* 6.8	25.1	5.2	* 34	5.1	* 27
Max Q Clear Time (g_c+I1), s	9.5	24.0	6.6	12.0	4.7	28.0	3.6	16.9
Green Ext Time (p_c), s	0.0	1.7	0.0	1.0	0.0	2.1	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	36.2
HCM 2010 LOS	D

Notes



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	108	23	15	962	26	114	1072
Future Volume (vph)	108	23	15	962	26	114	1072
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.5	4.2	6.0		4.2	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	1.00	1.00		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	1568	1752	3491		1752	3505
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	1568	1752	3491		1752	3505
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	25	16	1046	28	124	1165
RTOR Reduction (vph)	0	20	0	1	0	0	0
Lane Group Flow (vph)	117	5	16	1073	0	124	1165
Turn Type	Prot	Perm	Prot	NA		Prot	NA
Protected Phases	3		5	2		1	6
Permitted Phases		8					
Actuated Green, G (s)	12.0	22.6	4.3	66.3		12.4	74.4
Effective Green, g (s)	12.0	22.6	4.3	66.3		12.4	74.4
Actuated g/C Ratio	0.10	0.19	0.04	0.57		0.11	0.64
Clearance Time (s)	4.2	4.5	4.2	6.0		4.2	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	181	305	64	1995		187	2248
v/s Ratio Prot	c0.07		0.01	c0.31		c0.07	0.33
v/s Ratio Perm		c0.00					
v/c Ratio	0.65	0.02	0.25	0.54		0.66	0.52
Uniform Delay, d1	50.0	37.7	54.3	15.4		49.8	11.2
Progression Factor	1.00	1.00	0.74	0.40		0.87	1.43
Incremental Delay, d2	7.7	0.0	1.8	0.9		7.7	0.8
Delay (s)	57.7	37.7	41.9	7.1		51.2	16.8
Level of Service	E	D	D	A		D	B
Approach Delay (s)	54.2			7.6			20.1
Approach LOS	D			A			C

Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	160	17	11	125	131	22	668	20	354	596	182
Future Volume (veh/h)	108	160	17	11	125	131	22	668	20	354	596	182
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	114	168	18	12	132	138	23	703	21	373	627	192
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	139	288	31	24	204	173	626	1432	43	395	707	216
Arrive On Green	0.08	0.18	0.18	0.01	0.11	0.11	0.36	0.41	0.41	0.45	0.53	0.53
Sat Flow, veh/h	1757	1638	176	1757	1845	1568	1757	3475	104	1757	2645	809
Grp Volume(v), veh/h	114	0	186	12	132	138	23	354	370	373	415	404
Grp Sat Flow(s),veh/h/ln	1757	0	1814	1757	1845	1568	1757	1752	1826	1757	1752	1702
Q Serve(g_s), s	7.4	0.0	10.9	0.8	8.0	10.0	1.0	17.3	17.3	23.6	24.3	24.4
Cycle Q Clear(g_c), s	7.4	0.0	10.9	0.8	8.0	10.0	1.0	17.3	17.3	23.6	24.3	24.4
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.06	1.00		0.48
Lane Grp Cap(c), veh/h	139	0	319	24	204	173	626	722	753	395	469	455
V/C Ratio(X)	0.82	0.00	0.58	0.49	0.65	0.80	0.04	0.49	0.49	0.94	0.89	0.89
Avail Cap(c_a), veh/h	170	0	519	76	429	365	626	722	753	459	784	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	52.6	0.0	43.9	56.8	49.4	50.3	24.3	25.1	25.1	31.2	25.4	25.4
Incr Delay (d2), s/veh	22.1	0.0	1.7	14.7	3.4	8.1	0.0	2.4	2.3	24.2	18.8	19.5
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	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	5.6	0.5	4.3	4.7	0.5	8.8	9.2	13.8	14.0	13.7
LnGrp Delay(d),s/veh	74.7	0.0	45.6	71.5	52.9	58.4	24.4	27.5	27.4	55.4	44.2	44.9
LnGrp LOS	E		D	E	D	E	C	C	C	E	D	D
Approach Vol, veh/h		300			282			747			1192	
Approach Delay, s/veh		56.6			56.4			27.4			48.0	
Approach LOS		E			E			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.3	53.5	5.8	26.4	47.1	36.7	13.4	18.8
Change Period (Y+Rc), s	* 4.2	5.7	* 4.2	6.0	5.7	* 5.7	* 4.2	6.0
Max Green Setting (Gmax), s	* 30	27.4	* 5	33.2	5.8	* 52	* 11	27.0
Max Q Clear Time (g_c+I1), s	25.6	19.3	2.8	12.9	3.0	26.4	9.4	12.0
Green Ext Time (p_c), s	0.5	2.5	0.0	0.8	0.0	4.6	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	43.8
HCM 2010 LOS	D

Notes

Intersection: 1: Grantland Avenue & Barstow Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	99	313	158	138	55	420	31	455
Average Queue (ft)	38	128	65	47	29	236	14	208
95th Queue (ft)	77	232	129	97	58	385	36	339
Link Distance (ft)		646		2480		2584		2566
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	250		250		280		250	
Storage Blk Time (%)		1				5		4
Queuing Penalty (veh)		1				1		1

Intersection: 2: Garfield Avenue & Shaw Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	74	23	55	115
Average Queue (ft)	17	1	28	42
95th Queue (ft)	54	8	55	75
Link Distance (ft)	2578	2609	2466	2553
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Grantland Avenue & Shaw Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	L	TR
Maximum Queue (ft)	424	562	160	355	184	254	472	123	469	562
Average Queue (ft)	133	275	61	163	47	80	240	56	124	310
95th Queue (ft)	289	461	128	317	121	225	413	105	333	497
Link Distance (ft)		2609		1169	1169		1623			2584
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	325		325			175		350	350	
Storage Blk Time (%)		8		1			25			8
Queuing Penalty (veh)		10		1			12			13

Intersection: 4: Veterans Boulevard & Shaw Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	T	T	TR
Maximum Queue (ft)	32	206	218	75	90	334	334	176	74	380	380	440
Average Queue (ft)	10	110	138	17	36	196	181	82	20	153	185	197
95th Queue (ft)	29	166	206	47	76	314	283	157	54	307	320	351
Link Distance (ft)		1169	1169			1241	1241			2550	2550	2550
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			250	250			250	250			
Storage Blk Time (%)						5	0			3		
Queuing Penalty (veh)						3	2			2		

Intersection: 4: Veterans Boulevard & Shaw Avenue

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (ft)	370	470	431	203
Average Queue (ft)	244	188	137	68
95th Queue (ft)	374	360	292	151
Link Distance (ft)		2755	2755	2755
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	250			
Storage Blk Time (%)	11	1		
Queuing Penalty (veh)	37	4		

Intersection: 5: Bryan Avenue & Shaw Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	T	R	L	T	T	L	R
Maximum Queue (ft)	187	152	90	249	228	223	354	507
Average Queue (ft)	118	82	48	134	81	113	206	101
95th Queue (ft)	174	154	79	225	182	213	369	369
Link Distance (ft)	1241	1241			1225	1225		2553
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			250	250			275	
Storage Blk Time (%)				0			9	
Queuing Penalty (veh)				1			17	

Intersection: 6: Hayes Avenue & Shaw Avenue

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	682	205	246	118	246
Average Queue (ft)	251	98	117	54	109
95th Queue (ft)	560	172	228	106	198
Link Distance (ft)	1276		1198	1536	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		250			250
Storage Blk Time (%)			0		0
Queuing Penalty (veh)			0		0

Intersection: 7: Grantland Avenue & Stadium Drive

Movement	WB	NB	NB	NB	B21	B21	SB	SB	SB
Directions Served	LR	T	T	R	T	T	L	T	T
Maximum Queue (ft)	489	740	796	26	348	360	369	399	279
Average Queue (ft)	172	157	175	7	12	12	181	90	45
95th Queue (ft)	348	442	472	25	115	118	315	273	162
Link Distance (ft)	1241	909	909		378	378		1001	1001
Upstream Blk Time (%)						0			
Queuing Penalty (veh)						0			
Storage Bay Dist (ft)				530			250		
Storage Blk Time (%)			1				5	1	
Queuing Penalty (veh)			0				22	2	

Intersection: 8: Grantland Avenue & Gettysburg Avenue & Veterans Boulevard

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	TR	L	T
Maximum Queue (ft)	113	289	24	205	51	222	370	520	460	380	360	297
Average Queue (ft)	60	123	10	117	18	93	213	197	190	222	208	182
95th Queue (ft)	107	231	27	199	49	182	375	417	370	400	329	310
Link Distance (ft)		811			931			1001	1001	1001		2550
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		250	250		250	250				250	
Storage Blk Time (%)		2					8	2			9	4
Queuing Penalty (veh)		1					25	6			30	11

Intersection: 8: Grantland Avenue & Gettysburg Avenue & Veterans Boulevard

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	345	72
Average Queue (ft)	166	21
95th Queue (ft)	284	48
Link Distance (ft)	2550	2550
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Bryan Avenue & Gettysburg Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	139	324	136	130	129	87	200	216	58	107	133	86
Average Queue (ft)	45	129	55	48	48	39	118	99	15	36	51	22
95th Queue (ft)	100	248	107	105	96	74	194	186	39	77	116	52
Link Distance (ft)	1296	1296			2521			2516			2553	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			250	250		250	250		250	150		250
Storage Blk Time (%)		1									0	
Queuing Penalty (veh)		3									0	

Intersection: 11: Grantland Avenue & Ashlan Avenue

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	U	T	T	R	L	T	T
Maximum Queue (ft)	204	89	53	420	428	370	290	372	394
Average Queue (ft)	87	49	16	210	231	77	146	112	78
95th Queue (ft)	163	76	42	425	452	293	254	269	209
Link Distance (ft)	2576	2576		2627	2627			378	378
Upstream Blk Time (%)								0	0
Queuing Penalty (veh)								0	1
Storage Bay Dist (ft)			250			250	250		
Storage Blk Time (%)				10	13		2	1	
Queuing Penalty (veh)				2	15		9	2	

Intersection: 12: Bryan Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB	SB
Directions Served	UL	TR	L	T	R	L	TR	L	T	T	R
Maximum Queue (ft)	171	282	73	262	142	185	120	161	113	77	73
Average Queue (ft)	77	116	23	118	58	88	71	97	52	9	40
95th Queue (ft)	140	232	51	206	104	147	116	150	91	39	68
Link Distance (ft)		2576		407			1002		2516	2516	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250		250		250	250		150			150
Storage Blk Time (%)		1		0				2			
Queuing Penalty (veh)		1		1				2			

Intersection: 13: Hayes Avenue & Ashlan Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	194	202	76	116
Average Queue (ft)	76	96	44	52
95th Queue (ft)	135	171	69	84
Link Distance (ft)	1469	2575	2608	565
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Polk Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	TR
Maximum Queue (ft)	174	528	68	453	149	470	370	181	267
Average Queue (ft)	39	209	19	147	18	240	98	91	151
95th Queue (ft)	109	366	49	305	67	392	257	153	236
Link Distance (ft)		2575		2097		1100			1271
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	100		125		75		250	275	
Storage Blk Time (%)	1	33		10		48			0
Queuing Penalty (veh)	6	11		3		94			0

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	UL	L	T	R	L	T	T	R	L
Maximum Queue (ft)	74	207	260	385	495	2526	2525	94	137	228	170	247
Average Queue (ft)	23	129	139	357	438	1485	751	43	41	44	93	122
95th Queue (ft)	58	196	227	467	658	2937	2352	83	79	127	158	210
Link Distance (ft)		352	352			2511	2511		323	323		
Upstream Blk Time (%)						18	6					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)	250			275	275			100			80	150
Storage Blk Time (%)				86	17			0		2	13	7
Queuing Penalty (veh)				180	35			0		6	7	7

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	189	90
Average Queue (ft)	83	24
95th Queue (ft)	155	68
Link Distance (ft)	2602	2602
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	1	
Queuing Penalty (veh)	3	

Intersection: 16: Grantland Avenue & Dakota Avenue

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	U	T	TR	L	T	T
Maximum Queue (ft)	339	77	112	436	414	118	452	445
Average Queue (ft)	141	30	28	161	184	44	120	127
95th Queue (ft)	248	66	70	351	352	100	317	321
Link Distance (ft)		1218		2592	2592		2627	2627
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	250		250			150		
Storage Blk Time (%)	2			4			4	
Queuing Penalty (veh)	1			1			2	

Intersection: 17: Grantland Avenue & Shields Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	254	224	90	347	361	369	401	378	225	422	456
Average Queue (ft)	139	76	30	236	101	32	225	220	99	162	202
95th Queue (ft)	219	160	74	347	204	143	338	326	167	350	397
Link Distance (ft)		2583		2562			1249	1249		2592	2592
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250		250		250	250			250		
Storage Blk Time (%)	2			10			6			4	
Queuing Penalty (veh)	2			33			1			6	

Network Summary

Network wide Queuing Penalty: 640

Intersection: 1: Grantland Avenue & Barstow Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	54	196	74	96	71	362	53	281
Average Queue (ft)	19	78	33	42	23	178	24	156
95th Queue (ft)	47	140	69	89	54	324	51	251
Link Distance (ft)		646		2480		2584		2566
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	250		250		280		250	
Storage Blk Time (%)						2		1
Queuing Penalty (veh)						1		0

Intersection: 2: Garfield Avenue & Shaw Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	138	26	31	74
Average Queue (ft)	19	3	18	40
95th Queue (ft)	70	18	43	70
Link Distance (ft)	2578	2609	2466	2553
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Grantland Avenue & Shaw Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	L	TR
Maximum Queue (ft)	424	435	73	412	182	254	472	114	193	404
Average Queue (ft)	126	198	39	153	53	37	245	60	97	209
95th Queue (ft)	243	341	74	306	134	139	398	104	151	366
Link Distance (ft)		2609		1172	1172		1599			2584
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	325		325			175		350	350	
Storage Blk Time (%)		1		1			24			1
Queuing Penalty (veh)		2		1			6			3

Intersection: 4: Veterans Boulevard & Shaw Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	T	T	TR
Maximum Queue (ft)	76	299	322	111	172	238	207	221	116	132	171	148
Average Queue (ft)	30	136	157	40	84	146	129	93	40	37	58	60
95th Queue (ft)	69	220	253	81	139	221	199	169	94	90	132	134
Link Distance (ft)		1172	1172			1238	1238			2545	2545	2545
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			250	250			250	250			
Storage Blk Time (%)		1	0			0						
Queuing Penalty (veh)		0	0			0						

Intersection: 4: Veterans Boulevard & Shaw Avenue

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (ft)	370	2090	2103	1965
Average Queue (ft)	349	1056	974	595
95th Queue (ft)	429	2167	2156	1580
Link Distance (ft)		2764	2764	2764
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	250			
Storage Blk Time (%)	53	4		
Queuing Penalty (veh)	284	22		

Intersection: 5: Bryan Avenue & Shaw Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	T	R	L	T	T	L	R
Maximum Queue (ft)	231	235	156	320	140	169	347	320
Average Queue (ft)	85	42	50	149	50	79	194	28
95th Queue (ft)	180	134	109	246	108	152	297	120
Link Distance (ft)	1238	1238			1224	1224		2553
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			250	250			275	
Storage Blk Time (%)		0		1			3	
Queuing Penalty (veh)		0		2			3	

Intersection: 6: Hayes Avenue & Shaw Avenue

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	606	285	322	158	208
Average Queue (ft)	214	175	152	65	98
95th Queue (ft)	431	269	304	118	174
Link Distance (ft)	1277		1198	1536	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		250			250
Storage Blk Time (%)		1	1		
Queuing Penalty (veh)		7	3		

Intersection: 7: Grantland Avenue & Stadium Drive

Movement	WB	NB	NB	NB	SB	SB	SB
Directions Served	LR	T	T	R	L	T	T
Maximum Queue (ft)	248	182	193	24	181	349	331
Average Queue (ft)	129	37	46	1	79	141	143
95th Queue (ft)	230	114	126	8	153	300	297
Link Distance (ft)	1242	909	909			1000	1000
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)				530	250		
Storage Blk Time (%)						2	
Queuing Penalty (veh)						2	

Intersection: 8: Grantland Avenue & Gettysburg Avenue & Veterans Boulevard

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	TR	L	T
Maximum Queue (ft)	200	172	103	135	112	66	201	217	232	265	370	1386
Average Queue (ft)	89	83	37	48	59	22	61	133	153	188	345	570
95th Queue (ft)	174	163	77	98	111	43	123	214	230	284	427	1120
Link Distance (ft)		831			928			1000	1000	1000		2545
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		250	250		250	250				250	
Storage Blk Time (%)											46	3
Queuing Penalty (veh)											253	21

Intersection: 8: Grantland Avenue & Gettysburg Avenue & Veterans Boulevard

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	1020	997
Average Queue (ft)	392	58
95th Queue (ft)	831	347
Link Distance (ft)	2545	2545
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Bryan Avenue & Gettysburg Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	157	247	136	113	23	88	115	220	62	111	219	87
Average Queue (ft)	62	140	72	51	8	24	38	82	20	51	93	27
95th Queue (ft)	128	223	112	97	25	56	78	173	48	100	175	58
Link Distance (ft)	1296	1296			2521			2516			2553	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			250	250		250	250		250	150		250
Storage Blk Time (%)		0									2	
Queuing Penalty (veh)		1									5	

Intersection: 11: Grantland Avenue & Ashlan Avenue

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	U	T	T	R	L	T	T
Maximum Queue (ft)	177	53	53	218	243	54	233	368	353
Average Queue (ft)	68	23	12	69	84	12	137	116	99
95th Queue (ft)	131	46	40	183	215	37	212	266	248
Link Distance (ft)	2576	2576		2627	2627			370	370
Upstream Blk Time (%)								0	0
Queuing Penalty (veh)								0	0
Storage Bay Dist (ft)			250			250	250		
Storage Blk Time (%)					0		0	2	
Queuing Penalty (veh)					0		0	5	

Intersection: 12: Bryan Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB	SB
Directions Served	UL	TR	L	T	R	L	TR	L	T	T	R
Maximum Queue (ft)	133	191	52	115	76	30	197	224	221	186	49
Average Queue (ft)	49	78	18	54	35	9	106	98	109	47	14
95th Queue (ft)	104	163	45	107	66	30	173	164	184	127	37
Link Distance (ft)		2576		403			1003		2516	2516	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250		250		250	250		150			150
Storage Blk Time (%)								2	2	0	
Queuing Penalty (veh)								4	5	0	

Intersection: 13: Hayes Avenue & Ashlan Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	127	120	138	110
Average Queue (ft)	65	45	48	46
95th Queue (ft)	106	85	86	79
Link Distance (ft)	1469	2575	2608	565
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Polk Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	TR
Maximum Queue (ft)	174	217	220	241	150	422	370	200	444
Average Queue (ft)	32	88	52	119	60	234	54	110	214
95th Queue (ft)	85	160	117	215	141	362	155	180	347
Link Distance (ft)		2575		2097		1100			1271
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	100		125		75		250	275	
Storage Blk Time (%)		7		11	2	43			3
Queuing Penalty (veh)		2		11	11	88			4

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	UL	L	T	R	L	T	T	R	L
Maximum Queue (ft)	54	188	221	385	495	2563	2563	98	73	72	133	250
Average Queue (ft)	22	107	117	352	436	1886	1593	49	44	36	65	135
95th Queue (ft)	52	176	202	498	677	3406	3462	89	73	64	107	238
Link Distance (ft)		352	352			2511	2511		323	323		
Upstream Blk Time (%)						56	22					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)	250			275	275			100			80	150
Storage Blk Time (%)				88	26	1		1		0	3	15
Queuing Penalty (veh)				363	108	4		1		0	3	11

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	370	56
Average Queue (ft)	96	19
95th Queue (ft)	243	50
Link Distance (ft)	2602	2602
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	1	

Intersection: 16: Grantland Avenue & Dakota Avenue

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	U	T	TR	L	T	T
Maximum Queue (ft)	161	50	53	237	285	269	614	586
Average Queue (ft)	67	14	13	61	76	80	137	155
95th Queue (ft)	126	40	39	158	176	156	377	415
Link Distance (ft)		1215		2592	2592		2627	2627
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	250		250			150		
Storage Blk Time (%)				0		1	6	
Queuing Penalty (veh)				0		3	7	

Intersection: 17: Grantland Avenue & Shields Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	147	248	51	224	75	53	291	290	369	495	297
Average Queue (ft)	76	100	7	102	38	17	171	172	216	146	154
95th Queue (ft)	128	176	30	175	64	47	258	263	372	343	267
Link Distance (ft)		2583		2562			2576	2576		2592	2592
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250		250		250	250			250		
Storage Blk Time (%)		0					1		11	0	
Queuing Penalty (veh)		0					0		32	0	

Network Summary

Network wide Queuing Penalty: 1282

Appendix L: Cumulative Year 2035 plus Project (Buildout)Traffic Conditions

Intersection	
Int Delay, s/veh	234.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	242	59	87	48	25	29	673	37	14	576	21
Future Vol, veh/h	57	242	59	87	48	25	29	673	37	14	576	21
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	280	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	62	263	64	95	52	27	32	732	40	15	626	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1524	1504	638	1647	1495	752	649	0	0	772	0	0
Stage 1	668	668	-	816	816	-	-	-	-	-	-	-
Stage 2	856	836	-	831	679	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	96	~ 121	475	~ 79	122	409	932	-	-	839	-	-
Stage 1	446	455	-	369	389	-	-	-	-	-	-	-
Stage 2	351	381	-	362	450	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 56	~ 115	475	-	116	409	932	-	-	839	-	-
Mov Cap-2 Maneuver	~ 56	~ 115	-	-	116	-	-	-	-	-	-	-
Stage 1	431	447	-	356	376	-	-	-	-	-	-	-
Stage 2	273	368	-	127	442	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	1223.6		0.4	0.2
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	932	-	-	110	-	839	-	-
HCM Lane V/C Ratio	0.034	-	-	3.538	-	0.018	-	-
HCM Control Delay (s)	9	-	-	$ 1223.6	-	9.4	-	-
HCM Lane LOS	A	-	-	F	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	38.7	-	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	57	454	3	4	383	27	15	30	6	45	9	79
Future Vol, veh/h	57	454	3	4	383	27	15	30	6	45	9	79
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	62	493	3	4	416	29	16	33	7	49	10	86

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	445	0	0	496	0	0	1106	1072	495	1078	1059	431
Stage 1	-	-	-	-	-	-	619	619	-	439	439	-
Stage 2	-	-	-	-	-	-	487	453	-	639	620	-
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	1110	-	-	1063	-	-	187	220	573	195	223	622
Stage 1	-	-	-	-	-	-	474	479	-	595	576	-
Stage 2	-	-	-	-	-	-	560	568	-	463	478	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1110	-	-	1063	-	-	146	202	573	159	205	622
Mov Cap-2 Maneuver	-	-	-	-	-	-	146	202	-	159	205	-
Stage 1	-	-	-	-	-	-	438	442	-	549	573	-
Stage 2	-	-	-	-	-	-	472	565	-	391	441	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.1	30.6	28.7
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	195	1110	-	-	1063	-	-	293
HCM Lane V/C Ratio	0.284	0.056	-	-	0.004	-	-	0.493
HCM Control Delay (s)	30.6	8.4	0	-	8.4	0	-	28.7
HCM Lane LOS	D	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	1.1	0.2	-	-	0	-	-	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	359	53	92	292	219	49	393	89	177	504	100
Future Volume (veh/h)	127	359	53	92	292	219	49	393	89	177	504	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	138	390	58	100	317	238	53	427	97	192	548	109
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	627	979	146	124	318	238	68	437	99	217	566	113
Arrive On Green	0.36	0.62	0.62	0.07	0.32	0.32	0.04	0.30	0.30	0.12	0.38	0.38
Sat Flow, veh/h	1757	1570	233	1757	979	735	1757	1456	331	1757	1495	297
Grp Volume(v), veh/h	138	0	448	100	0	555	53	0	524	192	0	657
Grp Sat Flow(s),veh/h/ln	1757	0	1803	1757	0	1715	1757	0	1786	1757	0	1792
Q Serve(g_s), s	6.6	0.0	14.9	6.7	0.0	38.8	3.6	0.0	34.9	12.9	0.0	43.1
Cycle Q Clear(g_c), s	6.6	0.0	14.9	6.7	0.0	38.8	3.6	0.0	34.9	12.9	0.0	43.1
Prop In Lane	1.00		0.13	1.00		0.43	1.00		0.19	1.00		0.17
Lane Grp Cap(c), veh/h	627	0	1124	124	0	556	68	0	536	217	0	679
V/C Ratio(X)	0.22	0.00	0.40	0.81	0.00	1.00	0.78	0.00	0.98	0.89	0.00	0.97
Avail Cap(c_a), veh/h	627	0	1124	149	0	556	76	0	536	217	0	686
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.09	0.00	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.9	0.0	11.3	55.0	0.0	40.5	57.2	0.0	41.6	51.8	0.0	36.5
Incr Delay (d2), s/veh	0.2	0.0	1.1	2.6	0.0	11.1	36.3	0.0	33.0	32.5	0.0	26.3
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	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	7.7	3.4	0.0	20.1	2.4	0.0	22.1	8.2	0.0	26.3
LnGrp Delay(d),s/veh	27.1	0.0	12.4	57.6	0.0	51.6	93.5	0.0	74.6	84.3	0.0	62.8
LnGrp LOS	C		B	E		D	F		E	F		E
Approach Vol, veh/h		586			655			577			849	
Approach Delay, s/veh		15.8			52.5			76.4			67.7	
Approach LOS		B			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	42.0	12.6	81.0	10.6	50.4	49.0	44.6
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	6.0	6.0	* 4.9	6.0	* 5.7
Max Green Setting (Gmax), s	* 15	35.2	* 10	39.4	5.2	* 46	11.0	* 39
Max Q Clear Time (g_c+I1), s	14.9	36.9	8.7	16.9	5.6	45.1	8.6	40.8
Green Ext Time (p_c), s	0.0	0.0	0.0	2.3	0.0	0.3	0.1	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	54.4
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	540	24	112	661	420	58	1277	255	391	1033	25
Future Volume (veh/h)	23	540	24	112	661	420	58	1277	255	391	1033	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	25	587	26	122	718	457	63	1388	277	425	1123	27
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	51	565	25	111	363	231	162	1001	196	187	1249	30
Arrive On Green	0.01	0.11	0.11	0.06	0.34	0.34	0.03	0.11	0.11	0.11	0.36	0.36
Sat Flow, veh/h	1757	1753	78	1757	1055	671	1757	2922	574	1757	3498	84
Grp Volume(v), veh/h	25	0	613	122	0	1175	63	823	842	425	563	587
Grp Sat Flow(s),veh/h/ln	1757	0	1831	1757	0	1726	1757	1752	1743	1757	1752	1830
Q Serve(g_s), s	1.7	0.0	38.7	7.6	0.0	41.3	4.2	41.1	41.1	12.8	36.5	36.5
Cycle Q Clear(g_c), s	1.7	0.0	38.7	7.6	0.0	41.3	4.2	41.1	41.1	12.8	36.5	36.5
Prop In Lane	1.00		0.04	1.00		0.39	1.00		0.33	1.00		0.05
Lane Grp Cap(c), veh/h	51	0	590	111	0	594	162	600	597	187	626	653
V/C Ratio(X)	0.49	0.00	1.04	1.10	0.00	1.98	0.39	1.37	1.41	2.27	0.90	0.90
Avail Cap(c_a), veh/h	73	0	590	111	0	594	162	600	597	187	694	724
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.52	0.00	0.52	1.00	0.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.5	0.0	53.6	56.2	0.0	39.4	54.9	53.2	53.2	53.6	36.5	36.5
Incr Delay (d2), s/veh	3.7	0.0	37.0	113.7	0.0	446.1	0.1	168.0	185.5	587.3	18.3	17.7
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	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	25.7	7.2	0.0	93.2	2.1	48.0	50.6	36.8	20.8	21.6
LnGrp Delay(d),s/veh	62.2	0.0	90.7	169.9	0.0	485.4	55.0	221.2	238.7	640.9	54.8	54.2
LnGrp LOS	E		F	F		F	E	F	F	F	D	D
Approach Vol, veh/h		638			1297			1728			1575	
Approach Delay, s/veh		89.5			455.7			223.7			212.7	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	46.8	11.8	44.4	15.3	48.5	9.2	47.0
Change Period (Y+Rc), s	4.2	* 5.7	* 4.2	5.7	4.2	* 5.7	5.7	* 5.7
Max Green Setting (Gmax), s	12.8	* 41	* 7.6	38.7	6.4	* 48	5.0	* 41
Max Q Clear Time (g_c+I1), s	14.8	43.1	9.6	40.7	6.2	38.5	3.7	43.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	4.4	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	261.5
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	752.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	728	267	202	807	348	193
Future Vol, veh/h	728	267	202	807	348	193
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	275	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	791	290	220	877	378	210

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1081	0	2253	936
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	1317	-
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	-	-	641	-	~ 45	320
Stage 1	-	-	-	-	380	-
Stage 2	-	-	-	-	~ 249	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	641	-	~ 30	320
Mov Cap-2 Maneuver	-	-	-	-	~ 30	-
Stage 1	-	-	-	-	~ 250	-
Stage 2	-	-	-	-	~ 249	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	$ 3535.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	30	320	-	-	641	-
HCM Lane V/C Ratio	12.609	0.656	-	-	0.343	-
HCM Control Delay (s)	$ 5476.2	35.3	-	-	13.5	-
HCM Lane LOS	F	E	-	-	B	-
HCM 95th %tile Q(veh)	46.6	4.3	-	-	1.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	193.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	918	84	126	859	90	218
Future Vol, veh/h	918	84	126	859	90	218
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	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	966	88	133	904	95	229

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1054	0	2180	1010
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	1170	-
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	-	-	657	-	~ 50	290
Stage 1	-	-	-	-	350	-
Stage 2	-	-	-	-	294	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	657	-	~ 30	290
Mov Cap-2 Maneuver	-	-	-	-	~ 30	-
Stage 1	-	-	-	-	208	-
Stage 2	-	-	-	-	294	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	$ 1434.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	82	-	-	657	-
HCM Lane V/C Ratio	3.954	-	-	0.202	-
HCM Control Delay (s)	$ 1434.5	-	-	11.9	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	33.9	-	-	0.8	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	218	8	56	46	6	187	22	1432	16	238	911	54
Future Vol, veh/h	218	8	56	46	6	187	22	1432	16	238	911	54
Conflicting Peds, #/hr	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
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	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	253	9	65	53	7	217	26	1665	19	277	1059	63

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3484	3381	1091	3399	3393	1665	1122	0	0	1684	0	0
Stage 1	1645	1645	-	1717	1717	-	-	-	-	-	-	-
Stage 2	1839	1736	-	1682	1676	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	~ 4	~ 8	260	~ 4	7	~ 119	619	-	-	377	-	-
Stage 1	~ 125	156	-	113	144	-	-	-	-	-	-	-
Stage 2	~ 96	141	-	119	151	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	0	260	-	0	~ 119	619	-	-	377	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	~ 120	0	-	108	138	-	-	-	-	-	-	-
Stage 2	-	135	-	-	0	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.2	7.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	619	-	-	-	260	-	377	-	-
HCM Lane V/C Ratio	0.041	-	-	-	0.286	-	0.734	-	-
HCM Control Delay (s)	11.1	-	-	-	24.3	-	36.8	0	-
HCM Lane LOS	B	-	-	-	C	-	E	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1	-	5.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	203	34	172	27	262	269	1280	108	311	765	91
Future Volume (veh/h)	52	203	34	172	27	262	269	1280	108	311	765	91
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1845
Adj Flow Rate, veh/h	57	221	37	187	29	285	292	1391	117	338	832	99
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	73	291	49	129	30	297	180	778	65	187	840	714
Arrive On Green	0.04	0.19	0.19	0.07	0.21	0.21	0.10	0.46	0.46	0.21	0.91	0.91
Sat Flow, veh/h	1757	1541	258	1757	147	1443	1757	1679	141	1757	1845	1568
Grp Volume(v), veh/h	57	0	258	187	0	314	292	0	1508	338	832	99
Grp Sat Flow(s),veh/h/ln	1757	0	1799	1757	0	1590	1757	0	1820	1757	1845	1568
Q Serve(g_s), s	3.9	0.0	16.3	8.8	0.0	23.5	12.3	0.0	55.6	12.8	49.5	0.8
Cycle Q Clear(g_c), s	3.9	0.0	16.3	8.8	0.0	23.5	12.3	0.0	55.6	12.8	49.5	0.8
Prop In Lane	1.00		0.14	1.00		0.91	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	73	0	340	129	0	327	180	0	843	187	840	714
V/C Ratio(X)	0.78	0.00	0.76	1.45	0.00	0.96	1.62	0.00	1.79	1.80	0.99	0.14
Avail Cap(c_a), veh/h	110	0	351	129	0	327	180	0	843	187	859	730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.43	0.43	0.43
Uniform Delay (d), s/veh	57.0	0.0	46.1	55.6	0.0	47.2	53.9	0.0	32.2	47.2	5.1	3.0
Incr Delay (d2), s/veh	18.2	0.0	9.0	241.0	0.0	38.9	304.7	0.0	359.5	370.7	18.3	0.2
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	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	8.9	12.9	0.0	13.8	21.2	0.0	112.1	25.4	25.1	0.3
LnGrp Delay(d),s/veh	75.1	0.0	55.0	296.6	0.0	86.1	358.6	0.0	391.7	417.9	23.5	3.1
LnGrp LOS	E		E	F		F	F		F	F	C	A
Approach Vol, veh/h		315			501			1800			1269	
Approach Delay, s/veh		58.7			164.7			386.3			127.0	
Approach LOS		E			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	61.3	13.0	28.7	18.5	59.9	11.0	30.7
Change Period (Y+Rc), s	* 4.2	5.7	* 4.2	6.0	5.7	* 5.7	6.0	* 6
Max Green Setting (Gmax), s	* 13	54.9	* 8.8	23.4	11.8	* 56	7.5	* 25
Max Q Clear Time (g_c+I1), s	14.8	57.6	10.8	18.3	14.3	51.5	5.9	25.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	2.2	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	246.4
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	97.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	58	262	215	50	74	161	172	236	76	50	141	130
Future Vol, veh/h	58	262	215	50	74	161	172	236	76	50	141	130
Conflicting Peds, #/hr	0	0	0	0	0	0	24	0	0	0	0	24
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	250	250	-	-	250	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	67	305	250	58	86	187	200	274	88	58	164	151

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1235	1142	264	1351	1173	318	339	0	0	362	0	0
Stage 1	380	380	-	718	718	-	-	-	-	-	-	-
Stage 2	855	762	-	633	455	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	152	~ 200	772	127	191	720	1215	-	-	1191	-	-
Stage 1	640	612	-	419	432	-	-	-	-	-	-	-
Stage 2	351	412	-	466	567	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 51	~ 155	754	-	148	720	1187	-	-	1191	-	-
Mov Cap-2 Maneuver	~ 51	~ 155	-	-	148	-	-	-	-	-	-	-
Stage 1	520	569	-	349	359	-	-	-	-	-	-	-
Stage 2	164	343	-	138	527	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	292.1		3.1	1.3
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1187	-	-	51	155	754	-	325	1191	-	-
HCM Lane V/C Ratio	0.168	-	-	1.322	1.965	0.332	-	0.841	0.049	-	-
HCM Control Delay (s)	8.6	-	-	$ 365.5	$ 505.7	12.1	-	54.2	8.2	-	-
HCM Lane LOS	A	-	-	F	F	B	-	F	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	6.2	23.6	1.5	-	7.4	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	4.7
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	7	108	191
Demand Flow Rate, veh/h	7	111	197
Vehicles Circulating, veh/h	197	0	34
Vehicles Exiting, veh/h	34	204	77
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.1	4.1	5.0
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	7	111	197
Cap Entry Lane, veh/h	928	1130	1092
Entry HV Adj Factor	0.971	0.973	0.970
Flow Entry, veh/h	7	108	191
Cap Entry, veh/h	901	1100	1059
V/C Ratio	0.008	0.098	0.180
Control Delay, s/veh	4.1	4.1	5.0
LOS	A	A	A
95th %tile Queue, veh	0	0	1

Intersection	
Int Delay, s/veh	11.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	93	22	69	117	43	221	23	22	1059	115	252	850	38
Future Vol, veh/h	93	22	69	117	43	221	23	22	1059	115	252	850	38
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	250	-	-	230	-	0	-	250	-	-	250	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	108	26	80	136	50	257	27	26	1231	134	293	988	44

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	2197	3045	988	3053	3022	683	-	1032	0	0	1365	0	0
Stage 1	1574	1574	-	1404	1404	-	-	-	-	-	-	-	-
Stage 2	623	1471	-	1649	1618	-	-	-	-	-	-	-	-
Critical Hdwy	6.795	6.545	6.245	6.795	6.545	7.145	-	4.145	-	-	5.345	-	-
Critical Hdwy Stg 1	6.145	5.545	-	7.345	5.545	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.745	5.545	-	6.145	5.545	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.6785	4.0285	3.3285	3.6785	4.0285	3.9285	-	2.2285	-	-	3.1285	-	-
Pot Cap-1 Maneuver	~ 39	~ 12	297	~ 10	~ 13	335	-	666	-	-	~ 259	-	-
Stage 1	134	168	-	~ 105	204	-	-	-	-	-	-	-	-
Stage 2	412	189	-	~ 121	160	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	-	0	297	-	0	335	~	~	-	-	~ 259	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-	-
Stage 1	134	0	-	~ 105	204	-	-	-	-	-	-	-	-
Stage 2	~ 72	189	-	-	0	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s				30.4
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	~	-	-	-	297	-	-	335	~ 259	-	-
HCM Lane V/C Ratio	~	-	-	-	0.356	-	-	0.767	1.131	-	-
HCM Control Delay (s)	-	-	-	-	23.7	-	-	43.7	137.6	-	-
HCM Lane LOS	-	-	-	-	C	-	-	E	F	-	-
HCM 95th %tile Q(veh)	~	-	-	-	1.6	-	-	6.1	12.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	126.9
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	20	116	289	101	33	284	254	175	149	18	174	157
Future Vol, veh/h	20	116	289	101	33	284	254	175	149	18	174	157
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	23	135	336	117	38	330	295	203	173	21	202	183
Number of Lanes	0	1	1	0	1	1	0	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	100.6	287.7	27.1	41
HCM LOS	F	F	D	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	69%	0%
Vol Thru, %	0%	89%	0%	74%	0%	53%	31%	30%
Vol Right, %	0%	11%	0%	26%	0%	47%	0%	70%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	175	167	136	390	33	538	253	259
LT Vol	175	0	136	0	33	0	174	0
Through Vol	0	149	0	289	0	284	79	79
RT Vol	0	18	0	101	0	254	0	180
Lane Flow Rate	203	194	158	453	38	626	294	301
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.575	0.518	0.432	1.153	0.107	1.597	0.789	0.738
Departure Headway (Hd)	11.702	11.087	10.992	10.269	10.448	9.575	11.13	10.244
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	311	328	331	358	345	388	329	355
Service Time	9.402	8.787	8.692	7.969	8.148	7.275	8.83	7.944
HCM Lane V/C Ratio	0.653	0.591	0.477	1.265	0.11	1.613	0.894	0.848
HCM Control Delay	29.1	25.1	21.8	128.1	14.4	304.5	45.1	36.9
HCM Lane LOS	D	D	C	F	B	F	E	E
HCM 95th-tile Q	3.4	2.8	2.1	16.1	0.4	34.6	6.4	5.7

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes, Configurations	
Traffic Vol, veh/h	180
Future Vol, veh/h	180
Peak Hour Factor	0.86
Heavy Vehicles, %	3
Mvmt Flow	209
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Intersection Delay, s/veh	24.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	319	50	22	340	21	80	82	49	35	108	51
Future Vol, veh/h	31	319	50	22	340	21	80	82	49	35	108	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	34	347	54	24	370	23	87	89	53	38	117	55
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	30.2	28.4	16.8	16
HCM LOS	D	D	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	38%	8%	6%	18%
Vol Thru, %	39%	80%	89%	56%
Vol Right, %	23%	12%	5%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	211	400	383	194
LT Vol	80	31	22	35
Through Vol	82	319	340	108
RT Vol	49	50	21	51
Lane Flow Rate	229	435	416	211
Geometry Grp	1	1	1	1
Degree of Util (X)	0.469	0.792	0.767	0.433
Departure Headway (Hd)	7.367	6.557	6.631	7.384
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	489	552	545	487
Service Time	5.43	4.609	4.683	5.446
HCM Lane V/C Ratio	0.468	0.788	0.763	0.433
HCM Control Delay	16.8	30.2	28.4	16
HCM Lane LOS	C	D	D	C
HCM 95th-tile Q	2.5	7.5	6.9	2.2

Intersection	
Intersection Delay, s/veh	255.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	410	36	30	298	54	16	515	180	156	511	22
Future Vol, veh/h	35	410	36	30	298	54	16	515	180	156	511	22
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	37	432	38	32	314	57	17	542	189	164	538	23
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	163	84.4	446.5	219
HCM LOS	F	F	F	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	74%	0%	92%	0%	85%	0%	96%
Vol Right, %	0%	26%	0%	8%	0%	15%	0%	4%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	695	35	446	30	352	156	533
LT Vol	16	0	35	0	30	0	156	0
Through Vol	0	515	0	410	0	298	0	511
RT Vol	0	180	0	36	0	54	0	22
Lane Flow Rate	17	732	37	469	32	371	164	561
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.048	1.936	0.104	1.258	0.09	0.992	0.464	1.505
Departure Headway (Hd)	11.686	10.958	12.851	12.249	13.653	12.992	13.162	12.589
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	308	337	281	300	264	282	276	292
Service Time	9.386	8.658	10.551	9.949	11.353	10.692	10.862	10.289
HCM Lane V/C Ratio	0.055	2.172	0.132	1.563	0.121	1.316	0.594	1.921
HCM Control Delay	15	456.4	17	174.5	17.7	90.1	26.8	275.3
HCM Lane LOS	B	F	C	F	C	F	D	F
HCM 95th-tile Q	0.2	43.9	0.3	17.4	0.3	10	2.3	24.6



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	32	624	126	1	282	216	80	50	117	400	221	197
Future Volume (vph)	32	624	126	1	282	216	80	50	117	400	221	197
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
Lane Util. Factor	1.00	0.95			0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.97			1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98
Flt Protected	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	3416			3400	1845	1568	1752	3505	1568	1752	3446
Flt Permitted	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	3416			3400	1845	1568	1752	3505	1568	1752	3446
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	678	137	1	307	235	87	54	127	435	240	214
RTOR Reduction (vph)	0	15	0	0	0	0	55	0	0	141	0	9
Lane Group Flow (vph)	35	800	0	0	308	235	32	54	127	294	240	232
Turn Type	Prot	NA		Prot	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases							8			2		
Actuated Green, G (s)	3.5	28.2			9.1	33.8	33.8	6.3	22.1	22.1	14.3	30.1
Effective Green, g (s)	3.5	28.2			9.1	33.8	33.8	6.3	22.1	22.1	14.3	30.1
Actuated g/C Ratio	0.04	0.31			0.10	0.37	0.37	0.07	0.24	0.24	0.15	0.33
Clearance Time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
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)	66	1043			335	675	574	119	839	375	271	1123
v/s Ratio Prot	0.02	c0.23			c0.09	0.13		0.03	0.04		c0.14	0.07
v/s Ratio Perm							0.02			c0.19		
v/c Ratio	0.53	0.77			0.92	0.35	0.06	0.45	0.15	0.78	0.89	0.21
Uniform Delay, d1	43.6	29.1			41.2	21.2	18.9	41.3	27.7	32.9	38.2	22.5
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	8.0	3.4			29.1	0.3	0.0	2.7	0.1	10.3	27.2	0.1
Delay (s)	51.5	32.5			70.3	21.6	19.0	44.1	27.8	43.2	65.4	22.6
Level of Service	D	C			E	C	B	D	C	D	E	C
Approach Delay (s)		33.3				45.1			40.1			43.9
Approach LOS		C				D			D			D

Intersection Summary			
HCM 2000 Control Delay	39.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	92.3	Sum of lost time (s)	18.6
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	25
Future Volume (vph)	25
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	27
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection	
Int Delay, s/veh	280.7

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	197	44	29	1221	25	49	1045
Future Vol, veh/h	197	44	29	1221	25	49	1045
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	250	0	250	-	0	150	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3
Mvmt Flow	214	48	32	1327	27	53	1136

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	2569	1327	-	0	0	1354	0
Stage 1	1327	-	-	-	-	-	-
Stage 2	1242	-	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	-	2.227	-
Pot Cap-1 Maneuver	~ 28	189	-	-	-	505	-
Stage 1	246	-	-	-	-	-	-
Stage 2	271	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	~ 25	189	-	-	-	505	-
Mov Cap-2 Maneuver	~ 25	-	-	-	-	-	-
Stage 1	220	-	-	-	-	-	-
Stage 2	271	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 3037.6		0.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	25	189	505	-
HCM Lane V/C Ratio	-	-	-	8.565	0.253	0.105	-
HCM Control Delay (s)	-	-	$	3709.2	30.4	13	-
HCM Lane LOS	-	-	-	F	D	B	-
HCM 95th %tile Q(veh)	-	-	-	26.7	1	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	783.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	199	145	5	32	421	309	20	790	16	165	801	228
Future Vol, veh/h	199	145	5	32	421	309	20	790	16	165	801	228
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	216	158	5	35	458	336	22	859	17	179	871	248
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	169.6	585.3	696.7	1149.4
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	57%	4%	14%
Vol Thru, %	96%	42%	55%	67%
Vol Right, %	2%	1%	41%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	826	349	762	1194
LT Vol	20	199	32	165
Through Vol	790	145	421	801
RT Vol	16	5	309	228
Lane Flow Rate	898	379	828	1298
Geometry Grp	1	1	1	1
Degree of Util (X)	2.404	1.028	2.166	3.447
Departure Headway (Hd)	23.678	34.272	21.065	19.05
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	162	110	182	208
Service Time	21.678	32.272	19.065	17.05
HCM Lane V/C Ratio	5.543	3.445	4.549	6.24
HCM Control Delay	696.7	169.6	585.3	1149.4
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	31.1	6.5	29.6	61.8

Intersection	
Int Delay, s/veh	61.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↑		↰	↑	
Traffic Vol, veh/h	31	114	33	44	65	25	34	609	50	34	585	20
Future Vol, veh/h	31	114	33	44	65	25	34	609	50	34	585	20
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	280	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	34	124	36	48	71	27	37	662	54	37	636	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1533	1511	647	1564	1495	689	658	0	0	716	0	0
Stage 1	721	721	-	763	763	-	-	-	-	-	-	-
Stage 2	812	790	-	801	732	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	95	~ 120	469	90	122	444	925	-	-	880	-	-
Stage 1	417	430	-	395	412	-	-	-	-	-	-	-
Stage 2	371	400	-	377	425	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	42	~ 110	469	-	112	444	925	-	-	880	-	-
Mov Cap-2 Maneuver	42	~ 110	-	-	112	-	-	-	-	-	-	-
Stage 1	400	412	-	379	396	-	-	-	-	-	-	-
Stage 2	275	384	-	233	407	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 564.6		0.4	0.5
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	925	-	-	96	-	880	-	-
HCM Lane V/C Ratio	0.04	-	-	2.015	-	0.042	-	-
HCM Control Delay (s)	9.1	-	-	$ 564.6	-	9.3	-	-
HCM Lane LOS	A	-	-	F	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	16.6	-	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	38	433	6	11	371	34	4	7	26	33	41	34
Future Vol, veh/h	38	433	6	11	371	34	4	7	26	33	41	34
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	41	471	7	12	403	37	4	8	28	36	45	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	440	0	0	478	0	0	1044	1021	475	1021	1006	422
Stage 1	-	-	-	-	-	-	557	557	-	446	446	-
Stage 2	-	-	-	-	-	-	487	464	-	575	560	-
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	1115	-	-	1079	-	-	206	235	588	214	240	630
Stage 1	-	-	-	-	-	-	513	511	-	590	572	-
Stage 2	-	-	-	-	-	-	560	562	-	502	509	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1115	-	-	1079	-	-	157	220	588	189	225	630
Mov Cap-2 Maneuver	-	-	-	-	-	-	157	220	-	189	225	-
Stage 1	-	-	-	-	-	-	487	485	-	561	563	-
Stage 2	-	-	-	-	-	-	478	554	-	447	484	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.2	16.1	29.3
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	364	1115	-	-	1079	-	-	263
HCM Lane V/C Ratio	0.11	0.037	-	-	0.011	-	-	0.446
HCM Control Delay (s)	16.1	8.4	0	-	8.4	0	-	29.3
HCM Lane LOS	C	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	375	21	72	376	230	24	306	112	240	346	65
Future Volume (veh/h)	131	375	21	72	376	230	24	306	112	240	346	65
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	136	391	22	75	392	240	25	319	117	250	360	68
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	151	433	24	419	449	275	41	303	111	264	568	107
Arrive On Green	0.09	0.25	0.25	0.24	0.42	0.42	0.02	0.23	0.23	0.15	0.38	0.38
Sat Flow, veh/h	1757	1730	97	1757	1072	657	1757	1289	473	1757	1509	285
Grp Volume(v), veh/h	136	0	413	75	0	632	25	0	436	250	0	428
Grp Sat Flow(s),veh/h/ln	1757	0	1827	1757	0	1729	1757	0	1761	1757	0	1794
Q Serve(g_s), s	9.2	0.0	26.3	4.1	0.0	40.2	1.7	0.0	28.2	16.9	0.0	23.4
Cycle Q Clear(g_c), s	9.2	0.0	26.3	4.1	0.0	40.2	1.7	0.0	28.2	16.9	0.0	23.4
Prop In Lane	1.00		0.05	1.00		0.38	1.00		0.27	1.00		0.16
Lane Grp Cap(c), veh/h	151	0	458	419	0	723	41	0	414	264	0	675
V/C Ratio(X)	0.90	0.00	0.90	0.18	0.00	0.87	0.60	0.00	1.05	0.95	0.00	0.63
Avail Cap(c_a), veh/h	151	0	650	419	0	723	88	0	414	264	0	675
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.09	0.00	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.3	0.0	43.5	36.3	0.0	32.0	58.0	0.0	45.9	50.5	0.0	30.6
Incr Delay (d2), s/veh	45.7	0.0	23.6	0.0	0.0	1.5	13.3	0.0	59.0	41.5	0.0	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	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	16.2	2.0	0.0	19.4	1.0	0.0	20.5	11.2	0.0	12.0
LnGrp Delay(d),s/veh	100.0	0.0	67.1	36.3	0.0	33.5	71.4	0.0	104.9	92.0	0.0	32.6
LnGrp LOS	F		E	D		C	E		F	F		C
Approach Vol, veh/h		549			707			461			678	
Approach Delay, s/veh		75.3			33.8			103.1			54.5	
Approach LOS		E			C			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.9	34.2	34.3	36.1	7.0	50.1	14.5	55.9
Change Period (Y+Rc), s	4.9	* 6	5.7	* 6	* 4.2	4.9	* 4.2	5.7
Max Green Setting (Gmax), s	18.0	* 28	10.7	* 43	* 6	41.3	* 10	43.4
Max Q Clear Time (g_c+I1), s	18.9	30.2	6.1	28.3	3.7	25.4	11.2	42.2
Green Ext Time (p_c), s	0.0	0.0	0.0	1.8	0.0	2.2	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	62.5
HCM 2010 LOS	E

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	564	105	271	540	433	93	775	158	547	1724	125
Future Volume (veh/h)	48	564	105	271	540	433	93	775	158	547	1724	125
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	52	613	114	295	587	471	101	842	172	595	1874	136
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	67	448	83	158	330	265	85	824	168	290	1330	95
Arrive On Green	0.04	0.30	0.30	0.09	0.35	0.35	0.02	0.09	0.09	0.17	0.40	0.40
Sat Flow, veh/h	1757	1514	281	1757	949	761	1757	2900	592	1757	3317	238
Grp Volume(v), veh/h	52	0	727	295	0	1058	101	509	505	595	979	1031
Grp Sat Flow(s),veh/h/ln	1757	0	1795	1757	0	1710	1757	1752	1740	1757	1752	1803
Q Serve(g_s), s	3.5	0.0	35.5	10.8	0.0	41.8	5.8	34.1	34.1	19.8	48.1	48.1
Cycle Q Clear(g_c), s	3.5	0.0	35.5	10.8	0.0	41.8	5.8	34.1	34.1	19.8	48.1	48.1
Prop In Lane	1.00		0.16	1.00		0.45	1.00		0.34	1.00		0.13
Lane Grp Cap(c), veh/h	67	0	531	158	0	595	85	498	494	290	702	723
V/C Ratio(X)	0.78	0.00	1.37	1.87	0.00	1.78	1.19	1.02	1.02	2.05	1.39	1.43
Avail Cap(c_a), veh/h	73	0	531	158	0	595	85	498	494	290	702	723
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.52	0.00	0.52	1.00	0.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.2	0.0	42.3	54.6	0.0	39.1	59.0	54.4	54.4	50.1	36.0	36.0
Incr Delay (d2), s/veh	22.3	0.0	172.3	412.7	0.0	356.8	95.9	18.0	18.1	485.5	186.0	199.9
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	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	43.0	23.4	0.0	78.7	5.1	19.0	18.9	48.7	59.5	64.0
LnGrp Delay(d),s/veh	79.5	0.0	214.6	467.3	0.0	395.9	154.9	72.4	72.5	535.6	221.9	235.9
LnGrp LOS	E		F	F		F	F	F	F	F	F	F
Approach Vol, veh/h		779			1353			1115			2605	
Approach Delay, s/veh		205.6			411.5			79.9			299.1	
Approach LOS		F			F			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.0	39.8	15.0	41.2	10.0	53.8	8.7	47.5
Change Period (Y+Rc), s	4.2	* 5.7	* 4.2	5.7	4.2	* 5.7	* 4.2	5.7
Max Green Setting (Gmax), s	19.8	* 34	* 11	35.5	5.8	* 48	* 5	41.3
Max Q Clear Time (g_c+I1), s	21.8	36.1	12.8	37.5	7.8	50.1	5.5	43.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	270.9
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	1098.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	795	410	207	898	334	110
Future Vol, veh/h	795	410	207	898	334	110
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	275	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	864	446	225	976	363	120

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1312	0	2515	1089
Stage 1	-	-	-	-	1089	-
Stage 2	-	-	-	-	1426	-
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	-	-	524	-	~ 31	261
Stage 1	-	-	-	-	~ 321	-
Stage 2	-	-	-	-	~ 220	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	523	-	~ 18	261
Mov Cap-2 Maneuver	-	-	-	-	~ 18	-
Stage 1	-	-	-	-	~ 183	-
Stage 2	-	-	-	-	~ 220	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.2	$ 6805.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	18	261	-	-	523	-
HCM Lane V/C Ratio	20.169	0.458	-	-	0.43	-
HCM Control Delay (s)	$ 9036.6	29.9	-	-	17	-
HCM Lane LOS	F	D	-	-	C	-
HCM 95th %tile Q(veh)	46.1	2.2	-	-	2.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	903	101	227	1090	69	149
Future Vol, veh/h	903	101	227	1090	69	149
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	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	982	110	247	1185	75	162

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1092	0	2716	1037
Stage 1	-	-	-	-	1037	-
Stage 2	-	-	-	-	1679	-
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	-	-	635	-	~ 23	280
Stage 1	-	-	-	-	340	-
Stage 2	-	-	-	-	165	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	635	-	0	280
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	165	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	61.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	280	-	-	635	-
HCM Lane V/C Ratio	0.846	-	-	0.389	-
HCM Control Delay (s)	61.3	-	-	14.2	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	7.1	-	-	1.8	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	142	8	36	66	7	169	83	924	9	88	1342	181
Future Vol, veh/h	142	8	36	66	7	169	83	924	9	88	1342	181
Conflicting Peds, #/hr	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
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	158	9	40	73	8	188	92	1027	10	98	1491	201

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3102	3009	1592	3023	3099	1027	1692	0	0	1037	0	0
Stage 1	1788	1788	-	1211	1211	-	-	-	-	-	-	-
Stage 2	1314	1221	-	1812	1888	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	~ 7	13	131	~ 8	12	283	374	-	-	666	-	-
Stage 1	~ 103	133	-	222	254	-	-	-	-	-	-	-
Stage 2	194	251	-	100	118	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	0	131	-	0	283	374	-	-	666	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	~ 78	0	-	167	192	-	-	-	-	-	-	-
Stage 2	~ 47	189	-	-	0	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			1.4	0.6
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	374	-	-	-	131	-	666	-	-
HCM Lane V/C Ratio	0.247	-	-	-	0.373	-	0.147	-	-
HCM Control Delay (s)	17.7	-	-	-	48	-	11.3	0	-
HCM Lane LOS	C	-	-	-	E	-	B	A	-
HCM 95th %tile Q(veh)	1	-	-	-	1.6	-	0.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	122	109	79	112	77	89	840	148	611	1347	144
Future Volume (veh/h)	106	122	109	79	112	77	89	840	148	611	1347	144
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1845
Adj Flow Rate, veh/h	115	133	118	86	122	84	97	913	161	664	1464	157
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	100	149	132	100	183	126	100	595	105	363	995	846
Arrive On Green	0.06	0.16	0.16	0.06	0.18	0.18	0.06	0.39	0.39	0.27	0.72	0.72
Sat Flow, veh/h	1757	903	801	1757	1019	702	1757	1528	269	1757	1845	1568
Grp Volume(v), veh/h	115	0	251	86	0	206	97	0	1074	664	1464	157
Grp Sat Flow(s),veh/h/ln	1757	0	1703	1757	0	1721	1757	0	1797	1757	1845	1568
Q Serve(g_s), s	6.8	0.0	17.3	5.8	0.0	13.4	6.6	0.0	46.7	24.8	64.7	3.9
Cycle Q Clear(g_c), s	6.8	0.0	17.3	5.8	0.0	13.4	6.6	0.0	46.7	24.8	64.7	3.9
Prop In Lane	1.00		0.47	1.00		0.41	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	100	0	280	100	0	309	100	0	700	363	995	846
V/C Ratio(X)	1.16	0.00	0.89	0.86	0.00	0.67	0.97	0.00	1.53	1.83	1.47	0.19
Avail Cap(c_a), veh/h	100	0	332	100	0	336	100	0	700	363	995	846
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	56.6	0.0	49.1	56.1	0.0	45.9	56.5	0.0	36.6	43.5	16.9	8.4
Incr Delay (d2), s/veh	138.0	0.0	22.8	49.8	0.0	4.5	81.6	0.0	247.6	373.9	212.5	0.0
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	0.0
%ile BackOfQ(50%),veh/ln	7.1	0.0	9.9	4.2	0.0	6.7	5.5	0.0	71.3	49.7	90.8	1.7
LnGrp Delay(d),s/veh	194.6	0.0	71.9	105.9	0.0	50.3	138.2	0.0	284.3	417.5	229.4	8.4
LnGrp LOS	F		E	F		D	F		F	F	F	A
Approach Vol, veh/h		366			292			1171			2285	
Approach Delay, s/veh		110.4			66.7			272.2			268.9	
Approach LOS		F			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.0	52.4	12.8	25.8	11.0	70.4	11.0	27.6
Change Period (Y+Rc), s	* 4.2	5.7	6.0	* 6	* 4.2	5.7	* 4.2	6.0
Max Green Setting (Gmax), s	* 25	44.9	6.8	* 23	* 6.8	62.9	* 6.8	23.4
Max Q Clear Time (g_c+I1), s	26.8	48.7	7.8	19.3	8.6	66.7	8.8	15.4
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	241.4
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	132.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	97	362	324	68	35	137	53	225	65	109	305	168
Future Vol, veh/h	97	362	324	68	35	137	53	225	65	109	305	168
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	250	250	-	-	250	-	-	150	-	-
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	108	402	360	76	39	152	59	250	72	121	339	187

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1175	1115	433	1460	1172	286	526	0	0	322	0	0
Stage 1	675	675	-	404	404	-	-	-	-	-	-	-
Stage 2	500	440	-	1056	768	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
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	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	168	~ 207	621	106	191	751	1036	-	-	1232	-	-
Stage 1	442	452	-	621	597	-	-	-	-	-	-	-
Stage 2	551	576	-	271	409	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 97	~ 176	621	-	163	751	1036	-	-	1232	-	-
Mov Cap-2 Maneuver	~ 97	~ 176	-	-	163	-	-	-	-	-	-	-
Stage 1	417	408	-	586	563	-	-	-	-	-	-	-
Stage 2	386	543	-	~ 1	369	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 328.2		1.3	1.5
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1036	-	-	97	176	621	-	433	1232	-	-
HCM Lane V/C Ratio	0.057	-	-	1.111	2.285	0.58	-	0.441	0.098	-	-
HCM Control Delay (s)	8.7	-	-	205.6	$ 638.2	18.5	-	19.7	8.2	-	-
HCM Lane LOS	A	-	-	F	F	C	-	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	7.1	32.9	3.7	-	2.2	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	5.2
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	13	277	125
Demand Flow Rate, veh/h	13	285	129
Vehicles Circulating, veh/h	129	0	12
Vehicles Exiting, veh/h	12	142	273
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.8	5.6	4.3
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	13	285	129
Cap Entry Lane, veh/h	993	1130	1116
Entry HV Adj Factor	0.971	0.971	0.969
Flow Entry, veh/h	13	277	125
Cap Entry, veh/h	964	1097	1082
V/C Ratio	0.013	0.252	0.116
Control Delay, s/veh	3.8	5.6	4.3
LOS	A	A	A
95th %tile Queue, veh	0	1	0

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	62	21	46	84	28	111	9	109	846	90	259	1051	120
Future Vol, veh/h	62	21	46	84	28	111	9	109	846	90	259	1051	120
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	250	-	-	230	-	0	-	250	-	-	250	-	0
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	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	69	23	51	93	31	123	10	121	940	100	288	1168	133

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	2398	3048	1168	3102	3131	522	-	1301	0	0	1042	0	0
Stage 1	1744	1744	-	1254	1254	-	-	-	-	-	-	-	-
Stage 2	654	1304	-	1848	1877	-	-	-	-	-	-	-	-
Critical Hdwy	6.795	6.545	6.245	6.795	6.545	7.145	-	4.145	-	-	5.345	-	-
Critical Hdwy Stg 1	6.145	5.545	-	7.345	5.545	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.745	5.545	-	6.145	5.545	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.6785	4.0285	3.3285	3.6785	4.0285	3.9285	-	2.2285	-	-	3.1285	-	-
Pot Cap-1 Maneuver	~ 28	~ 12	233	~ 9	~ 11	427	-	526	-	-	372	-	-
Stage 1	107	139	-	134	241	-	-	-	-	-	-	-	-
Stage 2	394	228	-	~ 93	119	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	-	~ 3	233	-	~ 2	426	~ -13	~ -13	-	-	371	-	-
Mov Cap-2 Maneuver	-	~ 3	-	-	~ 2	-	-	-	-	-	-	-	-
Stage 1	107	31	-	134	241	-	-	-	-	-	-	-	-
Stage 2	244	228	-	~ 4	~ 27	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s				7.5
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	-	9	-	2	426	371	-	-
HCM Lane V/C Ratio	-	-	-	-	8.272	-	15.556	0.29	0.776	-	-
HCM Control Delay (s)	-	-	-	$	4082.1	$	9909.7	16.9	41.3	-	-
HCM Lane LOS	-	-	-	-	F	-	F	C	E	-	-
HCM 95th %tile Q(veh)	-	-	-	-	10.8	-	5.7	1.2	6.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	53.9
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	1	110	231	60	37	188	104	25	215	44	214	389
Future Vol, veh/h	1	110	231	60	37	188	104	25	215	44	214	389
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	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	122	257	67	41	209	116	28	239	49	238	432
Number of Lanes	0	1	1	0	1	1	0	1	1	0	0	2

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	32.7	36.4	31.4	85.3
HCM LOS	D	E	D	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	52%	0%
Vol Thru, %	0%	83%	0%	79%	0%	64%	48%	77%
Vol Right, %	0%	17%	0%	21%	0%	36%	0%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	259	111	291	37	292	409	252
LT Vol	25	0	111	0	37	0	214	0
Through Vol	0	215	0	231	0	188	195	195
RT Vol	0	44	0	60	0	104	0	57
Lane Flow Rate	28	288	123	323	41	324	454	279
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.075	0.722	0.324	0.789	0.11	0.794	1.147	0.672
Departure Headway (Hd)	10.084	9.435	9.832	9.158	9.98	9.196	9.099	8.661
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	358	386	368	398	361	396	404	419
Service Time	7.784	7.135	7.532	6.858	7.68	6.896	6.799	6.361
HCM Lane V/C Ratio	0.078	0.746	0.334	0.812	0.114	0.818	1.124	0.666
HCM Control Delay	13.6	33.1	17.2	38.6	13.9	39.3	121	27.4
HCM Lane LOS	B	D	C	E	B	E	F	D
HCM 95th-tile Q	0.2	5.5	1.4	6.8	0.4	6.9	17.2	4.8

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lanes, Configurations	
Traffic Vol, veh/h	57
Future Vol, veh/h	57
Peak Hour Factor	0.90
Heavy Vehicles, %	3
Mvmt Flow	63
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Intersection Delay, s/veh	22
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	352	56	25	183	32	60	137	45	26	111	43
Future Vol, veh/h	43	352	56	25	183	32	60	137	45	26	111	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	47	383	61	27	199	35	65	149	49	28	121	47
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	31.7	15.4	16.3	14.1
HCM LOS	D	C	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	10%	10%	14%
Vol Thru, %	57%	78%	76%	62%
Vol Right, %	19%	12%	13%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	242	451	240	180
LT Vol	60	43	25	26
Through Vol	137	352	183	111
RT Vol	45	56	32	43
Lane Flow Rate	263	490	261	196
Geometry Grp	1	1	1	1
Degree of Util (X)	0.493	0.826	0.473	0.375
Departure Headway (Hd)	6.751	6.064	6.533	6.899
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	531	593	548	518
Service Time	4.83	4.126	4.612	4.986
HCM Lane V/C Ratio	0.495	0.826	0.476	0.378
HCM Control Delay	16.3	31.7	15.4	14.1
HCM Lane LOS	C	D	C	B
HCM 95th-tile Q	2.7	8.5	2.5	1.7

Intersection	
Intersection Delay, s/veh	225.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	196	54	98	198	148	60	513	145	162	552	51
Future Vol, veh/h	35	196	54	98	198	148	60	513	145	162	552	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	38	213	59	107	215	161	65	558	158	176	600	55
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	36.8	57.6	365.1	263.1
HCM LOS	E	F	F	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	78%	0%	78%	0%	57%	0%	92%
Vol Right, %	0%	22%	0%	22%	0%	43%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	658	35	250	98	346	162	603
LT Vol	60	0	35	0	98	0	162	0
Through Vol	0	513	0	196	0	198	0	552
RT Vol	0	145	0	54	0	148	0	51
Lane Flow Rate	65	715	38	272	107	376	176	655
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.177	1.807	0.107	0.718	0.288	0.934	0.469	1.643
Departure Headway (Hd)	10.689	9.998	12.493	11.791	11.849	10.992	11.176	10.581
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	338	372	289	310	306	335	324	347
Service Time	8.389	7.698	10.193	9.491	9.549	8.692	8.876	8.281
HCM Lane V/C Ratio	0.192	1.922	0.131	0.877	0.35	1.122	0.543	1.888
HCM Control Delay	15.7	397	16.7	39.6	19.3	68.4	23.4	327.5
HCM Lane LOS	C	F	C	E	C	F	C	F
HCM 95th-tile Q	0.6	42.1	0.4	5.2	1.2	9.4	2.4	33.6



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	22	402	112	7	305	434	183	68	153	273	245	148
Future Volume (vph)	22	402	112	7	305	434	183	68	153	273	245	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
Lane Util. Factor	1.00	0.95			0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.97			1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97
Flt Protected	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	3391			3400	1845	1568	1752	3505	1568	1752	3417
Flt Permitted	0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	3391			3400	1845	1568	1752	3505	1568	1752	3417
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	24	432	120	8	328	467	197	73	165	294	263	159
RTOR Reduction (vph)	0	24	0	0	0	0	122	0	0	181	0	18
Lane Group Flow (vph)	24	528	0	0	336	467	75	73	165	113	263	173
Turn Type	Prot	NA		Prot	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases							8			2		
Actuated Green, G (s)	1.6	22.1			9.3	29.8	29.8	7.0	14.5	14.5	13.5	21.0
Effective Green, g (s)	1.6	22.1			9.3	29.8	29.8	7.0	14.5	14.5	13.5	21.0
Actuated g/C Ratio	0.02	0.28			0.12	0.38	0.38	0.09	0.19	0.19	0.17	0.27
Clearance Time (s)	4.2	5.3			4.2	5.3	5.3	4.2	4.9	4.9	4.2	4.9
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)	35	960			405	704	599	157	651	291	303	919
v/s Ratio Prot	0.01	0.16			c0.10	c0.25		0.04	0.05		c0.15	0.05
v/s Ratio Perm							0.05			c0.07		
v/c Ratio	0.69	0.55			0.83	0.66	0.13	0.46	0.25	0.39	0.87	0.19
Uniform Delay, d1	38.0	23.7			33.6	19.9	15.6	33.7	27.1	27.9	31.4	21.9
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	43.6	0.7			13.2	2.4	0.1	2.2	0.2	0.9	22.1	0.1
Delay (s)	81.5	24.4			46.7	22.3	15.7	35.9	27.3	28.7	53.5	22.0
Level of Service	F	C			D	C	B	D	C	C	D	C
Approach Delay (s)		26.8				29.2			29.3			40.3
Approach LOS		C				C			C			D

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	78.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	30
Future Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	32
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection	
Int Delay, s/veh	117.1

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	108	23	15	1125	26	114	1126
Future Vol, veh/h	108	23	15	1125	26	114	1126
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	250	0	250	-	0	150	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3
Mvmt Flow	117	25	16	1223	28	124	1224

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	2695	1223	-	0	0	1251	0
Stage 1	1223	-	-	-	-	-	-
Stage 2	1472	-	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	-	2.227	-
Pot Cap-1 Maneuver	~ 24	218	-	-	-	553	-
Stage 1	277	-	-	-	-	-	-
Stage 2	209	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	~ 19	218	-	-	-	553	-
Mov Cap-2 Maneuver	~ 19	-	-	-	-	-	-
Stage 1	215	-	-	-	-	-	-
Stage 2	209	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, $	2256.8		1.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	19	218	553	-
HCM Lane V/C Ratio	-	-	-	6.178	0.115	0.224	-
HCM Control Delay (s)	-	-	$	2732.4	23.6	13.4	-
HCM Lane LOS	-	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	-	15.2	0.4	0.9	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	584.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	135	160	17	11	125	155	22	774	20	373	620	189
Future Vol, veh/h	135	160	17	11	125	155	22	774	20	373	620	189
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	142	168	18	12	132	163	23	815	21	393	653	199
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	65.7	56.2	506.8	905.2
HCM LOS	F	F	F	F

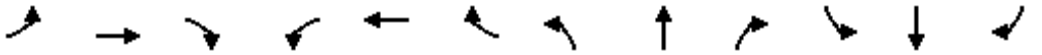
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	43%	4%	32%
Vol Thru, %	95%	51%	43%	52%
Vol Right, %	2%	5%	53%	16%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	816	312	291	1182
LT Vol	22	135	11	373
Through Vol	774	160	125	620
RT Vol	20	17	155	189
Lane Flow Rate	859	328	306	1244
Geometry Grp	1	1	1	1
Degree of Util (X)	2.038	0.819	0.748	2.945
Departure Headway (Hd)	12.785	16.173	16.401	10.853
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	292	227	224	348
Service Time	10.785	14.173	14.401	8.853
HCM Lane V/C Ratio	2.942	1.445	1.366	3.575
HCM Control Delay	506.8	65.7	56.2	905.2
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	41.7	6.1	5.1	85

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	242	59	87	48	25	29	673	37	14	576	21
Future Volume (veh/h)	57	242	59	87	48	25	29	673	37	14	576	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	62	263	64	95	52	27	32	732	40	15	626	23
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	84	310	75	121	282	146	116	784	43	31	698	26
Arrive On Green	0.05	0.22	0.22	0.07	0.25	0.25	0.07	0.45	0.45	0.02	0.40	0.40
Sat Flow, veh/h	1757	1434	349	1757	1145	595	1757	1733	95	1757	1768	65
Grp Volume(v), veh/h	62	0	327	95	0	79	32	0	772	15	0	649
Grp Sat Flow(s),veh/h/ln	1757	0	1783	1757	0	1740	1757	0	1828	1757	0	1833
Q Serve(g_s), s	2.7	0.0	13.6	4.1	0.0	2.8	1.3	0.0	30.9	0.7	0.0	25.6
Cycle Q Clear(g_c), s	2.7	0.0	13.6	4.1	0.0	2.8	1.3	0.0	30.9	0.7	0.0	25.6
Prop In Lane	1.00		0.20	1.00		0.34	1.00		0.05	1.00		0.04
Lane Grp Cap(c), veh/h	84	0	385	121	0	428	116	0	827	31	0	724
V/C Ratio(X)	0.74	0.00	0.85	0.79	0.00	0.18	0.27	0.00	0.93	0.48	0.00	0.90
Avail Cap(c_a), veh/h	118	0	543	134	0	545	116	0	885	114	0	888
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.3	0.0	29.1	35.4	0.0	23.0	34.3	0.0	20.0	37.6	0.0	21.9
Incr Delay (d2), s/veh	13.9	0.0	8.8	23.7	0.0	0.2	1.3	0.0	15.9	10.9	0.0	10.2
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	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	7.6	2.8	0.0	1.3	0.7	0.0	19.1	0.4	0.0	14.8
LnGrp Delay(d),s/veh	50.2	0.0	37.8	59.1	0.0	23.2	35.5	0.0	35.9	48.5	0.0	32.1
LnGrp LOS	D		D	E		C	D		D	D		C
Approach Vol, veh/h		389			174			804			664	
Approach Delay, s/veh		39.8			42.8			35.9			32.4	
Approach LOS		D			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.6	39.8	10.2	21.6	10.0	35.4	7.9	23.9
Change Period (Y+Rc), s	* 4.2	4.9	4.9	* 4.9	4.9	* 4.9	* 4.2	4.9
Max Green Setting (Gmax), s	* 5	37.4	5.9	* 24	5.0	* 37	* 5.2	24.2
Max Q Clear Time (g_c+I1), s	2.7	32.9	6.1	15.6	3.3	27.6	4.7	4.8
Green Ext Time (p_c), s	0.0	2.0	0.0	1.1	0.0	2.9	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	36.1
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	359	53	92	292	219	49	393	89	177	504	100
Future Volume (veh/h)	127	359	53	92	292	219	49	393	89	177	504	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	138	390	58	100	317	238	53	427	97	192	548	109
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	323	511	76	124	368	427	68	517	117	249	573	114
Arrive On Green	0.18	0.33	0.33	0.07	0.20	0.20	0.04	0.36	0.36	0.07	0.38	0.38
Sat Flow, veh/h	1757	1570	233	1757	1845	1568	1757	1456	331	3408	1495	297
Grp Volume(v), veh/h	138	0	448	100	317	238	53	0	524	192	0	657
Grp Sat Flow(s),veh/h/ln	1757	0	1803	1757	1845	1568	1757	0	1786	1704	0	1792
Q Serve(g_s), s	8.1	0.0	25.9	6.5	19.3	8.4	3.5	0.0	31.0	6.4	0.0	41.4
Cycle Q Clear(g_c), s	8.1	0.0	25.9	6.5	19.3	8.4	3.5	0.0	31.0	6.4	0.0	41.4
Prop In Lane	1.00		0.13	1.00		1.00	1.00		0.19	1.00		0.17
Lane Grp Cap(c), veh/h	323	0	587	124	368	427	68	0	635	249	0	687
V/C Ratio(X)	0.43	0.00	0.76	0.81	0.86	0.56	0.78	0.00	0.83	0.77	0.00	0.96
Avail Cap(c_a), veh/h	323	0	587	139	510	548	91	0	638	282	0	712
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.62	0.62	0.62	1.00	0.00	1.00	0.56	0.00	0.56
Uniform Delay (d), s/veh	41.9	0.0	35.1	53.1	44.9	15.1	55.3	0.0	34.1	52.8	0.0	34.8
Incr Delay (d2), s/veh	0.9	0.0	9.1	17.5	15.3	3.2	26.0	0.0	8.7	6.5	0.0	15.6
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	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	14.3	3.8	11.3	4.0	2.2	0.0	16.8	3.2	0.0	23.4
LnGrp Delay(d),s/veh	42.8	0.0	44.2	70.6	60.2	18.4	81.2	0.0	42.8	59.3	0.0	50.4
LnGrp LOS	D		D	E	E	B	F		D	E		D
Approach Vol, veh/h		586			655			577			849	
Approach Delay, s/veh		43.9			46.6			46.4			52.4	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	47.2	12.4	43.7	10.5	49.4	27.3	28.8
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	6.0	6.0	* 4.9	6.0	* 5.7
Max Green Setting (Gmax), s	* 9.6	41.4	* 9.2	35.4	6.0	* 46	12.8	* 32
Max Q Clear Time (g_c+I1), s	8.4	33.0	8.5	27.9	5.5	43.4	10.1	21.3
Green Ext Time (p_c), s	0.1	1.9	0.0	1.4	0.0	1.1	0.1	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	47.8
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	540	24	112	661	420	58	1277	255	391	1033	25
Future Volume (veh/h)	23	540	24	112	661	420	58	1277	255	391	1033	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	25	587	26	122	718	457	63	1388	277	425	1123	27
Adj No. of Lanes	1	2	1	1	2	1	1	3	1	2	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	62	665	298	149	838	707	81	1664	518	721	2574	62
Arrive On Green	0.01	0.06	0.06	0.06	0.16	0.16	0.05	0.33	0.33	0.21	0.51	0.51
Sat Flow, veh/h	1757	3505	1568	1757	3505	1568	1757	5036	1568	3408	5059	122
Grp Volume(v), veh/h	25	587	26	122	718	457	63	1388	277	425	745	405
Grp Sat Flow(s),veh/h/ln	1757	1752	1568	1757	1752	1568	1757	1679	1568	1704	1679	1823
Q Serve(g_s), s	1.6	19.3	1.5	8.0	23.1	4.8	4.1	29.6	16.7	13.0	16.3	16.3
Cycle Q Clear(g_c), s	1.6	19.3	1.5	8.0	23.1	4.8	4.1	29.6	16.7	13.0	16.3	16.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	62	665	298	149	838	707	81	1664	518	721	1709	928
V/C Ratio(X)	0.40	0.88	0.09	0.82	0.86	0.65	0.78	0.83	0.53	0.59	0.44	0.44
Avail Cap(c_a), veh/h	76	704	315	179	909	739	148	1836	572	721	1709	928
HCM Platoon Ratio	0.33	0.33	0.33	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	0.84	0.84	0.84	0.43	0.43	0.43	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	53.1	31.5	53.8	46.8	28.4	54.7	35.9	31.6	41.2	18.0	18.0
Incr Delay (d2), s/veh	2.6	8.0	0.1	18.9	6.5	1.6	6.8	2.3	1.7	1.3	0.8	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	0.0
%ile BackOfQ(50%),veh/ln	0.8	10.1	0.7	4.7	12.0	2.3	2.1	14.0	7.5	6.3	7.6	8.5
LnGrp Delay(d),s/veh	58.7	61.0	31.6	72.7	53.3	30.0	61.5	38.1	33.3	42.5	18.8	19.5
LnGrp LOS	E	E	C	E	D	C	E	D	C	D	B	B
Approach Vol, veh/h		638			1297			1728			1575	
Approach Delay, s/veh		59.7			46.9			38.2			25.4	
Approach LOS		E			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.2	44.0	14.0	27.7	9.5	64.7	8.3	33.4
Change Period (Y+Rc), s	5.7	* 5.7	4.2	* 5.7	* 4.2	5.7	4.2	* 5.7
Max Green Setting (Gmax), s	18.8	* 42	11.8	* 23	* 9.8	51.3	5.0	* 30
Max Q Clear Time (g_c+I1), s	15.0	31.6	10.0	21.3	6.1	18.3	3.6	25.1
Green Ext Time (p_c), s	0.6	6.8	0.0	0.7	0.0	8.0	0.0	2.6

Intersection Summary	
HCM 2010 Ctrl Delay	39.1
HCM 2010 LOS	D

Notes



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	728	267	202	807	348	193
Future Volume (vph)	728	267	202	807	348	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	4.2	5.7	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1568	1752	3505	1752	1568
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1568	1752	3505	1752	1568
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	791	290	220	877	378	210
RTOR Reduction (vph)	0	164	0	0	0	156
Lane Group Flow (vph)	791	127	220	877	378	54
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Actuated Green, G (s)	50.6	50.6	19.4	74.2	30.1	30.1
Effective Green, g (s)	50.6	50.6	19.4	74.2	30.1	30.1
Actuated g/C Ratio	0.44	0.44	0.17	0.64	0.26	0.26
Clearance Time (s)	5.7	5.7	4.2	5.7	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1528	683	293	2241	454	406
v/s Ratio Prot	c0.23		c0.13	0.25	c0.22	
v/s Ratio Perm		0.08				0.03
v/c Ratio	0.52	0.19	0.75	0.39	0.83	0.13
Uniform Delay, d1	23.8	20.1	46.0	10.0	40.6	33.0
Progression Factor	0.34	0.25	0.89	1.03	0.78	0.81
Incremental Delay, d2	0.9	0.4	8.9	0.4	12.0	0.1
Delay (s)	9.0	5.4	49.9	10.8	43.8	26.9
Level of Service	A	A	D	B	D	C
Approach Delay (s)	8.0			18.7	37.7	
Approach LOS	A			B	D	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	918	84	126	859	90	218
Future Volume (vph)	918	84	126	859	90	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7		4.2	5.7	5.7	5.7
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1824		1752	1845	1752	1568
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1824		1752	1845	1752	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	966	88	133	904	95	229
RTOR Reduction (vph)	2	0	0	0	0	204
Lane Group Flow (vph)	1052	0	133	904	95	25
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Actuated Green, G (s)	77.2		10.3	91.7	12.9	12.9
Effective Green, g (s)	77.2		10.3	91.7	12.9	12.9
Actuated g/C Ratio	0.67		0.09	0.79	0.11	0.11
Clearance Time (s)	5.7		4.2	5.7	5.7	5.7
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1213		155	1458	194	174
v/s Ratio Prot	c0.58		c0.08	0.49	c0.05	
v/s Ratio Perm						0.02
v/c Ratio	0.87		0.86	0.62	0.49	0.15
Uniform Delay, d1	15.3		52.1	5.0	48.5	46.6
Progression Factor	0.65		1.00	1.00	1.00	1.00
Incremental Delay, d2	7.8		34.6	2.0	1.9	0.4
Delay (s)	17.8		86.7	7.0	50.4	47.0
Level of Service	B		F	A	D	D
Approach Delay (s)	17.8			17.2	48.0	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	8	56	46	6	187	22	1432	16	238	911	54
Future Volume (veh/h)	218	8	56	46	6	187	22	1432	16	238	911	54
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	253	9	65	53	7	217	26	1665	19	277	1059	63
Adj No. of Lanes	1	1	0	1	1	0	1	3	1	1	2	1
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	270	13	95	420	8	254	265	1711	533	294	1250	559
Arrive On Green	0.15	0.07	0.07	0.24	0.17	0.17	0.15	0.34	0.34	0.17	0.36	0.36
Sat Flow, veh/h	1757	194	1403	1757	49	1526	1757	5036	1568	1757	3505	1568
Grp Volume(v), veh/h	253	0	74	53	0	224	26	1665	19	277	1059	63
Grp Sat Flow(s),veh/h/ln	1757	0	1597	1757	0	1575	1757	1679	1568	1757	1752	1568
Q Serve(g_s), s	15.4	0.0	4.9	2.6	0.0	14.9	1.4	35.2	0.9	16.8	30.1	2.9
Cycle Q Clear(g_c), s	15.4	0.0	4.9	2.6	0.0	14.9	1.4	35.2	0.9	16.8	30.1	2.9
Prop In Lane	1.00		0.88	1.00		0.97	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	270	0	108	420	0	263	265	1711	533	294	1250	559
V/C Ratio(X)	0.94	0.00	0.69	0.13	0.00	0.85	0.10	0.97	0.04	0.94	0.85	0.11
Avail Cap(c_a), veh/h	270	0	531	420	0	438	265	1711	533	294	1580	707
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.2	0.0	49.2	32.2	0.0	43.7	39.5	35.2	23.8	44.4	32.0	23.3
Incr Delay (d2), s/veh	38.1	0.0	7.5	0.1	0.0	8.3	0.2	15.8	0.0	36.9	3.7	0.1
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	0.0
%ile BackOfQ(50%),veh/ln	10.3	0.0	2.4	1.3	0.0	7.1	0.7	18.8	0.4	11.2	15.2	1.3
LnGrp Delay(d),s/veh	83.3	0.0	56.8	32.4	0.0	52.0	39.7	50.9	23.9	81.4	35.7	23.4
LnGrp LOS	F		E	C		D	D	D	C	F	D	C
Approach Vol, veh/h		327			277			1710			1399	
Approach Delay, s/veh		77.3			48.3			50.5			44.2	
Approach LOS		E			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.3	42.7	30.0	13.0	20.5	44.5	20.8	22.2
Change Period (Y+Rc), s	4.2	* 6	4.2	* 5.7	4.2	* 6	* 4.2	* 4.2
Max Green Setting (Gmax), s	18.1	* 37	9.2	* 36	6.1	* 49	* 17	* 30
Max Q Clear Time (g_c+I1), s	18.8	37.2	4.6	6.9	3.4	32.1	17.4	16.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	6.4	0.0	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	50.3
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	203	34	172	27	262	269	1280	108	311	765	91
Future Volume (veh/h)	52	203	34	172	27	262	269	1280	108	311	765	91
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1900	1845	1845	1845
Adj Flow Rate, veh/h	57	221	37	187	29	285	292	1391	117	338	832	99
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	258	267	227	205	212	504	405	1525	128	363	990	443
Arrive On Green	0.15	0.14	0.14	0.12	0.11	0.11	0.23	0.32	0.32	0.21	0.28	0.28
Sat Flow, veh/h	1757	1845	1568	1757	1845	1568	1757	4734	398	1757	3505	1568
Grp Volume(v), veh/h	57	221	37	187	29	285	292	987	521	338	832	99
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1757	1845	1568	1757	1679	1774	1757	1752	1568
Q Serve(g_s), s	2.7	11.2	2.0	10.1	1.4	8.1	14.7	27.0	27.0	18.1	21.4	4.6
Cycle Q Clear(g_c), s	2.7	11.2	2.0	10.1	1.4	8.1	14.7	27.0	27.0	18.1	21.4	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	258	267	227	205	212	504	405	1082	572	363	990	443
V/C Ratio(X)	0.22	0.83	0.16	0.91	0.14	0.57	0.72	0.91	0.91	0.93	0.84	0.22
Avail Cap(c_a), veh/h	258	431	366	205	473	726	405	1103	583	363	1195	535
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	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	1.00
Uniform Delay (d), s/veh	36.1	39.8	35.9	41.9	38.2	10.7	34.0	31.2	31.2	37.4	32.4	26.3
Incr Delay (d2), s/veh	0.4	7.0	0.3	39.2	0.3	1.0	6.2	11.2	18.6	30.4	4.7	0.3
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	0.0
%ile BackOfQ(50%),veh/ln	1.4	6.2	0.9	7.1	0.7	3.6	7.8	14.2	16.1	11.8	10.9	2.0
LnGrp Delay(d),s/veh	36.5	46.8	36.2	81.0	38.5	11.7	40.2	42.4	49.7	67.8	37.1	26.6
LnGrp LOS	D	D	D	F	D	B	D	D	D	E	D	C
Approach Vol, veh/h		315			501			1800			1269	
Approach Delay, s/veh		43.7			39.1			44.2			44.4	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.0	36.6	15.4	19.9	27.8	32.8	18.3	17.0
Change Period (Y+Rc), s	* 4.2	5.7	4.2	* 6	5.7	* 5.7	4.2	* 6
Max Green Setting (Gmax), s	* 20	31.5	11.2	* 22	18.6	* 33	9.0	* 25
Max Q Clear Time (g_c+I1), s	20.1	29.0	12.1	13.2	16.7	23.4	4.7	10.1
Green Ext Time (p_c), s	0.0	1.8	0.0	0.7	0.2	3.7	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	43.6
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	262	215	50	74	161	172	236	76	50	141	130
Future Volume (veh/h)	58	262	215	50	74	161	172	236	76	50	141	130
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.97
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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	67	305	250	58	86	187	200	274	88	58	164	151
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	86	358	304	75	374	318	231	330	280	664	813	672
Arrive On Green	0.05	0.19	0.19	0.04	0.20	0.20	0.13	0.18	0.18	0.38	0.44	0.44
Sat Flow, veh/h	1757	1845	1568	1757	1845	1568	1757	1845	1568	1757	1845	1525
Grp Volume(v), veh/h	67	305	250	58	86	187	200	274	88	58	164	151
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1757	1845	1568	1757	1845	1568	1757	1845	1525
Q Serve(g_s), s	4.4	18.5	12.9	3.8	4.5	5.0	12.9	16.6	5.7	2.5	6.3	7.1
Cycle Q Clear(g_c), s	4.4	18.5	12.9	3.8	4.5	5.0	12.9	16.6	5.7	2.5	6.3	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	86	358	304	75	374	318	231	330	280	664	813	672
V/C Ratio(X)	0.78	0.85	0.82	0.78	0.23	0.59	0.87	0.83	0.31	0.09	0.20	0.22
Avail Cap(c_a), veh/h	179	541	460	164	525	446	376	636	541	664	813	672
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	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.81	0.81	0.81	0.84	0.84	0.84
Uniform Delay (d), s/veh	54.5	45.2	23.7	55.0	38.7	6.6	49.4	45.9	41.4	23.2	19.9	20.1
Incr Delay (d2), s/veh	14.0	8.2	7.2	15.7	0.3	1.7	9.4	17.6	2.4	0.0	0.5	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	0.0
%ile BackOfQ(50%),veh/ln	2.5	10.2	6.2	2.2	2.3	2.3	6.9	10.1	2.6	1.2	3.3	3.1
LnGrp Delay(d),s/veh	68.5	53.4	30.9	70.7	39.0	8.3	58.7	63.5	43.8	23.3	20.4	20.8
LnGrp LOS	E	D	C	E	D	A	E	E	D	C	C	C
Approach Vol, veh/h		622			331			562			373	
Approach Delay, s/veh		46.0			27.2			58.7			21.0	
Approach LOS		D			C			E			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	49.8	26.7	10.9	28.5	19.5	57.1	9.9	29.5
Change Period (Y+Rc), s	6.0	* 6	6.0	* 6	* 4.2	6.0	* 4.2	6.0
Max Green Setting (Gmax), s	10.8	* 40	10.8	* 34	* 25	26.0	* 12	33.0
Max Q Clear Time (g_c+I1), s	4.5	18.6	5.8	20.5	14.9	9.1	6.4	7.0
Green Ext Time (p_c), s	0.0	1.5	0.0	2.0	0.3	1.1	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	41.6
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	93	22	69	117	43	221	23	22	1059	115	252	850
Future Volume (vph)	93	22	69	117	43	221	23	22	1059	115	252	850
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.7		4.2	5.7	5.7		4.2	6.0	6.0	4.2	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.89		1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.99
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	1636		1752	1845	1568		1752	3505	1568	1752	3482
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	1636		1752	1845	1568		1752	3505	1568	1752	3482
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	108	26	80	136	50	257	27	26	1231	134	293	988
RTOR Reduction (vph)	0	71	0	0	0	220	0	0	0	66	0	2
Lane Group Flow (vph)	108	35	0	136	50	37	0	53	1231	68	293	1030
Turn Type	Prot	NA		Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	5	2		1	6
Permitted Phases						8				2		
Actuated Green, G (s)	5.8	12.5		10.0	16.7	16.7		14.1	42.8	42.8	30.6	59.3
Effective Green, g (s)	5.8	12.5		10.0	16.7	16.7		14.1	42.8	42.8	30.6	59.3
Actuated g/C Ratio	0.05	0.11		0.09	0.14	0.14		0.12	0.37	0.37	0.26	0.51
Clearance Time (s)	4.2	5.7		4.2	5.7	5.7		4.2	6.0	6.0	4.2	6.0
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)	87	176		151	265	225		212	1293	578	462	1780
v/s Ratio Prot	c0.06	0.02		0.08	c0.03			0.03	c0.35		c0.17	0.30
v/s Ratio Perm						0.02				0.04		
v/c Ratio	1.24	0.20		0.90	0.19	0.16		0.25	0.95	0.12	0.63	0.58
Uniform Delay, d1	55.1	47.2		52.5	43.7	43.5		46.2	35.6	24.1	37.8	19.7
Progression Factor	1.00	1.00		1.00	1.00	1.00		0.58	0.46	0.49	1.00	1.00
Incremental Delay, d2	174.8	0.6		45.2	0.3	0.3		0.5	13.9	0.3	2.8	1.4
Delay (s)	229.9	47.7		97.7	44.0	43.9		27.3	30.4	12.3	40.6	21.1
Level of Service	F	D		F	D	D		C	C	B	D	C
Approach Delay (s)		139.6			60.4				28.6			25.4
Approach LOS		F			E				C			C

Intersection Summary			
HCM 2000 Control Delay	38.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	38
Future Volume (vph)	38
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.86
Adj. Flow (vph)	44
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	20	116	289	101	33	284	254	175	149	18	174	157
Future Volume (vph)	20	116	289	101	33	284	254	175	149	18	174	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	5.7		4.2	5.7	5.7	4.2	6.0		4.2	6.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	0.95
Frpb, ped/bikes		1.00	1.00		1.00	1.00	0.98	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
Frt		1.00	0.96		1.00	1.00	0.85	1.00	0.98		1.00	1.00
Flt Protected		0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)		1752	1767		1752	1845	1534	1752	1815		1752	3505
Flt Permitted		0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)		1752	1767		1752	1845	1534	1752	1815		1752	3505
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	23	135	336	117	38	330	295	203	173	21	202	183
RTOR Reduction (vph)	0	0	12	0	0	0	225	0	6	0	0	0
Lane Group Flow (vph)	0	158	441	0	38	330	70	203	188	0	202	183
Confl. Peds. (#/hr)				1			1					
Turn Type	Prot	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA
Protected Phases	7	7	4		3	8		5	2		1	6
Permitted Phases							8					
Actuated Green, G (s)		11.9	27.4		2.8	18.3	18.3	14.3	14.6		11.7	12.0
Effective Green, g (s)		11.9	27.4		2.8	18.3	18.3	14.3	14.6		11.7	12.0
Actuated g/C Ratio		0.16	0.36		0.04	0.24	0.24	0.19	0.19		0.15	0.16
Clearance Time (s)		4.2	5.7		4.2	5.7	5.7	4.2	6.0		4.2	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		272	632		64	440	366	327	345		267	549
v/s Ratio Prot		c0.09	c0.25		0.02	0.18		c0.12	c0.10		c0.12	0.05
v/s Ratio Perm							0.05					
v/c Ratio		0.58	0.70		0.59	0.75	0.19	0.62	0.55		0.76	0.33
Uniform Delay, d1		30.0	21.1		36.3	27.0	23.3	28.7	28.0		31.1	28.7
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		3.1	3.4		13.9	7.0	0.3	3.6	1.8		11.6	0.4
Delay (s)		33.2	24.4		50.2	34.1	23.5	32.3	29.8		42.6	29.1
Level of Service		C	C		D	C	C	C	C		D	C
Approach Delay (s)			26.7			30.3			31.1			33.3
Approach LOS			C			C			C			C

Intersection Summary			
HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	76.6	Sum of lost time (s)	20.1
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	180
Future Volume (vph)	180
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1548
Flt Permitted	1.00
Satd. Flow (perm)	1548
Peak-hour factor, PHF	0.86
Adj. Flow (vph)	209
RTOR Reduction (vph)	176
Lane Group Flow (vph)	33
Confl. Peds. (#/hr)	1
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	12.0
Effective Green, g (s)	12.0
Actuated g/C Ratio	0.16
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	242
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.14
Uniform Delay, d1	27.8
Progression Factor	1.00
Incremental Delay, d2	0.3
Delay (s)	28.1
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	410	36	30	298	54	16	515	180	156	511	22
Future Volume (veh/h)	35	410	36	30	298	54	16	515	180	156	511	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	37	432	38	32	314	57	17	542	189	164	538	23
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	62	481	42	56	525	446	175	599	509	199	609	517
Arrive On Green	0.04	0.29	0.29	0.03	0.28	0.28	0.10	0.32	0.32	0.11	0.33	0.33
Sat Flow, veh/h	1757	1672	147	1757	1845	1568	1757	1845	1568	1757	1845	1568
Grp Volume(v), veh/h	37	0	470	32	314	57	17	542	189	164	538	23
Grp Sat Flow(s),veh/h/ln	1757	0	1819	1757	1845	1568	1757	1845	1568	1757	1845	1568
Q Serve(g_s), s	1.7	0.0	19.9	1.4	11.8	2.2	0.7	22.5	7.4	7.3	22.1	0.6
Cycle Q Clear(g_c), s	1.7	0.0	19.9	1.4	11.8	2.2	0.7	22.5	7.4	7.3	22.1	0.6
Prop In Lane	1.00		0.08	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	62	0	524	56	525	446	175	599	509	199	609	517
V/C Ratio(X)	0.60	0.00	0.90	0.57	0.60	0.13	0.10	0.90	0.37	0.82	0.88	0.04
Avail Cap(c_a), veh/h	110	0	615	110	633	538	175	661	561	215	780	663
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	1.00
Upstream Filter(I)	1.00	0.00	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	38.1	0.0	27.4	38.3	24.7	21.3	32.8	25.9	20.8	34.7	25.4	11.1
Incr Delay (d2), s/veh	9.1	0.0	14.5	8.9	1.1	0.1	0.2	15.1	0.4	20.9	9.7	0.0
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	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	12.0	0.8	6.1	1.0	0.4	14.0	3.3	4.7	12.9	0.3
LnGrp Delay(d),s/veh	47.2	0.0	41.9	47.2	25.8	21.4	33.1	41.0	21.2	55.6	35.1	11.1
LnGrp LOS	D		D	D	C	C	C	D	C	E	D	B
Approach Vol, veh/h		507			403			748			725	
Approach Delay, s/veh		42.2			26.9			35.8			39.0	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	31.3	6.7	28.8	13.3	31.4	7.0	28.5
Change Period (Y+Rc), s	* 4.2	5.3	* 4.2	5.7	5.3	* 4.9	* 4.2	* 5.7
Max Green Setting (Gmax), s	* 9.8	28.7	* 5	27.1	5.0	* 34	* 5	* 28
Max Q Clear Time (g_c+I1), s	9.3	24.5	3.4	21.9	2.7	24.1	3.7	13.8
Green Ext Time (p_c), s	0.0	1.5	0.0	1.2	0.0	2.3	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	36.6
HCM 2010 LOS	D

Notes



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	197	44	29	1221	25	49	1045
Future Volume (vph)	197	44	29	1221	25	49	1045
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2	6.0		4.2	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	1.00	1.00		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	1568	1752	3494		1752	3505
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	1568	1752	3494		1752	3505
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	214	48	32	1327	27	53	1136
RTOR Reduction (vph)	0	37	0	1	0	0	0
Lane Group Flow (vph)	214	11	32	1353	0	53	1136
Turn Type	Prot	Perm	Prot	NA		Prot	NA
Protected Phases	3		5	2		1	6
Permitted Phases		8					
Actuated Green, G (s)	15.3	26.2	4.2	68.8		6.6	71.2
Effective Green, g (s)	15.3	26.2	4.2	68.8		6.6	71.2
Actuated g/C Ratio	0.13	0.23	0.04	0.59		0.06	0.61
Clearance Time (s)	4.2	4.2	4.2	6.0		4.2	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	231	354	63	2072		99	2151
v/s Ratio Prot	c0.12		0.02	c0.39		0.03	c0.32
v/s Ratio Perm		c0.01					
v/c Ratio	0.93	0.03	0.51	0.65		0.54	0.53
Uniform Delay, d1	49.8	35.0	54.9	15.7		53.2	12.8
Progression Factor	1.00	1.00	1.17	0.44		0.89	1.14
Incremental Delay, d2	39.2	0.0	4.1	1.0		4.5	0.8
Delay (s)	89.0	35.0	68.2	8.0		52.1	15.4
Level of Service	F	D	E	A		D	B
Approach Delay (s)	79.1			9.4			17.0
Approach LOS	E			A			B

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	145	5	32	421	309	20	790	16	165	801	228
Future Volume (veh/h)	199	145	5	32	421	309	20	790	16	165	801	228
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1845
Adj Flow Rate, veh/h	216	158	5	35	458	336	22	859	17	179	871	248
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	243	690	22	51	486	413	164	1024	20	208	1063	476
Arrive On Green	0.14	0.39	0.39	0.03	0.26	0.26	0.09	0.29	0.29	0.04	0.10	0.10
Sat Flow, veh/h	1757	1778	56	1757	1845	1568	1757	3515	70	1757	3505	1568
Grp Volume(v), veh/h	216	0	163	35	458	336	22	428	448	179	871	248
Grp Sat Flow(s),veh/h/ln	1757	0	1835	1757	1845	1568	1757	1752	1832	1757	1752	1568
Q Serve(g_s), s	14.0	0.0	6.9	2.3	28.2	16.8	1.3	26.6	26.6	11.8	28.3	17.4
Cycle Q Clear(g_c), s	14.0	0.0	6.9	2.3	28.2	16.8	1.3	26.6	26.6	11.8	28.3	17.4
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	243	0	712	51	486	413	164	510	534	208	1063	476
V/C Ratio(X)	0.89	0.00	0.23	0.68	0.94	0.81	0.13	0.84	0.84	0.86	0.82	0.52
Avail Cap(c_a), veh/h	254	0	712	100	493	419	164	518	542	209	1296	580
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	0.81	0.81
Uniform Delay (d), s/veh	49.1	0.0	23.8	55.8	41.9	20.8	48.3	38.6	38.6	54.8	49.1	44.2
Incr Delay (d2), s/veh	28.7	0.0	0.2	14.9	26.6	11.5	0.4	15.2	14.6	24.4	5.8	3.3
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	0.0
%ile BackOfQ(50%),veh/ln	8.7	0.0	3.5	1.3	18.0	8.6	0.7	15.0	15.6	7.1	14.6	8.0
LnGrp Delay(d),s/veh	77.8	0.0	24.0	70.6	68.5	32.3	48.7	53.7	53.2	79.2	54.9	47.5
LnGrp LOS	E		C	E	E	C	D	D	D	E	D	D
Approach Vol, veh/h		379			829			898			1298	
Approach Delay, s/veh		54.7			53.9			53.3			56.8	
Approach LOS		D			D			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.9	39.5	7.6	51.0	16.5	40.9	22.0	36.6
Change Period (Y+Rc), s	* 4.2	5.7	* 4.2	6.0	5.7	* 5.7	6.0	* 6
Max Green Setting (Gmax), s	* 14	34.3	* 6.6	41.2	5.2	* 43	16.8	* 31
Max Q Clear Time (g_c+I1), s	13.8	28.6	4.3	8.9	3.3	30.3	16.0	30.2
Green Ext Time (p_c), s	0.0	2.4	0.0	0.8	0.0	4.9	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	55.0
HCM 2010 LOS	D

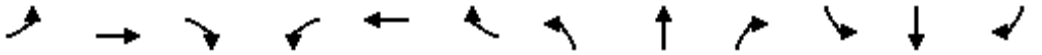
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	114	33	44	65	25	34	609	50	34	585	20
Future Volume (veh/h)	31	114	33	44	65	25	34	609	50	34	585	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	34	124	36	48	71	27	37	662	54	37	636	22
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	64	180	52	82	195	74	128	772	63	68	752	26
Arrive On Green	0.04	0.13	0.13	0.05	0.15	0.15	0.07	0.46	0.46	0.04	0.42	0.42
Sat Flow, veh/h	1757	1375	399	1757	1274	485	1757	1683	137	1757	1773	61
Grp Volume(v), veh/h	34	0	160	48	0	98	37	0	716	37	0	658
Grp Sat Flow(s),veh/h/ln	1757	0	1774	1757	0	1759	1757	0	1820	1757	0	1834
Q Serve(g_s), s	1.1	0.0	5.0	1.6	0.0	2.9	1.2	0.0	20.4	1.2	0.0	18.7
Cycle Q Clear(g_c), s	1.1	0.0	5.0	1.6	0.0	2.9	1.2	0.0	20.4	1.2	0.0	18.7
Prop In Lane	1.00		0.22	1.00		0.28	1.00		0.08	1.00		0.03
Lane Grp Cap(c), veh/h	64	0	232	82	0	269	128	0	835	68	0	778
V/C Ratio(X)	0.53	0.00	0.69	0.59	0.00	0.36	0.29	0.00	0.86	0.54	0.00	0.85
Avail Cap(c_a), veh/h	154	0	721	157	0	718	154	0	1188	154	0	1197
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	24.1	27.1	0.0	22.1	25.5	0.0	14.0	27.4	0.0	15.0
Incr Delay (d2), s/veh	6.7	0.0	3.6	6.6	0.0	0.8	1.2	0.0	4.6	6.6	0.0	3.5
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	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.7	0.9	0.0	1.5	0.6	0.0	11.2	0.7	0.0	10.1
LnGrp Delay(d),s/veh	34.2	0.0	27.7	33.7	0.0	22.9	26.7	0.0	18.6	34.0	0.0	18.6
LnGrp LOS	C		C	C		C	C		B	C		B
Approach Vol, veh/h		194			146			753			695	
Approach Delay, s/veh		28.9			26.5			19.0			19.4	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	31.5	7.6	12.5	8.4	29.5	6.3	13.8
Change Period (Y+Rc), s	4.2	* 4.9	4.9	* 4.9	4.2	* 4.9	* 4.2	4.9
Max Green Setting (Gmax), s	5.1	* 38	5.2	* 24	5.1	* 38	* 5.1	23.7
Max Q Clear Time (g_c+I1), s	3.2	22.4	3.6	7.0	3.2	20.7	3.1	4.9
Green Ext Time (p_c), s	0.0	4.2	0.0	0.7	0.0	3.9	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	20.8
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	375	21	72	376	230	24	306	112	240	346	65
Future Volume (veh/h)	131	375	21	72	376	230	24	306	112	240	346	65
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	136	391	22	75	392	240	25	319	117	250	360	68
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	389	725	41	95	441	517	41	344	126	307	503	95
Arrive On Green	0.22	0.42	0.42	0.05	0.24	0.24	0.02	0.27	0.27	0.09	0.33	0.33
Sat Flow, veh/h	1757	1730	97	1757	1845	1568	1757	1289	473	3408	1509	285
Grp Volume(v), veh/h	136	0	413	75	392	240	25	0	436	250	0	428
Grp Sat Flow(s),veh/h/ln	1757	0	1827	1757	1845	1568	1757	0	1761	1704	0	1794
Q Serve(g_s), s	7.8	0.0	20.4	5.1	24.6	6.9	1.7	0.0	29.0	8.6	0.0	25.1
Cycle Q Clear(g_c), s	7.8	0.0	20.4	5.1	24.6	6.9	1.7	0.0	29.0	8.6	0.0	25.1
Prop In Lane	1.00		0.05	1.00		1.00	1.00		0.27	1.00		0.16
Lane Grp Cap(c), veh/h	389	0	766	95	441	517	41	0	470	307	0	598
V/C Ratio(X)	0.35	0.00	0.54	0.79	0.89	0.46	0.60	0.00	0.93	0.81	0.00	0.72
Avail Cap(c_a), veh/h	389	0	766	143	558	616	88	0	528	364	0	656
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	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.68	0.68	0.68	1.00	0.00	1.00	0.67	0.00	0.67
Uniform Delay (d), s/veh	39.4	0.0	26.2	56.1	44.1	12.3	58.0	0.0	42.9	53.6	0.0	35.0
Incr Delay (d2), s/veh	0.5	0.0	2.7	10.8	16.7	2.1	13.3	0.0	21.6	8.0	0.0	2.3
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	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	10.8	2.7	14.6	3.2	1.0	0.0	16.9	4.4	0.0	12.7
LnGrp Delay(d),s/veh	40.0	0.0	28.9	66.9	60.8	14.4	71.4	0.0	64.5	61.6	0.0	37.3
LnGrp LOS	D		C	E	E	B	E		E	E		D
Approach Vol, veh/h		549			707			461			678	
Approach Delay, s/veh		31.6			45.7			64.8			46.3	
Approach LOS		C			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	38.0	10.7	56.3	7.0	46.0	32.6	34.4
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	6.0	* 4.2	* 6	6.0	* 5.7
Max Green Setting (Gmax), s	* 13	36.0	* 9.8	41.0	* 6	* 44	14.8	* 36
Max Q Clear Time (g_c+I1), s	10.6	31.0	7.1	22.4	3.7	27.1	9.8	26.6
Green Ext Time (p_c), s	0.2	1.0	0.0	2.0	0.0	2.3	0.1	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	46.3
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	564	105	271	540	433	93	775	158	547	1724	125
Future Volume (veh/h)	48	564	105	271	540	433	93	775	158	547	1724	125
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	52	613	114	295	587	471	101	842	172	595	1874	136
Adj No. of Lanes	1	2	1	1	2	1	1	3	1	2	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	269	663	297	305	733	724	118	1109	345	860	1943	141
Arrive On Green	0.05	0.06	0.06	0.23	0.28	0.28	0.02	0.07	0.07	0.25	0.41	0.41
Sat Flow, veh/h	1757	3505	1568	1757	3505	1568	1757	5036	1568	3408	4794	347
Grp Volume(v), veh/h	52	613	114	295	587	471	101	842	172	595	1311	699
Grp Sat Flow(s),veh/h/ln	1757	1752	1568	1757	1752	1568	1757	1679	1568	1704	1679	1783
Q Serve(g_s), s	3.4	20.9	8.4	20.0	18.7	0.0	6.9	19.7	12.7	19.0	45.7	46.1
Cycle Q Clear(g_c), s	3.4	20.9	8.4	20.0	18.7	0.0	6.9	19.7	12.7	19.0	45.7	46.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	269	663	297	305	733	724	118	1109	345	860	1361	723
V/C Ratio(X)	0.19	0.92	0.38	0.97	0.80	0.65	0.86	0.76	0.50	0.69	0.96	0.97
Avail Cap(c_a), veh/h	269	663	297	305	1002	844	118	1456	453	860	1362	724
HCM Platoon Ratio	0.33	0.33	0.33	1.33	1.33	1.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.75	0.83	0.83	0.83	0.29	0.29	0.29	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	55.4	49.5	45.8	41.0	21.9	58.1	52.5	49.3	40.6	34.8	34.9
Incr Delay (d2), s/veh	0.3	15.2	0.6	38.6	2.8	1.2	16.3	1.5	1.5	2.4	17.0	26.5
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	0.0
%ile BackOfQ(50%),veh/ln	1.7	11.6	3.7	12.9	9.3	10.6	3.9	9.3	5.6	9.2	24.3	27.9
LnGrp Delay(d),s/veh	50.1	70.6	50.2	84.4	43.8	23.0	74.4	54.0	50.8	43.0	51.9	61.4
LnGrp LOS	D	E	D	F	D	C	E	D	D	D	D	E
Approach Vol, veh/h		779			1353			1115			2605	
Approach Delay, s/veh		66.2			45.4			55.3			52.4	
Approach LOS		E			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	34.5	32.1	25.0	28.4	12.3	54.3	22.6	30.8
Change Period (Y+Rc), s	4.2	* 5.7	4.2	* 5.7	4.2	* 5.7	4.2	* 5.7
Max Green Setting (Gmax), s	22.0	* 35	20.8	* 23	8.0	* 49	9.2	* 34
Max Q Clear Time (g_c+I1), s	21.0	21.7	22.0	22.9	8.9	48.1	5.4	20.7
Green Ext Time (p_c), s	0.3	4.7	0.0	0.0	0.0	0.6	0.0	4.4

Intersection Summary	
HCM 2010 Ctrl Delay	53.2
HCM 2010 LOS	D

Notes



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	795	410	207	898	334	110
Future Volume (vph)	795	410	207	898	334	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	4.2	5.7	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.97	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	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1528	1752	3505	1752	1568
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1528	1752	3505	1752	1568
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	864	446	225	976	363	120
RTOR Reduction (vph)	0	245	0	0	0	90
Lane Group Flow (vph)	864	201	225	976	363	30
Confl. Peds. (#/hr)		2				
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Actuated Green, G (s)	54.1	54.1	20.2	78.5	29.8	29.8
Effective Green, g (s)	54.1	54.1	20.2	78.5	29.8	29.8
Actuated g/C Ratio	0.45	0.45	0.17	0.65	0.25	0.25
Clearance Time (s)	5.7	5.7	4.2	5.7	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1580	688	294	2292	435	389
v/s Ratio Prot	c0.25		c0.13	0.28	c0.21	
v/s Ratio Perm		0.13				0.02
v/c Ratio	0.55	0.29	0.77	0.43	0.83	0.08
Uniform Delay, d1	24.0	20.8	47.6	9.9	42.8	34.6
Progression Factor	0.35	0.78	0.90	0.90	1.00	1.00
Incremental Delay, d2	0.9	0.7	7.2	0.4	12.9	0.1
Delay (s)	9.4	17.0	50.0	9.3	55.7	34.6
Level of Service	A	B	D	A	E	C
Approach Delay (s)	11.9			16.9	50.5	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	903	101	227	1090	69	149
Future Volume (vph)	903	101	227	1090	69	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7		4.2	5.7	5.7	5.7
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1820		1752	1845	1752	1568
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1820		1752	1845	1752	1568
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	982	110	247	1185	75	162
RTOR Reduction (vph)	3	0	0	0	0	146
Lane Group Flow (vph)	1089	0	247	1185	75	16
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Actuated Green, G (s)	76.5		15.8	96.5	12.1	12.1
Effective Green, g (s)	76.5		15.8	96.5	12.1	12.1
Actuated g/C Ratio	0.64		0.13	0.80	0.10	0.10
Clearance Time (s)	5.7		4.2	5.7	5.7	5.7
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1160		230	1483	176	158
v/s Ratio Prot	c0.60		c0.14	0.64	c0.04	
v/s Ratio Perm						0.01
v/c Ratio	0.94		1.07	0.80	0.43	0.10
Uniform Delay, d1	19.6		52.1	6.4	50.7	49.0
Progression Factor	0.80		1.00	1.00	1.00	1.00
Incremental Delay, d2	14.3		80.3	4.6	1.7	0.3
Delay (s)	29.9		132.4	11.0	52.3	49.3
Level of Service	C		F	B	D	D
Approach Delay (s)	29.9			32.0	50.3	
Approach LOS	C			C	D	

Intersection Summary			
HCM 2000 Control Delay	32.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	8	36	66	7	169	83	924	9	88	1342	181
Future Volume (veh/h)	142	8	36	66	7	169	83	924	9	88	1342	181
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	158	9	40	73	8	188	92	1027	10	98	1491	201
Adj No. of Lanes	1	1	0	1	1	0	1	3	1	1	2	1
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	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	173	14	63	322	9	220	299	1309	408	599	1510	676
Arrive On Green	0.10	0.05	0.05	0.18	0.15	0.15	0.17	0.26	0.26	0.68	0.86	0.86
Sat Flow, veh/h	1757	296	1316	1757	64	1513	1757	5036	1568	1757	3505	1568
Grp Volume(v), veh/h	158	0	49	73	0	196	92	1027	10	98	1491	201
Grp Sat Flow(s),veh/h/ln	1757	0	1612	1757	0	1578	1757	1679	1568	1757	1752	1568
Q Serve(g_s), s	10.7	0.0	3.6	4.2	0.0	14.5	5.5	22.7	0.6	2.4	47.3	2.9
Cycle Q Clear(g_c), s	10.7	0.0	3.6	4.2	0.0	14.5	5.5	22.7	0.6	2.4	47.3	2.9
Prop In Lane	1.00		0.82	1.00		0.96	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	173	0	77	322	0	230	299	1309	408	599	1510	676
V/C Ratio(X)	0.91	0.00	0.63	0.23	0.00	0.85	0.31	0.78	0.02	0.16	0.99	0.30
Avail Cap(c_a), veh/h	173	0	399	322	0	394	299	1943	605	599	1528	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.51	0.51	0.51
Uniform Delay (d), s/veh	53.6	0.0	56.1	41.7	0.0	50.0	43.6	41.3	33.1	12.9	8.0	4.9
Incr Delay (d2), s/veh	44.7	0.0	8.3	0.4	0.0	8.7	0.6	4.8	0.1	0.1	13.9	0.6
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	0.0
%ile BackOfQ(50%),veh/ln	7.3	0.0	1.8	2.1	0.0	6.9	2.7	11.1	0.3	1.2	23.2	1.3
LnGrp Delay(d),s/veh	98.3	0.0	64.4	42.1	0.0	58.7	44.2	46.0	33.2	13.0	21.9	5.5
LnGrp LOS	F		E	D		E	D	D	C	B	C	A
Approach Vol, veh/h		207			269			1129			1790	
Approach Delay, s/veh		90.3			54.2			45.8			19.5	
Approach LOS		F			D			D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	45.1	37.2	26.2	11.4	24.6	57.7	16.0	21.7
Change Period (Y+Rc), s	4.2	* 6	4.2	* 5.7	4.2	* 6	* 4.2	* 4.2
Max Green Setting (Gmax), s	13.3	* 46	10.6	* 30	7.3	* 52	* 12	* 30
Max Q Clear Time (g_c+I1), s	4.4	24.7	6.2	5.6	7.5	49.3	12.7	16.5
Green Ext Time (p_c), s	0.1	6.4	0.0	0.2	0.0	2.4	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	35.3
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	122	109	79	112	77	89	840	148	611	1347	144
Future Volume (veh/h)	106	122	109	79	112	77	89	840	148	611	1347	144
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1900	1845	1845	1845
Adj Flow Rate, veh/h	115	133	118	86	122	84	97	913	161	664	1464	157
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	120	178	151	101	185	717	357	1323	232	627	1569	702
Arrive On Green	0.07	0.10	0.10	0.06	0.10	0.10	0.27	0.41	0.41	0.71	0.90	0.90
Sat Flow, veh/h	1757	1845	1568	1757	1845	1568	1757	4311	757	1757	3505	1568
Grp Volume(v), veh/h	115	133	118	86	122	84	97	710	364	664	1464	157
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1757	1845	1568	1757	1679	1711	1757	1752	1568
Q Serve(g_s), s	7.8	8.4	8.8	5.8	7.6	3.7	5.2	20.9	21.0	42.8	31.9	1.1
Cycle Q Clear(g_c), s	7.8	8.4	8.8	5.8	7.6	3.7	5.2	20.9	21.0	42.8	31.9	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	120	178	151	101	185	717	357	1031	525	627	1569	702
V/C Ratio(X)	0.96	0.75	0.78	0.85	0.66	0.12	0.27	0.69	0.69	1.06	0.93	0.22
Avail Cap(c_a), veh/h	120	364	310	101	344	852	357	1031	525	627	1738	777
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86	0.20	0.20	0.20
Uniform Delay (d), s/veh	55.7	52.8	53.0	56.0	52.0	18.7	36.8	30.8	30.8	17.2	5.1	1.9
Incr Delay (d2), s/veh	68.8	6.2	8.5	46.3	3.9	0.1	0.3	3.2	6.3	34.8	2.9	0.1
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	0.0
%ile BackOfQ(50%),veh/ln	6.1	4.6	4.2	4.1	4.1	1.6	2.6	10.1	10.8	25.9	14.1	0.4
LnGrp Delay(d),s/veh	124.5	59.0	61.4	102.3	55.9	18.8	37.1	34.0	37.2	52.0	8.1	2.0
LnGrp LOS	F	E	E	F	E	B	D	C	D	F	A	A
Approach Vol, veh/h		366			292			1171			2285	
Approach Delay, s/veh		80.4			58.9			35.3			20.4	
Approach LOS		F			E			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	47.0	42.5	12.9	17.6	34.0	55.5	12.4	18.1
Change Period (Y+Rc), s	* 4.2	5.7	6.0	* 6	5.7	* 5.7	* 4.2	6.0
Max Green Setting (Gmax), s	* 43	26.5	6.9	* 24	9.8	* 60	* 8.2	22.4
Max Q Clear Time (g_c+I1), s	44.8	23.0	7.8	10.8	7.2	33.9	9.8	9.6
Green Ext Time (p_c), s	0.0	2.0	0.0	0.7	0.0	12.1	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	32.7
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	362	324	68	35	137	53	225	65	109	305	168
Future Volume (veh/h)	97	362	324	68	35	137	53	225	65	109	305	168
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	108	402	360	76	39	152	59	250	72	121	339	187
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
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	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	310	524	445	108	253	215	94	338	287	192	441	375
Arrive On Green	0.18	0.28	0.28	0.06	0.14	0.14	0.05	0.18	0.18	0.11	0.24	0.24
Sat Flow, veh/h	1757	1845	1568	1757	1845	1568	1757	1845	1568	1757	1845	1568
Grp Volume(v), veh/h	108	402	360	76	39	152	59	250	72	121	339	187
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1757	1845	1568	1757	1845	1568	1757	1845	1568
Q Serve(g_s), s	3.0	11.3	8.1	2.4	1.1	5.2	1.9	7.2	1.6	3.7	9.7	5.8
Cycle Q Clear(g_c), s	3.0	11.3	8.1	2.4	1.1	5.2	1.9	7.2	1.6	3.7	9.7	5.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	310	524	445	108	253	215	94	338	287	192	441	375
V/C Ratio(X)	0.35	0.77	0.81	0.70	0.15	0.71	0.63	0.74	0.25	0.63	0.77	0.50
Avail Cap(c_a), veh/h	310	850	723	156	762	648	156	723	614	202	772	656
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	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	1.00
Uniform Delay (d), s/veh	20.4	18.5	8.5	26.0	21.4	23.2	26.1	21.8	9.7	24.0	20.0	18.5
Incr Delay (d2), s/veh	0.7	2.4	3.5	7.9	0.3	4.2	6.7	3.2	0.5	5.7	2.8	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	0.0
%ile BackOfQ(50%),veh/ln	1.5	6.0	4.3	1.4	0.6	2.5	1.1	4.0	0.9	2.1	5.2	2.6
LnGrp Delay(d),s/veh	21.0	20.9	12.0	33.9	21.7	27.5	32.9	24.9	10.2	29.7	22.8	19.6
LnGrp LOS	C	C	B	C	C	C	C	C	B	C	C	B
Approach Vol, veh/h		870			267			381			647	
Approach Delay, s/veh		17.2			28.5			23.4			23.2	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	16.3	7.7	22.0	7.2	19.5	16.0	13.7
Change Period (Y+Rc), s	4.2	* 6	* 4.2	6.0	4.2	* 6	6.0	* 6
Max Green Setting (Gmax), s	6.5	* 22	* 5	26.0	5.0	* 24	7.7	* 23
Max Q Clear Time (g_c+I1), s	5.7	9.2	4.4	13.3	3.9	11.7	5.0	7.2
Green Ext Time (p_c), s	0.0	1.1	0.0	2.8	0.0	1.8	0.1	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	21.5
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	62	21	46	84	28	111	9	109	846	90	259	1051
Future Volume (vph)	62	21	46	84	28	111	9	109	846	90	259	1051
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.7		4.2	5.7	5.7		4.2	6.0	6.0	4.2	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.98	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	0.90		1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.98
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	1654		1752	1845	1568		1752	3505	1530	1752	3451
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	1654		1752	1845	1568		1752	3505	1530	1752	3451
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	69	23	51	93	31	123	10	121	940	100	288	1168
RTOR Reduction (vph)	0	44	0	0	0	100	0	0	0	59	0	6
Lane Group Flow (vph)	69	30	0	93	31	23	0	131	940	41	288	1295
Confl. Peds. (#/hr)										2		
Turn Type	Prot	NA		Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	5	2		1	6
Permitted Phases						8				2		
Actuated Green, G (s)	6.0	16.6		11.4	22.0	22.0		10.6	48.8	48.8	23.1	61.3
Effective Green, g (s)	6.0	16.6		11.4	22.0	22.0		10.6	48.8	48.8	23.1	61.3
Actuated g/C Ratio	0.05	0.14		0.10	0.18	0.18		0.09	0.41	0.41	0.19	0.51
Clearance Time (s)	4.2	5.7		4.2	5.7	5.7		4.2	6.0	6.0	4.2	6.0
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)	87	228		166	338	287		154	1425	622	337	1762
v/s Ratio Prot	c0.04	c0.02		c0.05	0.02			c0.07	0.27		c0.16	c0.38
v/s Ratio Perm						0.01				0.03		
v/c Ratio	0.79	0.13		0.56	0.09	0.08		0.85	0.66	0.07	0.85	0.74
Uniform Delay, d1	56.4	45.4		51.9	40.7	40.6		53.9	28.9	21.7	46.8	23.0
Progression Factor	1.00	1.00		1.00	1.00	1.00		0.87	0.90	2.21	0.59	0.93
Incremental Delay, d2	37.6	0.3		4.3	0.1	0.1		29.0	2.0	0.2	13.1	1.8
Delay (s)	94.0	45.6		56.2	40.8	40.7		76.0	28.0	48.1	40.7	23.2
Level of Service	F	D		E	D	D		E	C	D	D	C
Approach Delay (s)		69.0			46.6				35.1			26.4
Approach LOS		E			D				D			C

Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	120
Future Volume (vph)	120
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	133
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	110	231	60	37	188	104	25	215	44	214	389
Future Volume (vph)	1	110	231	60	37	188	104	25	215	44	214	389
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	5.7		4.2	5.7	5.7	4.2	6.0		4.2	6.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	0.95
Frpb, ped/bikes		1.00	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	1.00
Frt		1.00	0.97		1.00	1.00	0.85	1.00	0.97		1.00	1.00
Flt Protected		0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)		1752	1782		1752	1845	1568	1752	1798		1752	3505
Flt Permitted		0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)		1752	1782		1752	1845	1568	1752	1798		1752	3505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1	122	257	67	41	209	116	28	239	49	238	432
RTOR Reduction (vph)	0	0	10	0	0	0	95	0	8	0	0	0
Lane Group Flow (vph)	0	123	314	0	41	209	21	28	280	0	238	432
Confl. Peds. (#/hr)				2								
Turn Type	Prot	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA
Protected Phases	7	7	4		3	8		5	2		1	6
Permitted Phases							8					
Actuated Green, G (s)		10.5	22.2		2.8	14.5	14.5	2.0	20.2		13.7	31.9
Effective Green, g (s)		10.5	22.2		2.8	14.5	14.5	2.0	20.2		13.7	31.9
Actuated g/C Ratio		0.13	0.28		0.04	0.18	0.18	0.03	0.26		0.17	0.40
Clearance Time (s)		4.2	5.7		4.2	5.7	5.7	4.2	6.0		4.2	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		232	500		62	338	287	44	459		303	1415
v/s Ratio Prot		0.07	c0.18		0.02	c0.11		0.02	c0.16		c0.14	0.12
v/s Ratio Perm							0.01					
v/c Ratio		0.53	0.63		0.66	0.62	0.07	0.64	0.61		0.79	0.31
Uniform Delay, d1		31.9	24.8		37.6	29.7	26.7	38.1	25.9		31.2	16.0
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		2.3	2.5		23.4	3.4	0.1	26.4	2.3		12.6	0.1
Delay (s)		34.3	27.3		61.0	33.1	26.8	64.5	28.2		43.8	16.1
Level of Service		C	C		E	C	C	E	C		D	B
Approach Delay (s)			29.2			34.2			31.4			25.0
Approach LOS			C			C			C			C

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	57
Future Volume (vph)	57
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1544
Flt Permitted	1.00
Satd. Flow (perm)	1544
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	63
RTOR Reduction (vph)	38
Lane Group Flow (vph)	25
Confl. Peds. (#/hr)	4
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	31.9
Effective Green, g (s)	31.9
Actuated g/C Ratio	0.40
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	623
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.04
Uniform Delay, d1	14.3
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	14.3
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	196	54	98	198	148	60	513	145	162	552	51
Future Volume (veh/h)	35	196	54	98	198	148	60	513	145	162	552	51
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	38	213	59	107	215	161	65	558	158	176	600	55
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	64	261	72	136	458	390	87	624	530	214	757	643
Arrive On Green	0.04	0.19	0.19	0.08	0.25	0.25	0.05	0.34	0.34	0.12	0.41	0.41
Sat Flow, veh/h	1757	1391	385	1757	1845	1568	1757	1845	1568	1757	1845	1568
Grp Volume(v), veh/h	38	0	272	107	215	161	65	558	158	176	600	55
Grp Sat Flow(s),veh/h/ln	1757	0	1777	1757	1845	1568	1757	1845	1568	1757	1845	1568
Q Serve(g_s), s	1.6	0.0	10.9	4.5	7.4	6.4	2.7	21.4	3.7	7.3	21.2	1.6
Cycle Q Clear(g_c), s	1.6	0.0	10.9	4.5	7.4	6.4	2.7	21.4	3.7	7.3	21.2	1.6
Prop In Lane	1.00		0.22	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	64	0	333	136	458	390	87	624	530	214	757	643
V/C Ratio(X)	0.59	0.00	0.82	0.79	0.47	0.41	0.75	0.89	0.30	0.82	0.79	0.09
Avail Cap(c_a), veh/h	146	0	598	160	646	549	118	710	604	236	844	717
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	1.00
Upstream Filter(I)	1.00	0.00	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	0.0	29.0	33.8	23.8	23.4	34.9	23.4	8.1	31.9	19.2	13.4
Incr Delay (d2), s/veh	8.4	0.0	4.9	19.6	0.7	0.7	15.8	12.8	0.3	19.0	4.7	0.1
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	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	5.8	2.9	3.9	2.8	1.7	13.1	2.2	4.6	11.7	0.7
LnGrp Delay(d),s/veh	43.8	0.0	33.9	53.3	24.6	24.2	50.7	36.2	8.4	50.9	23.9	13.5
LnGrp LOS	D		C	D	C	C	D	D	A	D	C	B
Approach Vol, veh/h		310			483			781			831	
Approach Delay, s/veh		35.1			30.8			31.8			29.0	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	30.5	11.1	19.7	7.9	35.9	6.9	23.8
Change Period (Y+Rc), s	* 4.2	5.3	5.3	* 5.7	* 4.2	* 5.3	* 4.2	5.3
Max Green Setting (Gmax), s	* 10	28.7	6.8	* 25	* 5	* 34	* 6.2	26.1
Max Q Clear Time (g_c+I1), s	9.3	23.4	6.5	12.9	4.7	23.2	3.6	9.4
Green Ext Time (p_c), s	0.0	1.8	0.0	1.0	0.0	2.9	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	31.0
HCM 2010 LOS	C

Notes



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	108	23	15	1125	26	114	1126
Future Volume (vph)	108	23	15	1125	26	114	1126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2	6.0		4.2	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	1.00	1.00		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	1568	1752	3493		1752	3505
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	1568	1752	3493		1752	3505
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	25	16	1223	28	124	1224
RTOR Reduction (vph)	0	20	0	1	0	0	0
Lane Group Flow (vph)	117	5	16	1250	0	124	1224
Turn Type	Prot	Perm	Prot	NA		Prot	NA
Protected Phases	3		5	2		1	6
Permitted Phases		8					
Actuated Green, G (s)	12.4	23.3	5.1	69.5		12.8	77.2
Effective Green, g (s)	12.4	23.3	5.1	69.5		12.8	77.2
Actuated g/C Ratio	0.10	0.19	0.04	0.58		0.11	0.64
Clearance Time (s)	4.2	4.2	4.2	6.0		4.2	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	181	304	74	2023		186	2254
v/s Ratio Prot	c0.07		0.01	c0.36		c0.07	0.35
v/s Ratio Perm		c0.00					
v/c Ratio	0.65	0.02	0.22	0.62		0.67	0.54
Uniform Delay, d1	51.7	39.1	55.5	16.5		51.5	11.7
Progression Factor	1.00	1.00	0.71	0.37		1.05	1.34
Incremental Delay, d2	7.7	0.0	1.2	1.2		6.5	0.7
Delay (s)	59.4	39.1	40.4	7.2		60.5	16.4
Level of Service	E	D	D	A		E	B
Approach Delay (s)	55.8			7.7			20.4
Approach LOS	E			A			C

Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	160	17	11	125	155	22	774	20	373	620	189
Future Volume (veh/h)	135	160	17	11	125	155	22	774	20	373	620	189
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1845
Adj Flow Rate, veh/h	142	168	18	12	132	163	23	815	21	393	653	199
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	168	339	36	24	231	197	663	1318	34	411	778	348
Arrive On Green	0.10	0.21	0.21	0.01	0.13	0.13	0.38	0.38	0.38	0.47	0.44	0.44
Sat Flow, veh/h	1757	1638	176	1757	1845	1568	1757	3491	90	1757	3505	1568
Grp Volume(v), veh/h	142	0	186	12	132	163	23	409	427	393	653	199
Grp Sat Flow(s),veh/h/ln	1757	0	1814	1757	1845	1568	1757	1752	1829	1757	1752	1568
Q Serve(g_s), s	9.5	0.0	10.9	0.8	8.1	12.2	1.0	22.7	22.7	25.8	19.8	8.8
Cycle Q Clear(g_c), s	9.5	0.0	10.9	0.8	8.1	12.2	1.0	22.7	22.7	25.8	19.8	8.8
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	168	0	376	24	231	197	663	662	690	411	778	348
V/C Ratio(X)	0.85	0.00	0.50	0.50	0.57	0.83	0.03	0.62	0.62	0.96	0.84	0.57
Avail Cap(c_a), veh/h	173	0	511	73	415	353	663	662	690	436	1612	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	53.4	0.0	42.0	58.8	49.4	51.2	23.6	30.3	30.3	31.3	31.5	17.3
Incr Delay (d2), s/veh	29.9	0.0	1.0	15.0	2.2	8.6	0.0	4.3	4.1	28.0	9.1	5.7
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	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	5.5	0.5	4.3	5.8	0.5	11.8	12.3	15.6	10.4	4.3
LnGrp Delay(d),s/veh	83.3	0.0	43.0	73.7	51.6	59.8	23.6	34.6	34.5	59.3	40.6	23.0
LnGrp LOS	F		D	E	D	E	C	C	C	E	D	C
Approach Vol, veh/h		328			307			859			1245	
Approach Delay, s/veh		60.5			56.9			34.2			43.7	
Approach LOS		E			E			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	32.3	51.0	5.8	30.8	51.0	32.3	15.7	21.0
Change Period (Y+Rc), s	* 4.2	5.7	* 4.2	6.0	5.7	* 5.7	* 4.2	6.0
Max Green Setting (Gmax), s	* 30	31.3	* 5	33.8	5.9	* 55	* 12	27.0
Max Q Clear Time (g_c+I1), s	27.8	24.7	2.8	12.9	3.0	21.8	11.5	14.2
Green Ext Time (p_c), s	0.3	2.5	0.0	0.8	0.0	4.8	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	44.2
HCM 2010 LOS	D

Notes

Intersection: 1: Grantland Avenue & Barstow Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	91	250	97	110	53	459	31	243
Average Queue (ft)	44	122	52	42	24	218	12	162
95th Queue (ft)	83	205	98	87	52	368	35	231
Link Distance (ft)		652		2486		2584		2566
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	250		250		280		250	
Storage Blk Time (%)		0				3		0
Queuing Penalty (veh)		0				1		0

Intersection: 2: Garfield Avenue & Shaw Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	53	178	53	92
Average Queue (ft)	15	7	30	41
95th Queue (ft)	45	60	52	72
Link Distance (ft)	2578	2609	2466	2553
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Grantland Avenue & Shaw Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	L	TR
Maximum Queue (ft)	424	440	230	186	142	255	350	134	470	607
Average Queue (ft)	122	219	81	90	58	52	232	56	127	309
95th Queue (ft)	244	371	142	166	107	145	358	110	353	534
Link Distance (ft)		2609		1163	1163		1623			2584
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	325		325			175		350	350	
Storage Blk Time (%)		3					27			7
Queuing Penalty (veh)		3					13			13

Intersection: 4: Veterans Boulevard & Shaw Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	T	T	T
Maximum Queue (ft)	112	271	270	52	184	302	309	202	89	252	274	289
Average Queue (ft)	15	145	158	15	82	174	146	107	33	143	162	176
95th Queue (ft)	57	229	232	42	174	270	232	196	78	264	278	299
Link Distance (ft)		1163	1163			1235	1235			2548	2548	2548
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			250	350			250	250			
Storage Blk Time (%)		0	0				1			0		3
Queuing Penalty (veh)		0	0				2			0		9

Intersection: 4: Veterans Boulevard & Shaw Avenue

Movement	NB	SB	SB	SB	SB	SB
Directions Served	R	L	L	T	T	TR
Maximum Queue (ft)	160	159	171	232	191	127
Average Queue (ft)	40	99	106	116	86	36
95th Queue (ft)	119	153	160	207	173	97
Link Distance (ft)				2752	2752	2752
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	250	250	250			
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 5: Bryan Avenue & Shaw Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	T	R	L	T	T	L	R
Maximum Queue (ft)	297	240	91	248	266	220	524	101
Average Queue (ft)	129	86	33	144	100	115	223	41
95th Queue (ft)	255	198	63	232	216	208	382	80
Link Distance (ft)	1235	1235			1218	1218		2553
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			250	250			600	
Storage Blk Time (%)		0		0	0			
Queuing Penalty (veh)		0		2	0			

Intersection: 6: Hayes Avenue & Shaw Avenue

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	707	261	304	302	289
Average Queue (ft)	450	127	128	87	137
95th Queue (ft)	719	232	253	195	239
Link Distance (ft)	1283	1198	1198	1536	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					250
Storage Blk Time (%)				0	1
Queuing Penalty (veh)				1	1

Intersection: 7: Grantland Avenue & Gettysburg Avenue/Stadium Drive

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (ft)	327	229	71	166	68	320	302	383	16	242	334	318
Average Queue (ft)	158	42	35	71	18	161	165	187	2	128	173	162
95th Queue (ft)	249	115	70	135	49	280	279	313	10	216	304	295
Link Distance (ft)		1454		1234		895	895	895			989	989
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		250		250				530	250		
Storage Blk Time (%)	2					2				0	4	2
Queuing Penalty (veh)	1					0				0	8	1

Intersection: 7: Grantland Avenue & Gettysburg Avenue/Stadium Drive

Movement	SB
Directions Served	R
Maximum Queue (ft)	46
Average Queue (ft)	12
95th Queue (ft)	31
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	250
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Grantland Avenue & Gettysburg Avenue & Veterans Boulevard

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	TR	L	T
Maximum Queue (ft)	91	234	24	276	70	159	262	367	379	396	285	394
Average Queue (ft)	34	117	10	110	16	70	168	203	236	265	174	191
95th Queue (ft)	83	200	27	195	45	130	250	349	373	402	257	328
Link Distance (ft)		811			931			989	989	989		2548
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		250	250		250	250				600	
Storage Blk Time (%)		0		0			1	4				
Queuing Penalty (veh)		0		1			3	11				

Intersection: 8: Grantland Avenue & Gettysburg Avenue & Veterans Boulevard

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	325	71
Average Queue (ft)	164	32
95th Queue (ft)	283	61
Link Distance (ft)	2548	2548
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Bryan Avenue & Gettysburg Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	87	287	113	113	126	62	193	218	43	88	86	62
Average Queue (ft)	41	143	56	48	49	34	106	100	18	32	40	24
95th Queue (ft)	76	238	93	105	104	55	159	179	39	71	77	54
Link Distance (ft)	1296	1296			2521			2516			2553	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			250	250		250	250		250	150		250
Storage Blk Time (%)		1										
Queuing Penalty (veh)		1										

Intersection: 10: Ashlan Avenue & Project Driveway

Movement	SB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	2
95th Queue (ft)	14
Link Distance (ft)	940
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Grantland Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	UL	T	T	R	L	T	TR
Maximum Queue (ft)	160	138	204	75	164	369	520	503	370	365	453	416
Average Queue (ft)	79	45	104	27	58	60	275	287	71	190	265	246
95th Queue (ft)	143	100	166	63	113	206	469	459	239	366	443	385
Link Distance (ft)		899		2576	2576		2628	2628			366	366
Upstream Blk Time (%)										2	3	1
Queuing Penalty (veh)										0	18	4
Storage Bay Dist (ft)	250		230			250			250	250		
Storage Blk Time (%)							15	21		14	8	
Queuing Penalty (veh)							7	24		60	20	

Intersection: 11: Grantland Avenue & Ashlan Avenue

Movement	B21
Directions Served	T
Maximum Queue (ft)	75
Average Queue (ft)	5
95th Queue (ft)	32
Link Distance (ft)	301
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Bryan Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB	SB
Directions Served	UL	TR	L	T	R	L	TR	L	T	T	R
Maximum Queue (ft)	153	351	72	255	144	191	158	163	130	94	76
Average Queue (ft)	70	162	25	137	71	93	96	82	74	13	39
95th Queue (ft)	125	299	52	231	124	160	157	132	121	48	65
Link Distance (ft)		2576		407			1002		2516	2516	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250		250		250	250		150			150
Storage Blk Time (%)		3		0				1			
Queuing Penalty (veh)		4		1				0			

Intersection: 13: Hayes Avenue & Ashlan Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	143	211	75	77
Average Queue (ft)	76	102	42	46
95th Queue (ft)	121	175	64	72
Link Distance (ft)	1469	2562	2608	565
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Polk Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	175	314	224	350	46	149	502	370	223	342	40
Average Queue (ft)	40	160	42	113	17	22	250	103	103	167	6
95th Queue (ft)	119	255	132	253	42	94	419	281	191	289	22
Link Distance (ft)		2562		2097			1100			1258	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	100		125		250	75		250	275		250
Storage Blk Time (%)		23	0	6			46			2	
Queuing Penalty (veh)		8	0	5			89			4	

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	UL	L	T	R	L	T	T	R	L
Maximum Queue (ft)	96	247	261	385	495	2120	2045	103	112	221	170	245
Average Queue (ft)	28	144	147	353	427	1107	82	42	44	38	91	137
95th Queue (ft)	67	238	242	474	672	2224	684	84	76	105	144	205
Link Distance (ft)		352	352			2511	2511		323	323		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			275	275			100			80	150
Storage Blk Time (%)		0		86	16			2	0	0	11	11
Queuing Penalty (veh)		0		185	34			1	0	1	6	11

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	203	220
Average Queue (ft)	84	25
95th Queue (ft)	162	93
Link Distance (ft)	2602	2602
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 16: Grantland Avenue & Dakota Avenue

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	U	T	TR	L	T	T
Maximum Queue (ft)	252	72	111	420	446	270	463	441
Average Queue (ft)	151	26	26	154	169	50	160	171
95th Queue (ft)	227	66	72	367	376	152	369	390
Link Distance (ft)		1218		2592	2592		2628	2628
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	250		250			150		
Storage Blk Time (%)	0			6			9	
Queuing Penalty (veh)	0			2			4	

Intersection: 17: Grantland Avenue & Shields Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	246	128	367	490	370	111	309	361	236	358	406	370
Average Queue (ft)	141	54	42	273	165	30	222	226	113	169	191	65
95th Queue (ft)	223	116	151	419	365	77	296	320	206	309	327	179
Link Distance (ft)		2570		2562			2576	2576		2592	2592	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		250		250	250			250			250
Storage Blk Time (%)	0			14	1		3		0	2	4	
Queuing Penalty (veh)	0			47	4		1		0	3	10	

Network Summary

Network wide Queuing Penalty: 624

Intersection: 1: Grantland Avenue & Barstow Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	53	116	73	114	76	384	74	346
Average Queue (ft)	19	64	35	49	33	199	33	157
95th Queue (ft)	47	113	68	92	69	326	69	275
Link Distance (ft)		652		2486		2584		2566
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	250		250		280		250	
Storage Blk Time (%)						3		3
Queuing Penalty (veh)						1		1

Intersection: 2: Garfield Avenue & Shaw Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	140	53	54	74
Average Queue (ft)	16	8	25	36
95th Queue (ft)	75	36	55	60
Link Distance (ft)	2578	2609	2466	2553
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Grantland Avenue & Shaw Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	L	TR
Maximum Queue (ft)	214	263	424	648	165	254	695	138	172	325
Average Queue (ft)	111	162	68	163	62	47	266	83	107	161
95th Queue (ft)	180	268	230	406	142	168	476	132	164	292
Link Distance (ft)		2609		1166	1166		1599			2584
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	325		325			175		350	350	
Storage Blk Time (%)				5			23			
Queuing Penalty (veh)				4			5			

Intersection: 4: Veterans Boulevard & Shaw Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	T	T	T
Maximum Queue (ft)	76	261	311	123	467	520	252	167	181	114	160	136
Average Queue (ft)	22	171	180	56	308	183	120	71	53	26	42	33
95th Queue (ft)	59	240	265	94	467	373	209	127	130	89	115	98
Link Distance (ft)		1166	1166			1232	1232			2543	2543	2543
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			250	350			250	250			
Storage Blk Time (%)		0	1		12	0	0					
Queuing Penalty (veh)		0	2		31	1	1					

Intersection: 4: Veterans Boulevard & Shaw Avenue

Movement	NB	SB	SB	SB	SB	SB
Directions Served	R	L	L	T	T	TR
Maximum Queue (ft)	89	310	370	756	742	548
Average Queue (ft)	14	223	309	425	367	313
95th Queue (ft)	54	332	428	645	565	464
Link Distance (ft)				2761	2761	2761
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	250	250	250			
Storage Blk Time (%)		9	13	26		
Queuing Penalty (veh)		50	74	143		

Intersection: 5: Bryan Avenue & Shaw Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	T	R	L	T	T	L	R
Maximum Queue (ft)	206	154	158	262	182	302	336	85
Average Queue (ft)	103	62	65	135	96	99	233	25
95th Queue (ft)	193	148	129	207	168	183	338	56
Link Distance (ft)	1232	1232			1205	1205		2553
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			250	250			600	
Storage Blk Time (%)				0				
Queuing Penalty (veh)				2				

Intersection: 6: Hayes Avenue & Shaw Avenue

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	892	485	247	117	193
Average Queue (ft)	415	205	119	56	107
95th Queue (ft)	773	373	214	96	181
Link Distance (ft)	1296	1198	1198	1536	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: Grantland Avenue & Gettysburg Avenue/Stadium Drive

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (ft)	265	70	176	181	154	172	181	215	11	125	498	484
Average Queue (ft)	103	28	62	57	68	49	61	80	1	50	122	117
95th Queue (ft)	198	53	135	118	141	139	153	185	5	104	328	315
Link Distance (ft)		1455		1235		895	895	895			989	989
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		250		250				530	250		
Storage Blk Time (%)	1										2	3
Queuing Penalty (veh)	1										2	6

Intersection: 7: Grantland Avenue & Gettysburg Avenue/Stadium Drive

Movement	SB
Directions Served	R
Maximum Queue (ft)	370
Average Queue (ft)	32
95th Queue (ft)	139
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	250
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Grantland Avenue & Gettysburg Avenue & Veterans Boulevard

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	TR	L	T
Maximum Queue (ft)	198	220	149	154	152	47	136	267	314	378	719	753
Average Queue (ft)	83	80	46	68	70	18	60	145	201	247	448	240
95th Queue (ft)	168	173	100	134	127	48	114	247	322	375	697	519
Link Distance (ft)		830			928			989	989	989		2543
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		250	250		250	250				600	
Storage Blk Time (%)								1			8	
Queuing Penalty (veh)								0			51	

Intersection: 8: Grantland Avenue & Gettysburg Avenue & Veterans Boulevard

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	382	70
Average Queue (ft)	182	18
95th Queue (ft)	305	52
Link Distance (ft)	2543	2543
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Bryan Avenue & Gettysburg Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	114	287	141	90	63	79	89	171	64	102	247	61
Average Queue (ft)	63	144	71	45	16	25	44	101	16	54	102	26
95th Queue (ft)	97	235	121	82	43	54	75	163	42	93	196	48
Link Distance (ft)	1296	1296			2521			2516			2553	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			250	250		250	250		250	150		250
Storage Blk Time (%)		0									3	
Queuing Penalty (veh)		2									7	

Intersection: 10: Ashlan Avenue & Parc West Drive

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	22	30
Average Queue (ft)	1	3
95th Queue (ft)	7	18
Link Distance (ft)	1576	948
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 11: Grantland Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	UL	T	T	R	L	T	TR
Maximum Queue (ft)	154	96	185	72	69	368	455	423	119	368	381	378
Average Queue (ft)	51	51	63	28	31	96	172	190	35	186	197	192
95th Queue (ft)	105	90	121	64	57	197	330	339	88	334	386	371
Link Distance (ft)		910		2576	2576		2628	2628			418	418
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		230			250			250	250		
Storage Blk Time (%)							3	5		9	3	
Queuing Penalty (veh)							4	4		48	8	

Intersection: 12: Bryan Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB	SB	
Directions Served	UL	TR	L	T	R	L	TR	L	T	T	R	
Maximum Queue (ft)	139	274	74	186	97	51	267	179	159	137	50	
Average Queue (ft)	68	105	31	79	38	19	114	99	94	41	13	
95th Queue (ft)	126	234	67	137	67	46	203	159	152	105	36	
Link Distance (ft)		2576		403			1003		2516	2516		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		250		250	250		150			150	
Storage Blk Time (%)		1					1	3	0	0		
Queuing Penalty (veh)		1					0	6	1	0		

Intersection: 13: Hayes Avenue & Ashlan Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	209	100	95	79
Average Queue (ft)	93	64	50	41
95th Queue (ft)	160	100	74	63
Link Distance (ft)	1469	2562	2602	559
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Polk Avenue & Ashlan Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	66	213	196	168	110	150	416	116	240	454	65
Average Queue (ft)	22	95	72	96	42	88	221	47	105	195	10
95th Queue (ft)	51	174	147	152	83	180	360	82	194	337	33
Link Distance (ft)		2562		2097			1100			1258	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	100		125		250	75		250	275		250
Storage Blk Time (%)		8	5	3		6	39			4	
Queuing Penalty (veh)		3	16	8		42	81			9	

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	UL	L	T	R	L	T	T	R	L
Maximum Queue (ft)	72	202	234	385	495	866	57	94	74	90	127	232
Average Queue (ft)	21	103	119	281	257	280	25	43	43	42	72	125
95th Queue (ft)	54	178	196	429	535	645	48	75	72	84	108	204
Link Distance (ft)		352	352			2511	2511		323	323		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			275	275			100			80	150
Storage Blk Time (%)				50	5	0		1		1	5	7
Queuing Penalty (veh)				219	24	0		1		2	4	5

Intersection: 15: Cornelia Avenue & Ashlan Avenue

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	222	212
Average Queue (ft)	80	35
95th Queue (ft)	167	114
Link Distance (ft)	2602	2602
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	2	
Queuing Penalty (veh)	4	

Intersection: 16: Grantland Avenue & Dakota Avenue

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	U	T	TR	L	T	T
Maximum Queue (ft)	162	52	73	458	466	269	434	432
Average Queue (ft)	88	19	25	87	92	116	166	159
95th Queue (ft)	154	48	61	260	269	243	369	364
Link Distance (ft)		1215		2592	2592		2628	2628
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	250		250			150		
Storage Blk Time (%)				1		3	10	
Queuing Penalty (veh)				0		18	11	

Intersection: 17: Grantland Avenue & Shields Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	206	167	74	225	116	53	308	292	370	491	393	368
Average Queue (ft)	100	93	12	107	57	16	190	187	228	151	131	48
95th Queue (ft)	189	158	45	176	101	46	294	295	364	366	281	161
Link Distance (ft)		2570		2562			2576	2576		2592	2592	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		250		250	250			250			250
Storage Blk Time (%)							3		9	2	2	
Queuing Penalty (veh)							1		28	7	3	

Network Summary

Network wide Queuing Penalty: 941

Appendix M: Signal Warrants

Signal Warrant Analysis

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

006	FRESNO	n/a	n/a
DIST	CO	RTE	KPM

COUNT DATE 8/21/2018
CALC AM DATE 10/8/2018
CHK JLB DATE 10/8/2018

Major St: **Grantland Avenue** Critical Approach Speed 50 MPH
Minor St: **Barstow Avenue** Critical Approach Speed 45 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

(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	6:00 a.m.	7:00 a.m.	1:00 p.m.	2:00 p.m.	3:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m.
APPROACH LANES	1		2 or More		Hour							
Both Approaches	500	350	600	420	558	477	527	665	702	762	543	452
Major Street	(400)	(280)	(480)	(336)	558	477	527	665	702	762	543	452
Highest Approach	150	105	200	140	27	31	21	29	28	29	30	21
Minor Street	(120)	(84)	(160)	(112)	27	31	21	29	28	29	30	21

Condition B - Interruption of Continuous Traffic **100% SATISFIED** YES ☐ NO ☑
80 % SATISFIED YES ☐ NO ☑

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)											
	U	R	U	R	6:00 a.m.	7:00 a.m.	1:00 p.m.	2:00 p.m.	3:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m.
APPROACH LANES	1		2 or More		Hour							
Both Approaches	750	525	900	630	558	477	527	665	702	762	543	452
Major Street	(600)	(420)	(720)	(504)	558	477	527	665	702	762	543	452
Highest Approach	75	53	100	70	27	31	21	29	28	29	30	21
Minor Street	(60)	(42)	(80)	(56)	27	31	21	29	28	29	30	21

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.
Traffic Engineering, Transportation Planning & Parking Solutions
www.JLBtraffic.com
info@JLBtraffic.com
1300 E. Shaw Ave., Ste. 103
Fresno, CA 93710
(559) 570 - 8991

Signal Warrant Analysis

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

006	FRESNO	n/a	n/a
DIST	CO	RTE	KPM

COUNT DATE 8/21/2018
CALC AM DATE 10/8/2018
CHK JLB DATE 10/8/2018

Major St: **Shaw Avenue** Critical Approach Speed 50 MPH
Minor St: **Garfield Avenue** Critical Approach Speed 45 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

(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	6:00 a.m.	7:00 a.m.	12:00 p.m.	1:00 p.m.	2:00 p.m.	3:00 p.m.	4:00 p.m.	5:00 p.m.
Hour												
Both Approaches	500	350	600	420	436	462	493	458	596	573	571	585
Major Street	(400)	(280)	(480)	(336)	436	462	493	458	596	573	571	585
Highest Approach	150	105	200	140	71	84	46	25	40	47	52	72
Minor Street	(120)	(84)	(160)	(112)	71	84	46	25	40	47	52	72

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	6:00 a.m.	7:00 a.m.	12:00 p.m.	1:00 p.m.	2:00 p.m.	3:00 p.m.	4:00 p.m.	5:00 p.m.
Hour												
Both Approaches	750	525	900	630	436	462	493	458	596	573	571	585
Major Street	(600)	(420)	(720)	(504)	436	462	493	458	596	573	571	585
Highest Approach	75	53	100	70	71	84	46	25	40	47	52	72
Minor Street	(60)	(42)	(80)	(56)	71	84	46	25	40	47	52	72

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		

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(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

006	FRESNO	n/a	n/a
DIST	CO	RTE	KPM

COUNT DATE 8/21/2018
CALC AM DATE 10/8/2018
CHK JLB DATE 10/8/2018

Major St: **Shaw Avenue** Critical Approach Speed 50 MPH

Minor St: **Bryan Avenue** Critical Approach Speed 45 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

(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	7:00 a.m.	12:00 p.m.	1:00 p.m.	2:00 p.m.	3:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m.
APPROACH LANES	1		2 or More		Hour							
Both Approaches	500	350	600	420	707	608	656	614	665	738	698	581
Major Street	(400)	(280)	(480)	(336)	707	608	656	614	665	738	698	581
Highest Approach	150	105	200	140	81	45	121	48	71	38	81	118
Minor Street	(120)	(84)	(160)	(112)	81	45	121	48	71	38	81	118

Condition B - Interruption of Continuous Traffic **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)											
	U	R	U	R	7:00 a.m.	12:00 p.m.	1:00 p.m.	2:00 p.m.	3:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m.
APPROACH LANES	1		2 or More		Hour							
Both Approaches	750	525	900	630	707	608	656	614	665	738	698	581
Major Street	(600)	(420)	(720)	(504)	707	608	656	614	665	738	698	581
Highest Approach	75	53	100	70	81	45	121	48	71	38	81	118
Minor Street	(60)	(42)	(80)	(56)	81	45	121	48	71	38	81	118

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		

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Signal Warrant Analysis

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

006	FRESNO	n/a	n/a
DIST	CO	RTE	KPM

COUNT DATE 4/25/2018
CALC AM DATE 4/30/2018
CHK JLB DATE 4/30/2018

Major St: **Shaw Avenue** Critical Approach Speed 50 MPH

Minor St: **Hayes Avenue** Critical Approach Speed 45 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

(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 a.m.	8:00 a.m.	1:00 p.m.	2:00 p.m.	5:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m. Hour
Both Approaches	500	350	600	420	793	629	747	646	742	772	829	793
Major Street	(400)	(280)	(480)	(336)	793	629	747	646	742	772	829	793
Highest Approach	150	105	200	140	171	116	80	84	68	76	75	82
Minor Street	(120)	(84)	(160)	(112)	171	116	80	84	68	76	75	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 a.m.	8:00 a.m.	1:00 p.m.	2:00 p.m.	5:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m. Hour
Both Approaches	750	525	900	630	793	629	747	646	742	772	829	793
Major Street	(600)	(420)	(720)	(504)	793	629	747	646	742	772	829	793
Highest Approach	75	53	100	70	171	116	80	84	68	76	75	82
Minor Street	(60)	(42)	(80)	(56)	171	116	80	84	68	76	75	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.
Traffic Engineering, Transportation Planning & Parking Solutions

www.JLBtraffic.com
info@JLBtraffic.com

1300 E. Shaw Ave., Ste. 103
Fresno, CA 93710
(559) 570 - 8991

Signal Warrant Analysis

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

006	FRESNO	n/a	n/a
DIST	CO	RTE	KPM

COUNT DATE 4/25/2018
CALC AM DATE 4/30/2018
CHK JLB DATE 4/30/2018

Major St: **Bryan Avenue** Critical Approach Speed 55 MPH
Minor St: **Gettysburg Avenue** Critical Approach Speed 55 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

(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 a.m.	8:00 a.m.	1:00 p.m.	2:00 p.m.	5:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m.
Hour												
Both Approaches	500	350	600	420	342	325	191	139	180	170	203	184
Major Street	(400)	(280)	(480)	(336)	342	325	191	139	180	170	203	184
Highest Approach	150	105	200	140	22	48	60	4	10	14	101	50
Minor Street	(120)	(84)	(160)	(112)	22	48	60	4	10	14	101	50

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 a.m.	8:00 a.m.	1:00 p.m.	2:00 p.m.	5:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m.
Hour												
Both Approaches	750	525	900	630	342	325	191	139	180	170	203	184
Major Street	(600)	(420)	(720)	(504)	342	325	191	139	180	170	203	184
Highest Approach	75	53	100	70	22	48	60	4	10	14	101	50
Minor Street	(60)	(42)	(80)	(56)	22	48	60	4	10	14	101	50

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		

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Traffic Engineering, Transportation Planning & Parking Solutions
www.JLBtraffic.com
info@JLBtraffic.com
1300 E. Shaw Ave., Ste. 103
Fresno, CA 93710
(559) 570 - 8991

Signal Warrant Analysis

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

006	FRESNO	n/a	n/a
DIST	CO	RTE	KPM

COUNT DATE 3/8/2018
CALC JA DATE 3/15/2018
CHK JLB DATE 3/15/2018

Major St: **Grantland Avenue** Critical Approach Speed 55 MPH
Minor St: **Ashlan Avenue** Critical Approach Speed 50 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

(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 a.m.	12:00 p.m.	1:00 p.m.	2:00 p.m.	5:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m.
Hour												
Both Approaches	500	350	600	420	312	203	236	276	319	386	410	331
Major Street	(400)	(280)	(480)	(336)	312	203	236	276	319	386	410	331
Highest Approach	150	105	200	140	132	65	123	153	115	113	109	106
Minor Street	(120)	(84)	(160)	(112)	132	65	123	153	115	113	109	106

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 a.m.	12:00 p.m.	1:00 p.m.	2:00 p.m.	5:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m.
Hour												
Both Approaches	750	525	900	630	312	203	236	276	319	386	410	331
Major Street	(600)	(420)	(720)	(504)	312	203	236	276	319	386	410	331
Highest Approach	75	53	100	70	132	65	123	153	115	113	109	106
Minor Street	(60)	(42)	(80)	(56)	132	65	123	153	115	113	109	106

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		

Prepared By:

JLB TRAFFIC ENGINEERING, INC.
Traffic Engineering, Transportation Planning & Parking Solutions
www.JLBtraffic.com
info@JLBtraffic.com
1300 E. Shaw Ave., Ste. 103
Fresno, CA 93710
(559) 570 - 8991

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Signal Warrant Analysis

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

006	FRESNO	n/a	n/a
DIST	CO	RTE	KPM

COUNT DATE 3/8/2018
CALC JA DATE 3/15/2018
CHK JLB DATE 3/15/2018

Major St: **Ashlan Avenue** Critical Approach Speed 55 MPH

Minor St: **Bryan Avenue** Critical Approach Speed 55 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

(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 a.m.	8:00 a.m.	2:00 p.m.	3:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m.	7:00 p.m.
Both Approaches	500	350	600	420	650	262	303	308	287	279	339	354
Major Street	(400)	(280)	(480)	(336)	650	262	303	308	287	279	339	354
Highest Approach	150	105	200	140	192	202	60	52	171	109	130	126
Minor Street	(120)	(84)	(160)	(112)	192	202	60	52	171	109	130	126

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 a.m.	8:00 a.m.	2:00 p.m.	3:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m.	7:00 p.m.
Both Approaches	750	525	900	630	650	262	303	308	287	279	339	354
Major Street	(600)	(420)	(720)	(504)	650	262	303	308	287	279	339	354
Highest Approach	75	53	100	70	192	202	60	52	171	109	130	126
Minor Street	(60)	(42)	(80)	(56)	192	202	60	52	171	109	130	126

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		

Prepared By:

JLB TRAFFIC ENGINEERING, INC.
Traffic Engineering, Transportation Planning & Parking Solutions

www.JLBtraffic.com
info@JLBtraffic.com

1300 E. Shaw Ave., Ste. 103
Fresno, CA 93710
(559) 570 - 8991

Signal Warrant Analysis

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

006	FRESNO	n/a	n/a
DIST	CO	RTE	KPM

COUNT DATE 4/25/2018
CALC AM DATE 4/30/2018
CHK JLB DATE 4/30/2018

Major St: **Ashlan Avenue** Critical Approach Speed 50 MPH
Minor St: **Hayes Avenue** Critical Approach Speed 55 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑
or
In built up area of isolated community of < 10,000 population ..... ☐ RURAL (R)
☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

(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 a.m.	8:00 a.m.	1:00 p.m.	2:00 p.m.	5:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m.
Hour												
Both Approaches	500	350	600	420	534	339	328	220	333	290	342	348
Major Street	(400)	(280)	(480)	(336)	534	339	328	220	333	290	342	348
Highest Approach	150	105	200	140	167	129	109	134	82	132	172	109
Minor Street	(120)	(84)	(160)	(112)	167	129	109	134	82	132	172	109

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 a.m.	8:00 a.m.	1:00 p.m.	2:00 p.m.	5:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m.
Hour												
Both Approaches	750	525	900	630	534	339	328	220	333	290	342	348
Major Street	(600)	(420)	(720)	(504)	534	339	328	220	333	290	342	348
Highest Approach	75	53	100	70	167	129	109	134	82	132	172	109
Minor Street	(60)	(42)	(80)	(56)	167	129	109	134	82	132	172	109

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		

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Traffic Engineering, Transportation Planning & Parking Solutions
www.JLBtraffic.com
info@JLBtraffic.com
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Fresno, CA 93710
(559) 570 - 8991

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Signal Warrant Analysis

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

006	FRESNO	n/a	n/a
DIST	CO	RTE	KPM

COUNT DATE 8/21/2018
CALC AM DATE 10/8/2018
CHK JLB DATE 10/8/2018

Major St: **Polk Avenue** Critical Approach Speed 50 MPH

Minor St: **Ashlan Avenue** Critical Approach Speed 45 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

(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 a.m.	8:00 a.m.	1:00 p.m.	2:00 p.m.	3:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m.
Both Approaches	500	350	600	420	606	460	387	534	491	474	492	525
Major Street	(400)	(280)	(480)	(336)	606	460	387	534	491	474	492	525
Highest Approach	150	105	200	140	325	221	323	290	286	286	343	303
Minor Street	(120)	(84)	(160)	(112)	325	221	323	290	286	286	343	303

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 a.m.	8:00 a.m.	1:00 p.m.	2:00 p.m.	3:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m.
Both Approaches	750	525	900	630	606	460	387	534	491	474	492	525
Major Street	(600)	(420)	(720)	(504)	606	460	387	534	491	474	492	525
Highest Approach	75	53	100	70	325	221	323	290	286	286	343	303
Minor Street	(60)	(42)	(80)	(56)	325	221	323	290	286	286	343	303

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		

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info@JLBtraffic.com

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Fresno, CA 93710
(559) 570 - 8991

Signal Warrant Analysis

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

006	FRESNO	n/a	n/a
DIST	CO	RTE	KPM

COUNT DATE 3/8/2018
CALC JA DATE 3/15/2018
CHK JLB DATE 3/15/2018

Major St: **Grantland Avenue** Critical Approach Speed 55 MPH
Minor St: **Shields Avenue** Critical Approach Speed 55 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

(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 a.m.	8:00 a.m.	1:00 p.m.	2:00 p.m.	3:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m.
Hour												
Both Approaches	500	350	600	420	307	261	166	241	266	261	226	147
Major Street	(400)	(280)	(480)	(336)	307	261	166	241	266	261	226	147
Highest Approaches	150	105	200	140	199	90	107	144	138	174	163	146
Minor Street	(120)	(84)	(160)	(112)	199	90	107	144	138	174	163	146

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 a.m.	8:00 a.m.	1:00 p.m.	2:00 p.m.	3:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m.
Hour												
Both Approaches	750	525	900	630	307	261	166	241	266	261	226	147
Major Street	(600)	(420)	(720)	(504)	307	261	166	241	266	261	226	147
Highest Approaches	75	53	100	70	199	90	107	144	138	174	163	146
Minor Street	(60)	(42)	(80)	(56)	199	90	107	144	138	174	163	146

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 ☑

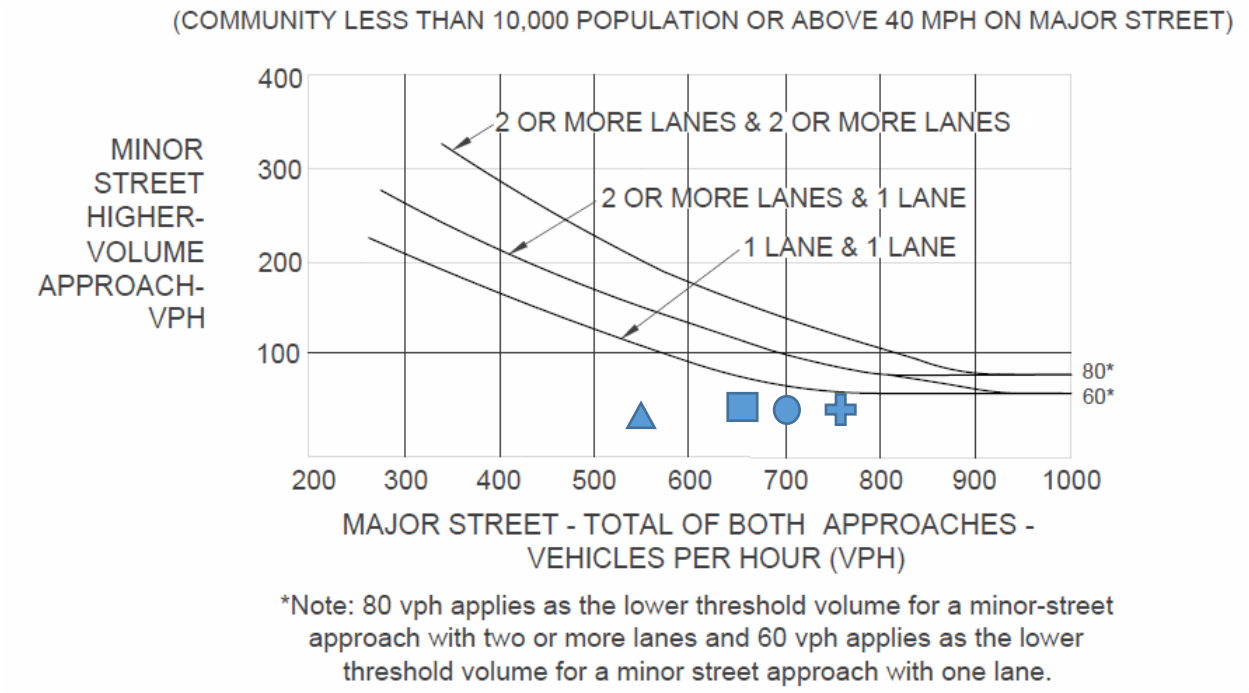
REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

Prepared By:

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Traffic Engineering, Transportation Planning & Parking Solutions
www.JLBtraffic.com
info@JLBtraffic.com
1300 E. Shaw Ave., Ste. 103
Fresno, CA 93710
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Existing Traffic Conditions
1. Grantland Avenue / Barstow 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.

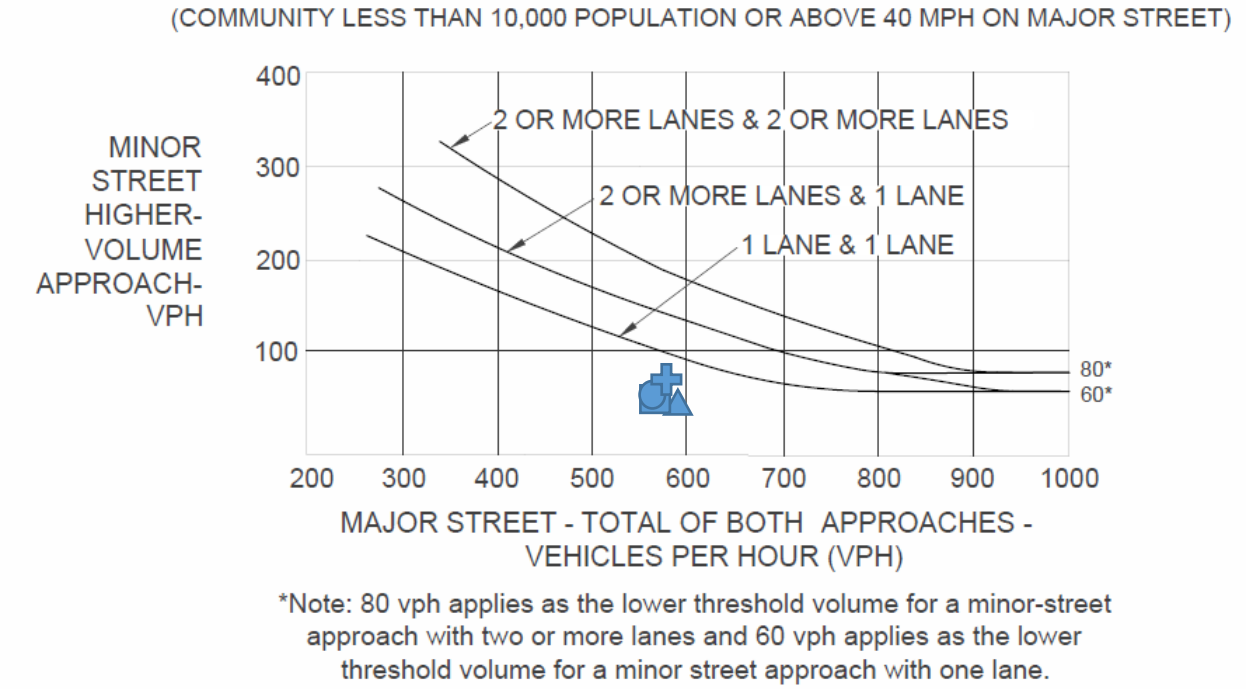
Grantland Avenue / Barstow Avenue	*1 Lane & 1 Lane*	*2 or More Lanes & 1 Lane*	*2 or More Lanes & 2 or More Lanes*	*6:00 AM Volume*	*2:00 PM Volume*	*3:00 PM Volume*	*4:00 PM Volume*
Grantland Avenue (Total of Both Approaches)	☒	☐	☐	558	665	702	762
Barstow Avenue (Higher Volume Approach)				27	29	28	29

Satisfied: ☐ **Yes** ☒ **No**

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

Warrant 2: Four-Hour Vehicular Volume (Rural)

Existing Traffic Conditions
2. Shaw Avenue / Garfield 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.

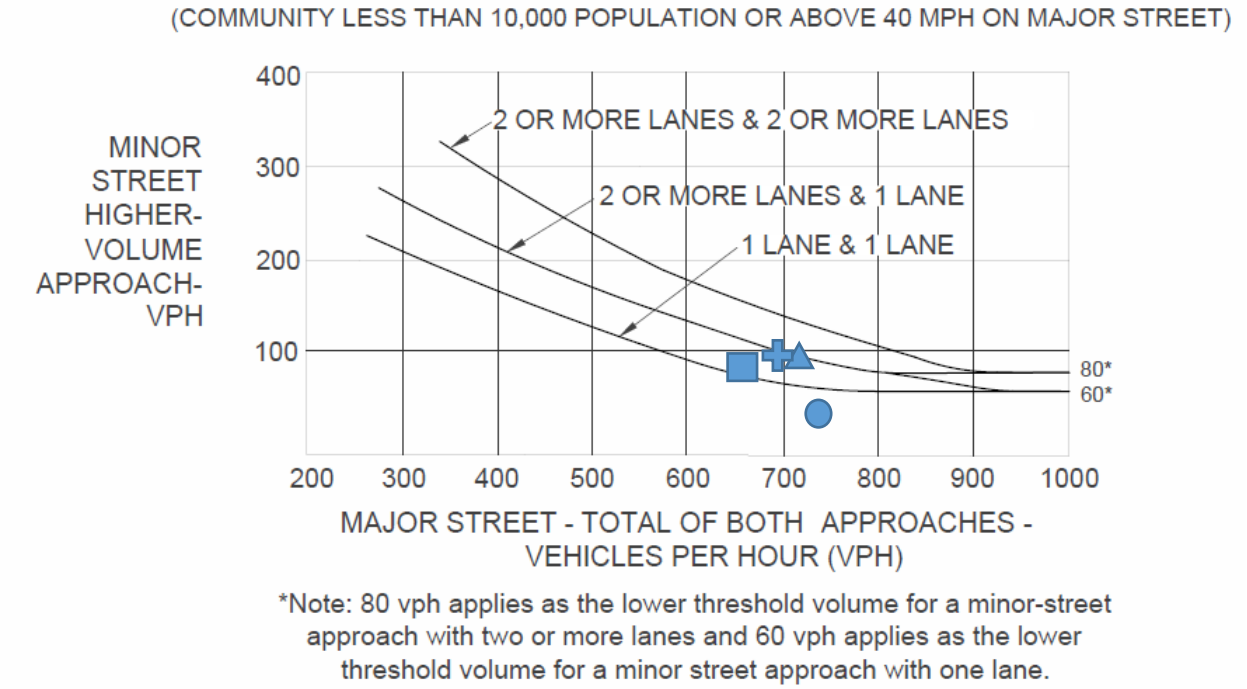
Shaw Avenue / Garfield Avenue	*1 Lane & 1 Lane*	*2 or More Lanes & 1 Lane*	*2 or More Lanes & 2 or More Lanes*	*2:00 PM Volume*	*3:00 PM Volume*	*4:00 PM Volume*	*5:00 PM Volume*
Shaw Avenue (Total of Both Approaches)	☒	☐	☐	596	573	571	585
Garfield Avenue (Higher Volume Approach)				40	47	52	72

Satisfied: ☐ **Yes** ☒ **No**

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

Warrant 2: Four-Hour Vehicular Volume (Rural)

Existing Traffic Conditions
5. Shaw Avenue / Bryan Avenue



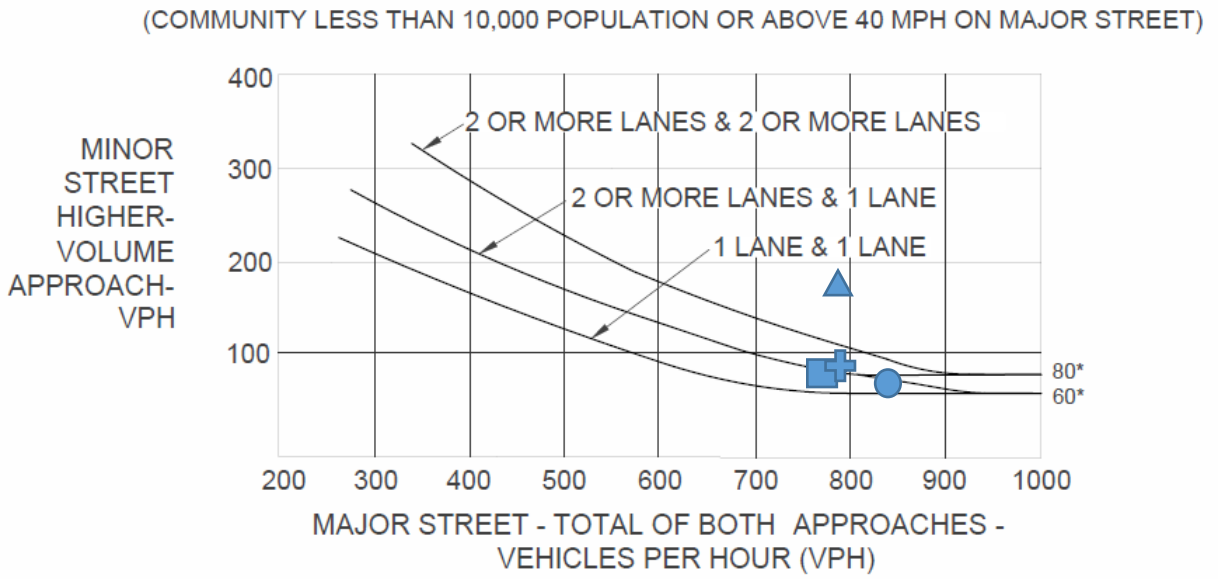
Shaw Avenue / Bryan Avenue	*1 Lane & 1 Lane*	*2 or More Lanes & 1 Lane*	*2 or More Lanes & 2 or More Lanes*	▲ *7:00 AM Volume*	■ *3:00 PM Volume*	● *4:00 PM Volume*	✚ *5:00 PM Volume*
Shaw Avenue (Total of Both Approaches)	☒	☐	☐	707	665	738	698
Bryan Avenue (Higher Volume Approach)				81	71	38	81

Satisfied: ☐ **Yes** ☒ **No**

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

Warrant 2: Four-Hour Vehicular Volume (Rural)

Existing Traffic Conditions
6. Shaw Avenue / Hayes 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.

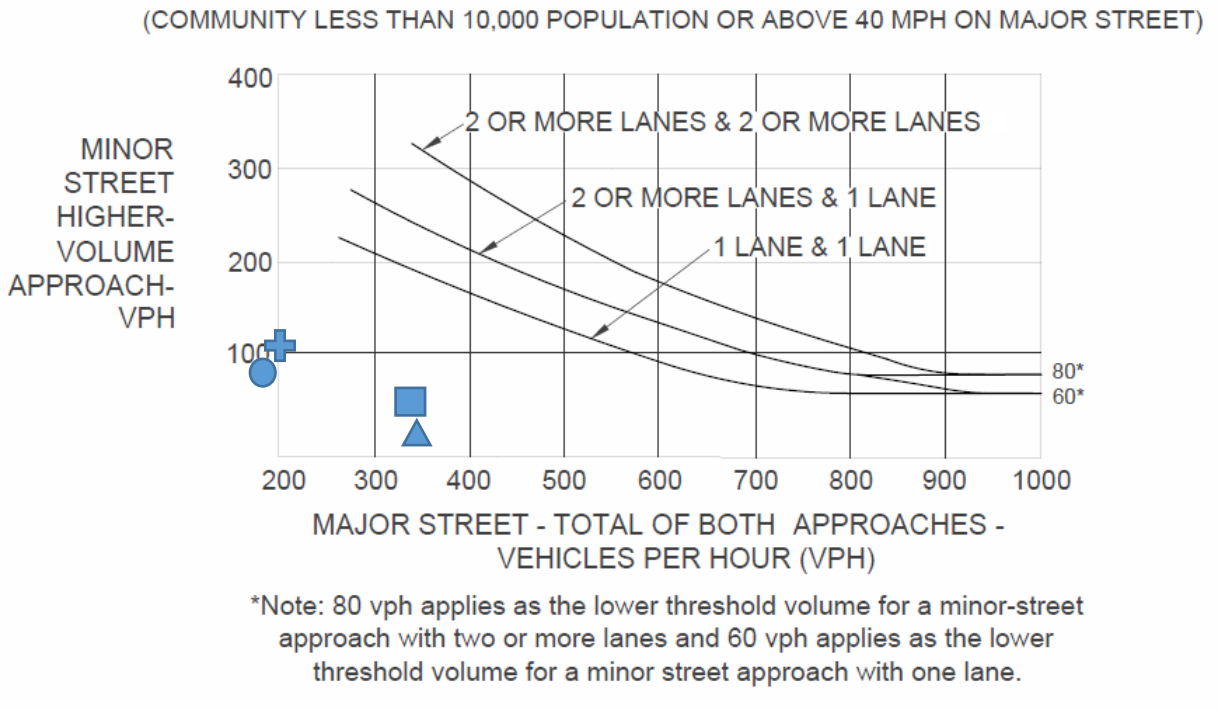
	1 Lane & 1 Lane	*2 or More Lanes & 1 Lane*	*2 or More Lanes & 2 or More Lanes*	*7:00 AM Volume*	*4:00 PM Volume*	*5:00 PM Volume*	*6:00 PM Volume*
Major Street (Total of Both Approaches)	☒	☐	☐	793	772	829	793
Minor Street (Higher Volume Approach)				171	76	75	82

Satisfied: ☒ **Yes** ☐ **No**

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

Warrant 2: Four-Hour Vehicular Volume (Rural)

Existing Traffic Conditions
9. Bryan Avenue / Gettysburg 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*	*8:00 AM Volume*	*1:00 PM Volume*	*5:00 PM Volume*
Major Street (Total of Both Approaches)	☐	☒	☐	342	325	191	203
Minor Street (Higher Volume Approach)				22	48	60	101

Satisfied: ☐ **Yes** ☒ **No**

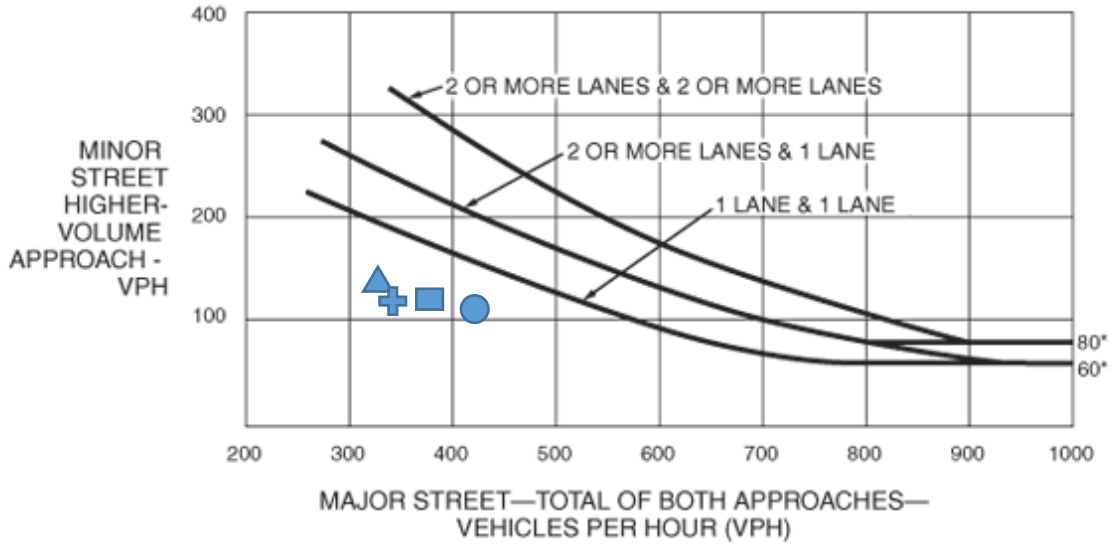
Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

Warrant 2 - Four Hour Volumes

Existing Conditions
Intersection: Grantland Avenue at Ashlan Avenue

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*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.

▲ **7:00 AM Volume**
■ **4:00 PM Volume**
● **5:00 PM Volume**
✚ **6:00 PM Volume**

Grantland at Ashlan: Approach Lanes	One Lane	Two or More Lanes	▲ 7:00AM	■ 4:00PM	● 5:00PM	✚ 6:00PM
Both Approaches - Major Street	X		312	386	410	331
Highest Approach - Minor Street	X		132	113	109	106

Satisfied? ☐ Yes ☑ No

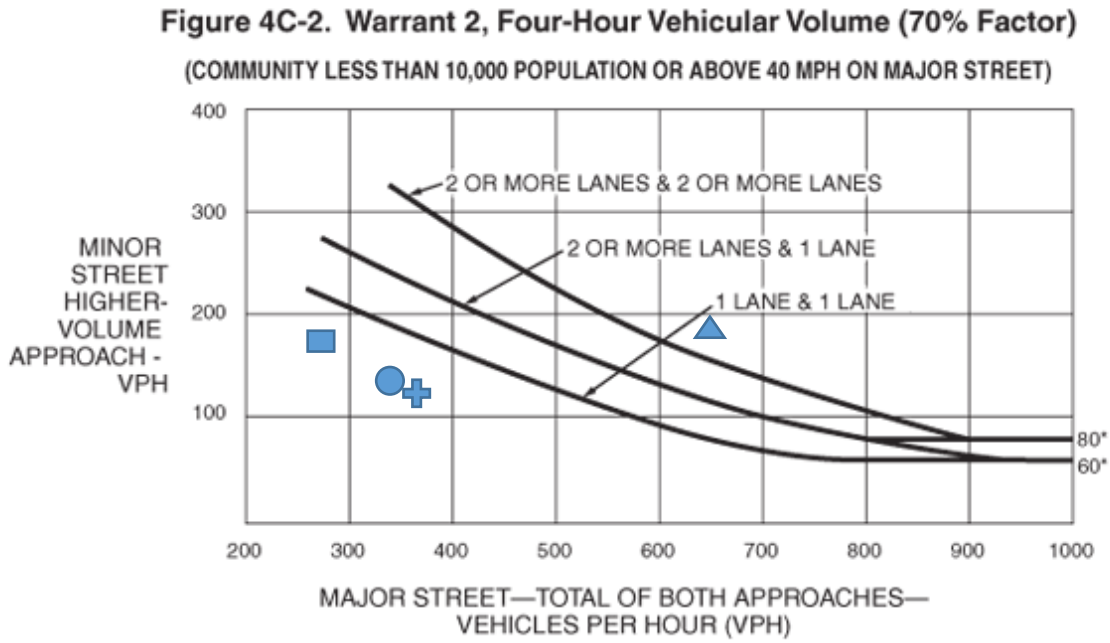
Source: ***California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)***
Part 4: Highway Traffic Signals, November 7, 2014

Prepared By:

JLB TRAFFIC ENGINEERING, INC.
Traffic Engineering, Transportation Planning & Parking Solutions
www.JLBtraffic.com
info@JLBtraffic.com
1300 E. Shaw Ave., Ste. 103
Fresno, CA 93710
(559) 570 - 8991

Warrant 2 - Four Hour Volumes

Existing - AM (PM) Peak Hour
Intersection: Ashlan Avenue at Bryan Avenue



7:00 AM Volume
3:00 PM Volume
5:00 PM Volume
6:00 PM Volume

Ashlan at Bryan: Approach Lanes	One Lane	Two or More Lanes	7:00AM	3:00PM	5:00PM	6:00PM
Both Approaches - Major Street	X		650	287	339	354
Highest Approach - Minor Street	X		192	171	130	126

Satisfied?	☐	Yes	☑	No

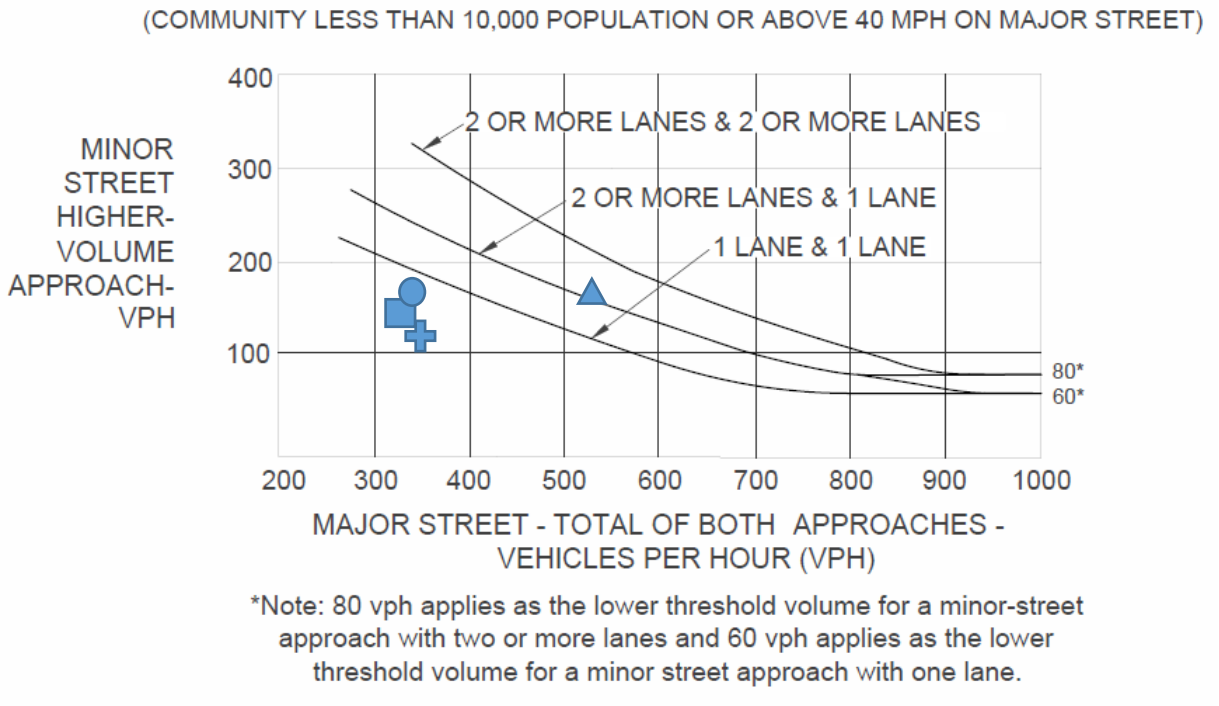
Source: ***California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)***
Part 4: Highway Traffic Signals, November 7, 2014

Prepared By:

TRAFFIC ENGINEERING, INC.
Traffic Engineering, Transportation Planning & Parking Solutions
www.JLBtraffic.com
info@JLBtraffic.com
1300 E. Shaw Ave., Ste. 103
Fresno, CA 93710
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Existing Traffic Conditions
13. Ashlan Avenue / Hayes 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.

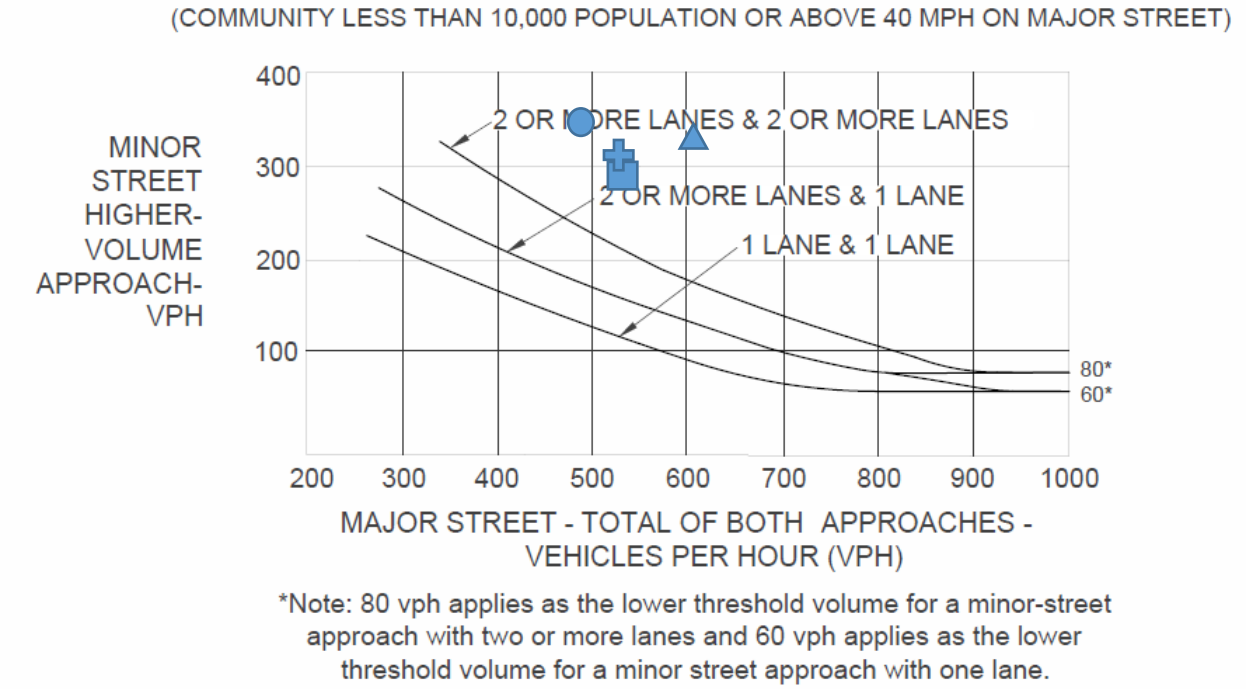
	1 Lane & 1 Lane	*2 or More Lanes & 1 Lane*	*2 or More Lanes & 2 or More Lanes*	*7:00 AM Volume*	*8:00 AM Volume*	*5:00 PM Volume*	*6:00 PM Volume*
Major Street (Total of Both Approaches)	☒	☐	☐	534	339	342	348
Minor Street (Higher Volume Approach)				167	129	172	109

Satisfied: ☐ **Yes** ☒ **No**

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

Warrant 2: Four-Hour Vehicular Volume (Rural)

Existing Traffic Conditions
14. Polk Avenue / Ashlan Avenue



Polk Avenue / Ashlan Avenue	*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*	*5:00 PM Volume*	*6:00 PM Volume*
Polk Avenue (Total of Both Approaches)	☒	☐	☐	606	534	492	525
Ashlan Avenue (Higher Volume Approach)				325	290	343	303

Satisfied: ☒ **Yes** ☐ **No**

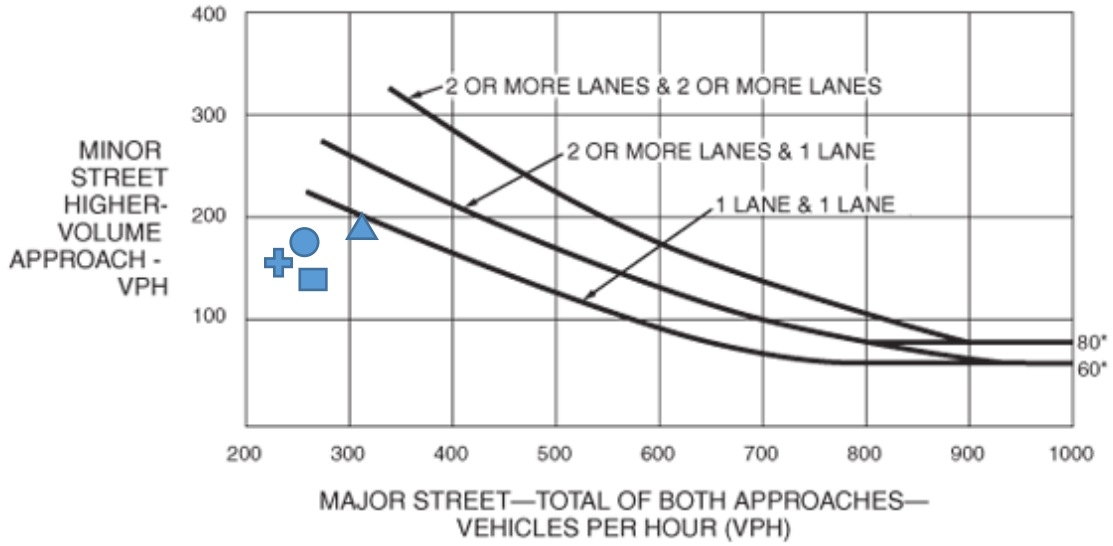
Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

Warrant 2 - Four Hour Volumes

Existing Conditions
Intersection: Grantland Avenue at Shields Avenue

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*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.

▲ **7:00 AM Volume**
■ **3:00 PM Volume**
● **4:00 PM Volume**
✚ **5:00 PM Volume**

Grantland at Shields: Approach Lanes	One Lane	Two or More Lanes	▲ 7:00AM	■ 3:00PM	● 4:00PM	✚ 5:00PM
Both Approaches - Major Street	X		307	266	261	226
Highest Approach - Minor Street	X		199	138	174	163
	Satisfied?	☐	Yes	☑	No	

Source: ***California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)***
Part 4: Highway Traffic Signals, November 7, 2014

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JLB TRAFFIC ENGINEERING, INC.
Traffic Engineering, Transportation Planning & Parking Solutions
www.JLBtraffic.com
info@JLBtraffic.com
1300 E. Shaw Ave., Ste. 103
Fresno, CA 93710
(559) 570 - 8991

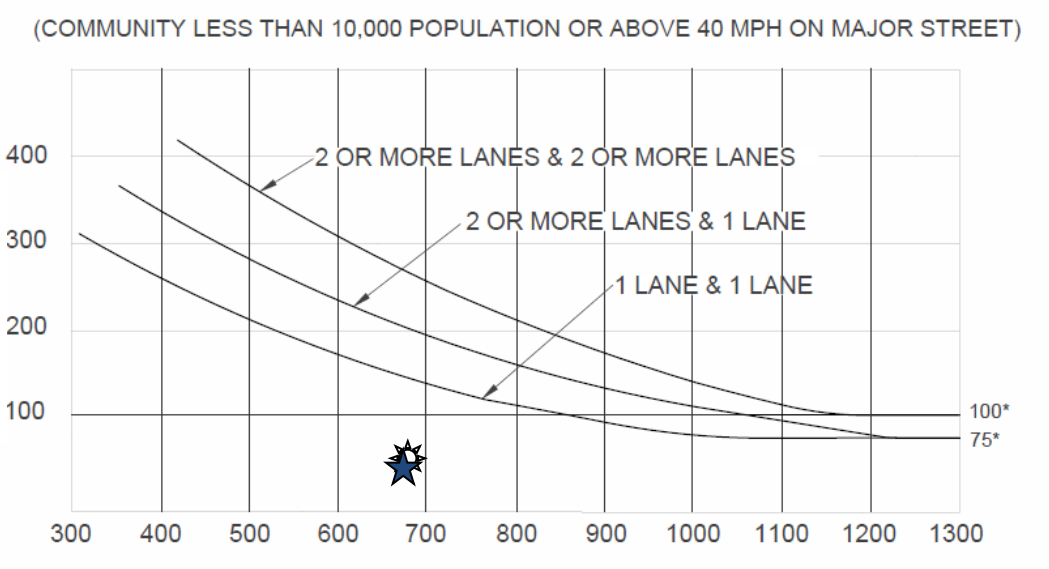
Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I) Traffic Conditions
1. Grantland Avenue / Barstow Avenue
AM (PM) Peak Hour

Barstow Avenue

Highest Approach Volume =

52 (43) VPH



Grantland Avenue Total of Both Approaches =

689 (675) 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.

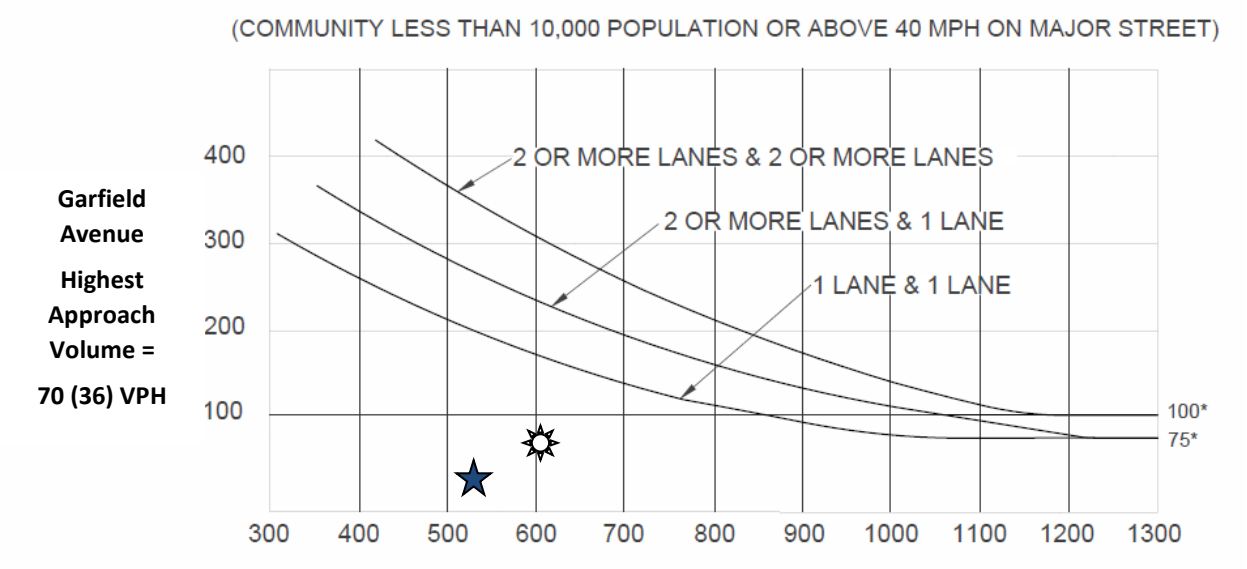
AM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I) Traffic Conditions
2. Garfield Avenue / Shaw Avenue
AM (PM) Peak Hour



Garfield Avenue Highest Approach Volume = 70 (36) VPH

Shaw Avenue Total of Both Approaches = 602 (533) 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

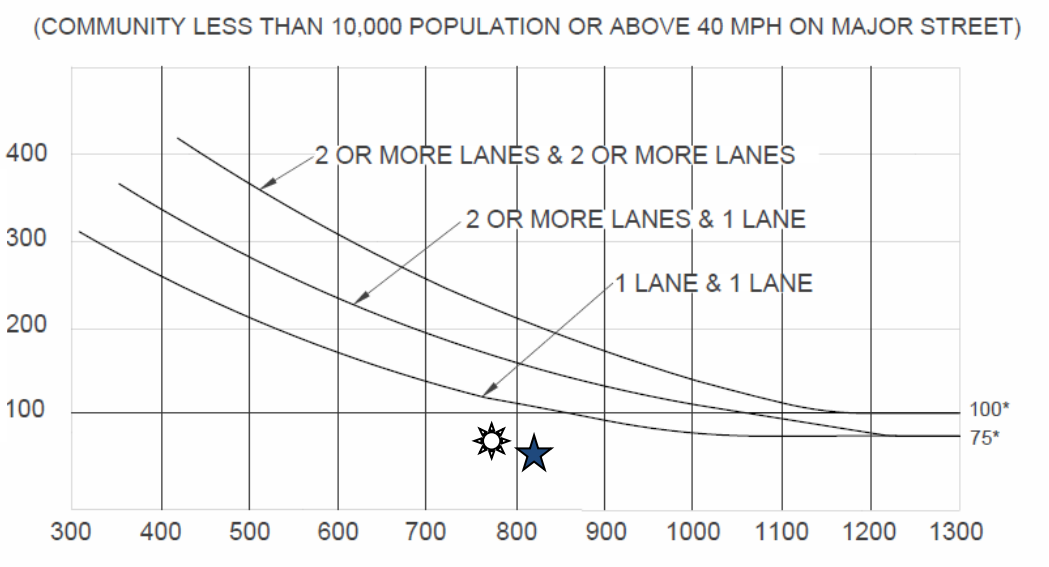
PM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I) Traffic Conditions
5. Bryan Avenue / Shaw Avenue
AM (PM) Peak Hour

Bryan Avenue Highest Approach Volume = 71 (59) VPH



Shaw Avenue Total of Both Approaches = 775 (813) 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.

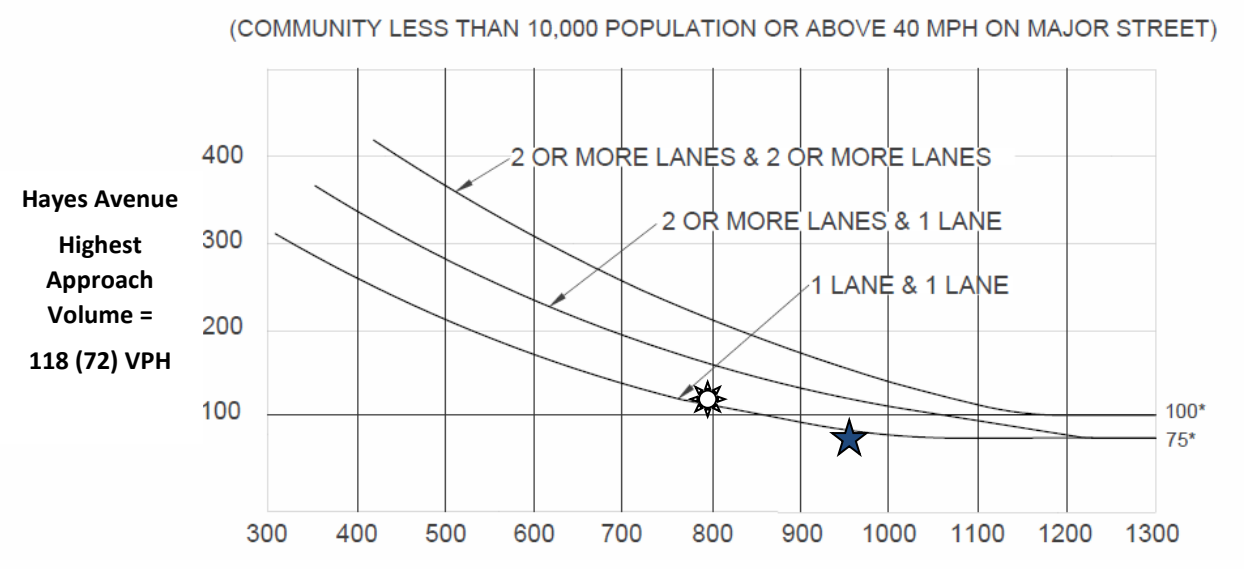
AM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I) Traffic Conditions
6. Hayes Avenue / Shaw Avenue
AM (PM) Peak Hour



Hayes Avenue Highest Approach Volume = 118 (72) VPH

Shaw Avenue Total of Both Approaches = 798 (949) 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

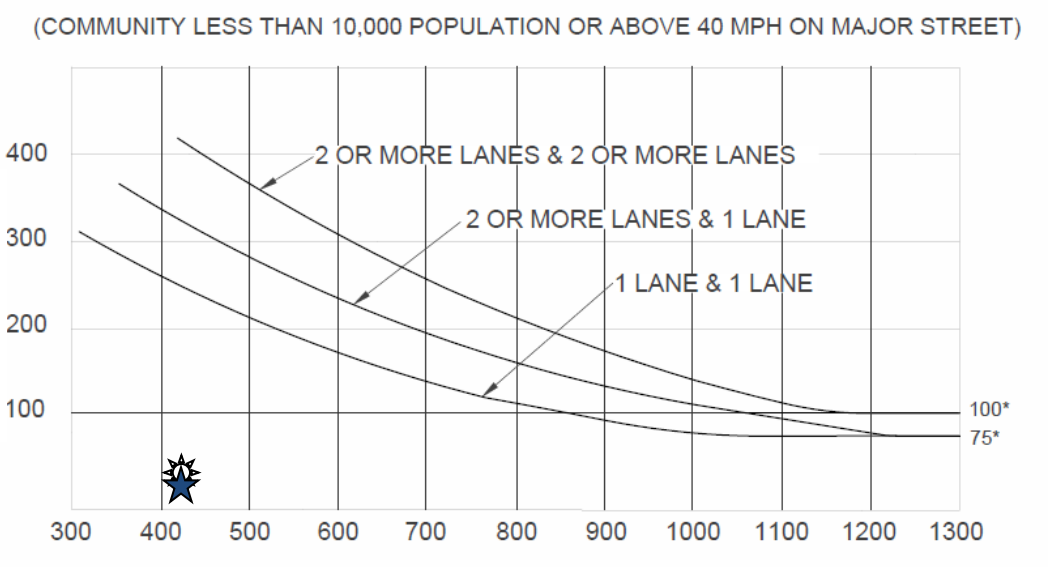
PM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I) Traffic Conditions
7. Grantland Avenue / Gettysburg Avenue
AM (PM) Peak Hour

Gettysburg Avenue Highest Approach Volume = 32 (21) VPH



Grantland Avenue Total of Both Approaches =

412 (411) 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.

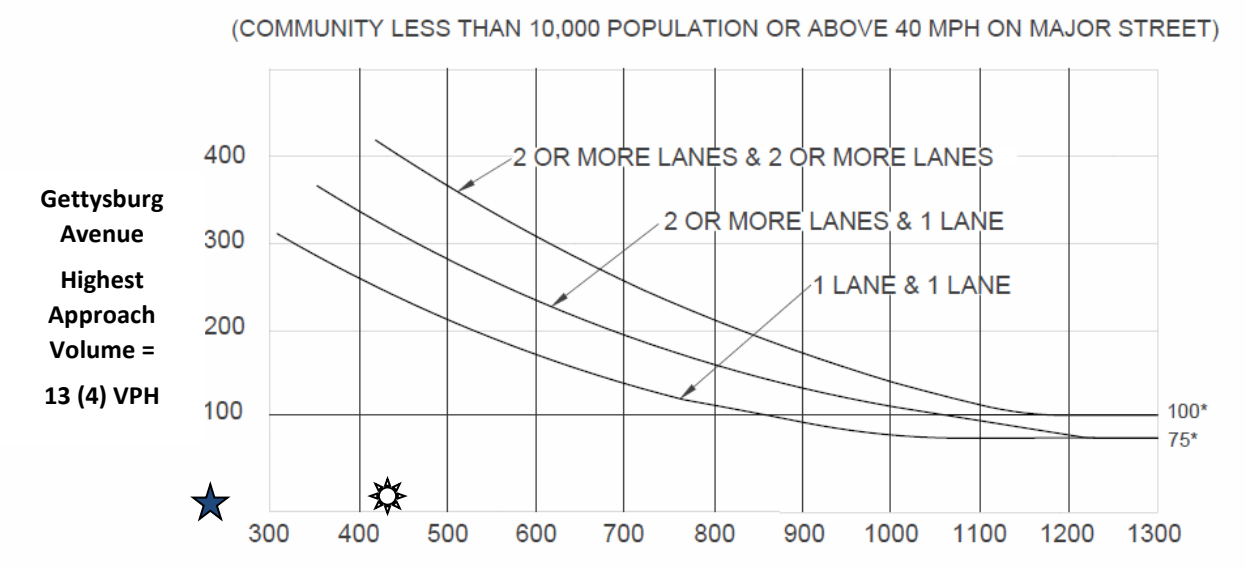
AM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I) Traffic Conditions
9. Bryan Avenue / Gettysburg Avenue
AM (PM) Peak Hour



Bryan Avenue Total of Both Approaches =

434 (189) 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

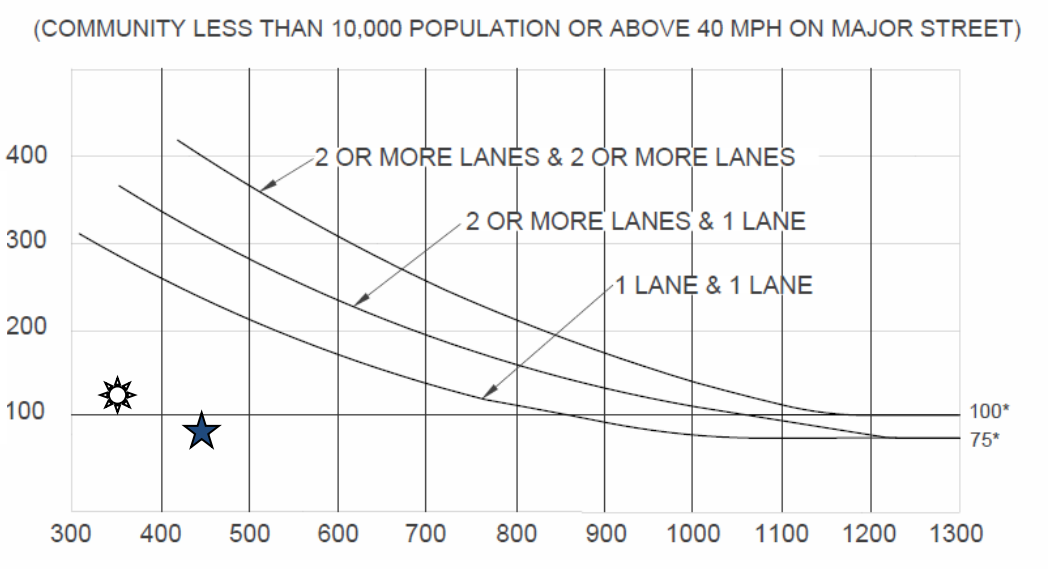
PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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November 7, 2014

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I) Traffic Conditions
11. Grantland Avenue / Ashlan Avenue
AM (PM) Peak Hour

Ashlan Avenue Highest Approach Volume = 120 (78) VPH



Grantland Avenue Total of Both Approaches = 351 (446) 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.

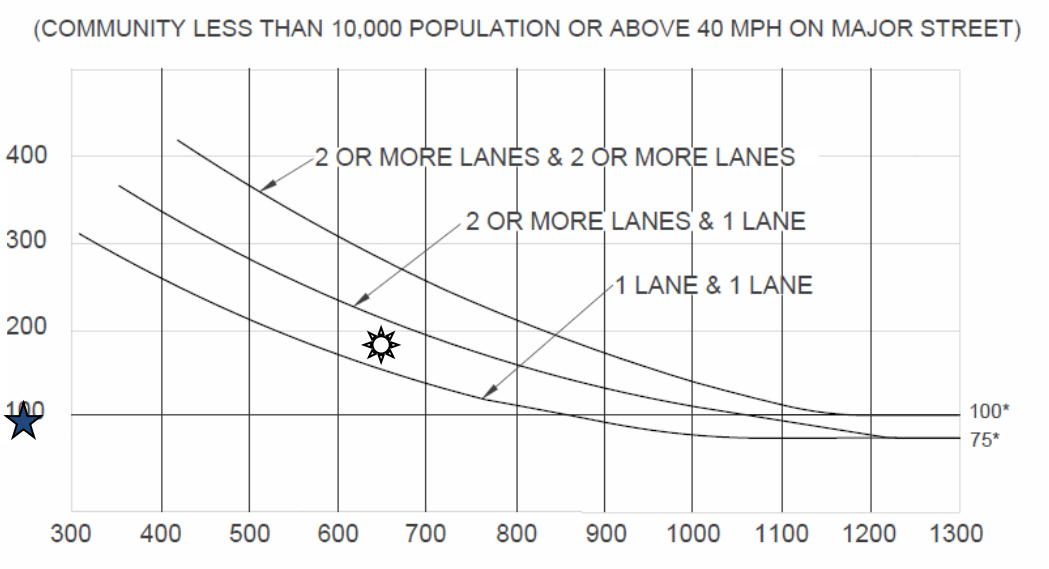
AM Peak Hour – Signal Warrant is Not Met
PM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I) Traffic Conditions
12. Bryan Avenue / Ashlan Avenue
AM (PM) Peak Hour

Bryan Avenue Highest Approach Volume = 187 (94) VPH



Ashlan Avenue Total of Both Approaches =

656 (242) 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

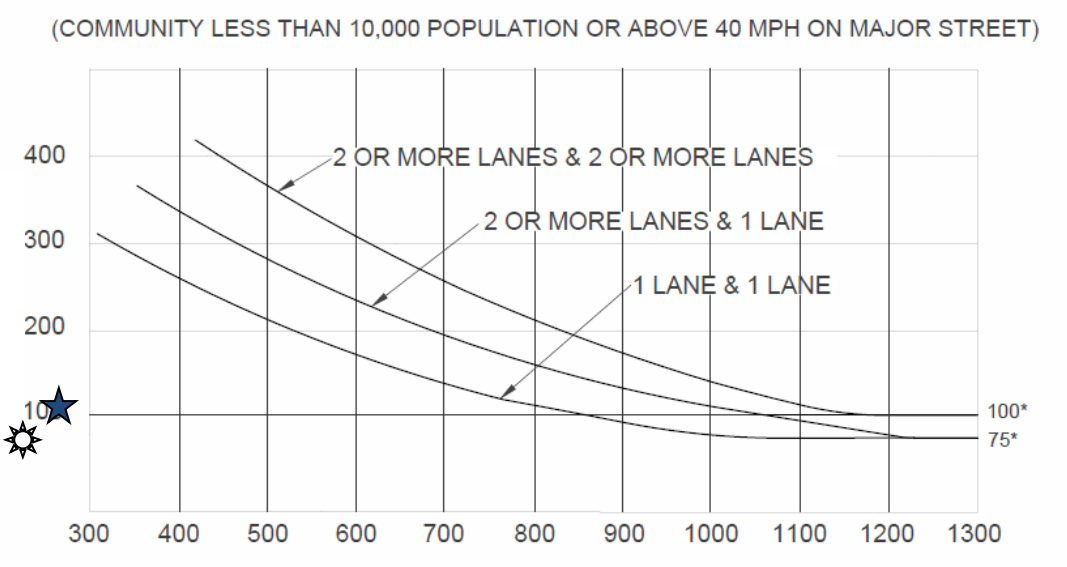
PM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I) Traffic Conditions
13. Hayes Avenue / Ashlan Avenue
AM (PM) Peak Hour

Hayes Avenue Highest Approach Volume = 76 (106) VPH



Ashlan Avenue Total of Both Approaches =

132 (269) 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.

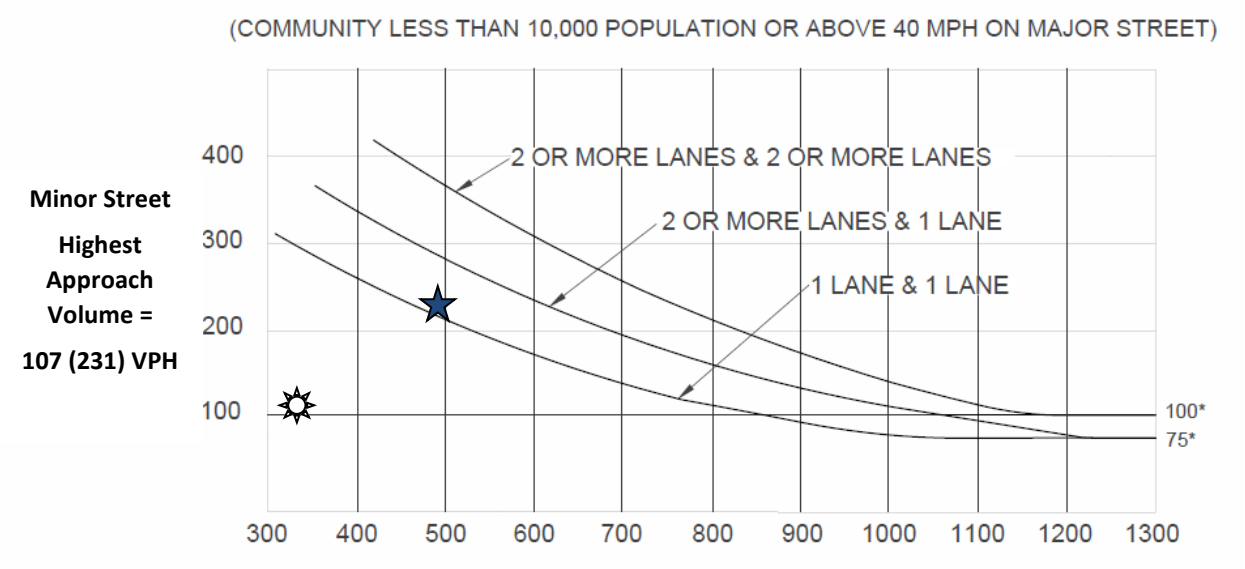
AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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Part 4: Highway Traffic Signals
November 7, 2014

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I) Traffic Conditions
14. Polk Avenue / Ashlan Avenue
AM (PM) Peak Hour



Major Street Total of Both Approaches =

335 (494) 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.

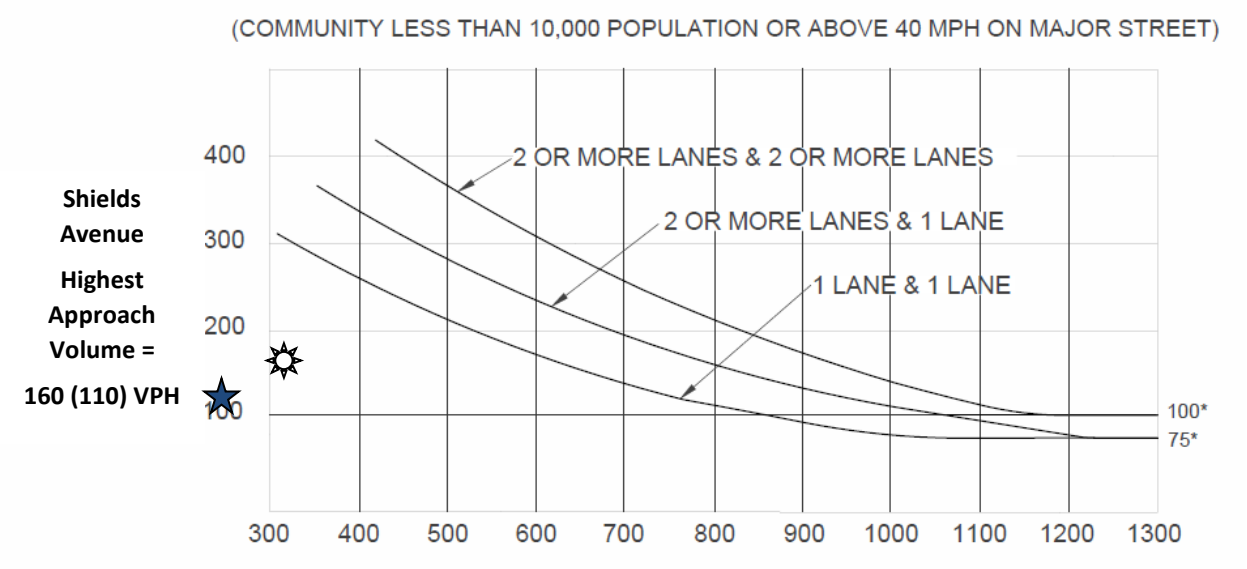
AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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Part 4: Highway Traffic Signals
November 7, 2014

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I) Traffic Conditions
17. Grantland Avenue / Shields Avenue
AM (PM) Peak Hour



Grantland Avenue Total of Both Approaches =

311 (240) 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

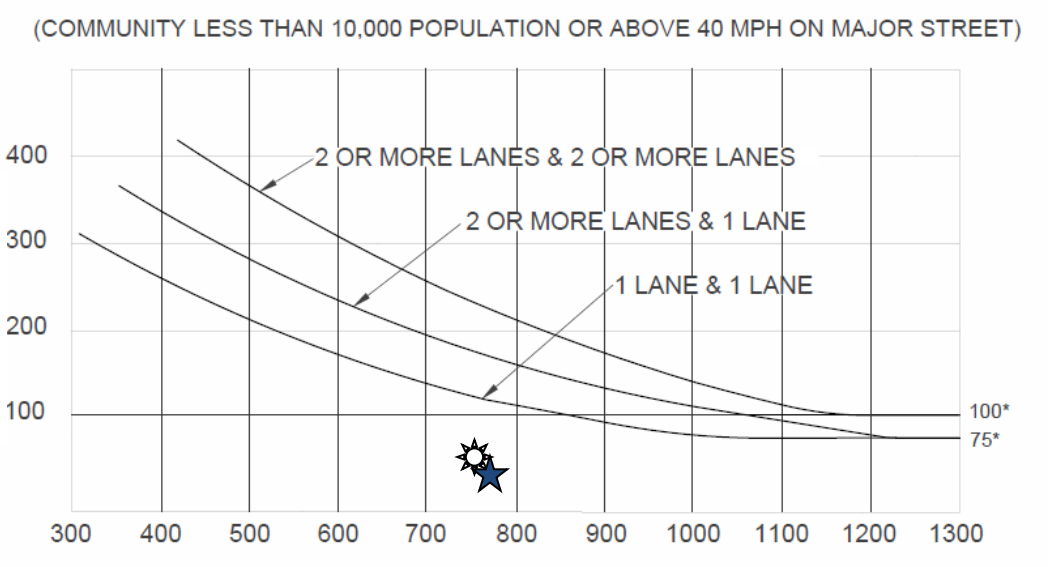
PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
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Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I & II) Traffic Conditions
1. Grantland Avenue / Barstow Avenue
AM (PM) Peak Hour

Barstow Avenue Highest Approach Volume = 52 (45) VPH



Grantland Avenue Total of Both Approaches =

752 (760) 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

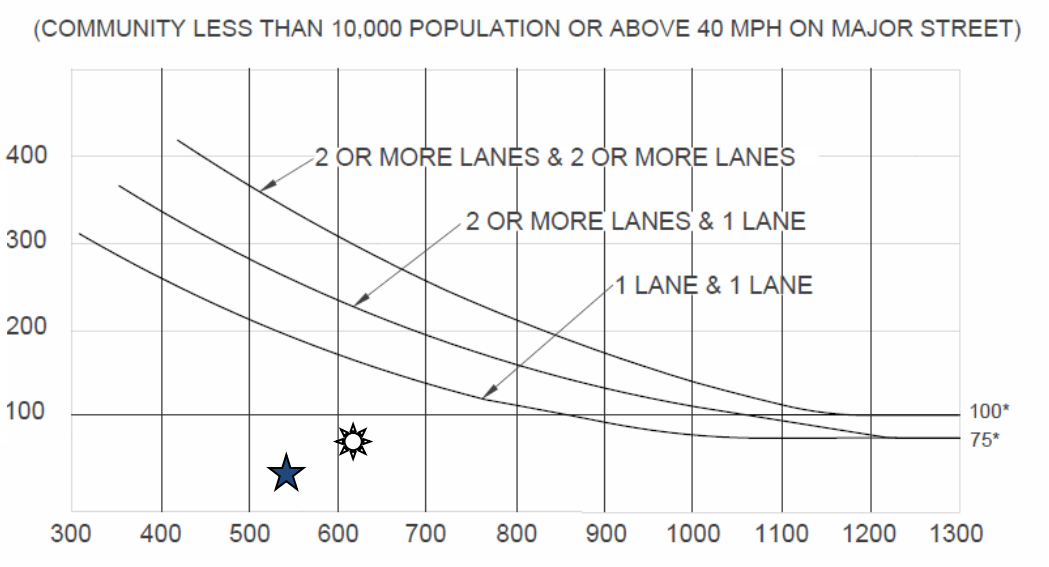
PM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I & II) Traffic Conditions
2. Garfield Avenue / Shaw Avenue
AM (PM) Peak Hour

Garfield Avenue Highest Approach Volume = 72 (40) VPH



Shaw Avenue Total of Both Approaches = 608 (539) 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.

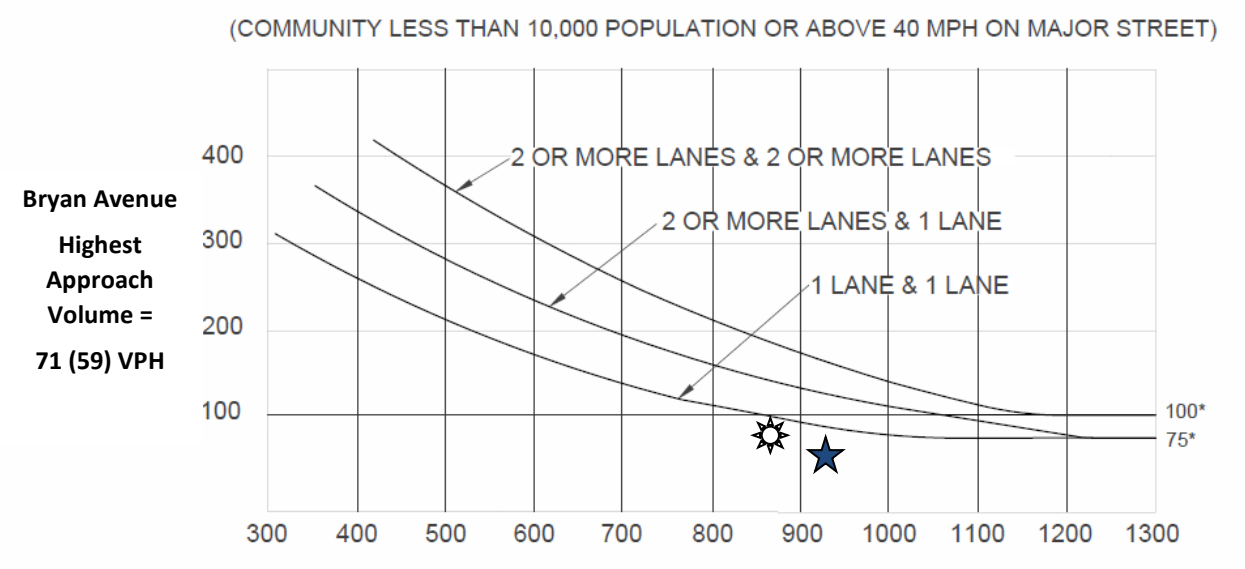
AM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I & II) Traffic Conditions
5. Bryan Avenue / Shaw Avenue
AM (PM) Peak Hour



Shaw Avenue Total of Both Approaches =

871 (922) 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

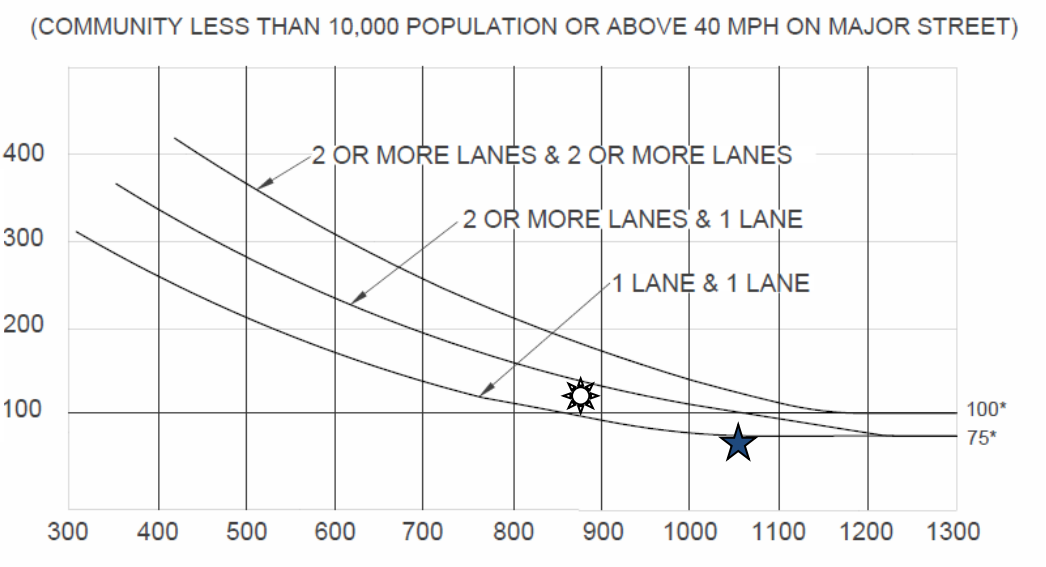
PM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I & II) Traffic Conditions
6. Hayes Avenue / Shaw Avenue
AM (PM) Peak Hour

Hayes Avenue Highest Approach Volume = 118 (72) VPH



Shaw Avenue Total of Both Approaches = 889 (1055) 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.

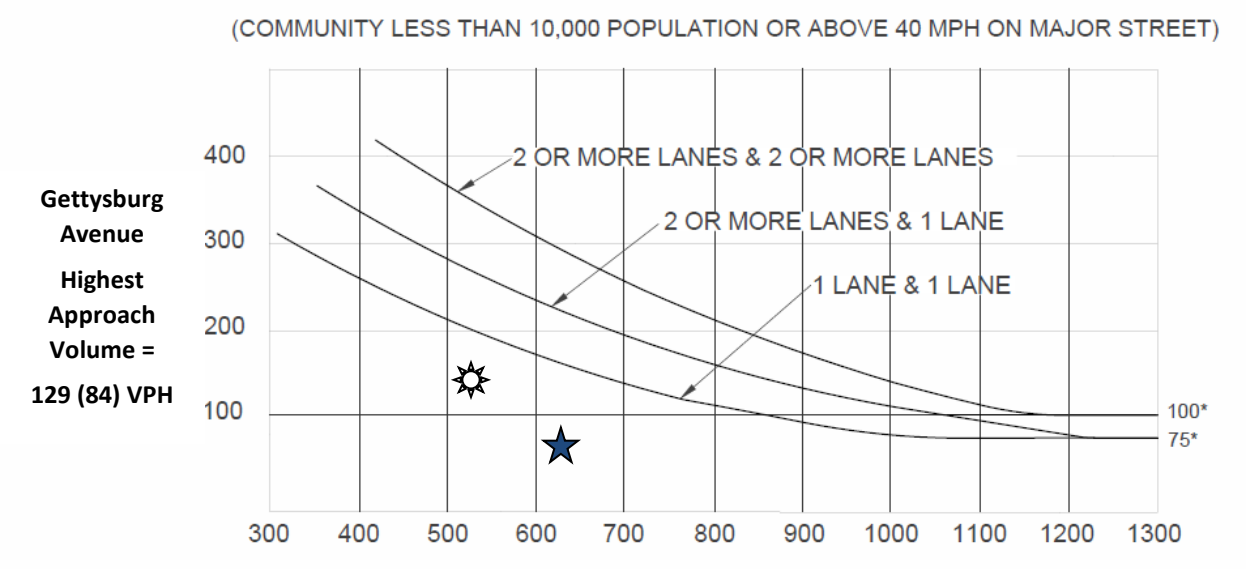
AM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I & II) Traffic Conditions
7. Grantland Avenue / Gettysburg Avenue
AM (PM) Peak Hour



Grantland Avenue Total of Both Approaches =

516 (617) 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.

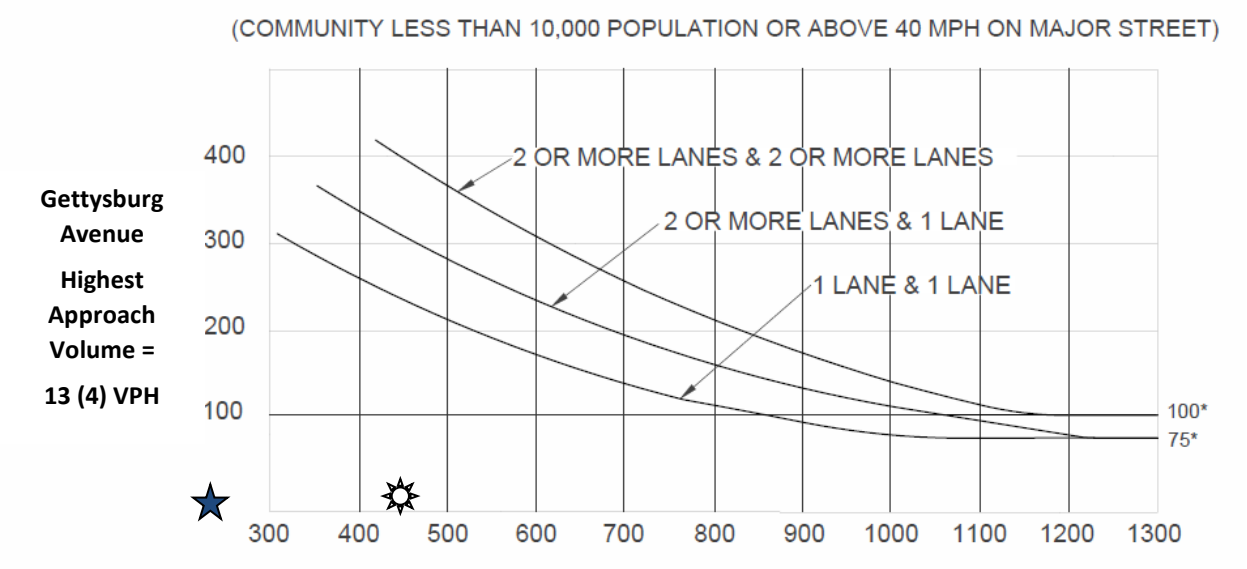
AM Peak Hour – Signal Warrant is Not Met

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
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Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I & II) Traffic Conditions
9. Bryan Avenue / Gettysburg Avenue
AM (PM) Peak Hour



Bryan Avenue Total of Both Approaches =

434 (195) 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

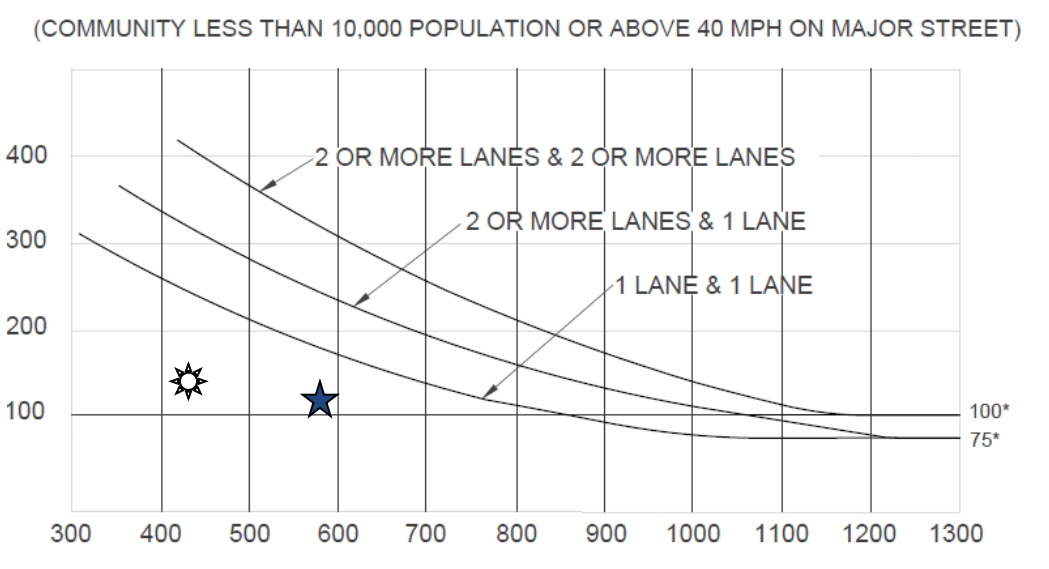
PM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I & II) Traffic Conditions
11. Grantland Avenue / Ashlan Avenue
AM (PM) Peak Hour

Ashlan Avenue Highest Approach Volume = 133 (104) VPH



Grantland Avenue Total of Both Approaches =

411 (591) 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.

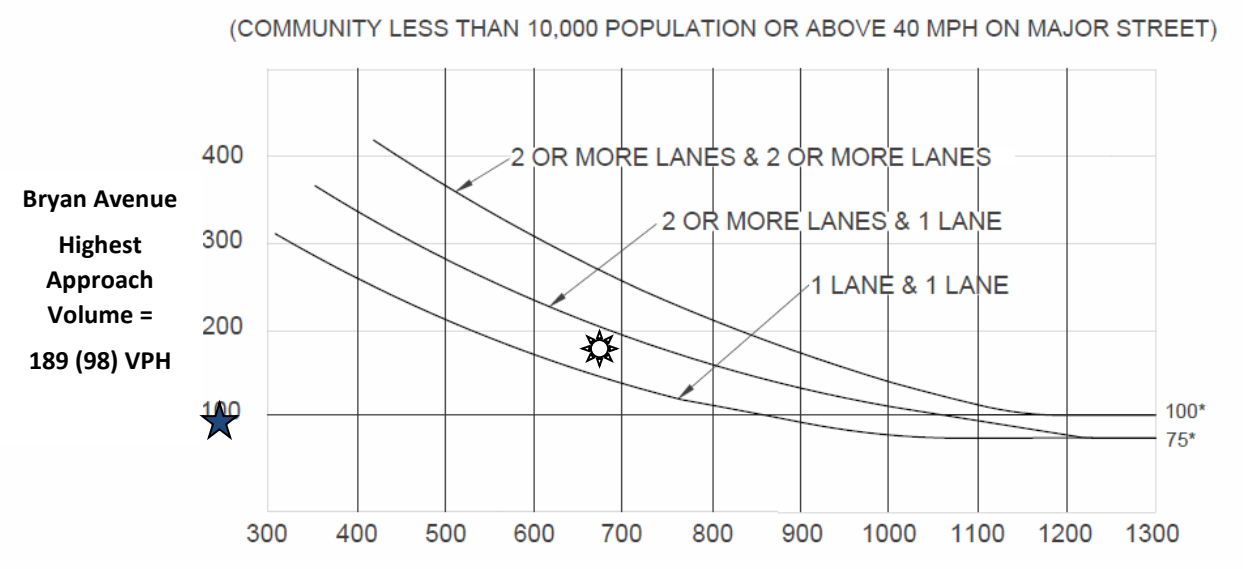
AM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I & II) Traffic Conditions
12. Bryan Avenue / Ashlan Avenue
AM (PM) Peak Hour



Bryan Avenue Highest Approach Volume = 189 (98) VPH

Ashlan Avenue Total of Both Approaches = 691 (286) 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

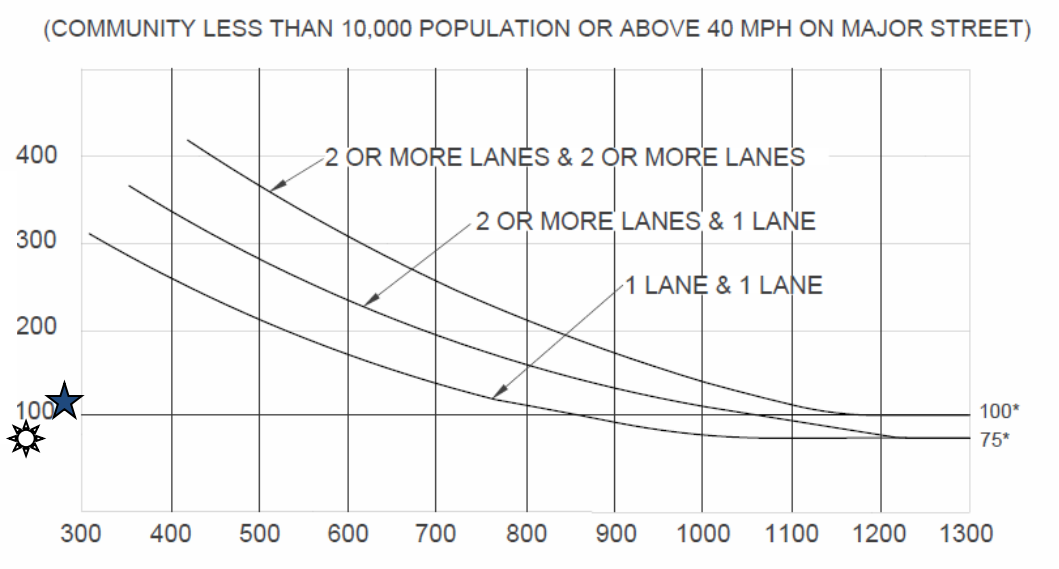
PM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I & II) Traffic Conditions
13. Hayes Avenue / Ashlan Avenue
AM (PM) Peak Hour

Hayes Avenue Highest Approach Volume = 76 (109) VPH



Ashlan Avenue Total of Both Approaches = 153 (298) VPH

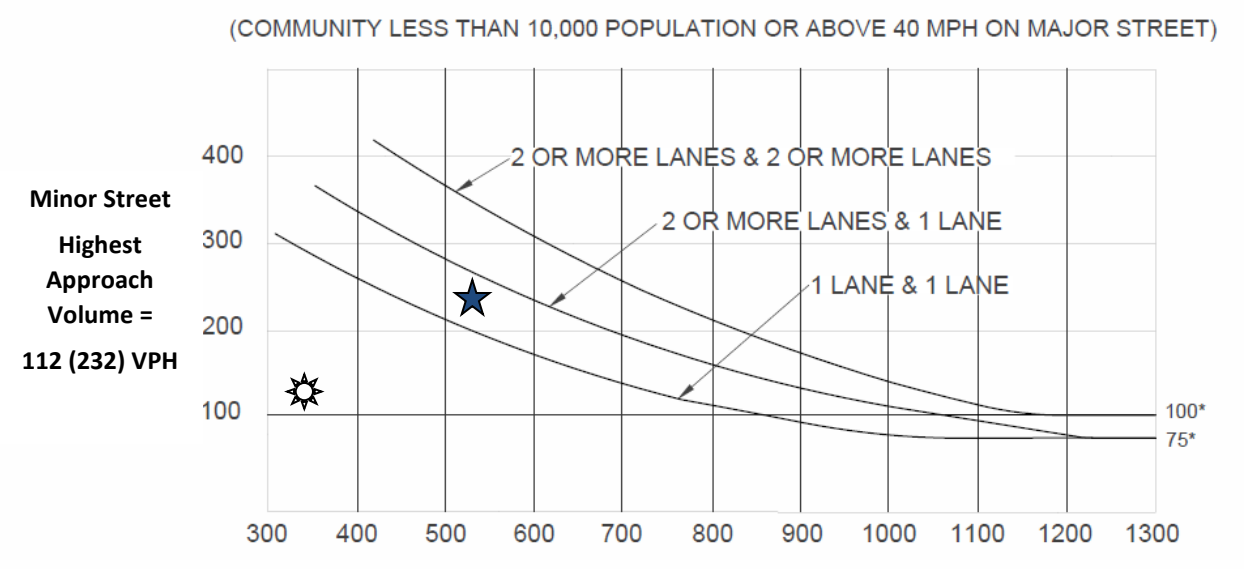
*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I & II) Traffic Conditions
14. Polk Avenue / Ashlan Avenue
AM (PM) Peak Hour



Major Street Total of Both Approaches =

335 (515) 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

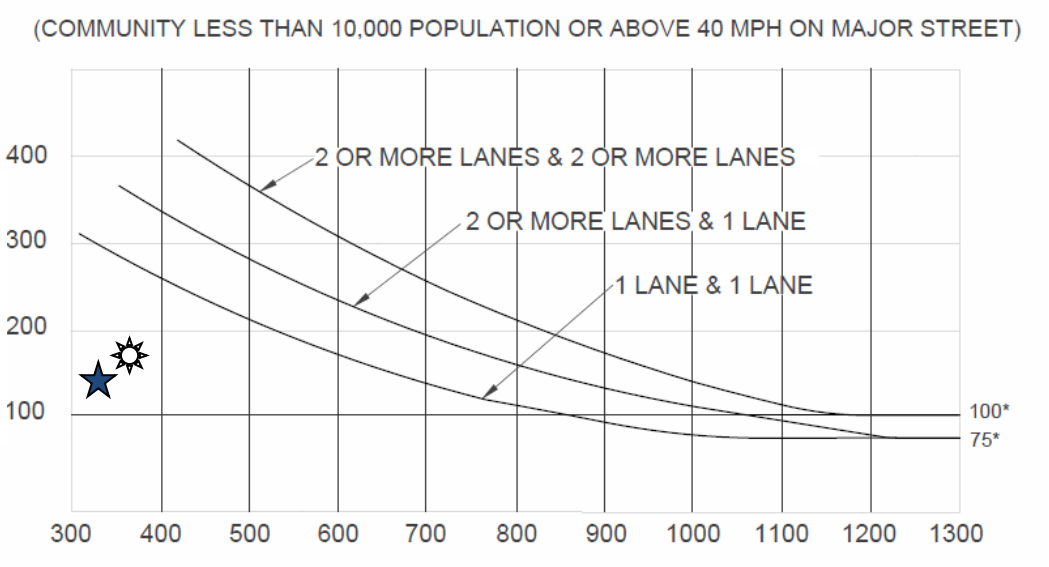
PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
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November 7, 2014

Warrant 3: Peak Hour (Rural)

Existing plus Project (Phase I & II) Traffic Conditions
17. Grantland Avenue / Shields Avenue
AM (PM) Peak Hour

Shields Avenue Highest Approach Volume = 163 (122) VPH



Grantland Avenue Total of Both Approaches =

361 (311) 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

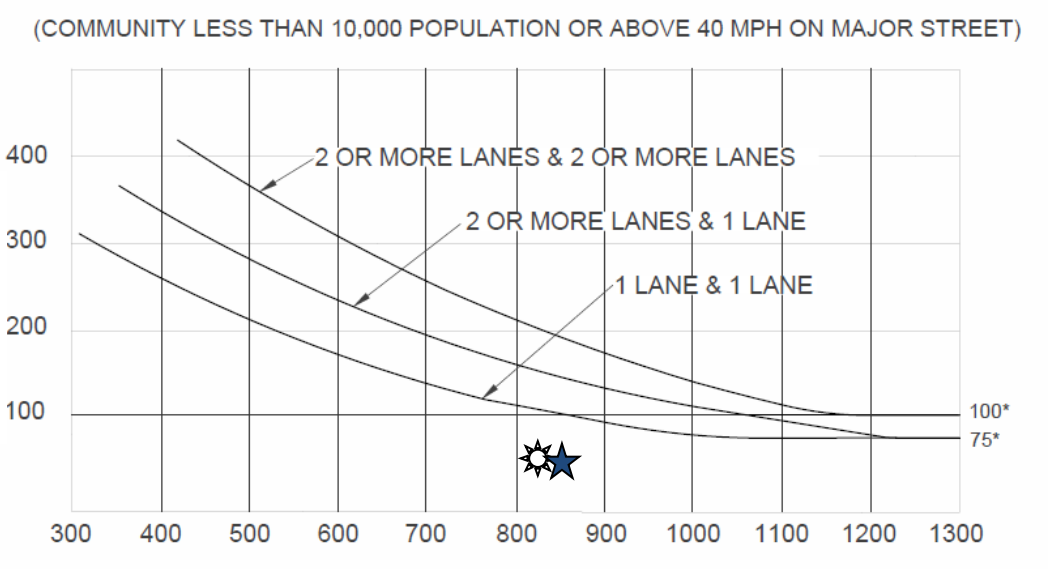
PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
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November 7, 2014

Warrant 3: Peak Hour (Rural)

Existing plus Project (Buildout) Traffic Conditions
1. Grantland Avenue / Barstow Avenue
AM (PM) Peak Hour

Barstow Avenue Highest Approach Volume = 52 (48) VPH



Grantland Avenue Total of Both Approaches =

818 (849) 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.

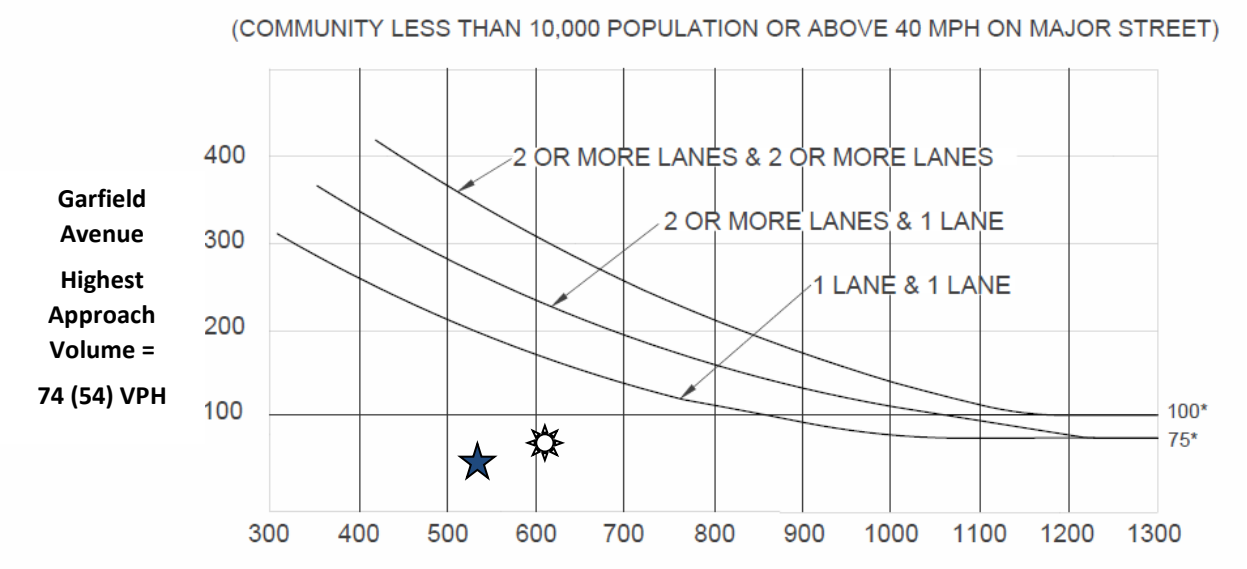
AM Peak Hour – Signal Warrant is Not Met

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
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November 7, 2014

Warrant 3: Peak Hour (Rural)

Existing plus Project (Buildout) Traffic Conditions
2. Garfield Avenue / Shaw Avenue
AM (PM) Peak Hour



Garfield Avenue Highest Approach Volume = 74 (54) VPH

Shaw Avenue Total of Both Approaches = 603 (537) 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

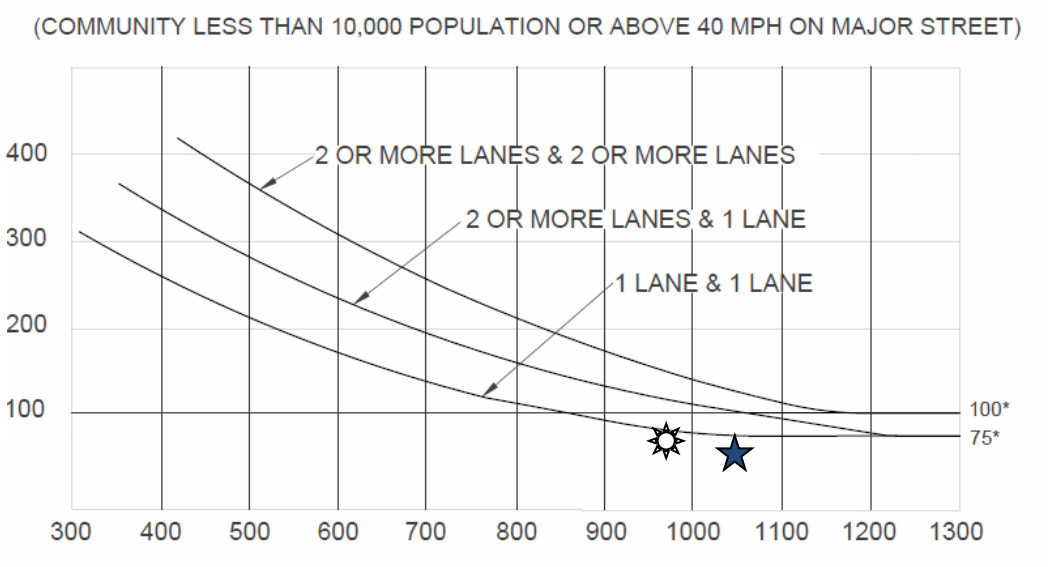
PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
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November 7, 2014

Warrant 3: Peak Hour (Rural)

Existing plus Project (Buildout) Traffic Conditions
5. Bryan Avenue / Shaw Avenue
AM (PM) Peak Hour

Bryan Avenue Highest Approach Volume = 71 (59) VPH



Shaw Avenue Total of Both Approaches = 979 (1049) 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.

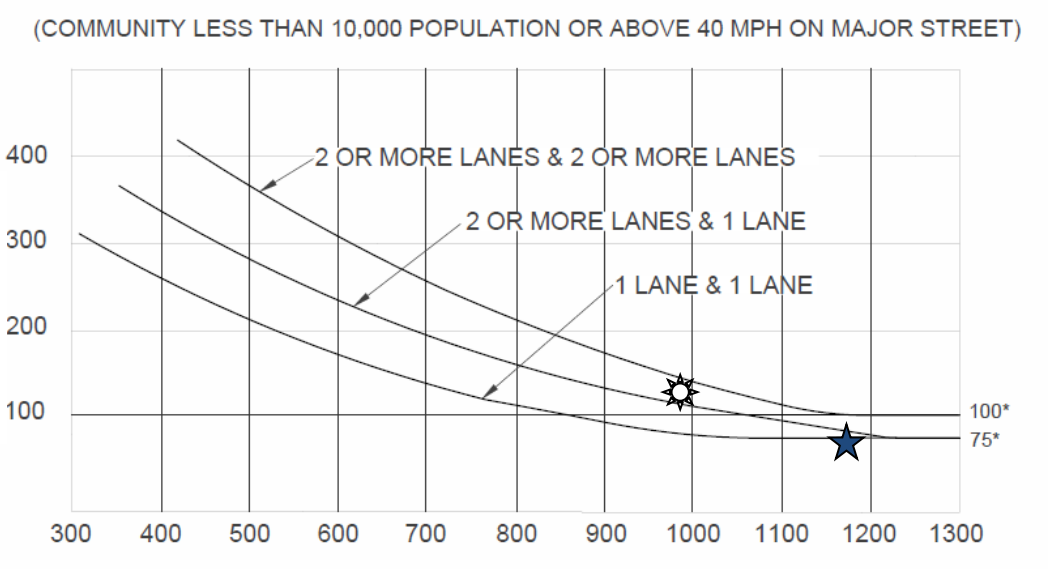
AM Peak Hour – Signal Warrant is Not Met
PM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Buildout) Traffic Conditions
6. Hayes Avenue / Shaw Avenue
AM (PM) Peak Hour

Hayes Avenue Highest Approach Volume = 118 (72) VPH



Shaw Avenue Total of Both Approaches = 994 (1178) 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

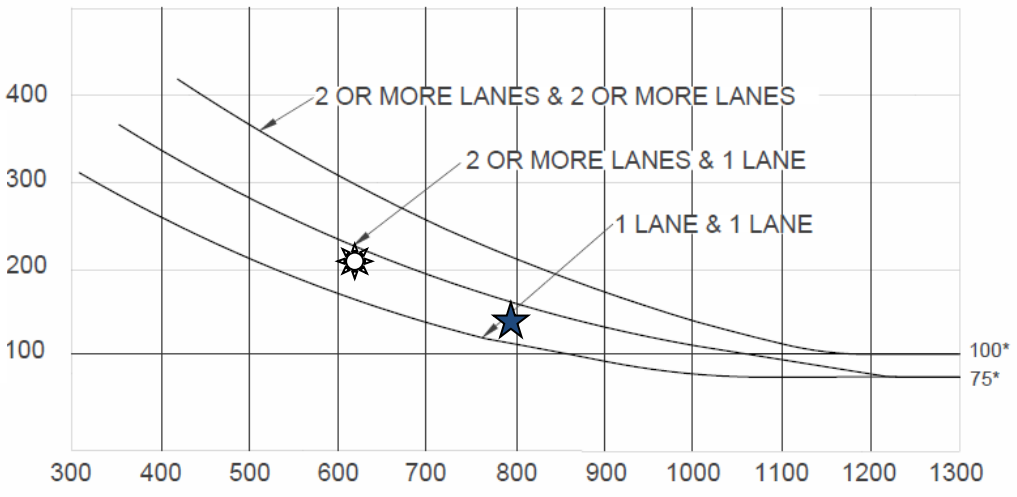
Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

Warrant 3: Peak Hour (Rural)

Existing plus Project (Buildout) Traffic Conditions
7. Grantland Avenue / Gettysburg Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Gettysburg Avenue Highest Approach Volume = 209 (137) VPH



Grantland Avenue Total of Both Approaches = 617 (797) 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.

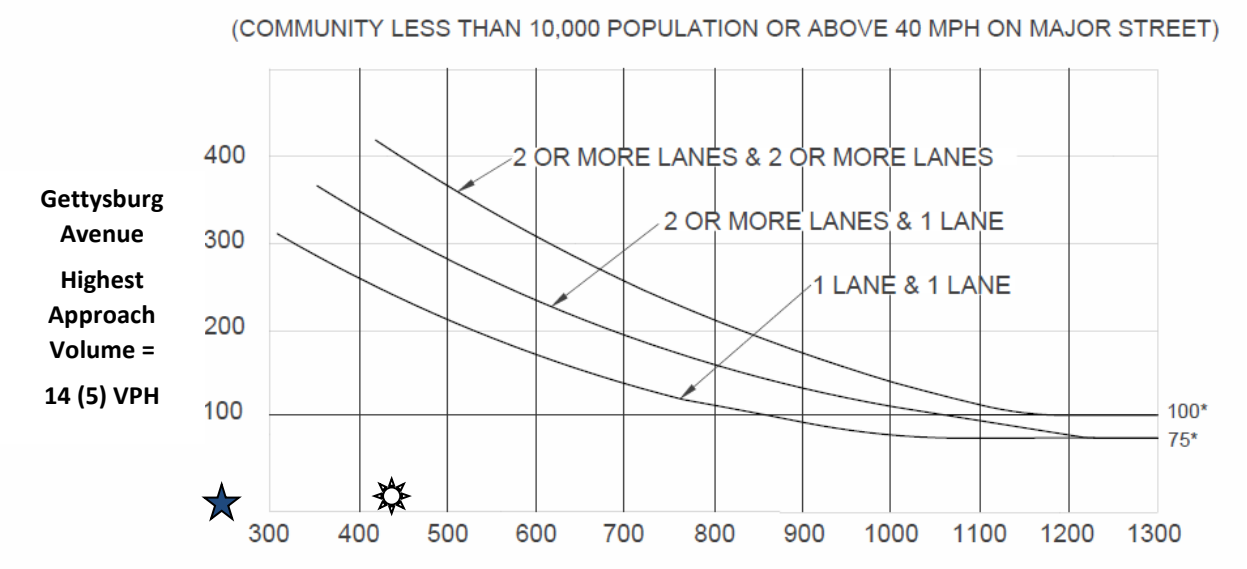
AM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Buildout) Traffic Conditions
9. Bryan Avenue / Gettysburg Avenue
AM (PM) Peak Hour



Bryan Avenue Total of Both Approaches =

435 (191) 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.

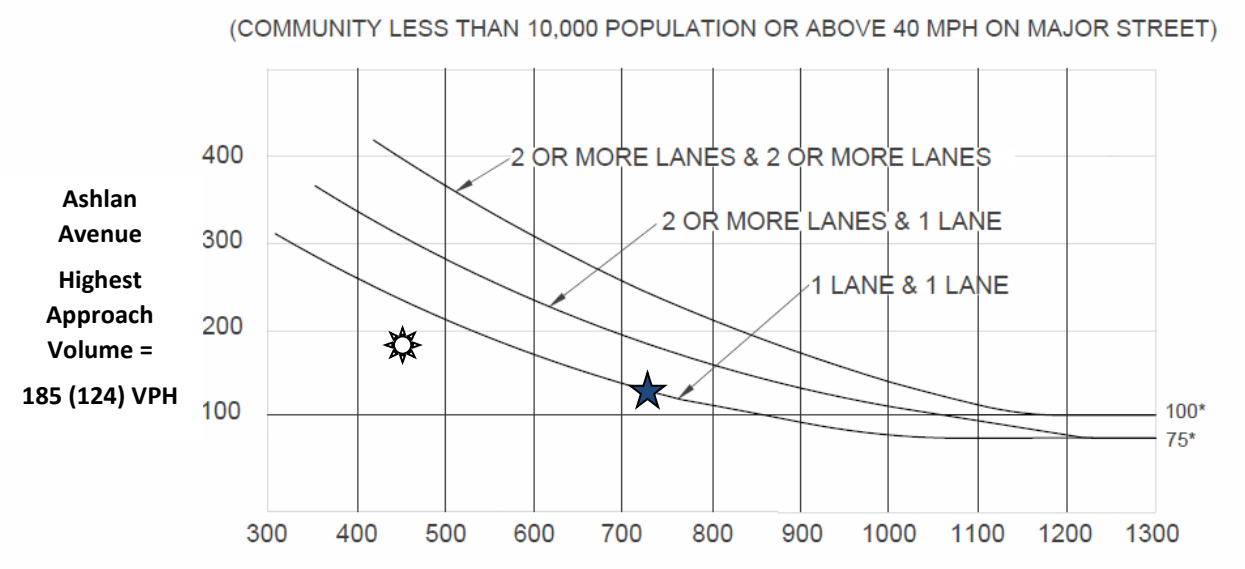
AM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Existing plus Project (Buildout) Traffic Conditions
11. Grantland Avenue / Ashlan Avenue
AM (PM) Peak Hour



Grantland Avenue Total of Both Approaches =

449 (728) 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.

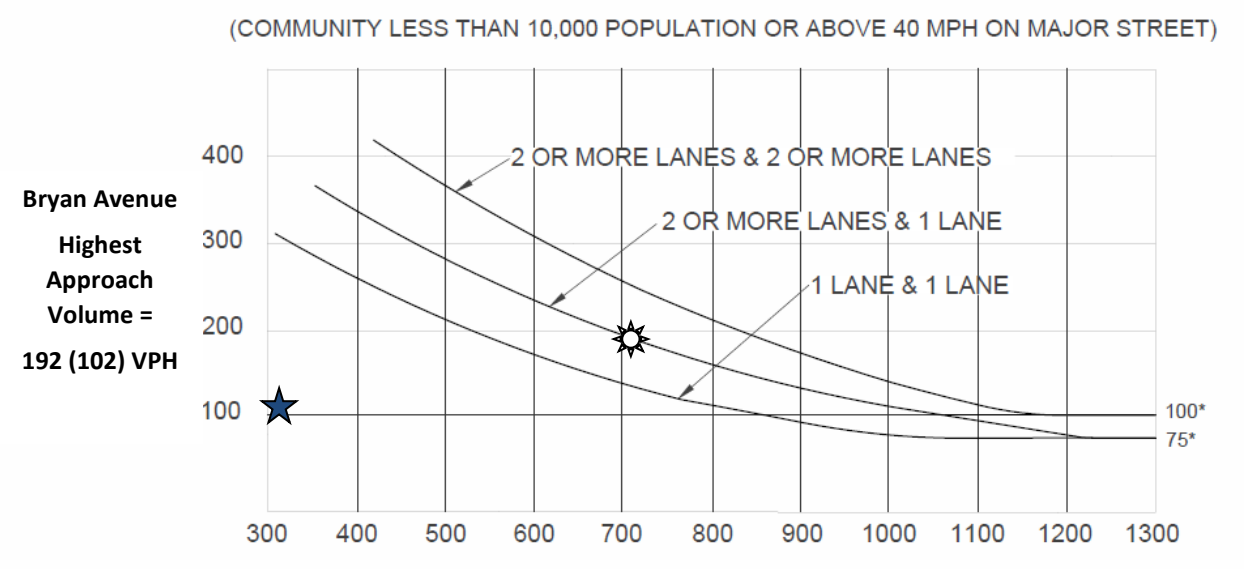
AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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Part 4: Highway Traffic Signals
November 7, 2014

Warrant 3: Peak Hour (Rural)

Existing plus Project (Buildout) Traffic Conditions
12. Bryan Avenue / Ashlan Avenue
AM (PM) Peak Hour



Bryan Avenue Highest Approach Volume = 192 (102) VPH

Ashlan Avenue Total of Both Approaches = 704 (309) 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.

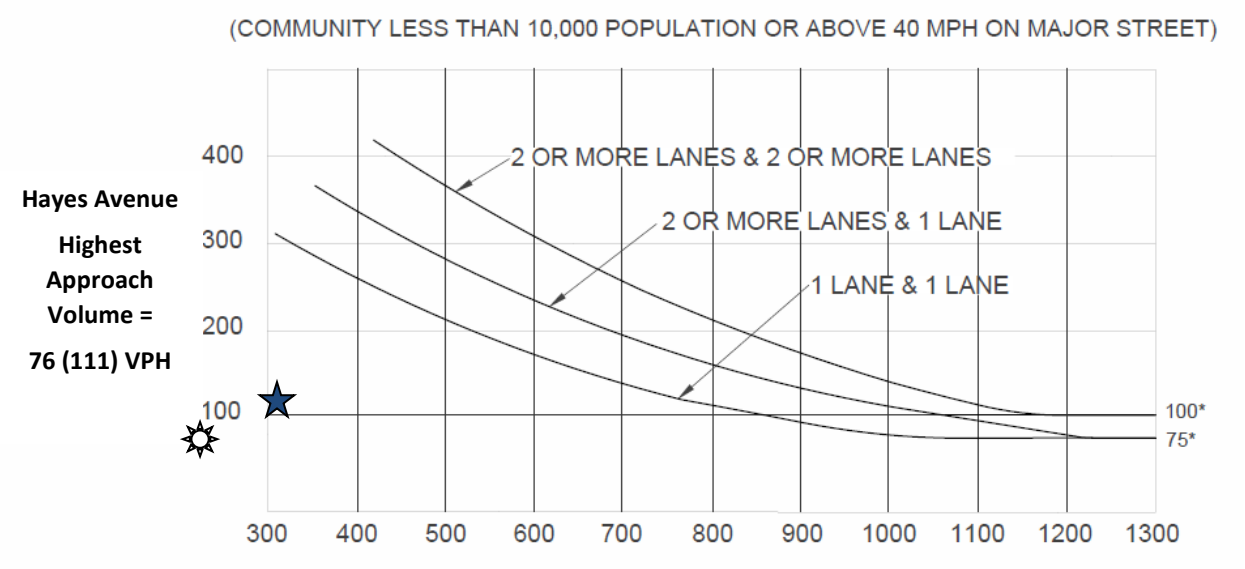
AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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Part 4: Highway Traffic Signals
November 7, 2014

Warrant 3: Peak Hour (Rural)

Existing plus Project (Buildout) Traffic Conditions
13. Hayes Avenue / Ashlan Avenue
AM (PM) Peak Hour



Ashlan Avenue Total of Both Approaches =

155 (307) 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.

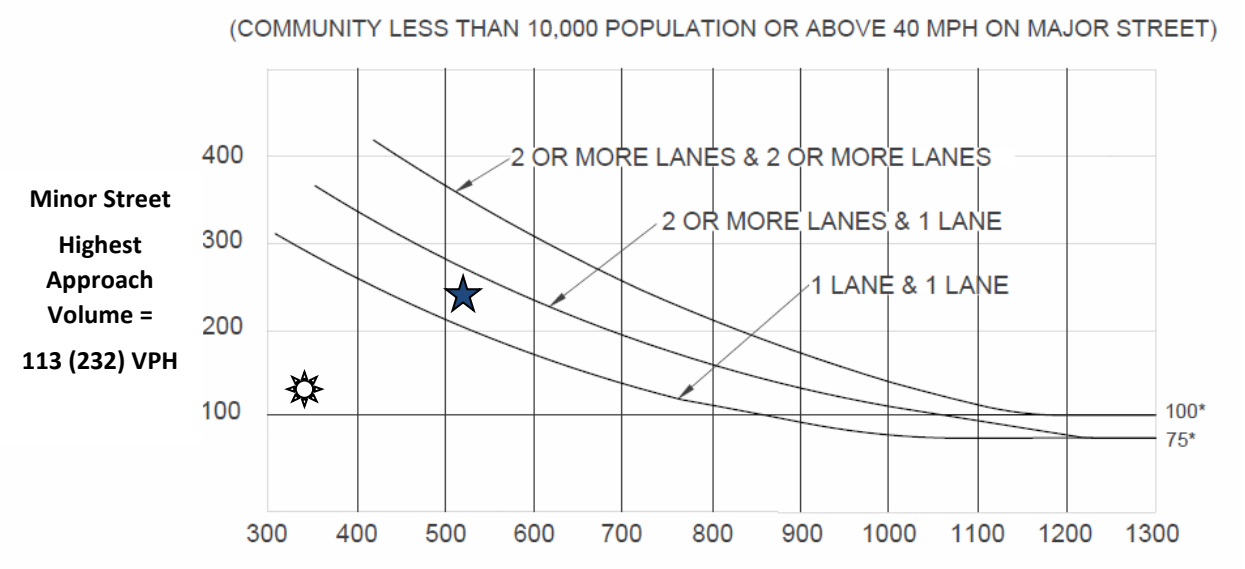
AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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Part 4: Highway Traffic Signals
November 7, 2014

Warrant 3: Peak Hour (Rural)

Existing plus Project (Buildout) Traffic Conditions
14. Polk Avenue / Ashlan Avenue
AM (PM) Peak Hour



Major Street Total of Both Approaches =

336 (518) 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.

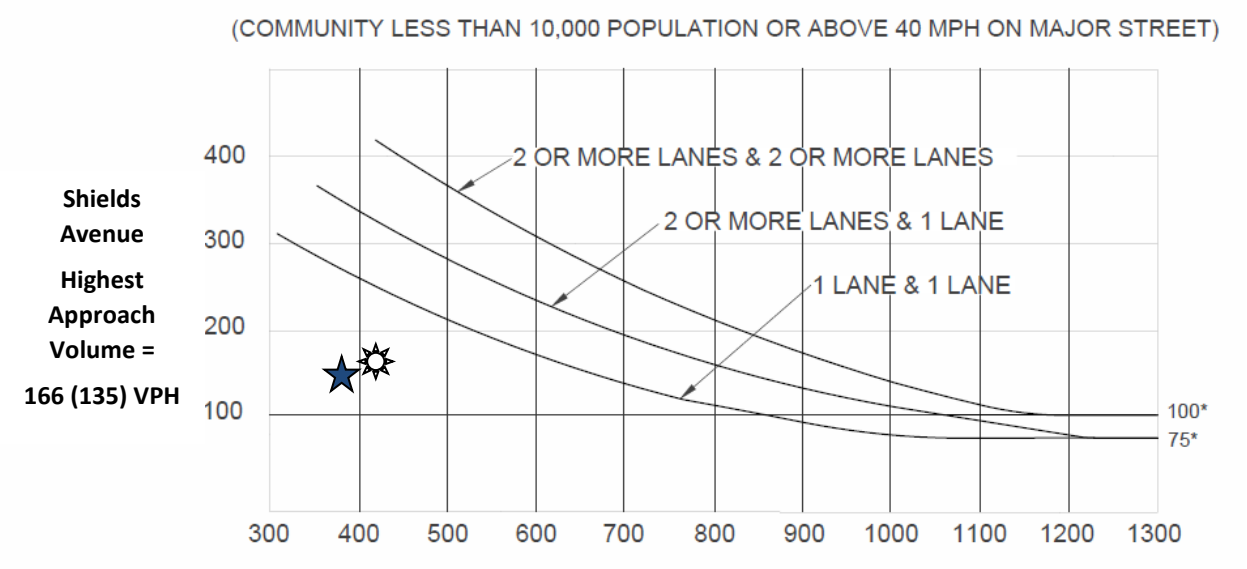
AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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November 7, 2014

Warrant 3: Peak Hour (Rural)

Existing plus Project (Buildout) Traffic Conditions
17. Grantland Avenue / Shields Avenue
AM (PM) Peak Hour



Grantland Avenue Total of Both Approaches =

414 (379) 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)
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November 7, 2014

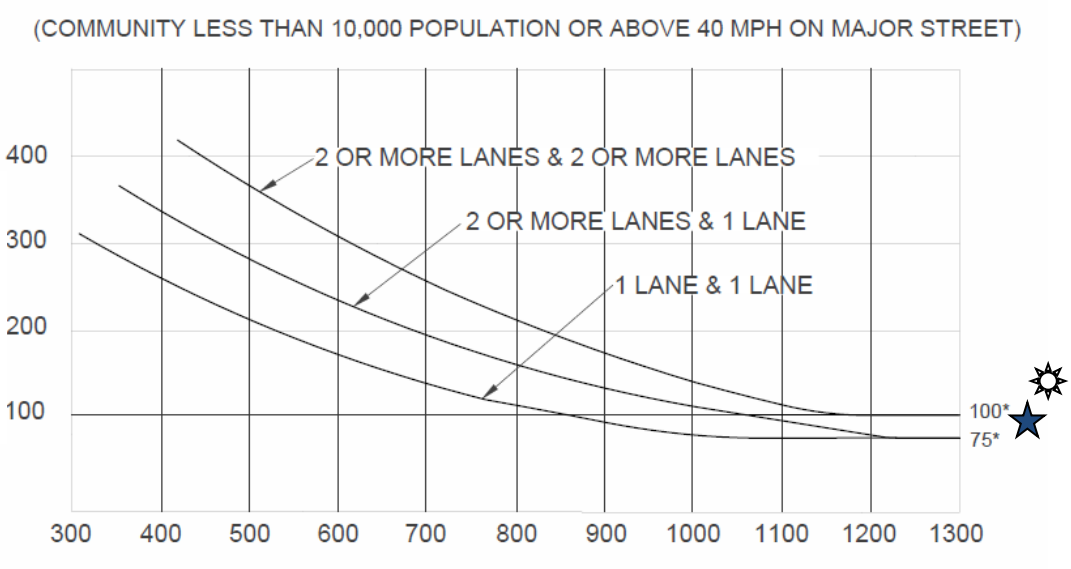
Warrant 3: Peak Hour (Rural)

Near Term plus Project (Buildout) Traffic Conditions
1. Grantland Avenue / Barstow Avenue
AM (PM) Peak Hour

Barstow Avenue

Highest Approach Volume =

126 (89) VPH



Grantland Avenue Total of Both Approaches =

1476 (1411) 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)
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November 7, 2014

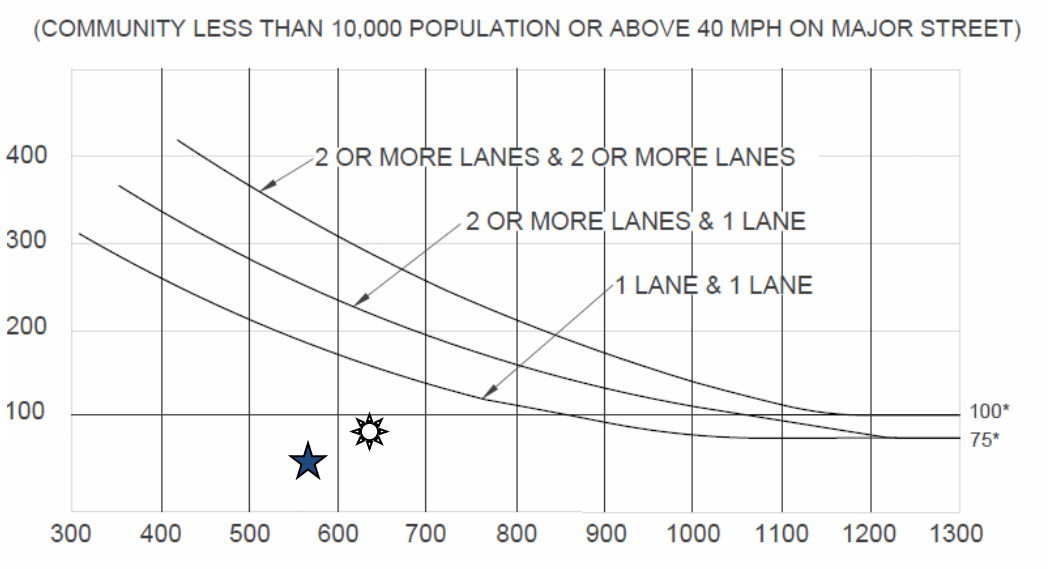
Warrant 3: Peak Hour (Rural)

Near Term plus Project (Buildout) Traffic Conditions
2. Garfield Avenue / Shaw Avenue
AM (PM) Peak Hour

Garfield Avenue

Highest Approach Volume =

94 (48) VPH



Shaw Avenue Total of Both Approaches =

635 (571) 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

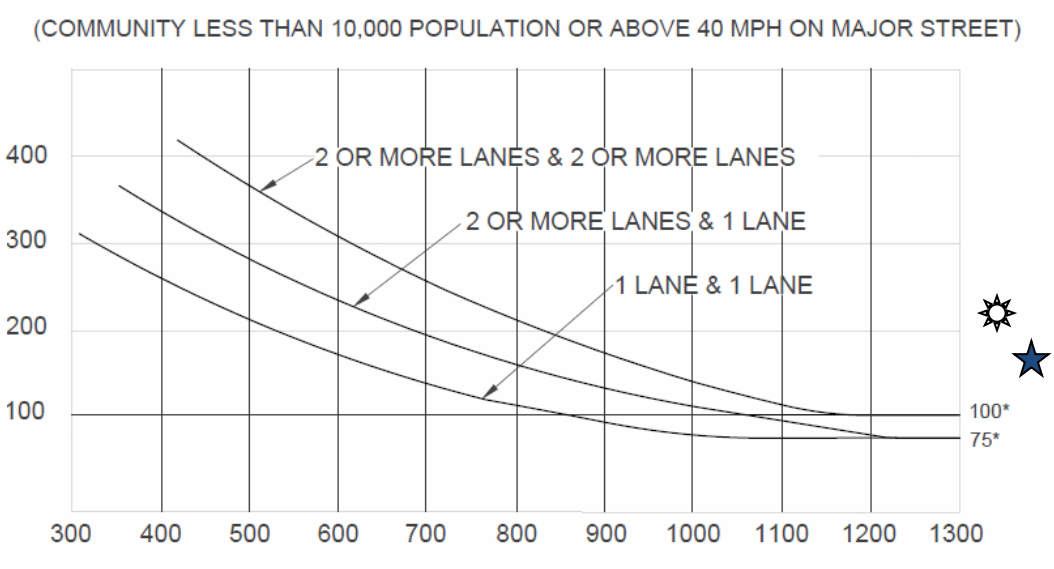
PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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November 7, 2014

Warrant 3: Peak Hour (Rural)

Near Term plus Project (Buildout) Traffic Conditions
5. Bryan Avenue / Shaw Avenue
AM (PM) Peak Hour

Bryan Avenue Highest Approach Volume = 202 (167) VPH



Shaw Avenue Total of Both Approaches =

1361 (1467) 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

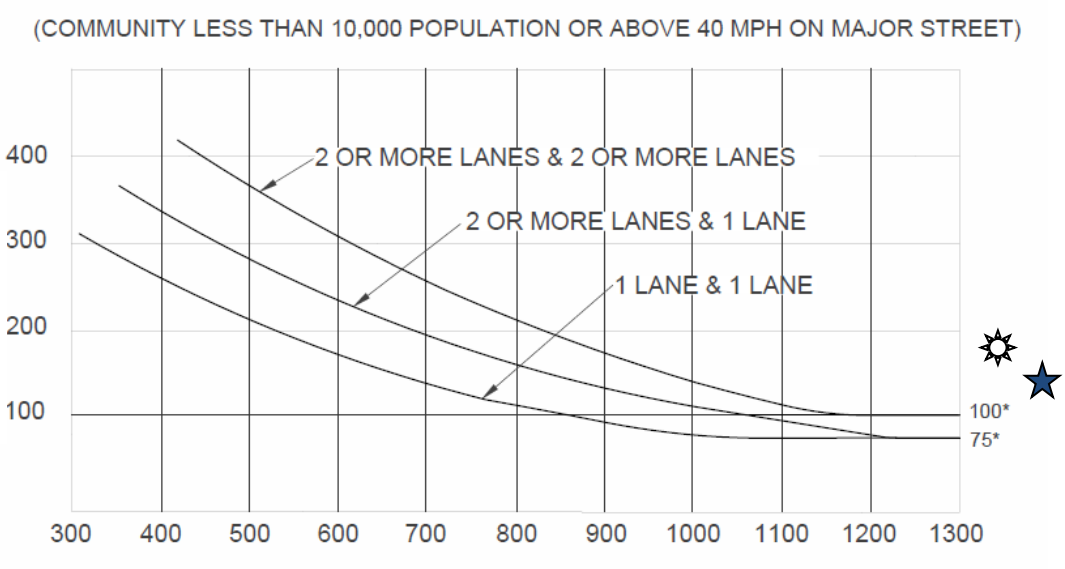
PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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November 7, 2014

Warrant 3: Peak Hour (Rural)

Near Term plus Project (Buildout) Traffic Conditions
6. Hayes Avenue / Shaw Avenue
AM (PM) Peak Hour

Hayes Avenue Highest Approach Volume = 189 (128) VPH



Shaw Avenue Total of Both Approaches =

1431 (1689) 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.

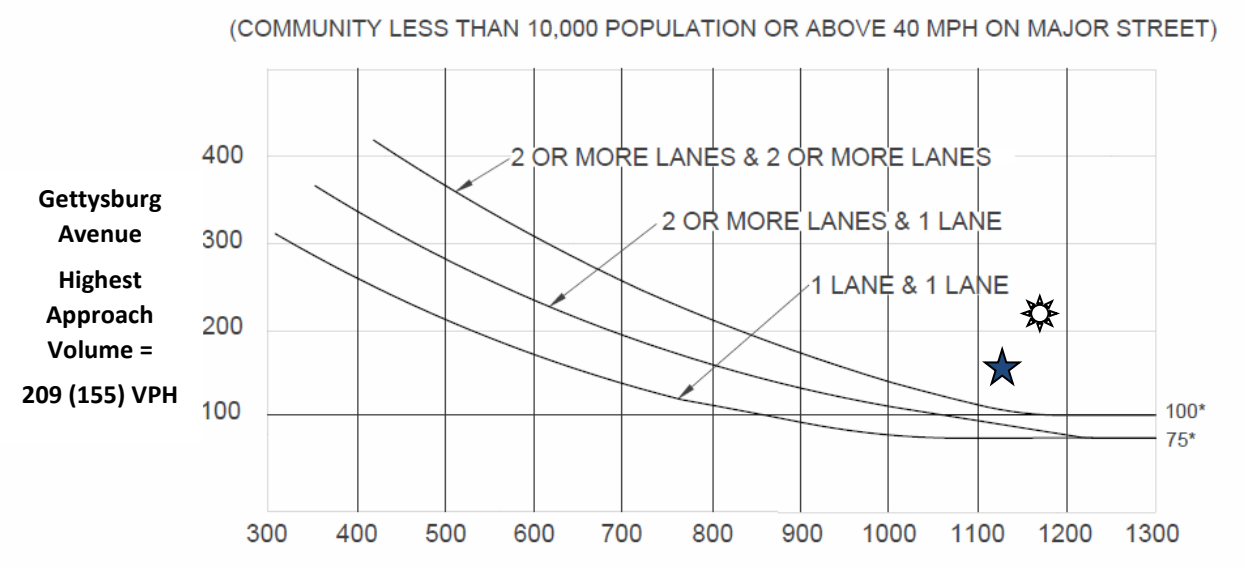
AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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November 7, 2014

Warrant 3: Peak Hour (Rural)

Near Term plus Project (Buildout) Traffic Conditions
7. Grantland Avenue / Gettysburg Avenue
AM (PM) Peak Hour



Grantland Avenue Total of Both Approaches =

1173 (1120) 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

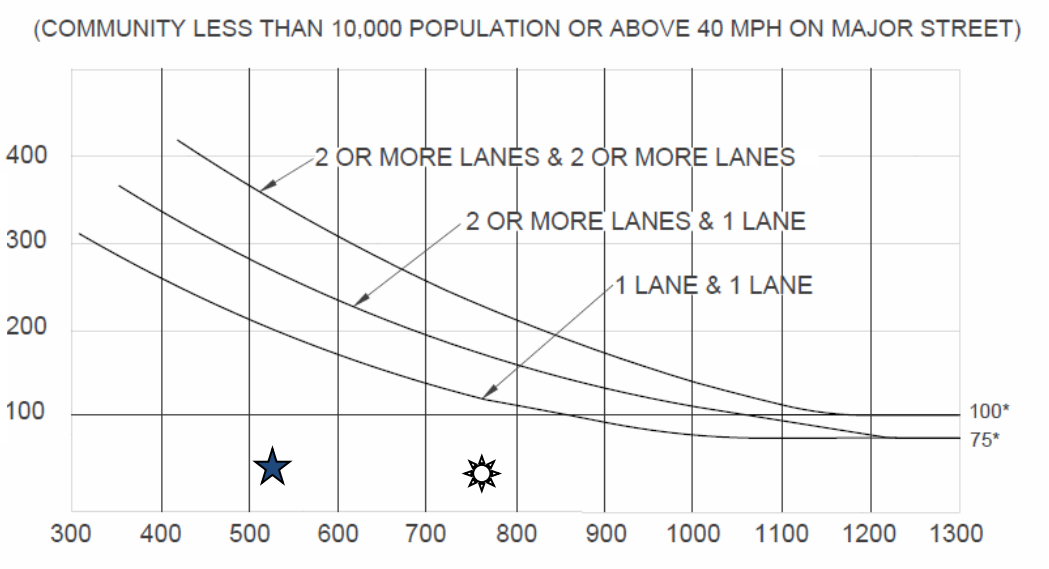
PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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November 7, 2014

Warrant 3: Peak Hour (Rural)

Near Term plus Project (Buildout) Traffic Conditions
9. Bryan Avenue / Gettysburg Avenue
AM (PM) Peak Hour

Gettysburg Avenue Highest Approach Volume = 35 (36) VPH



Bryan Avenue Total of Both Approaches =

765 (504) 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.

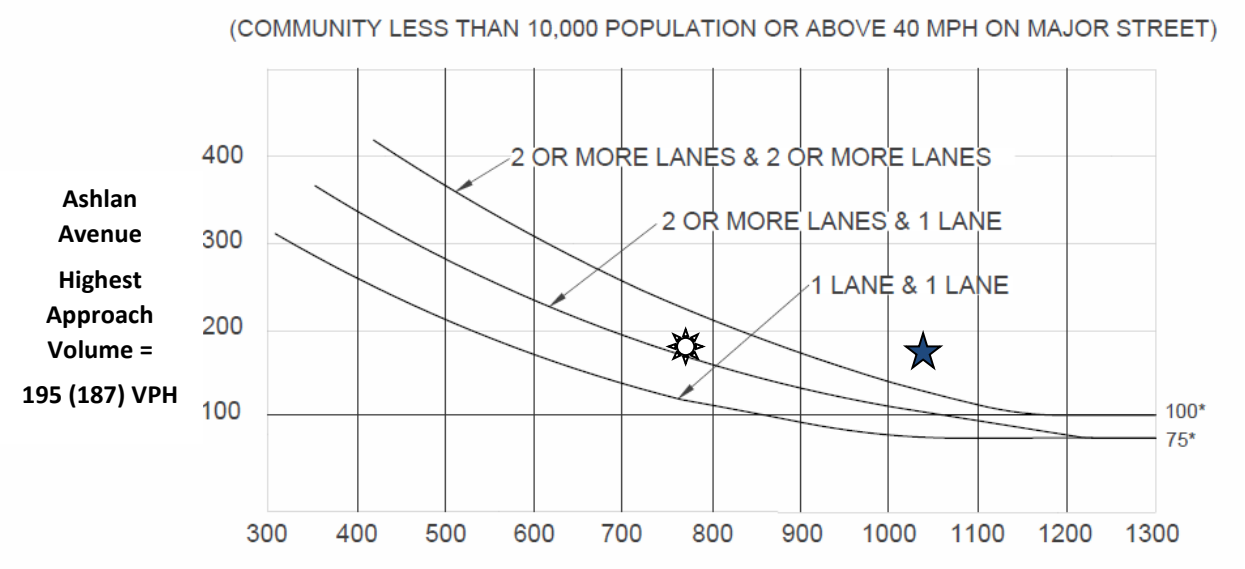
AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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November 7, 2014

Warrant 3: Peak Hour (Rural)

Near Term plus Project (Buildout) Traffic Conditions
11. Grantland Avenue / Ashlan Avenue
AM (PM) Peak Hour



Ashlan Avenue Highest Approach Volume = 195 (187) VPH

Grantland Avenue Total of Both Approaches = 922 (1092) 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

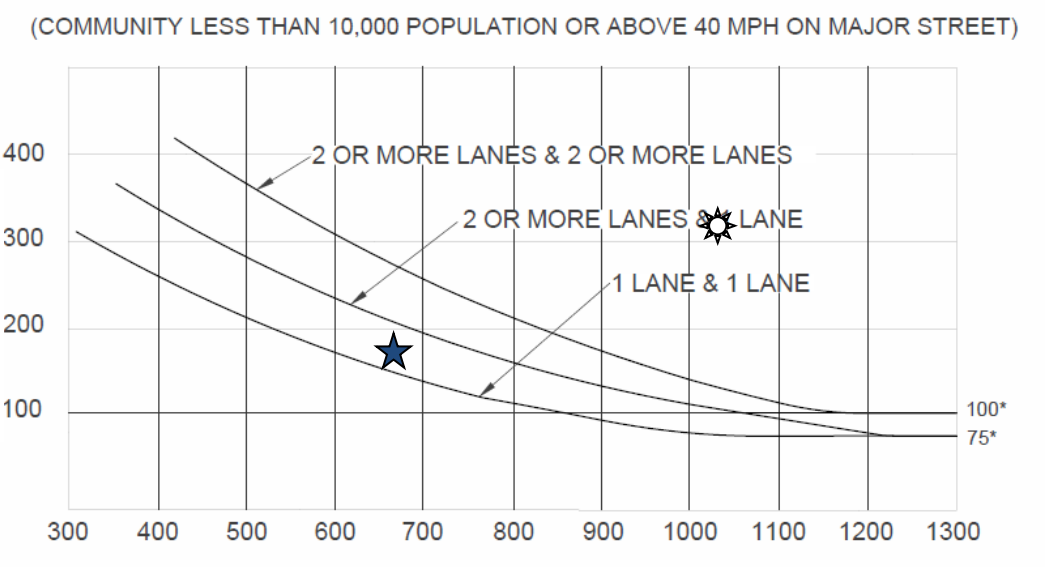
PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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November 7, 2014

Warrant 3: Peak Hour (Rural)

Near Term plus Project (Buildout) Traffic Conditions
12. Bryan Avenue / Ashlan Avenue
AM (PM) Peak Hour

Bryan Avenue Highest Approach Volume = 304 (179) VPH



Ashlan Avenue Total of Both Approaches = 1030 (663) 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.

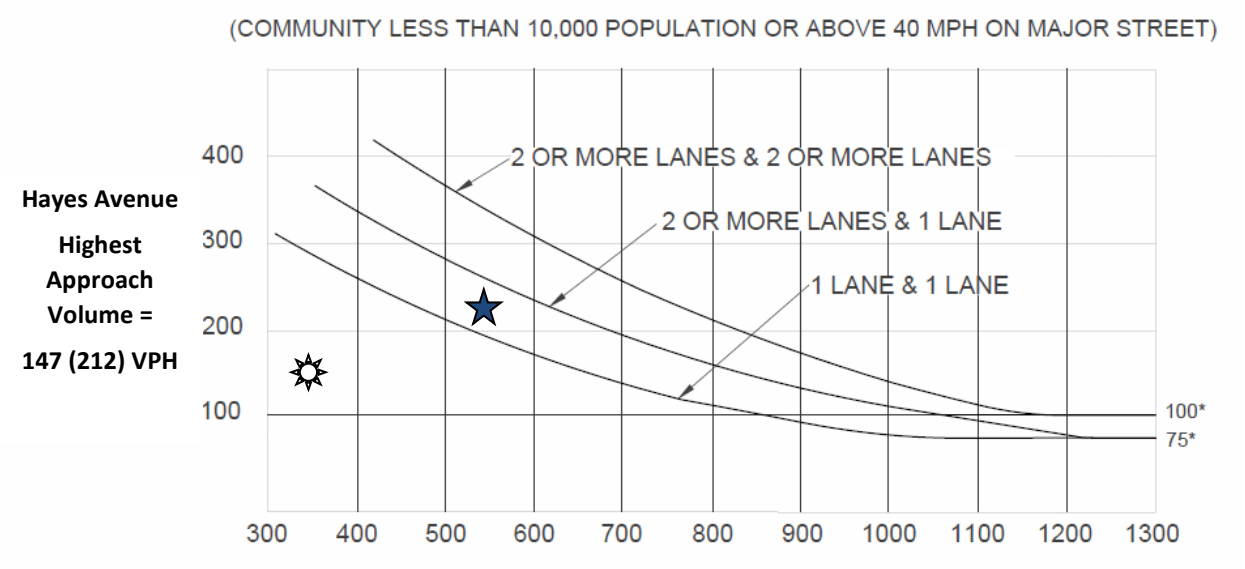
AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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November 7, 2014

Warrant 3: Peak Hour (Rural)

Near Term plus Project (Buildout) Traffic Conditions
13. Hayes Avenue / Ashlan Avenue
AM (PM) Peak Hour



Ashlan Avenue Total of Both Approaches =

347 (541) 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.

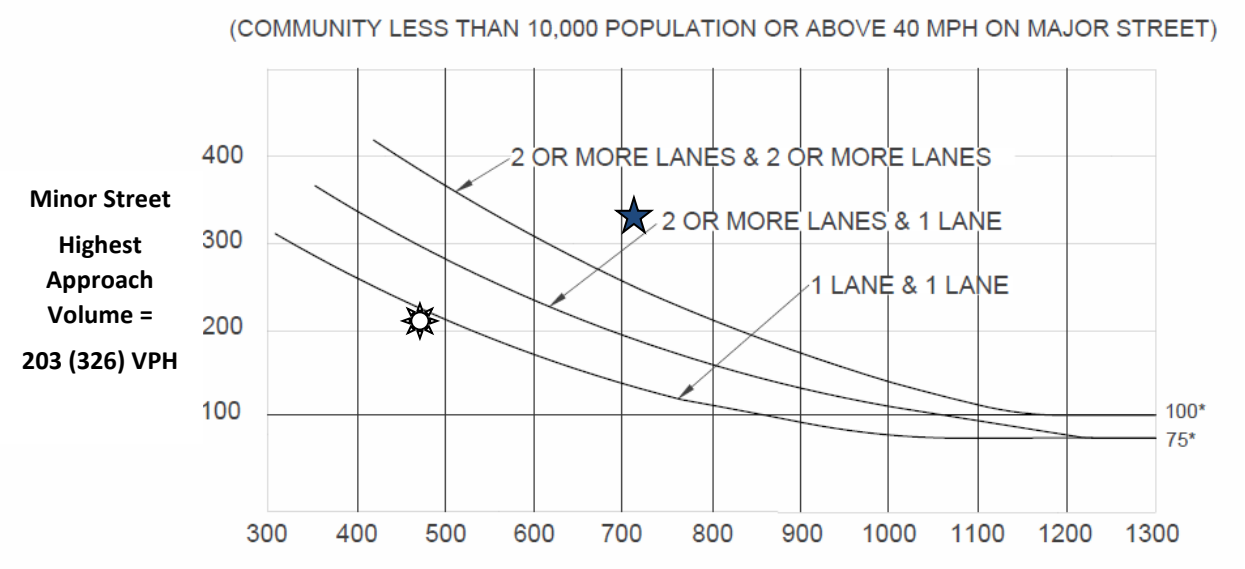
AM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Near Term plus Project (Buildout) Traffic Conditions
14. Polk Avenue / Ashlan Avenue
AM (PM) Peak Hour



Major Street Total of Both Approaches =

464 (703) 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.

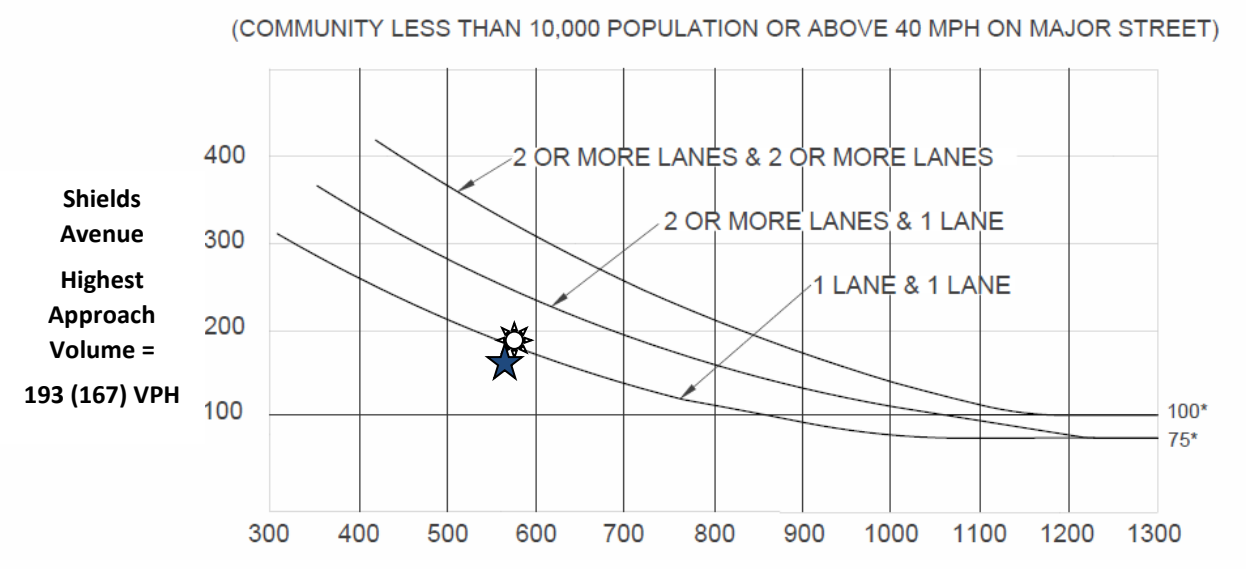
AM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Near Term plus Project (Buildout) Traffic Conditions
17. Grantland Avenue / Shields Avenue
AM (PM) Peak Hour



Grantland Avenue Total of Both Approaches =

575 (571) 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

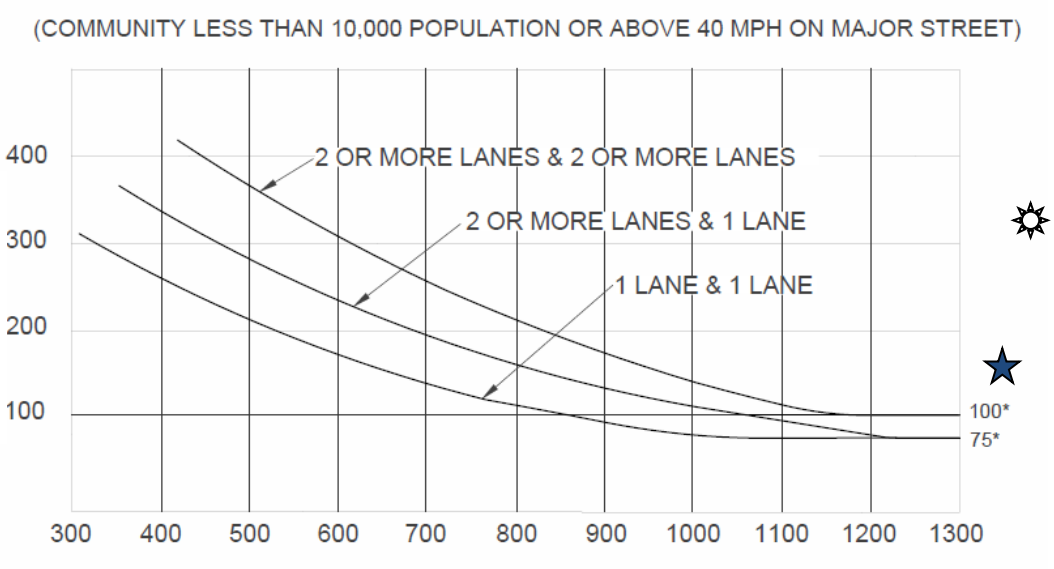
Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 No Project Traffic Conditions
1. Grantland Avenue / Barstow Avenue
AM (PM) Peak Hour

Barstow Avenue

Highest Approach Volume =

329 (162) VPH



Grantland Avenue Total of Both Approaches =

1338 (1319) 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.

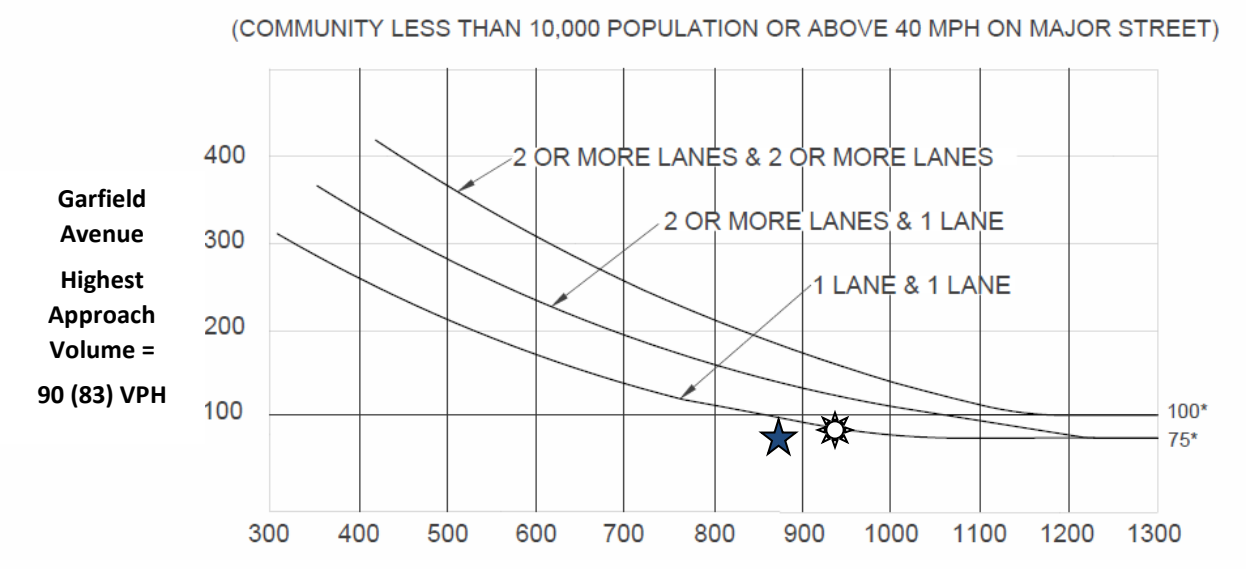
AM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 No Project Traffic Conditions
2. Garfield Avenue / Shaw Avenue
AM (PM) Peak Hour



Shaw Avenue Total of Both Approaches =

927 (889) 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.

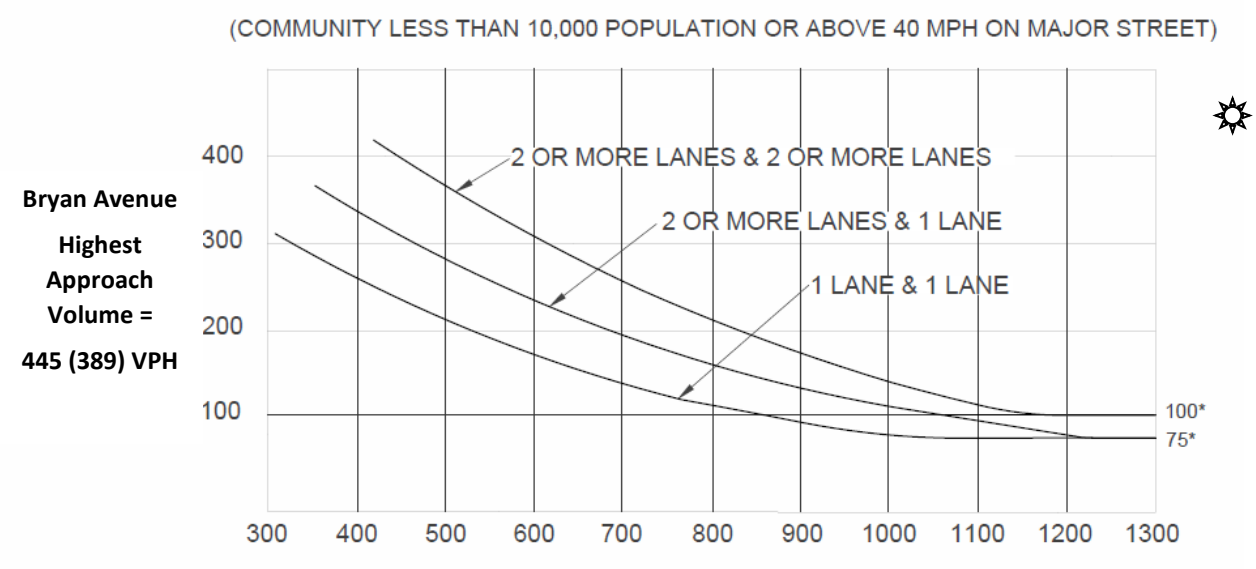
AM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 No Project Traffic Conditions
5. Bryan Avenue / Shaw Avenue
AM (PM) Peak Hour



Bryan Avenue Highest Approach Volume = 445 (389) VPH

Shaw Avenue Total of Both Approaches = 1794 (2068) 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

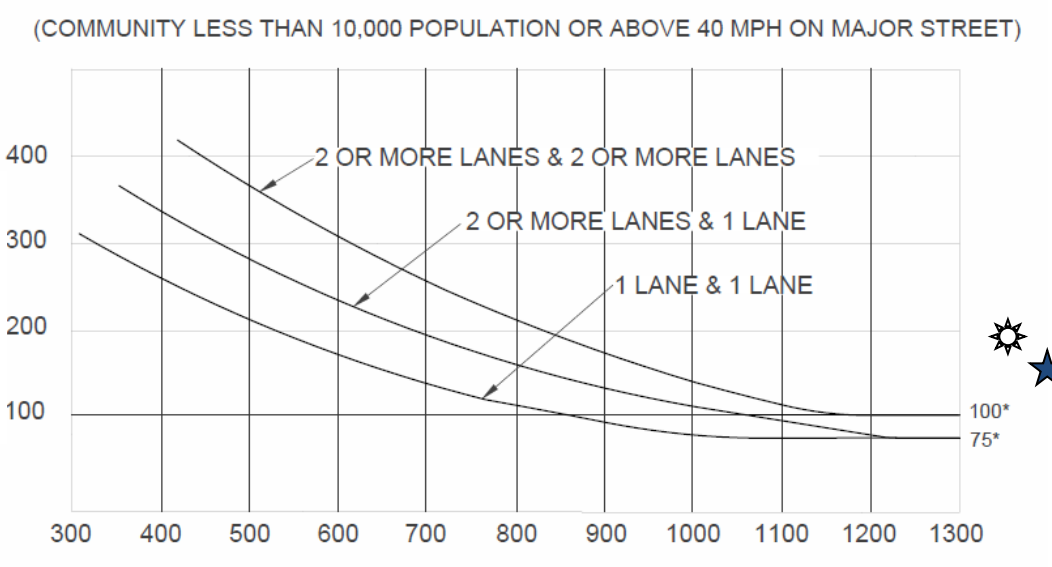
PM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 No Project Traffic Conditions
6. Hayes Avenue / Shaw Avenue
AM (PM) Peak Hour

Hayes Avenue Highest Approach Volume = 199 (144) VPH



Shaw Avenue Total of Both Approaches =

1785 (2087) 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.

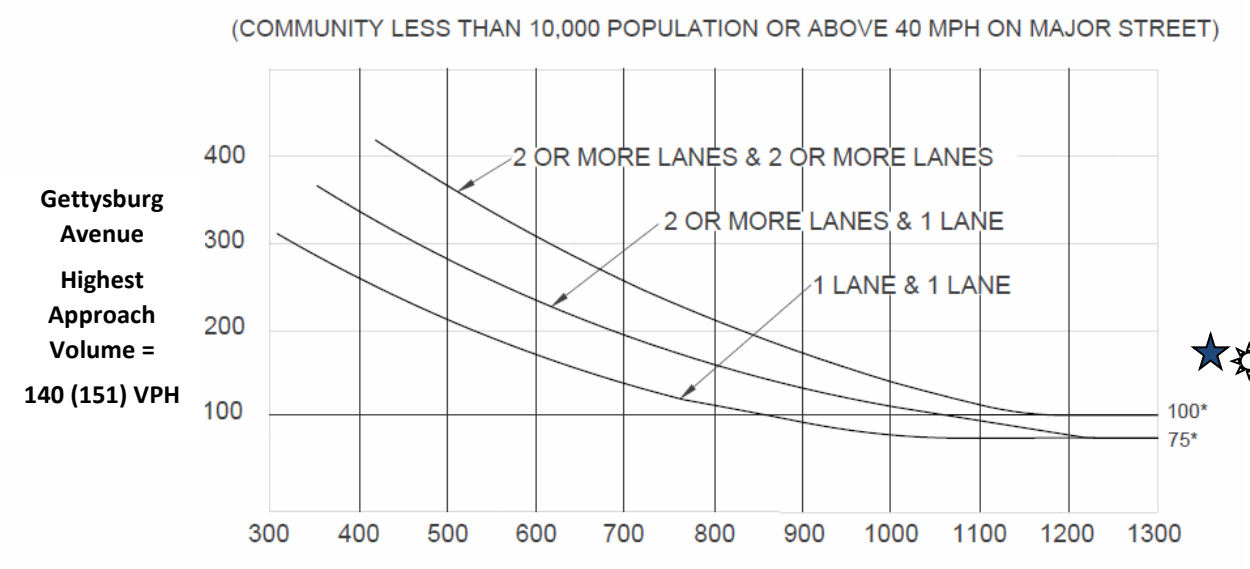
AM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 No Project Traffic Conditions
7. Grantland Avenue / Gettysburg Avenue
AM (PM) Peak Hour



Grantland Avenue Total of Both Approaches =

2470 (2185) 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.

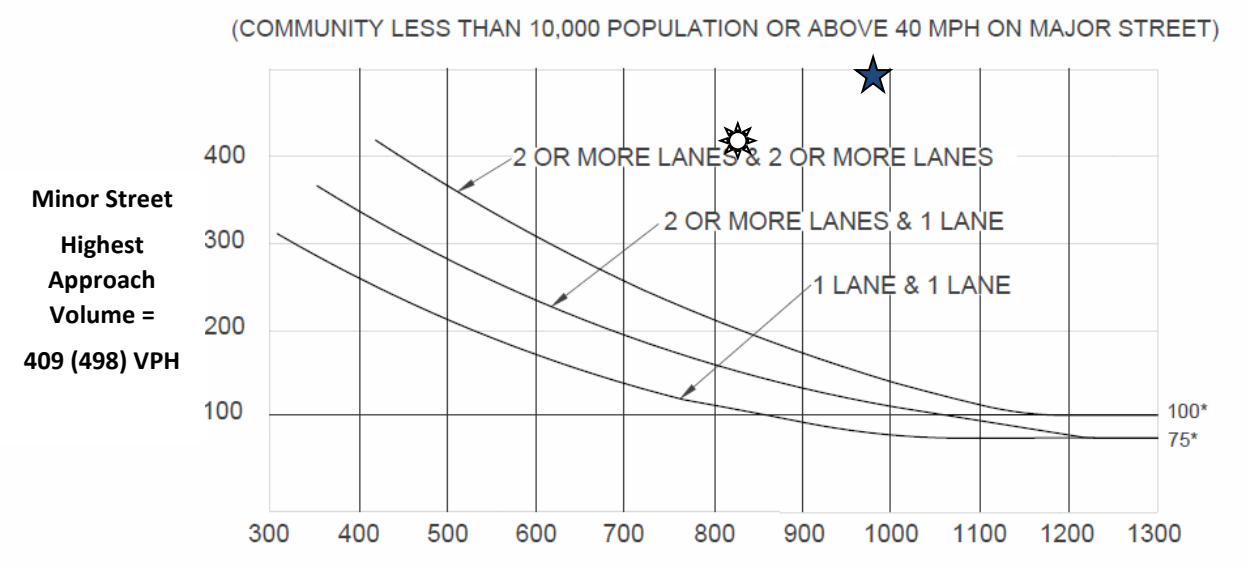
AM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 No Project Traffic Conditions
9. Bryan Avenue / Gettysburg Avenue
AM (PM) Peak Hour



Major Street Total of Both Approaches =

805 (986) 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.

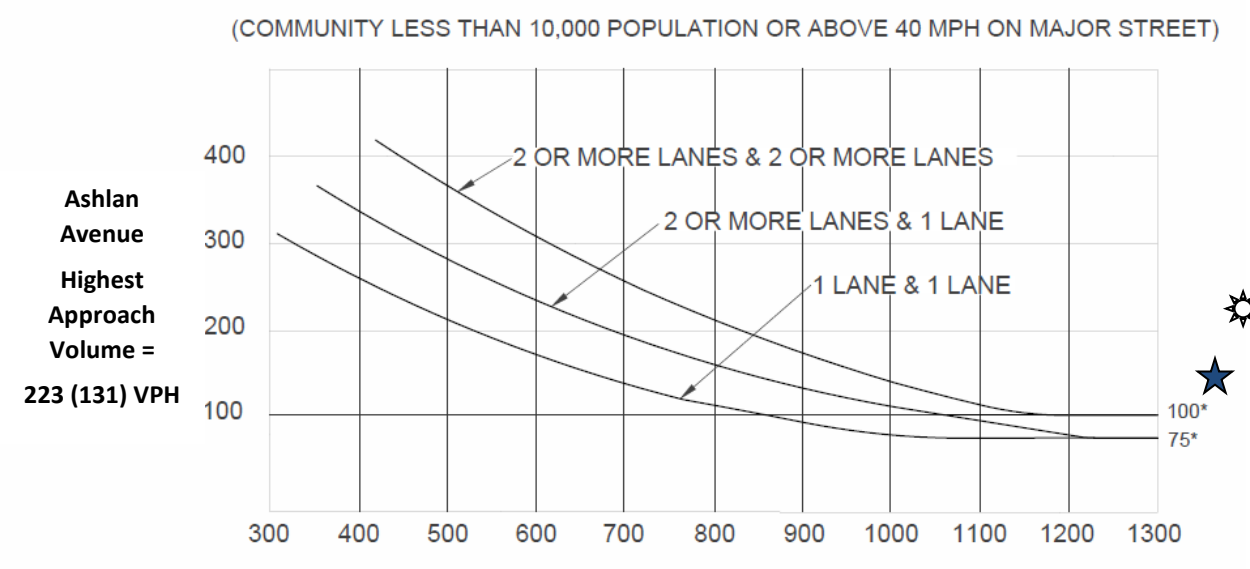
AM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 No Project Traffic Conditions
11. Grantland Avenue / Ashlan Avenue
AM (PM) Peak Hour



Grantland Avenue Total of Both Approaches =

2230 (2154) 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.

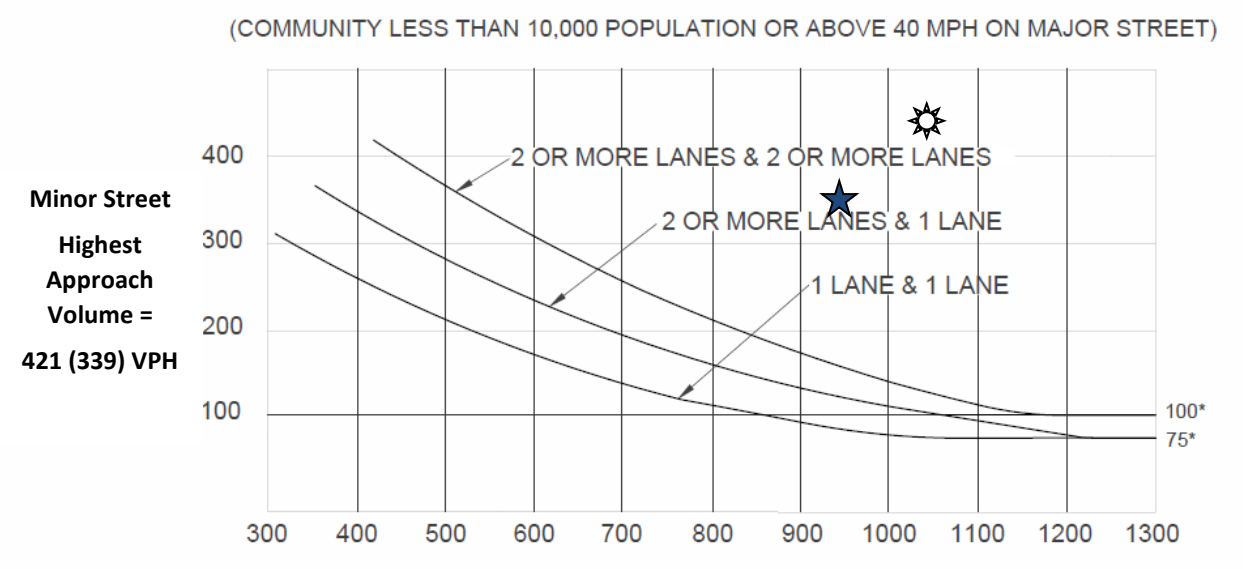
AM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 No Project Traffic Conditions
12. Bryan Avenue / Ashlan Avenue
AM (PM) Peak Hour



Major Street Total of Both Approaches =

1044 (942) 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.

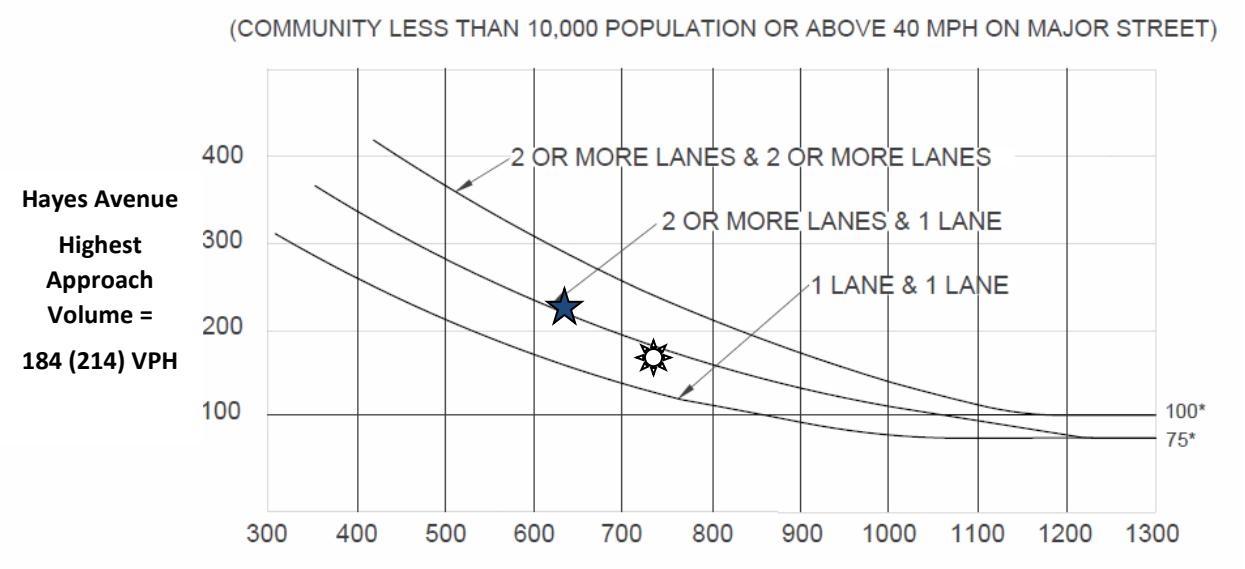
AM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 No Project Traffic Conditions
13. Hayes Avenue / Ashlan Avenue
AM (PM) Peak Hour



Ashlan Avenue Total of Both Approaches =

740 (630) 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.

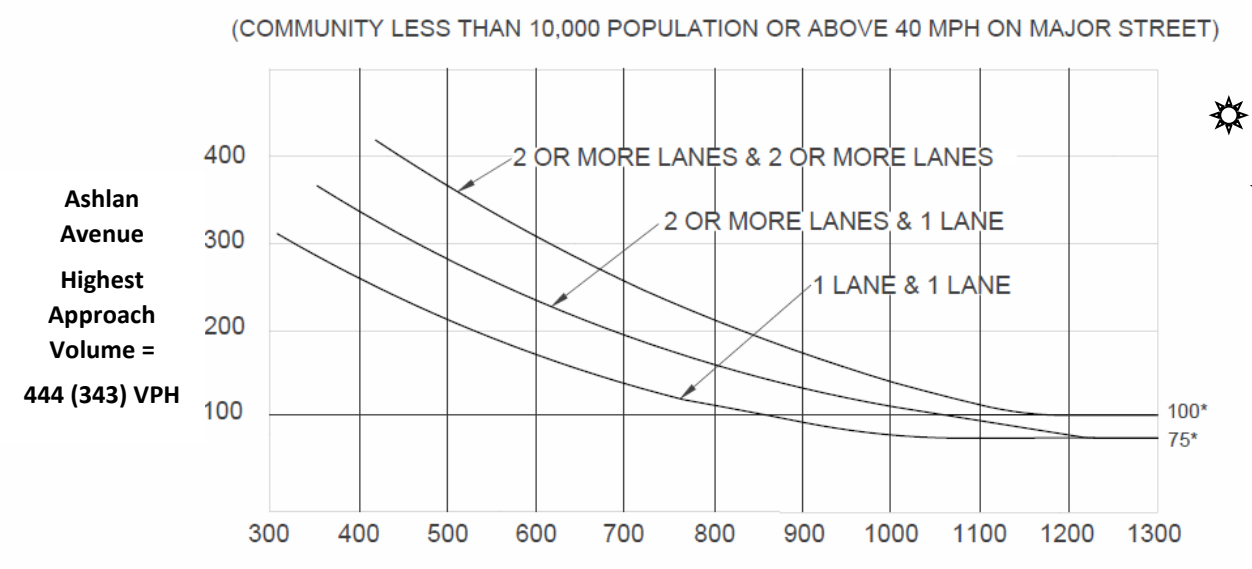
AM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 No Project Traffic Conditions
14. Polk Avenue / Ashlan Avenue
AM (PM) Peak Hour



Ashlan Avenue Highest Approach Volume = 444 (343) VPH

Polk Avenue Total of Both Approaches = 1398 (1480) 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.

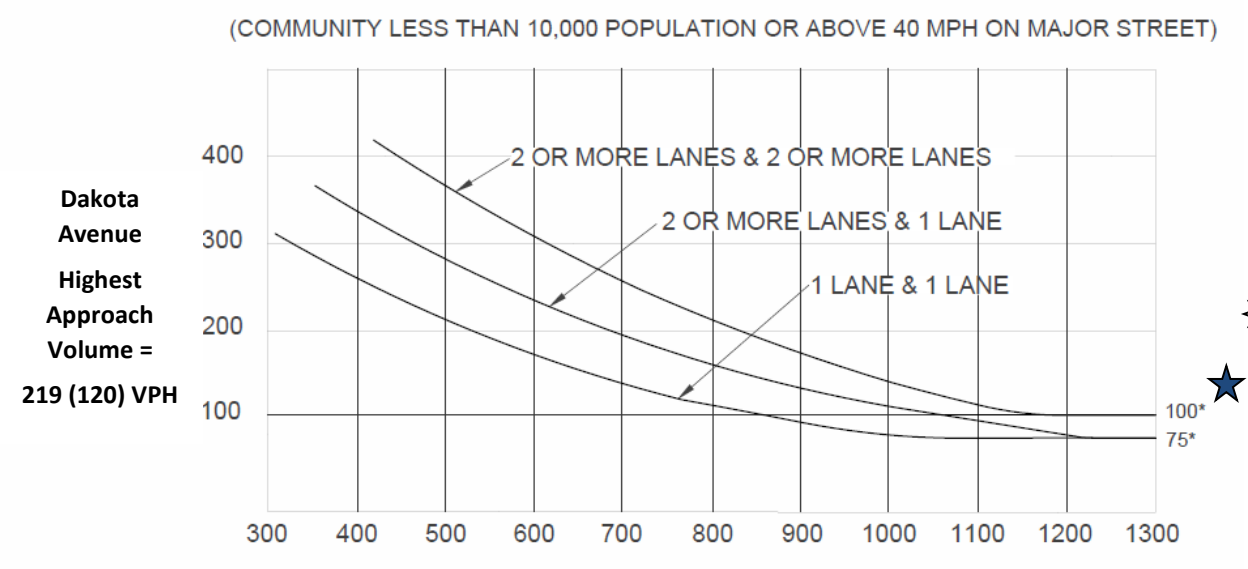
AM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 No Project Traffic Conditions
16. Grantland Avenue / Dakota Avenue
AM (PM) Peak Hour



Dakota Avenue Highest Approach Volume = 219 (120) VPH

Grantland Avenue Total of Both Approaches = 2231 (2189) 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.

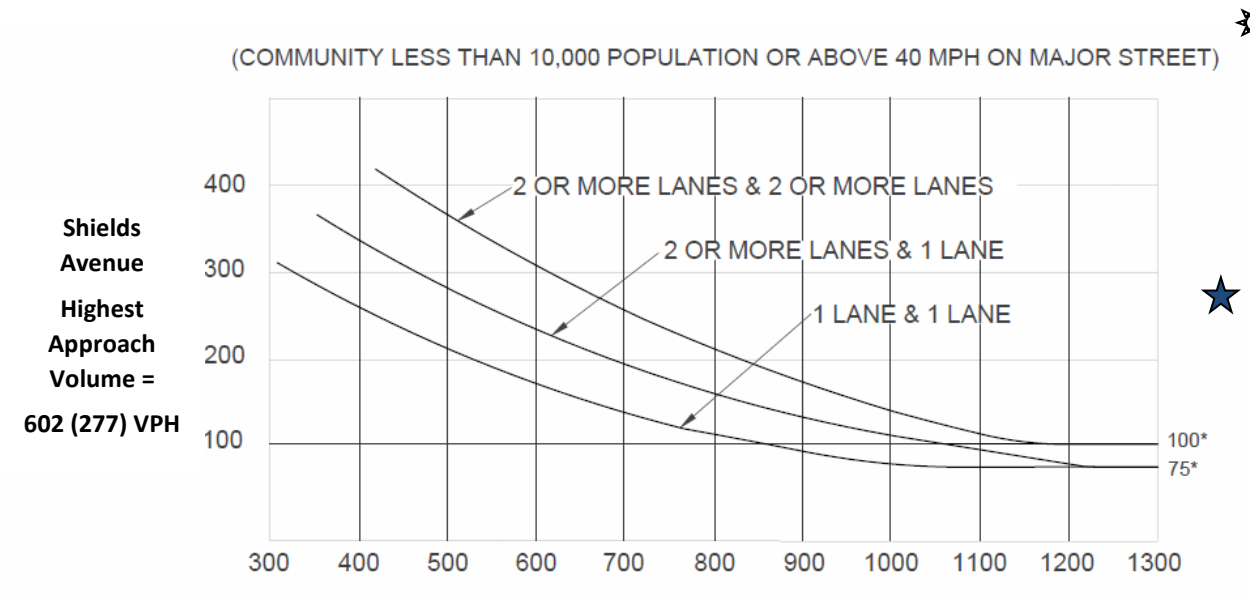
AM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 No Project Traffic Conditions
17. Grantland Avenue / Shields Avenue
AM (PM) Peak Hour



Shields Avenue Highest Approach Volume = 602 (277) VPH

Grantland Avenue Total of Both Approaches = 1908 (1842) 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

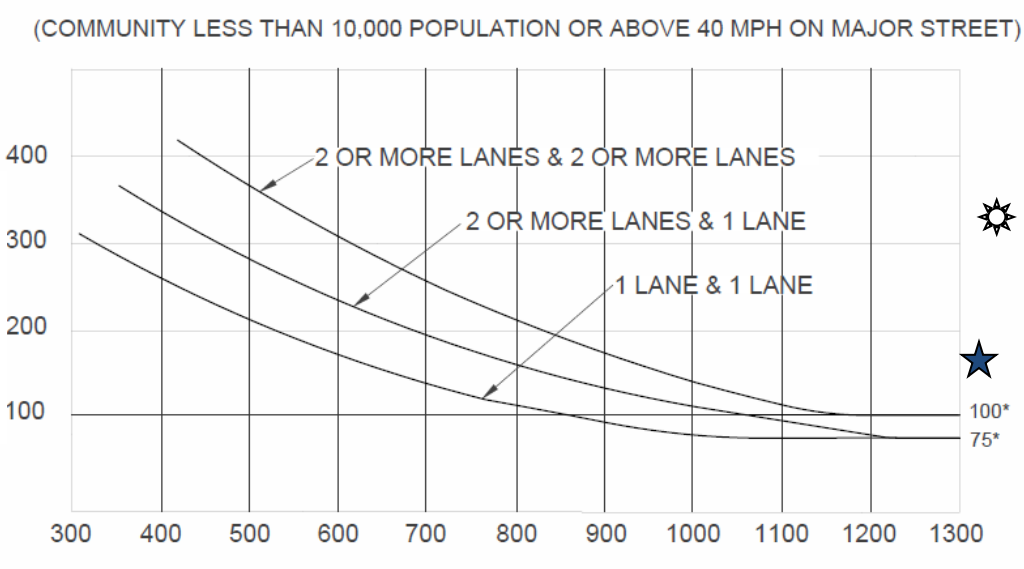
Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 plus Project Traffic Conditions
1. Grantland Avenue / Barstow Avenue
AM (PM) Peak Hour

Barstow Avenue

Highest Approach Volume =

329 (162) VPH



Grantland Avenue Total of Both Approaches =

1350 (1332) 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

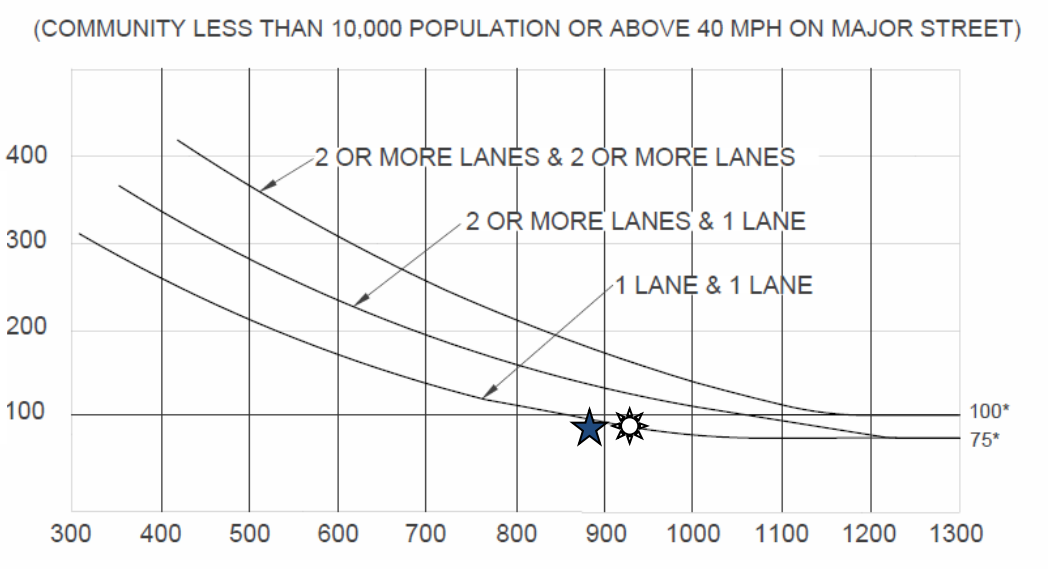
PM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 plus Project Traffic Conditions
2. Garfield Avenue / Shaw Avenue
AM (PM) Peak Hour

Garfield Avenue Highest Approach Volume = 94 (91) VPH



Shaw Avenue Total of Both Approaches = 928 (893) 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

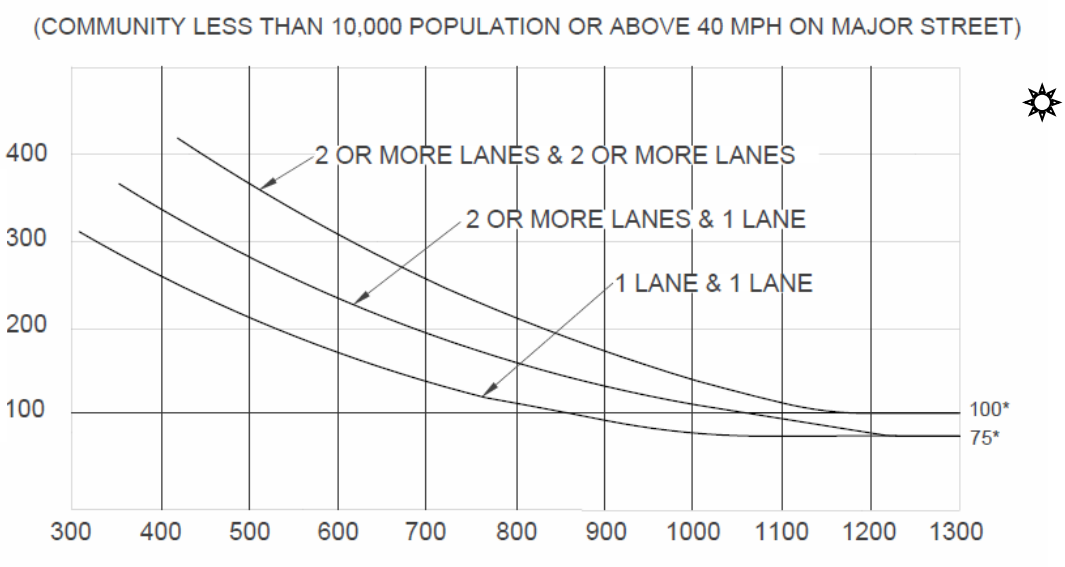
PM Peak Hour – Signal Warrant is Not Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 plus Project Traffic Conditions
5. Bryan Avenue / Shaw Avenue
AM (PM) Peak Hour

Bryan Avenue Highest Approach Volume = 445 (389) VPH



Shaw Avenue Total of Both Approaches = 2004 (2310) 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

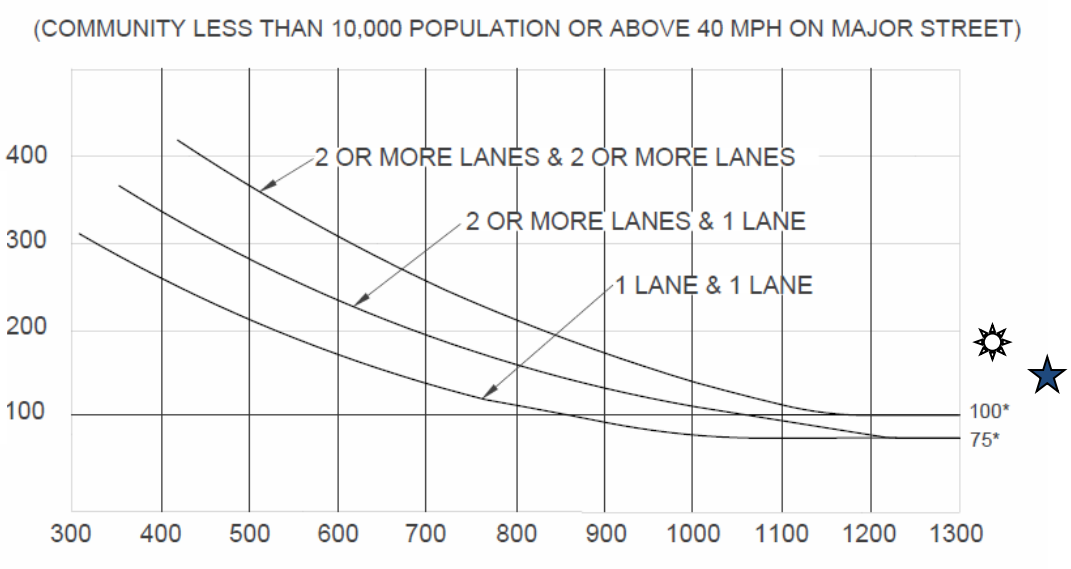
PM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 plus Project Traffic Conditions
6. Hayes Avenue / Shaw Avenue
AM (PM) Peak Hour

Hayes Avenue Highest Approach Volume = 199 (144) VPH



Shaw Avenue Total of Both Approaches =

1987 (2321) 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.

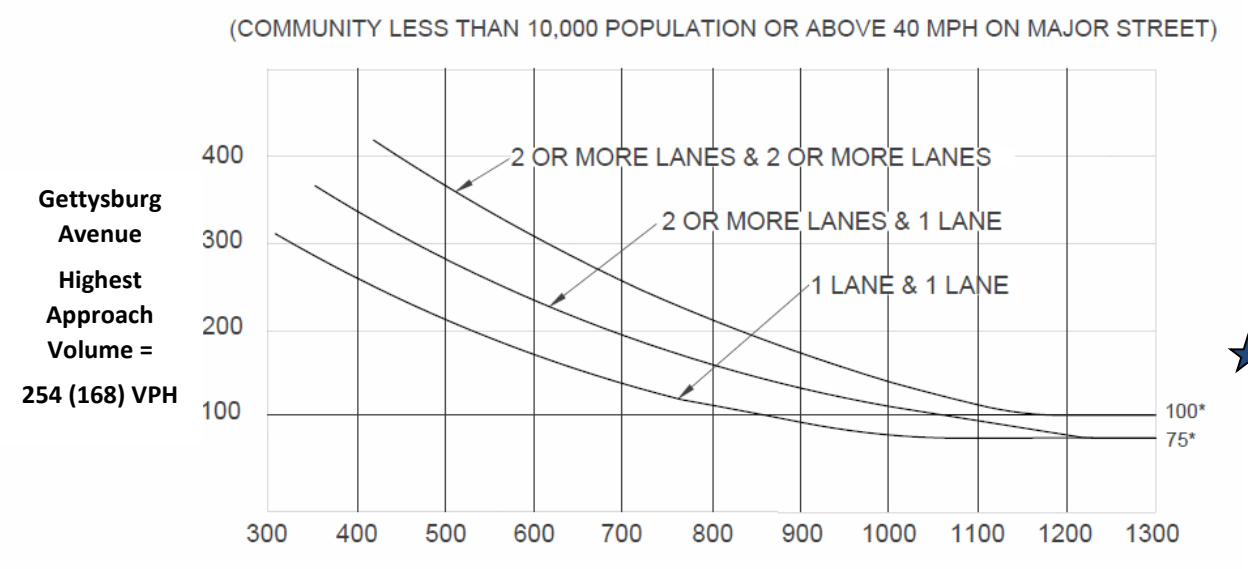
AM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 plus Project Traffic Conditions
7. Grantland Avenue / Gettysburg Avenue
AM (PM) Peak Hour



Gettysburg Avenue Highest Approach Volume = 254 (168) VPH

Grantland Avenue Total of Both Approaches = 2673 (2627) 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

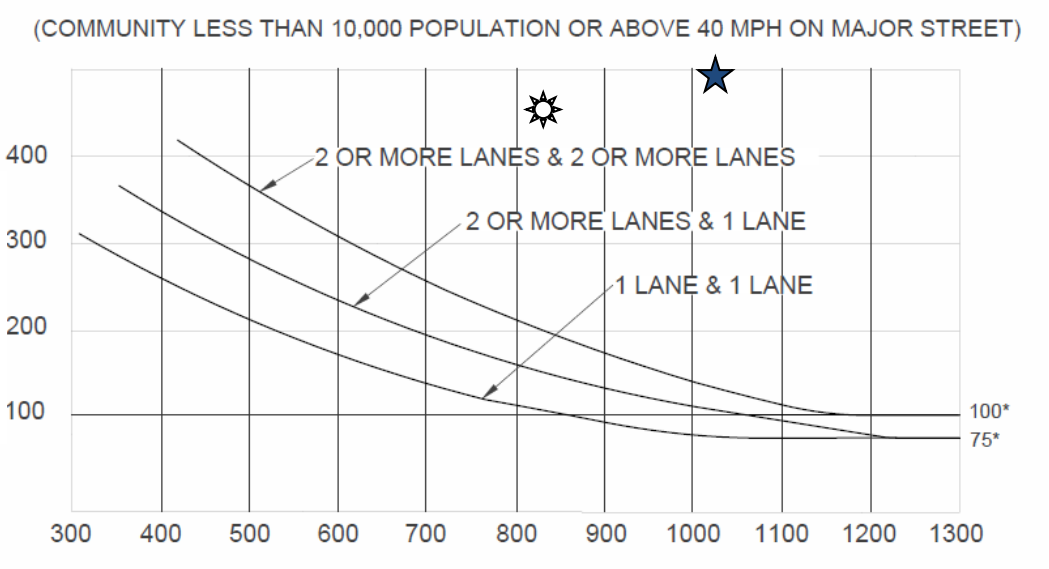
PM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 plus Project Traffic Conditions
9. Bryan Avenue / Gettysburg Avenue
AM (PM) Peak Hour

Bryan Avenue
Highest Approach Volume =
446 (498) VPH



Gettysburg Avenue Total of Both Approaches =

820 (1023) 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.

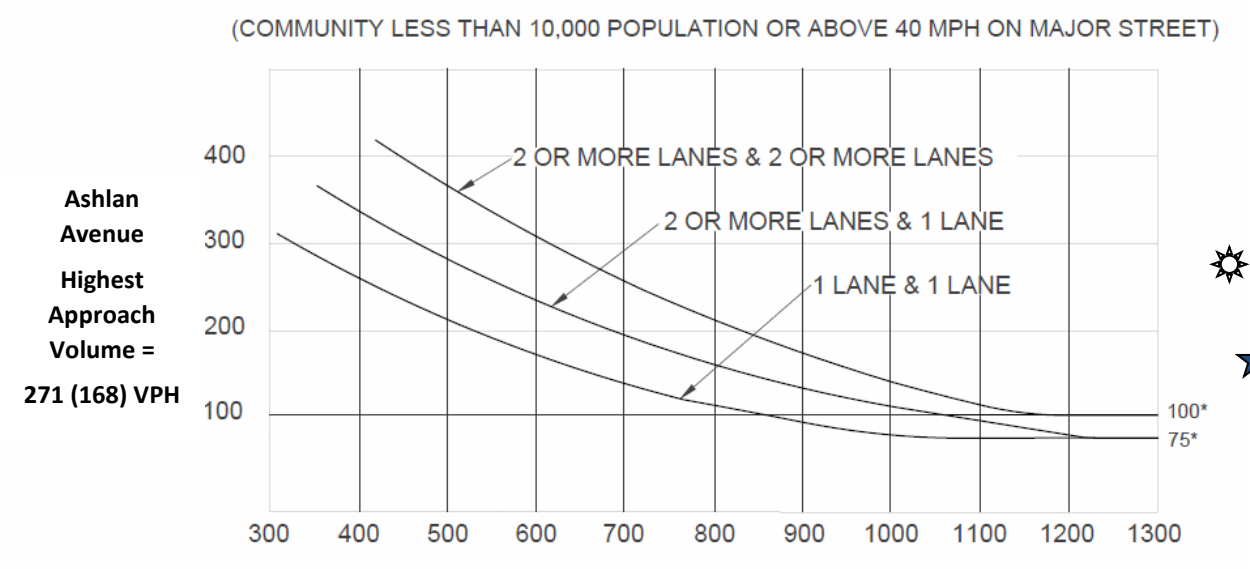
AM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 plus Project Traffic Conditions
11. Grantland Avenue / Ashlan Avenue
AM (PM) Peak Hour



Ashlan Avenue Highest Approach Volume = 271 (168) VPH

Grantland Avenue Total of Both Approaches = 2359 (2484) 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.

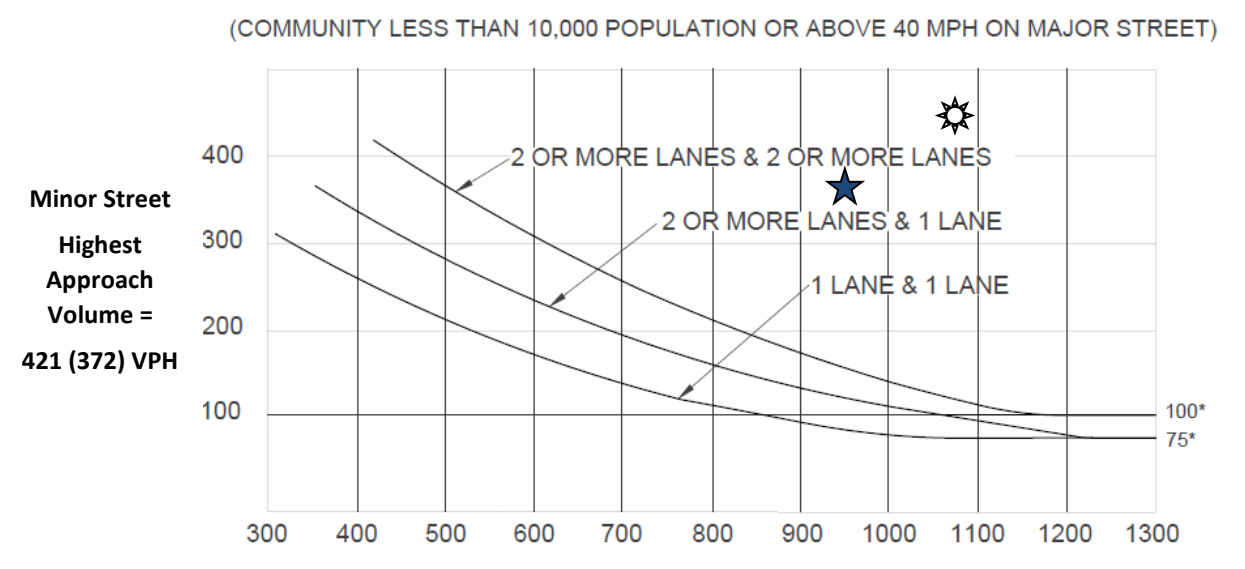
AM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 plus Project Traffic Conditions
12. Bryan Avenue / Ashlan Avenue
AM (PM) Peak Hour



Major Street Total of Both Approaches =

1097 (944) 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

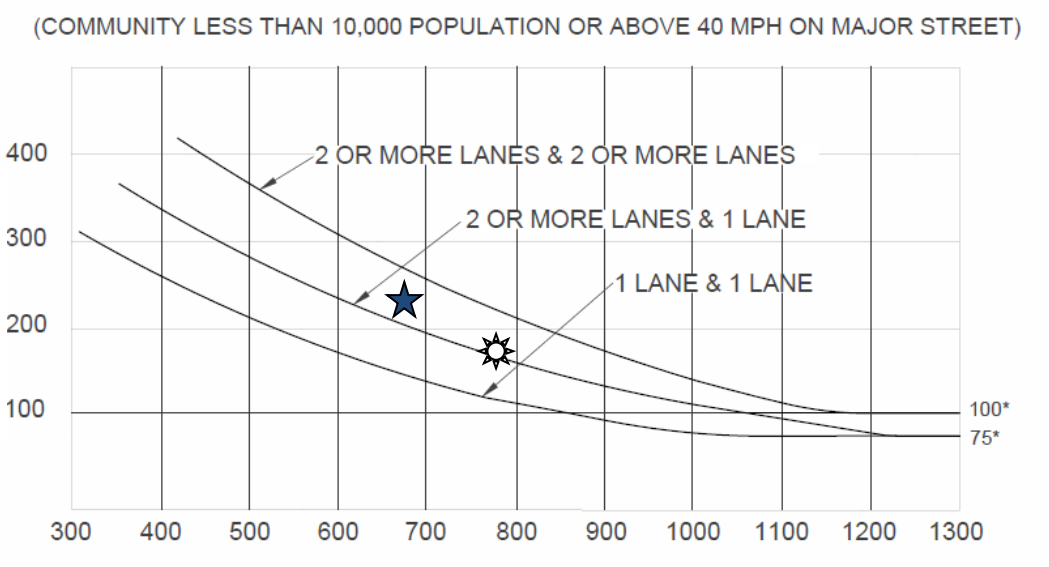
PM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 plus Project Traffic Conditions
13. Hayes Avenue / Ashlan Avenue
AM (PM) Peak Hour

Hayes Avenue Highest Approach Volume = 187 (220) VPH



Ashlan Avenue Total of Both Approaches = 783 (691) 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

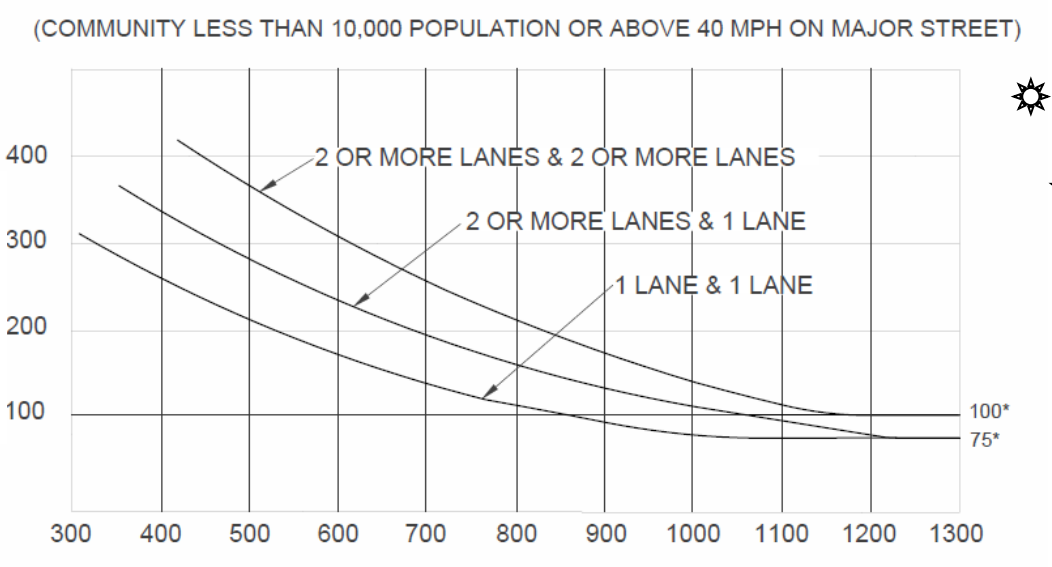
PM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 plus Project Traffic Conditions
14. Polk Avenue / Ashlan Avenue
AM (PM) Peak Hour

Ashlan Avenue Highest Approach Volume = 463 (370) VPH



Polk Avenue Total of Both Approaches =

1400 (1483) 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

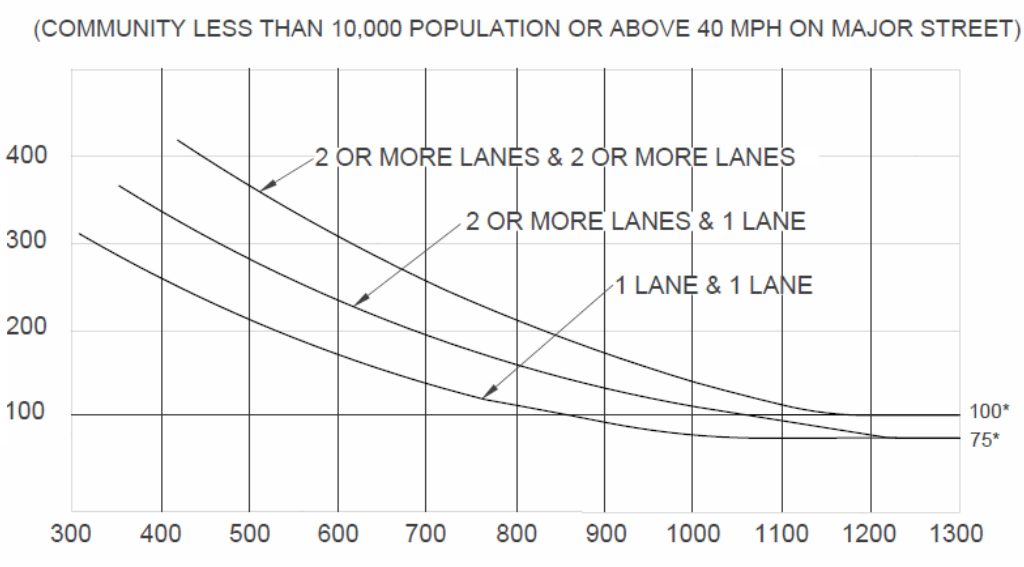
PM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 plus Project Traffic Conditions
16. Grantland Avenue / Dakota Avenue
AM (PM) Peak Hour

Dakota Avenue Highest Approach Volume = 219 (120) VPH



Grantland Avenue Total of Both Approaches =

2369 (2406) 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.

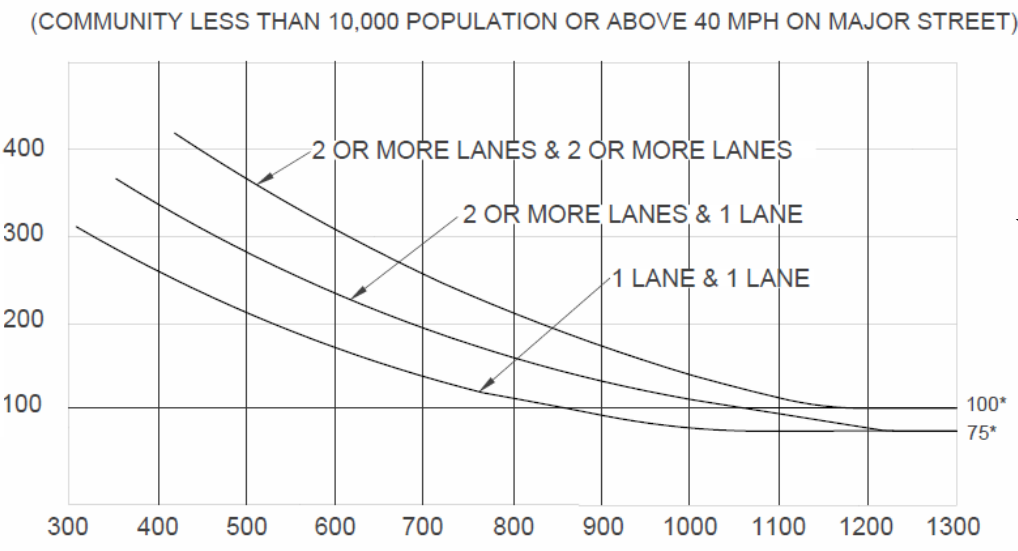
AM Peak Hour – Signal Warrant is Met

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

Warrant 3: Peak Hour (Rural)

Cumulative Year 2035 plus Project Traffic Conditions
17. Grantland Avenue / Shields Avenue
AM (PM) Peak Hour



Shields Avenue Highest Approach Volume = 608 (304) VPH

Grantland Avenue Total of Both Approaches = 2020 (1998) 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

Traffic Impact Analysis Addendum

Parc West

Located on the Northwest Quadrant of Grantland Avenue and Ashlan Avenue

In the City of Fresno, California

Prepared for:

Parc West Development, Inc.
1396 West Herndon, Suite 101
Fresno, CA 93711

September 6, 2019

Project No. 004-067

JLB TRAFFIC ENGINEERING, INC.

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

Traffic Engineering, Transportation Planning, & Parking Solutions

Traffic Impact Analysis Addendum

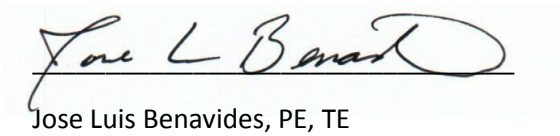
For the Parc West Project located on the Northwest Quadrant of Grantland Avenue and Ashlan Avenue

In the City of Fresno, CA

September 6, 2019

This Traffic Impact Analysis Addendum 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

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Introduction and Summary

Introduction

This report describes a Traffic Impact Analysis (TIA) Addendum prepared by JLB Traffic Engineering, Inc. (JLB) for the proposed Parc West (Project) located on the northwest quadrant of Grantland Avenue and Ashlan Avenue in the City of Fresno. The reason for the Addendum was to include the intersection of Polk Avenue and Shaw Avenue, the State Route 99 Herndon Avenue interchange, the State Route 99 and Shaw Avenue interchange, and the State Route 99 and Ashlan Avenue interchange to the analysis. These intersections and interchanges were requested by the City of Fresno after their approval of the TIA draft scope of work on July 18, 2018. This TIA Addendum supplements the initial TIA Report previously prepared for Parc West but which will also be dated September 6, 2019. The Project proposes to develop up to 844 single-family residential units and a 1.819-acre neighborhood park on approximately 160 acres. Based on information provided to JLB, approximately 11 acres of the Project site generally located at the northwest corner of Grantland Avenue and Ashlan Avenue will undergo a General Plan Amendment to modify the land use from Community Commercial to Medium-Density Residential. Figure 1 shows the location of the proposed Project site relative to the surrounding roadway network.

The purpose of this TIA Addendum is to evaluate the potential off-site traffic impacts to the intersection of Shaw Avenue and Polk Avenue, the State Route 99 and Herndon Avenue interchange, the State Route 99 and Shaw Avenue interchange, and the State Route 99 and Ashlan Avenue interchange, and determine potential mitigation measures.

Summary

The potential traffic impacts of the proposed Project were evaluated in accordance with the standards set forth by the level of service (LOS) policy of the City of Fresno, County of Fresno 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 five-year period (January 1, 2013 to December 31, 2017). In the five-year period, a total of 67 collisions were reported within the influence zone (assumed to be within 250 feet) of the study intersections.
- JLB was unable to reach a conclusion that would explain any justification for the modification of lane geometrics or traffic controls at the intersections. As a result, the number of correctable collisions experienced at the existing study intersections is considered less than significant.
- At present, all addendum study intersections operate at an acceptable LOS during both peak periods.

Existing plus Project (Phase I) Traffic Conditions

- Under this scenario, all addendum study intersections are projected to operate at an acceptable LOS during both peak periods.

Existing plus Project (Phase I & Phase II) Traffic Conditions

- Under this scenario, all addendum study intersections are projected to operate at an acceptable LOS during both peak periods.

Existing plus Project (Buildout) Traffic Conditions

- Under this scenario, all addendum study intersections are projected to operate at an acceptable LOS during both peak periods.

Near Term plus Project (Buildout) Traffic Conditions

- Under this scenario, the intersection of Polk Avenue and Shaw Avenue is projected to exceed its LOS threshold during both peak periods. To improve the LOS at this intersection, the addition of lanes and modification of traffic control mechanisms is recommended. Additional details as to the recommended improvements for these intersections are presented later in this Report.

Cumulative Year 2035 No Project Traffic Conditions

- Under this scenario, the intersections of Polk Avenue and Shaw Avenue, State Route 99 Southbound Ramps and Shaw Avenue, State Route 99 Northbound Ramps and Shaw Avenue, and State Route 99 Northbound Off-Ramp and Ashlan Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at the intersections projected to exceed their LOS threshold, the addition of lanes and modification of traffic control mechanisms is recommended. Additional details as to the recommended improvements for these intersections are presented later in this Report.

Cumulative Year 2035 plus Project Traffic Conditions

- Under this scenario, the intersections of Polk Avenue and Shaw Avenue, State Route 99 Southbound Ramps and Shaw Avenue, State Route 99 Northbound Ramps and Shaw Avenue, and State Route 99 Northbound Off-Ramp and Ashlan Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at the intersections projected to exceed their LOS threshold, the addition of lanes and modification of traffic control mechanisms is recommended. 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 contribute its equitable Fair Share as presented in Table X.

Study Facilities

The existing peak hour turning movement and segment volume counts were conducted for the study intersections between September 2018 and May 2019 while schools in the vicinity of the proposed Project were in session. The intersection turning movement counts included pedestrian volumes. The traffic counts for the existing study intersections are contained in Appendix A. The existing intersection turning movement volumes, intersection geometrics and traffic controls are illustrated in Figure 1.

Study Intersections:

1. Herndon Avenue / State Route 99 Northbound Off-Ramp
2. Grantland Avenue / State Route 99 Southbound On-Ramp
3. Polk Avenue / Shaw Avenue
4. State Route 99 Southbound Ramps / Shaw Avenue
5. State Route 99 Northbound Ramps / Shaw Avenue
6. State Route 99 Southbound Off-Ramp / Ashlan Avenue
7. State Route 99 Northbound Off-Ramp / Ashlan Avenue

Study Scenarios

Existing Traffic Conditions

This scenario evaluates the Existing Traffic Conditions based on existing traffic volumes and roadway conditions from traffic counts and field surveys conducted between September 2018 and May 2019.

Existing plus Project (Phase I) Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Existing plus Project Traffic Conditions. The Existing plus Project traffic volumes were obtained by adding the Project Only Trips (Phase I) to the Existing Traffic Conditions scenario. The Project Only Trips (Phase I) to the study facilities were developed based on e existing travel patterns, the Fresno COG Project (Phase I) Select Zone, the existing roadway network, engineering judgment, data provided by the developer, knowledge of the study area, existing residential and commercial densities, and the City of Fresno 2035 General Plan Circulation Element in the vicinity of the Project. The Fresno COG Models for the Project Select Zone are contained in Appendix B.

Existing plus Project (Phase I & Phase II) Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Existing plus Project (Phase I & Phase II) Traffic Conditions. The Existing plus Project (Phase I & Phase II) traffic volumes were obtained by adding the Project Only Trips (Phase II) to the Existing plus Project (Phase I) Traffic Conditions scenario. The Project Only Trips (Phase II) to the study facilities were developed based on existing travel patterns, the Fresno COG Project Select Zones, the existing roadway network, engineering judgment, data provided by the developer, knowledge of the study area, existing residential and commercial densities, and the City of Fresno 2035 General Plan Circulation Element in the vicinity of the Project.

Existing plus Project (Buildout) Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Existing plus Project (Buildout) Traffic Conditions. The Existing plus Project (Buildout) traffic volumes were obtained by adding the Project Only Trips (Buildout) to the Existing Traffic Conditions scenario. The Project Only Trips (Buildout) to the study facilities were developed based on existing travel patterns, the Fresno COG Project (Buildout) Select Zone, the existing roadway network, engineering judgment, data provided by the developer, knowledge of the study area, existing residential and commercial densities, and the City of Fresno 2035 General Plan Circulation Element in the vicinity of the Project.

Near Term plus Project (Buildout) Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Near Term plus Project Traffic Conditions. The Near Term plus Project traffic volumes were obtained by adding the Near Term related trips to the Existing plus Project (Buildout) Traffic Conditions scenario.

Cumulative Year 2035 No Project Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Cumulative Year 2035 No Project Traffic Conditions. The Cumulative Year 2035 No Project traffic volumes were obtained by subtracting the 2035 Project Only Trips from the Cumulative Year 2035 plus Project Traffic Conditions scenario.

Cumulative Year 2035 plus Project (Buildout) Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Cumulative Year 2035 plus Project (Buildout) Traffic Conditions. The Cumulative Year 2035 plus Project (Buildout) traffic volumes were obtained from the Fresno COG traffic model runs (Base Year 2018 and Cumulative Year 2035) and existing traffic counts. Under this scenario, the increment method, as recommended by the Model Steering Committee was utilized to determine the Cumulative Year 2035 plus Project (Buildout) traffic volumes. The Fresno COG Models are contained in Appendix B. It should be noted that by the year 2035, additional major streets and freeway interchanges will be implemented in the vicinity of the Project that will result in changes in travel patterns and volumes. The 2035 Project Only Trips to the study facilities were developed based on the potential changes to the roadway network, engineering judgment, knowledge of the study area, existing residential and commercial densities, and the City of Fresno 2035 General Plan Circulation Element in the vicinity of the Project.

Level of Service Analysis Methodology

Level of Service (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 *2010 Highway Capacity Manual* (HCM) is the standard reference published by the Transportation Research Board and contains the specific criteria and methods to be used in assessing LOS. U-turn movements were analyzed using HCM 2000 methodologies and would yield more accurate results for the reason that HCM 2010 methodologies do not allow the analysis of U-turns. Synchro software was used to define LOS in this study. Details regarding these calculations are included in Appendix C.

Criteria of Significance

The City of Fresno 2035 General Plan has established various degrees of acceptable LOS on its major streets, which are dependent on four (4) Traffic Impact Zones (TIZ) within the City. The standard LOS threshold for TIZ I is LOS F, that for TIZ II is LOS E, that for TIZ III is LOS D, and that for TIZ IV is LOS E. Additionally, the 2035 MEIR made findings of overriding consideration to allow a lower LOS threshold than that established by the underlying TIZ's. For those cases in which a LOS criterion for a roadway segment differs from that of the underlying TIZ, such criteria are identified in the roadway description. As all study facilities fall within TIZ III, LOS D is used to evaluate the potential significance of LOS impacts to intersections within this TIA pursuant to the City of Fresno 2035 General Plan.

The County of Fresno has established LOS C 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 SOI of a City, the LOS criteria of the City are the criteria of significance used in this report. LOS C is used to evaluate the potential significance of LOS impacts to Fresno County intersections and segments that fall outside the City of Fresno SOI. In this case, all study facilities fall within the City of Fresno SOI, therefore, the City of Fresno LOS is utilized.

Caltrans endeavors to maintain a target LOS at the transition between LOS C and D on State highway facilities consistent with the *Caltrans Guide for the Preparation of Traffic Impact Studies* dated December 2002. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. In this TIA Addendum, all study facilities within Caltrans jurisdiction utilize LOS D to evaluate the potential significance of LOS impacts to state facilities.

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.

- Yellow time:
  - per Caltrans signal timing sheets for the intersections of State Route 99 Southbound Ramps and Shaw Avenue and State Route 99 Northbound Ramps and Shaw Avenue
  - consistent with the California Manual of Uniform Traffic Control Devices (CA MUTCD) based on approach speeds at the remaining study intersections
- Yellow time for left-turn phases:
  - per Caltrans signal timing sheets for the intersections of State Route 99 Southbound Ramps and Shaw Avenue and State Route 99 Northbound Ramps and Shaw Avenue
  - 3.2 seconds at the remaining study intersections
- All-red clearance intervals:
  - per Caltrans signal timing sheets for the intersections of State Route 99 Southbound Ramps and Shaw Avenue and State Route 99 Northbound Ramps and Shaw Avenue
  - 1.0 second for all phases at the remaining study intersections
- 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 and 2.0 seconds added
- All new or modified signals utilize protective left-turn phasing
- Heavy vehicle factor:
  - The intersections of State Route 99 Southbound Ramps and Shaw Avenue and State Route 99 Northbound Ramps and Shaw Avenue utilize a:
    - 10 percent heavy vehicle factor in the AM peak
    - 8 percent heavy vehicle factor in the PM peak
  - 3 percent at the remaining study intersections
- The number of observed pedestrians at existing intersections was utilized under all study scenarios
- An average of 3 pedestrian calls per hour at signalized intersections
- At existing intersections, the observed approach Peak Hour Factor (PHF) is utilized in the Existing, Existing plus Project and Near Term plus Project scenarios
- A PHF of 0.92, or the existing PHF if higher, is utilized under the Cumulative Year 2035 scenarios

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.

Herndon Avenue is an existing east-west predominantly four-lane divided expressway in the vicinity of the proposed Project. Herndon Avenue extends through the City of Fresno westerly beyond its intersection with State Route 99 and easterly beyond the City of Clovis. The City of Fresno 2035 General Plan Circulation Element designates Herndon Avenue as a six-lane divided expressway between Golden State Boulevard and Willow Avenue. Herndon Avenue is continuous for just over 20 miles and is the most northerly, continuous east-west route on the Fresno County side of the San Joaquin River. The City of Fresno 2035 General Plan Circulation Element acknowledged that Herndon Avenue would exceed LOS D at various locations as a six-lane facility. Herndon Avenue was ultimately established at LOS E or F as a six-lane facility within the City of Fresno between the segments of State Route 99 and Golden State Boulevard, Polk Avenue and Milburn Avenue, West Avenue and Palm Avenue, and First Street and Millbrook Avenue.

Parkway Drive is an existing two-lane undivided roadway in the vicinity of the proposed Project. In this area, Parkway Drive is a collector north of Herndon Avenue and a super arterial between Herndon Avenue and Grantland Avenue. The City of Fresno 2035 General Plan Circulation Element designates Parkway Drive as a four-lane super arterial between Herndon Avenue and Grantland Avenue.

Grantland Avenue is an existing north-south two-lane divided arterial in the vicinity of the proposed Project. In this area, Grantland Avenue extends south of Parkway Drive through the southern limits of the City of Fresno SOI. The City of Fresno 2035 General Plan Circulation Element designates Grantland Avenue as a two-lane arterial between Parkway Drive and Shaw Avenue, a four-lane collector between Shaw Avenue and Gettysburg Avenue, and a four-lane super arterial between Gettysburg Avenue and Belmont Avenue.

Polk Avenue is an existing north-south two- to four-lane divided arterial in the vicinity of the proposed Project. In this area, Polk Avenue extends south of Parkway Drive to Olive Avenue. The 2035 City of Fresno General Plan designates Polk Avenue as a four-lane divided arterial south of Shaw Avenue.

Shaw Avenue is an existing east-west two-lane undivided arterial in the vicinity of the proposed Project. Shaw Avenue extends through the City of Fresno easterly beyond the City of Clovis and westerly beyond Garfield Avenue in the County of Fresno. The 2035 City of Fresno General Plan Circulation Element designates Shaw Avenue as a two-lane divided arterial west of Grantland Avenue, a four-lane divided arterial between Grantland Avenue and Cornelia Avenue, and a six-lane divided arterial east of Cornelia Avenue. Furthermore, the 2035 City of Fresno General Plan Circulation Element acknowledged that Shaw Avenue would exceed LOS D as a four-lane facility between State Route 99 and Jennifer Avenue. However, City Council made the appropriate findings to designate LOS F as the criteria of significance for Shaw Avenue as a four-lane facility between State Route 99 and Jennifer Avenue. Additionally, the 2035 City of Fresno General Plan Circulation Element acknowledged that Shaw Avenue would exceed LOS D as a six-lane facility between Woodrow Avenue and Chestnut Avenue. However, City Council made appropriate findings to designate LOS E as the criteria of significance for Shaw Avenue as a six-lane facility between Woodrow Avenue and Chestnut Avenue.

Ashlan Avenue is an existing east-west two-lane undivided arterial in the vicinity of the proposed Project. In this area, Ashlan Avenue extends east of Grantland Avenue through the eastern limits of the City of Fresno SOI. The 2035 City of Fresno General Plan Circulation Element designates Ashlan Avenue as a four-lane divided arterial between Grantland Avenue and Fruit Avenue and east of Maroa Avenue and a two-lane collector between Fruit Avenue and Maroa Avenue. Furthermore, the 2035 City of Fresno General Plan Circulation Element acknowledged that Ashlan Avenue would exceed LOS D as a four-lane facility between Milburn Avenue and Blythe Avenue. However, City Council made the appropriate findings to designate LOS E as the criteria of significance for Ashlan Avenue as a four-lane facility between Milburn Avenue and Blythe Avenue. Additionally, the 2035 City of Fresno General Plan Circulation Element acknowledged that Ashlan Avenue would exceed LOS D as a four-lane facility between State Route 99 and Marty Avenue. However, City Council made appropriate findings to designate LOS F as the criteria of significance for Ashlan Avenue as a four-lane facility between State Route 99 and Marty Avenue.

State Route 99 is an existing four- to six-lane freeway near the vicinity of the proposed Project. State Route 99 traverses the City of Fresno in a northwest-southeast direction and serves as the principal connection to various metropolitan areas within the Central San Joaquin Valley.

Collision Analysis

JLB conducted a search of the Statewide Integrated Traffic Records System (SWITRS) to review collision reports for the most recent five-year period (January 1, 2013 to December 31, 2017). 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 CHP staff and members of its Allied Agencies throughout California can request various types of statistical reports in an electronic format." All collision reports found in SWITRS between January 1, 2013 and December 21, 2017 were included in the analysis. In the five-year period, a total of 67 collisions were reported within the influence zone (assumed to be within 250 feet) of the study intersections. Collision data for each study intersection are contained in Appendix D.

Table I summarizes the type of collision, severity, violations and if it involved another vehicle, a pedestrian/bicyclist or a fixed object. Based on the three-year collision data contained within SWITRS, most study intersections have experienced a relatively low average number of collisions per year. After thorough review of the data contained within the collision reports for the five-year analysis period, JLB was unable to reach a conclusion that would explain any justification for the modification of lane geometrics or traffic controls at the intersections. As a result, the number of correctable collisions experienced at the existing study intersections is considered less than significant.

Table I: Five-Year Intersection Collision Analysis

ID	Intersection	Number of Collisions	Type of Collision					Severity					Type of Violation							Motor Vehicle Involved with...		
			Broadside	Rear End	Head-On	Object	Sideswipe	Fatal	Severe Injury	Other Visible Injury	Complaint of Pain Injury	Property Damage Only	Traffic Signals & Signs	Right of Way	Unsafe Speed	Other	Improper Turning	Driving Under Influence	Pedestrian Violation	Pedestrian	Other Motor Vehicle	Fixed Object
1	Herndon Avenue / SR 99 NB Off-Ramp	6	-	5	-	-	1	-	-	-	-	6	-	-	5	-	-	1	-	-	6	-
2	Grantland Avenue / SR 99 SB On-Ramp	7	3	2	1	1	-	-	-	-	-	7	-	2	1	1	1	2	-	-	6	1
3	Polk Avenue / Shaw Avenue	6	2	1	1	1	1	-	-	1	2	3	-	-	1	2	2	1	-	-	4	2
4	SR 99 SB Ramps / Shaw Avenue	5	2	-	1	1	1	-	-	-	1	4	-	3	1	-	-	1	-	-	4	1
5	SR 99 NB Ramps / Shaw Avenue	12	2	5	1	4	-	-	-	1	4	7	-	-	5	3	1	3	-	-	8	4
6	SR 99 SB Off-Ramp / Ashlan Avenue	12	2	6	-	-	4	-	-	-	3	9	3	-	5	-	3	1	-	-	12	-
7	SR 99 NB Off-Ramp / Ashlan Avenue	19	5	9	3	1	1	-	-	3	6	10	4	3	9	1	1	1	-	-	17	2

Results of Existing Level of Service Analysis

Figure 1 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 E. Table II presents a summary of the Existing peak hour LOS at the study intersections.

At present, all addendum study intersections operate at an acceptable LOS during both peak periods.

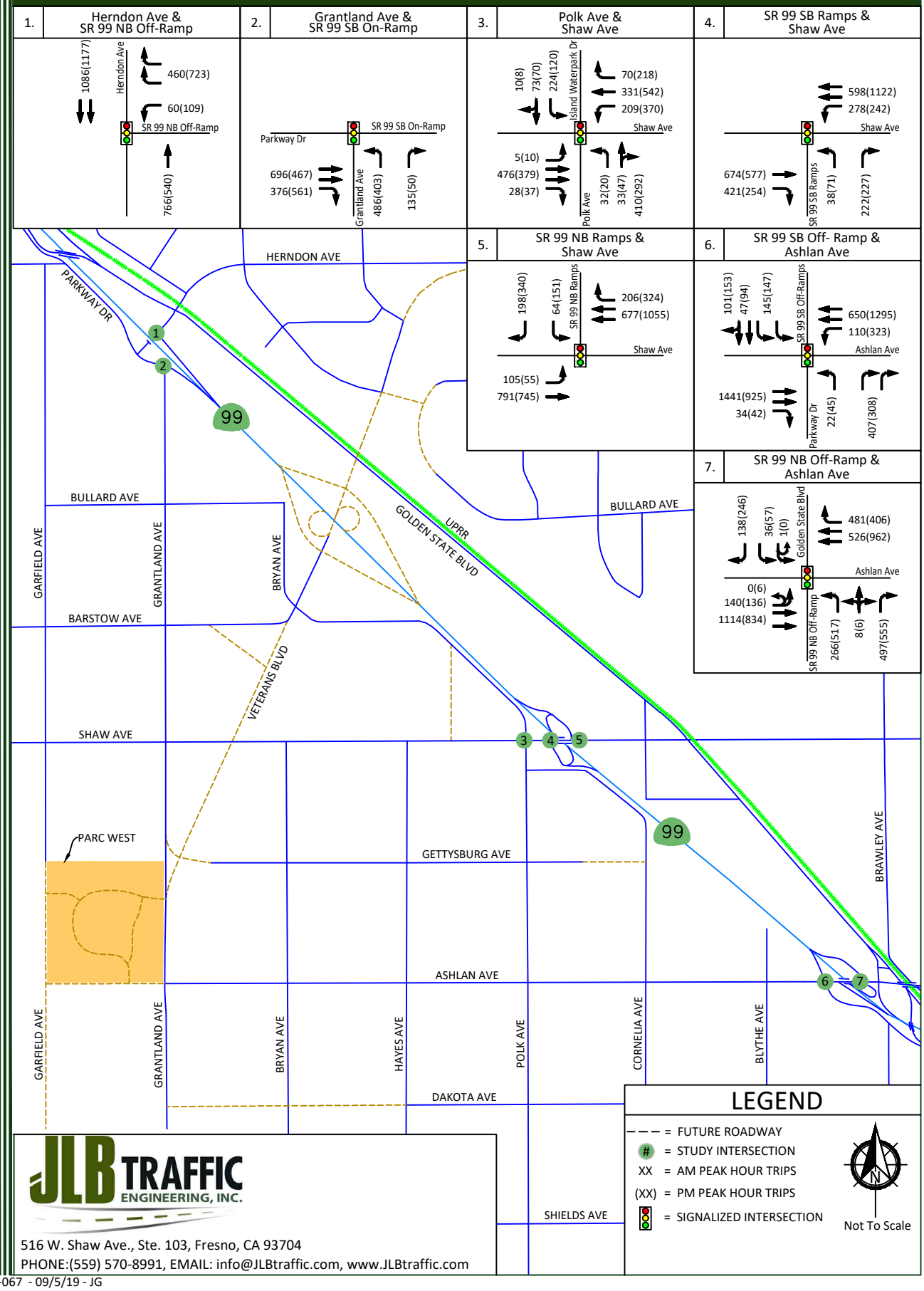
Table II: Existing Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM Peak Hour*		*PM Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Herndon Avenue / SR 99 NB Off-Ramp	Signalized	16.7	B	17.0	B
2	Grantland Avenue / SR 99 SB On-Ramp	Signalized	0.3	A	0.3	A
3	Polk Avenue / Shaw Avenue	Signalized	41.7	D	31.8	C
4	SR 99 SB Ramps / Shaw Avenue	Signalized	14.1	B	14.2	B
5	SR 99 NB Ramps / Shaw Avenue	Signalized	8.6	A	30.3	C
6	SR 99 SB Off-Ramp / Ashlan Avenue	Signalized	19.4	B	24.4	C
7	SR 99 NB Off-Ramp / Ashlan Avenue	Signalized	27.3	C	41.2	D

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.

Parc West - City of Fresno
Existing - Traffic Volumes, Geometrics and Controls

Figure 1



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

Existing plus Project (Phase I) Traffic Conditions

Trip Distribution (Phase I)

The trip distribution assumptions were developed based on existing travel patterns, the Fresno COG Project (Phase I) Select Zone, the existing roadway network, engineering judgment, data provided by the developer, knowledge of the study area, existing residential and commercial densities, and the City of Fresno 2035 General Plan Circulation Element in the vicinity of the Project. Figure 2 illustrates the Project Only Trips to the study intersections under Phase I.

Results of Existing plus Project (Phase I) Level of Service Analysis

The Existing plus Project (Phase I) Traffic Conditions scenario assumes that the existing roadway geometrics and traffic controls will remain in place. Figure 3 illustrates the Existing plus Project (Phase I) turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Existing plus Project (Phase I) Traffic Conditions scenario are provided in Appendix F. Table III presents a summary of the Existing plus Project (Phase I) peak hour LOS at the study intersections.

Under this scenario, all addendum study intersections are projected to operate at an acceptable LOS during both peak periods.

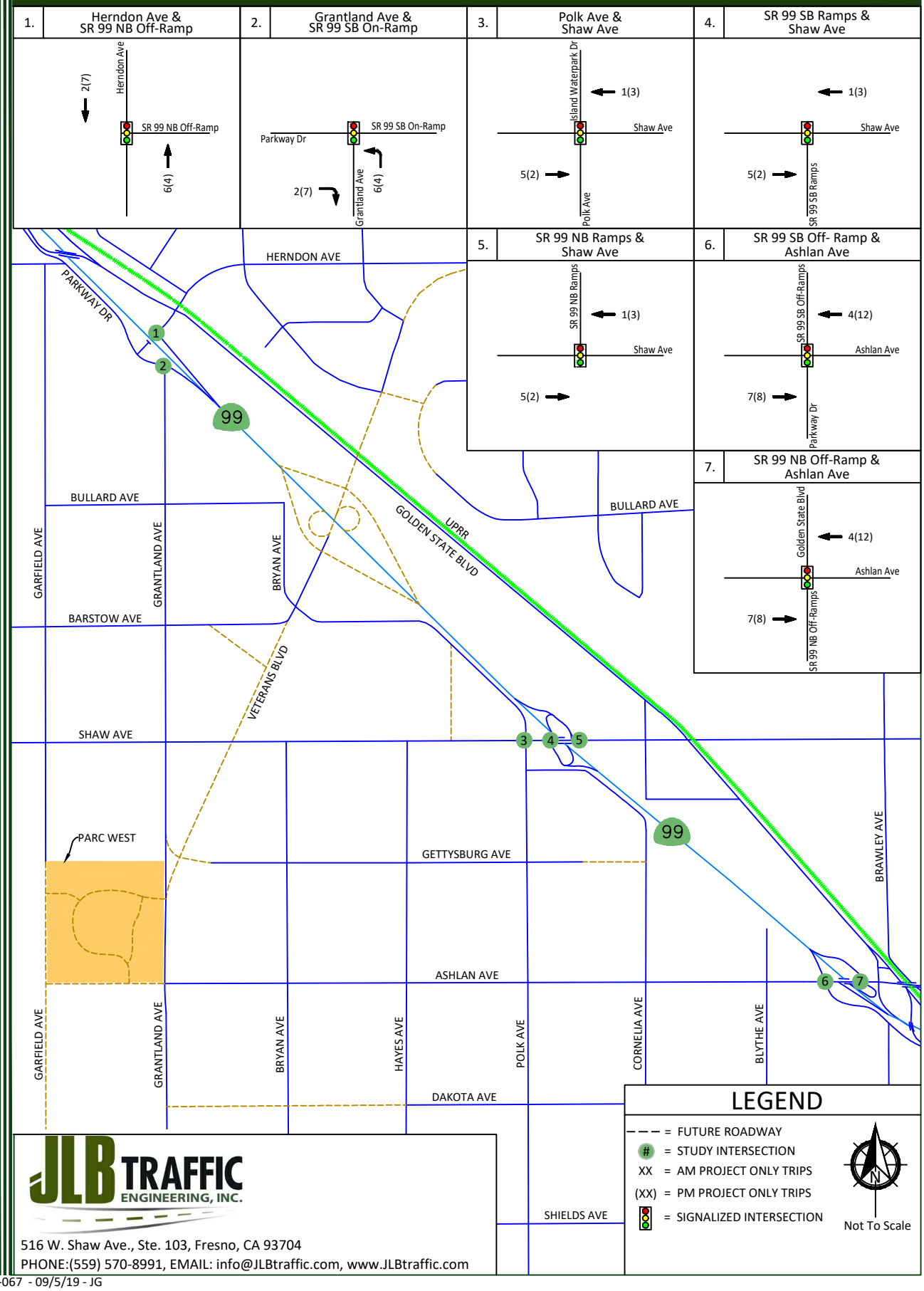
Table III: Existing plus Project (Phase I) Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM Peak Hour*		*PM Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Herndon Avenue / SR 99 NB Off-Ramp	Signalized	16.7	B	17.4	B
2	Grantland Avenue / SR 99 SB On-Ramp	Signalized	0.3	A	0.3	A
3	Polk Avenue / Shaw Avenue	Signalized	41.9	D	33.0	C
4	SR 99 SB Ramps / Shaw Avenue	Signalized	14.1	B	14.7	B
5	SR 99 NB Ramps / Shaw Avenue	Signalized	8.6	A	29.4	C
6	SR 99 SB Off-Ramp / Ashlan Avenue	Signalized	19.4	B	24.4	C
7	SR 99 NB Off-Ramp / Ashlan Avenue	Signalized	27.3	C	41.2	D

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.

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Project Only Trips (Phase I)

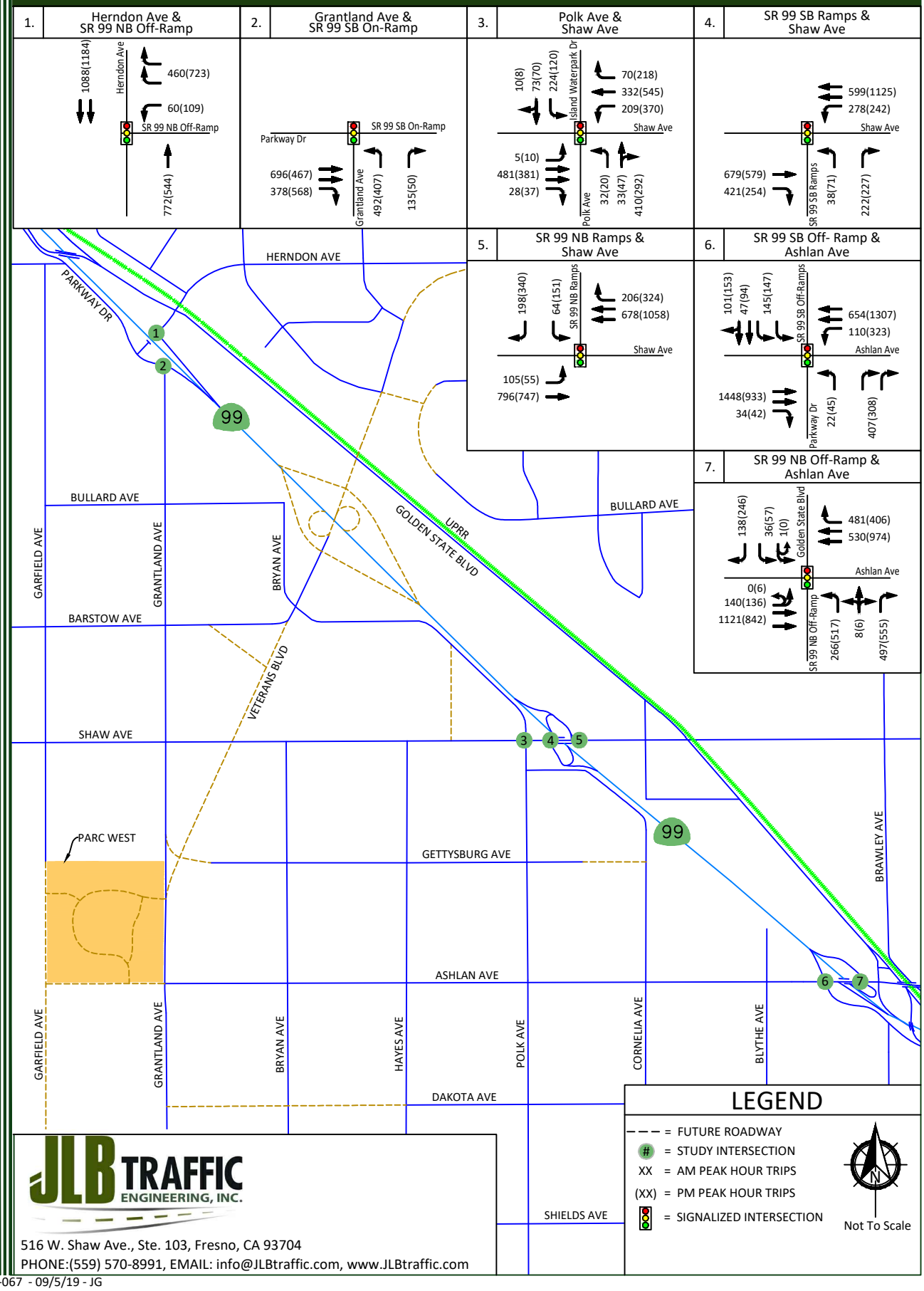
Figure 2



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Parc West - City of Fresno
Existing plus Project (Phase I) - Traffic Volumes, Geometrics and Controls

Figure 3



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Existing plus Project (Phase I & Phase II) Traffic Conditions

Trip Distribution (Phase II)

The trip distribution assumptions were developed based on existing travel patterns, the Fresno COG Project Select Zones, the existing roadway network, engineering judgment, data provided by the developer, knowledge of the study area, existing residential and commercial densities, and the City of Fresno 2035 General Plan Circulation Element in the vicinity of the Project. Figure 4 illustrates the Project Only Trips to the study intersections under Phase II.

Results of Existing plus Project (Phase I & Phase II) Level of Service Analysis

The Existing plus Project (Phase I & Phase II) Traffic Conditions scenario assumes that the existing roadway geometrics and traffic controls will remain in place. Figure 5 illustrates the Existing plus Project (Phase I & Phase II) turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Existing plus Project (Phase I & Phase II) Traffic Conditions scenario are provided in Appendix G. Table IV presents a summary of the Existing plus Project (Phase I & Phase II) peak hour LOS at the study intersections.

Under this scenario, all addendum study intersections are projected to operate at an acceptable LOS during both peak periods.

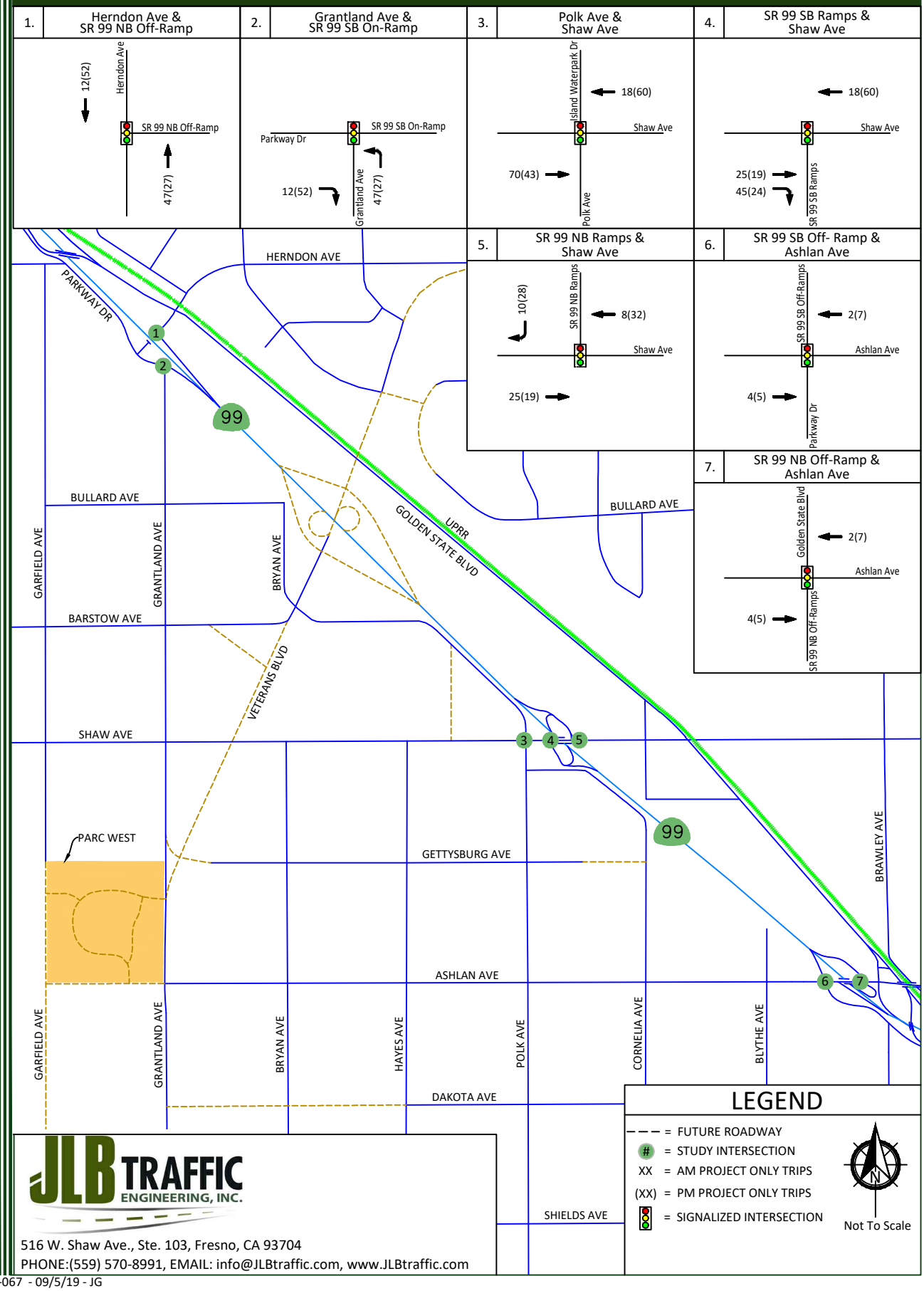
Table IV: Existing plus Project (Phase I & Phase II) Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM Peak Hour*		*PM Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Herndon Avenue / SR 99 NB Off-Ramp	Signalized	16.8	B	17.9	B
2	Grantland Avenue / SR 99 SB On-Ramp	Signalized	0.3	A	0.3	A
3	Polk Avenue / Shaw Avenue	Signalized	44.6	D	30.8	C
4	SR 99 SB Ramps / Shaw Avenue	Signalized	14.0	B	14.3	B
5	SR 99 NB Ramps / Shaw Avenue	Signalized	9.3	A	38.2	D
6	SR 99 SB Off-Ramp / Ashlan Avenue	Signalized	19.4	B	24.4	C
7	SR 99 NB Off-Ramp / Ashlan Avenue	Signalized	27.3	C	41.3	D

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.

Parc West - City of Fresno
Project Only Trips (Phase II)

Figure 4

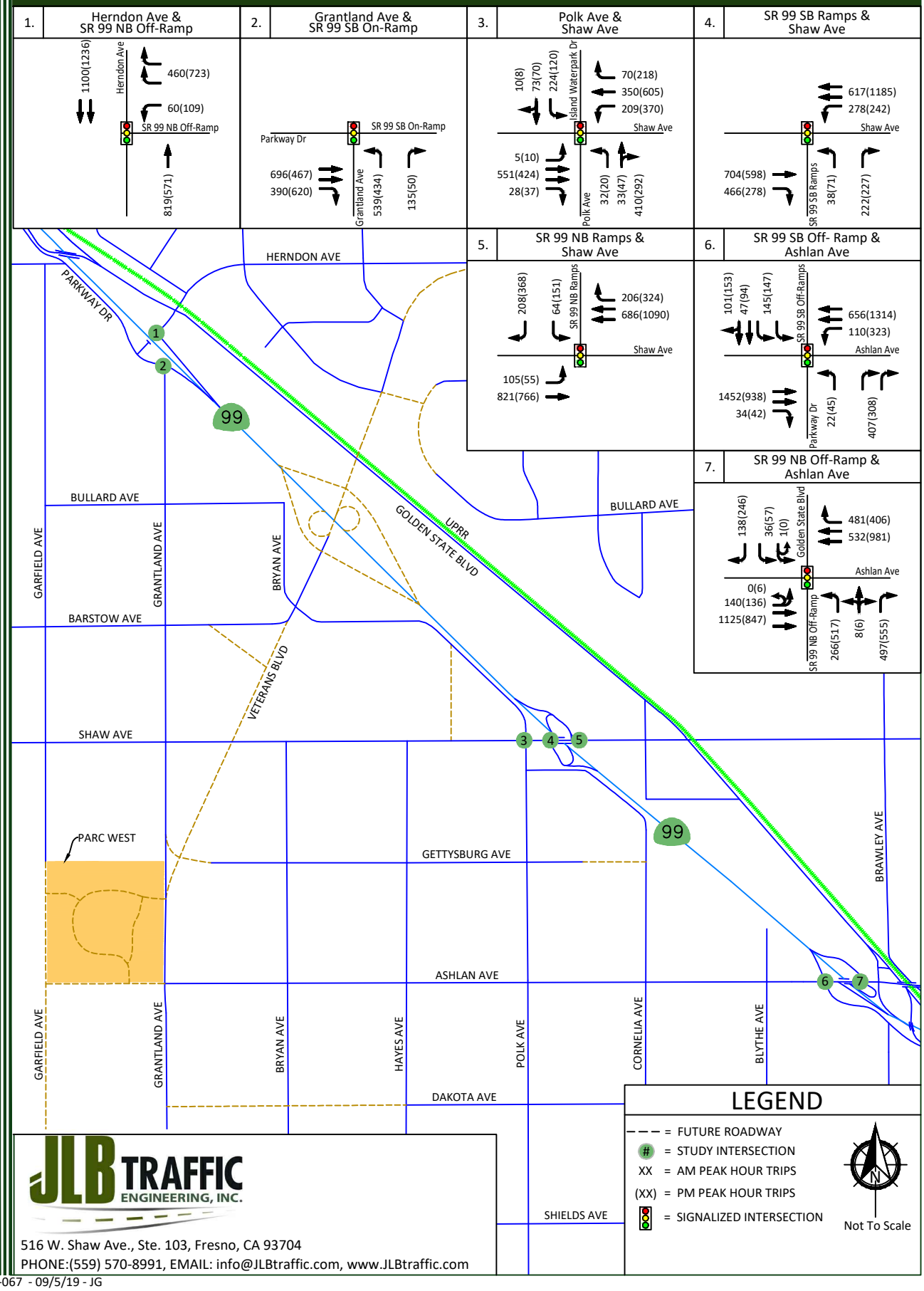


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Figure 5

Existing plus Project (Phase I & Phase II) - Traffic Volumes, Geometrics and Controls



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Existing plus Project (Buildout) Traffic Conditions

Trip Distribution (Buildout)

The trip distribution assumptions were developed based on existing travel patterns, the Fresno COG Project (Buildout) Select Zone, the existing roadway network, engineering judgment, data provided by the developer, knowledge of the study area, existing residential and commercial densities, and the City of Fresno 2035 General Plan Circulation Element in the vicinity of the Project. Figure 6 illustrates the Project Only Trips to the study intersections under buildout.

Results of Existing plus Project (Buildout) Level of Service Analysis

The Existing plus Project (Buildout) Traffic Conditions scenario assumes that the existing roadway geometrics and traffic controls will remain in place. Figure 7 illustrates the Existing plus Project (Buildout) turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Existing plus Project (Buildout) Traffic Conditions scenario are provided in Appendix H. Table V presents a summary of the Existing plus Project (Buildout) peak hour LOS at the study intersections.

Under this scenario, all addendum study intersections are projected to operate at an acceptable LOS during both peak periods.

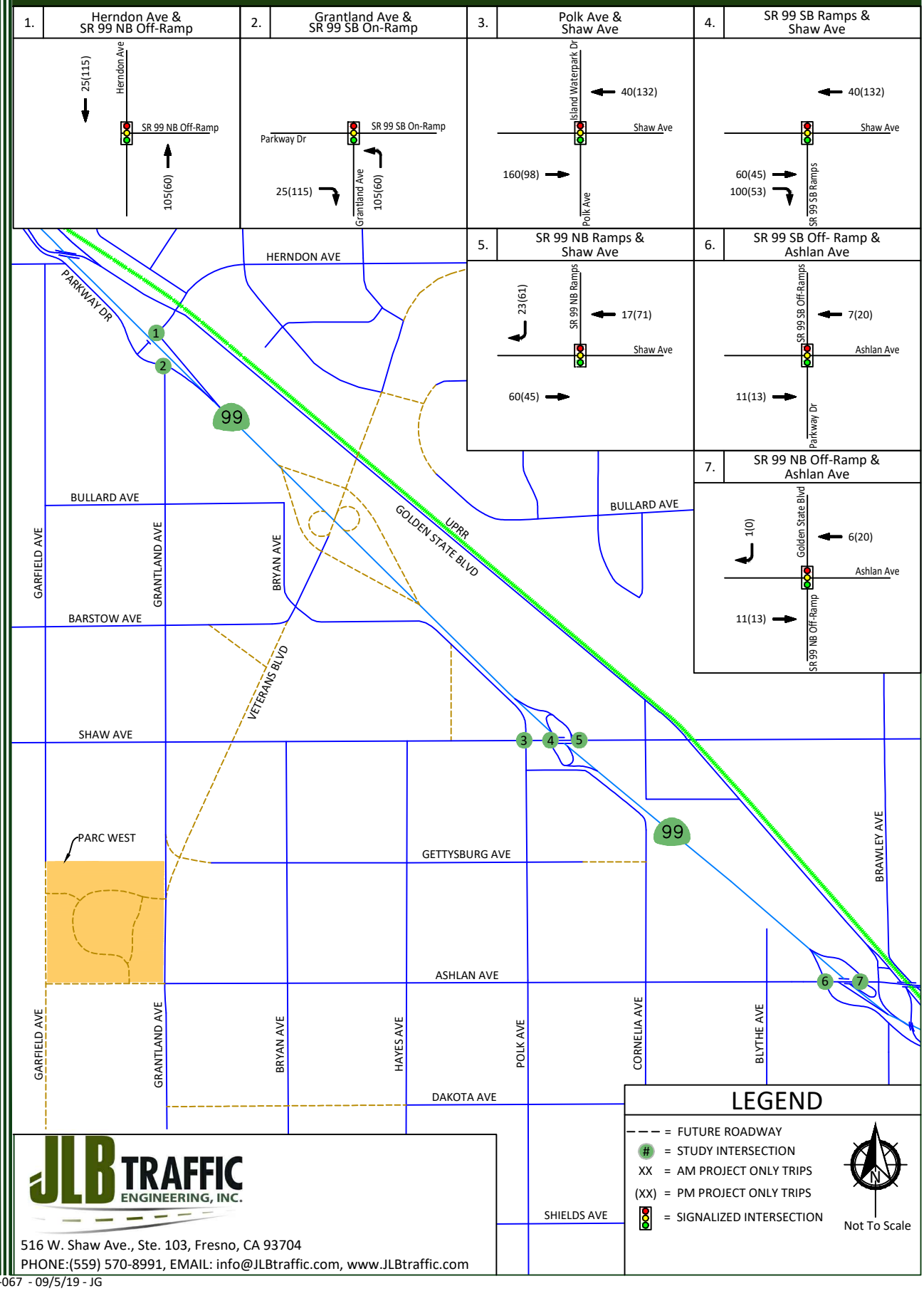
Table V: Existing plus Project (Buildout) Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM Peak Hour*		*PM Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Herndon Avenue / SR 99 NB Off-Ramp	Signalized	16.8	B	18.5	B
2	Grantland Avenue / SR 99 SB On-Ramp	Signalized	0.3	A	0.3	A
3	Polk Avenue / Shaw Avenue	Signalized	48.3	D	31.4	C
4	SR 99 SB Ramps / Shaw Avenue	Signalized	14.1	B	13.0	B
5	SR 99 NB Ramps / Shaw Avenue	Signalized	10.7	B	50.5	D
6	SR 99 SB Off-Ramp / Ashlan Avenue	Signalized	19.4	B	24.4	C
7	SR 99 NB Off-Ramp / Ashlan Avenue	Signalized	27.3	C	41.3	D

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.

Parc West - City of Fresno
Project Only Trips (Buildout)

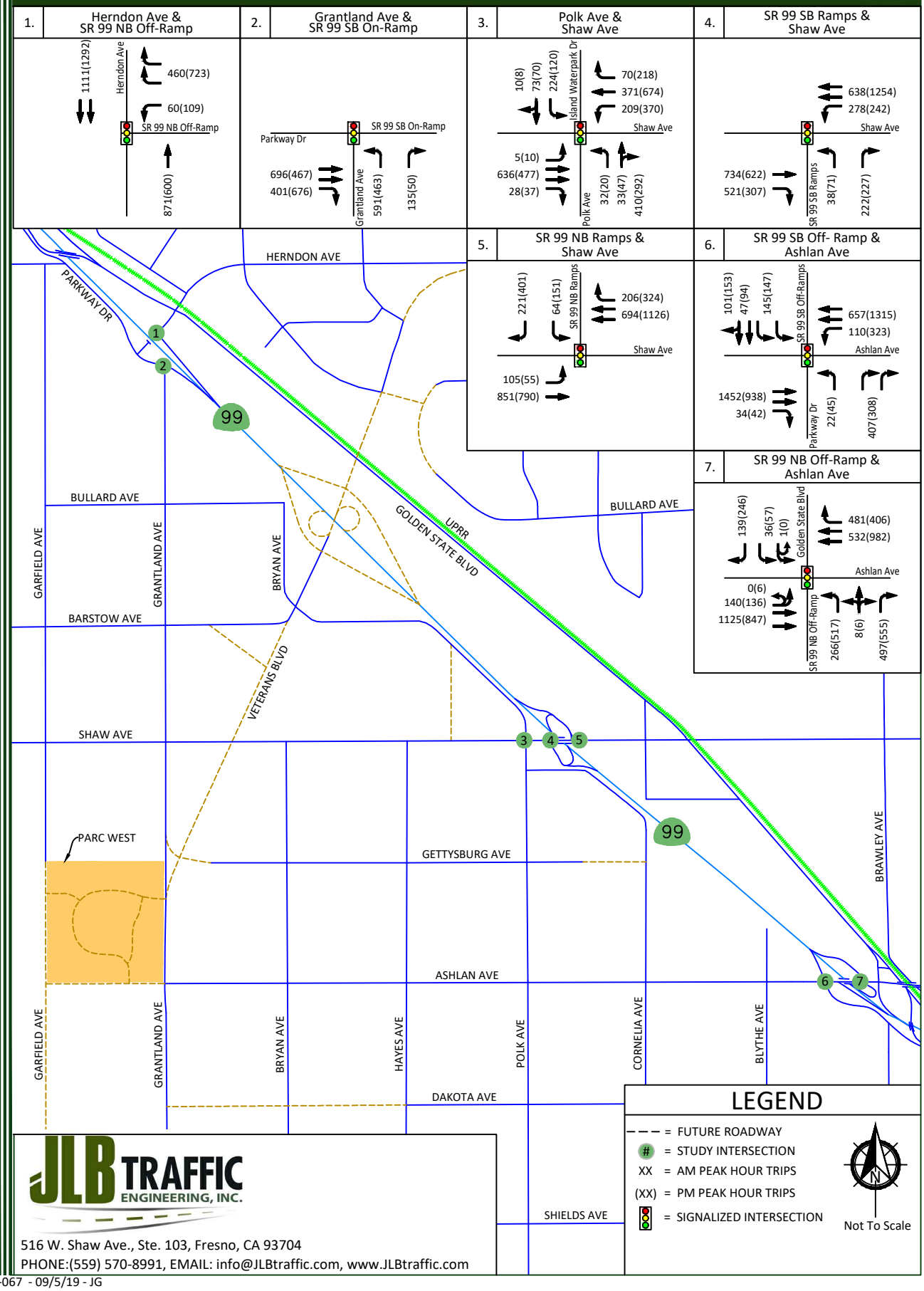
Figure 6



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Existing plus Project (Buildout) - Traffic Volumes, Geometrics and Controls

Figure 7



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Near Term plus Project (Buildout) Traffic Conditions

Figure 8 illustrates the location of the approved, near approval, or pipeline projects and their combined trip assignment to the addendum study intersections under the Near Term plus Project (Buildout) Traffic Conditions scenario.

Results of Near Term plus Project (Buildout) Level of Service Analysis

The Near Term plus Project (Buildout) Traffic Conditions scenario assumes that the existing roadway geometrics and traffic controls will remain in place. Figure 9 illustrates the Near Term plus Project (Buildout) turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Near Term plus Project (Buildout) Traffic Conditions scenario are provided in Appendix I. Table VI presents a summary of the Near Term plus Project (Buildout) peak hour LOS at the study intersections.

Under this scenario, the intersection of Polk Avenue and Shaw Avenue is projected to exceed its LOS threshold during both peak periods. To improve the LOS at this intersection, it is recommended that the following improvements be implemented.

- Polk Avenue and Shaw Avenue
  - Modify the northbound through-right lane to a through lane;
  - Add a northbound right-turn lane;
  - Prohibit westbound to eastbound U-turn movements; and
  - Modify the traffic signals to implement overlap phasing of the northbound right-turn with the westbound left-turn phase and accommodate the added lanes.

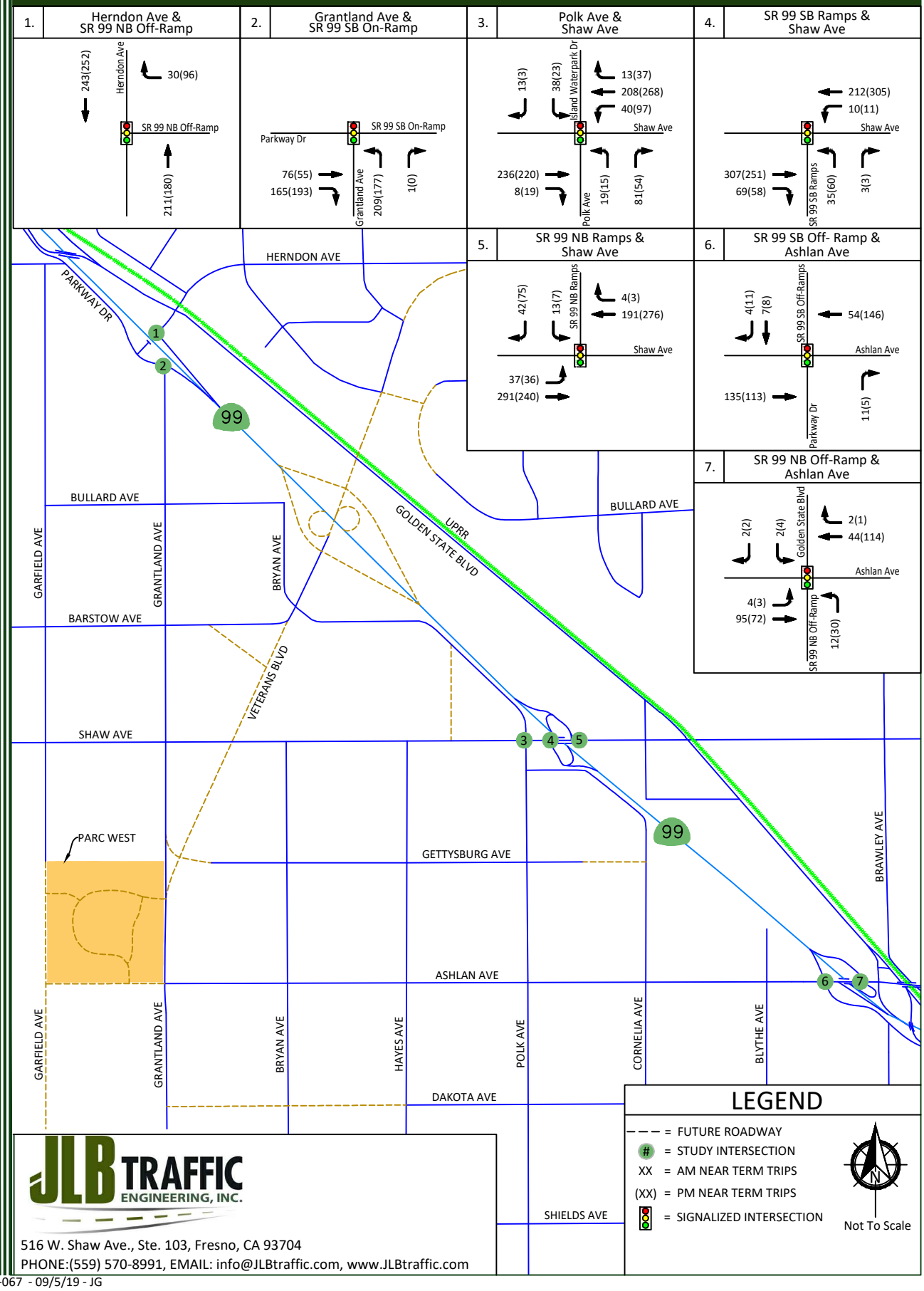
Table VI: Near Term plus Project (Buildout) Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM Peak Hour*		*PM Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Herndon Avenue / SR 99 NB Off-Ramp	Signalized	32.2	C	25.4	C
2	Grantland Avenue / SR 99 SB On-Ramp	Signalized	0.2	A	0.3	A
3	Polk Avenue / Shaw Avenue	Signalized	**78.0**	**E**	**73.2**	**E**
		Signalized (Mitigated)	48.8	D	54.4	D
4	SR 99 SB Ramps / Shaw Avenue	Signalized	17.7	B	21.6	C
5	SR 99 NB Ramps / Shaw Avenue	Signalized	28.7	C	31.2	C
6	SR 99 SB Off-Ramp / Ashlan Avenue	Signalized	25.4	C	22.1	C
7	SR 99 NB Off-Ramp / Ashlan Avenue	Signalized	44.5	D	27.2	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.

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Near Term Projects' Trip Assignment

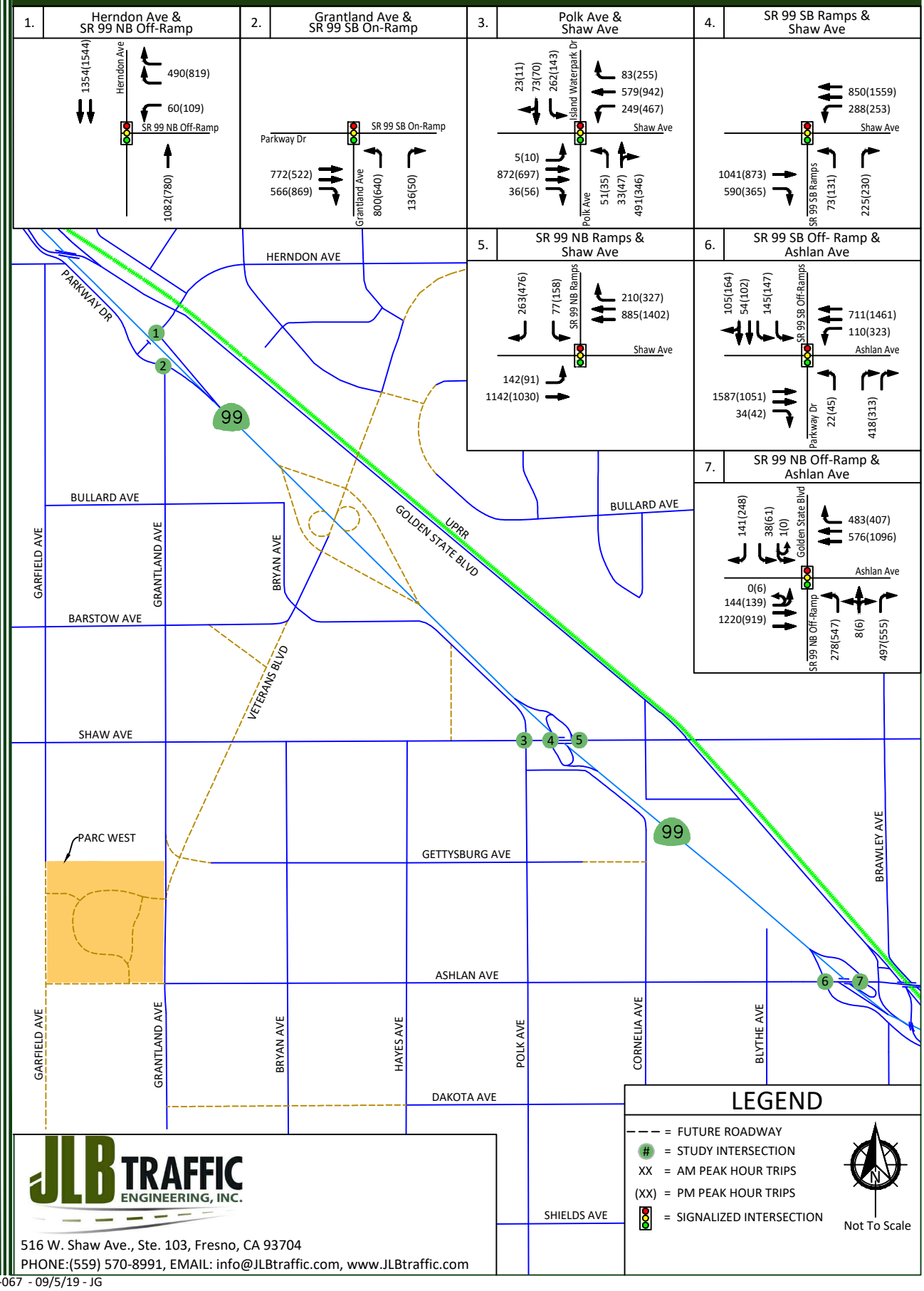
Figure 8



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Near Term plus Project (Buildout) - Traffic Volumes, Geometrics and Controls

Figure 9



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Cumulative Year 2035 No Project Traffic Conditions

Results of Cumulative Year 2035 No Project Level of Service Analysis

Figure 10 illustrates the Cumulative Year 2035 No Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Cumulative Year 2035 No Project Traffic Conditions scenario are provided in Appendix J. Table VII presents a summary of the Cumulative Year 2035 No Project peak hour LOS at the study intersections.

Under this scenario, the intersections of Polk Avenue and Shaw Avenue, State Route 99 Southbound Ramps and Shaw Avenue, State Route 99 Northbound Ramps and Shaw Avenue, and State Route 99 Northbound Off-Ramp and Ashlan Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at these intersections, it is recommended that the following improvements be implemented.

- Polk Avenue and Shaw Avenue
  - Add a second westbound through lane with a receiving lane west of Polk Avenue;
  - Modify the westbound trap right-turn lane to a standard right-turn lane (see Queuing Analysis for recommended storage capacity);
  - Modify the northbound through-right lane to a through lane;
  - Add a northbound right-turn lane;
  - Prohibit westbound to eastbound U-turn movements; and
  - Modify the traffic signals to implement overlap phasing of the northbound right-turn with the westbound left-turn phase and accommodate the added lanes.
- State Route 99 Southbound Ramps and Shaw Avenue
  - Add a second eastbound through lane with a receiving lane east of State Route 99 Southbound Ramps;
  - Modify the eastbound trap right-turn lane to a standard right-turn lane (see Queuing Analysis for recommended storage capacity); and
  - Modify the traffic signal to accommodate the added lanes.
- State Route 99 Northbound Ramps and Shaw Avenue
  - Add a second eastbound through lane with a receiving lane east of State Route 99 Northbound Ramps; and
  - Modify the traffic signal to accommodate the added lanes.

- State Route 99 Northbound Ramps and Ashlan Avenue
  - Add a second northbound left-turn lane;
  - Modify the northbound left-through-right lane to a through-right lane;
  - Modify the traffic signal to implement protective left-turn phasing in all directions and accommodate the added lanes.
  - It is worth noting that improvements to the State Route 99 Northbound Off-Ramp and Ashlan Avenue may not be necessary if the State Route 99 and Shaw Avenue Interchange is upgraded. However, if improvements to the State Route 99 and Shaw Avenue Interchange are not implemented, the detailed recommended improvements presented under this scenario may be necessary in order to improve the LOS. Therefore, it is recommended that the City and Caltrans monitor the State Route 99 Northbound Off-Ramp to Ashlan Avenue.

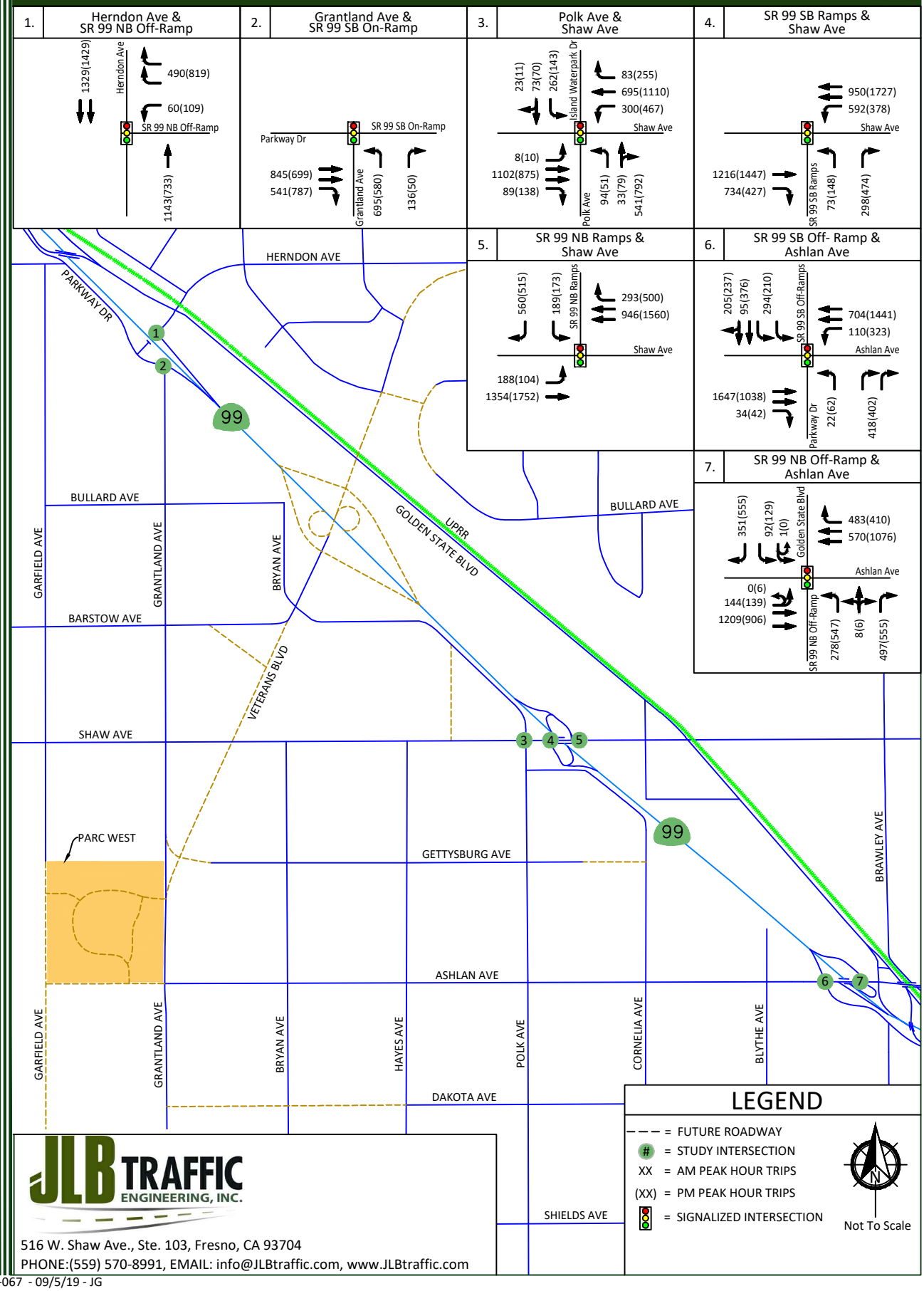
Table VII: Cumulative Year 2035 No Project Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM Peak Hour*		*PM Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Herndon Avenue / SR 99 NB Off-Ramp	Signalized	26.8	C	25.6	C
2	Grantland Avenue / SR 99 SB On-Ramp	Signalized	0.3	A	0.3	A
3	Polk Avenue / Shaw Avenue	Signalized	**104.8**	**F**	**>120.0**	**F**
		Signalized (Improved)	52.8	D	38.0	D
4	SR 99 SB Ramps / Shaw Avenue	Signalized	**75.3**	**E**	**102.4**	**F**
		Signalized (Improved)	28.5	C	23.4	C
5	SR 99 NB Ramps / Shaw Avenue	Signalized	28.3	C	**91.6**	**F**
		Signalized (Improved)	22.5	B	31.4	C
6	SR 99 SB Off-Ramp / Ashlan Avenue	Signalized	28.5	C	35.8	D
7	SR 99 NB Off-Ramp / Ashlan Avenue	Signalized	32.1	C	**101.3**	**F**
		Signalized (Improved)	33.1	C	36.3	D

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

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Cumulative Year 2035 No Project - Traffic Volumes, Geometrics and Controls

Figure 10



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Cumulative Year 2035 plus Project (Buildout) Traffic Conditions

Figure 11 illustrates the 2035 Project Only Trips to the study intersections.

Results of Cumulative Year 2035 plus Project Level of Service Analysis

Figure 12 illustrates the Cumulative Year 2035 plus Project (Buildout) turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Cumulative Year 2035 plus Project (Buildout) Traffic Conditions scenario are provided in Appendix K. Table VIII presents a summary of the Cumulative Year 2035 plus Project (Buildout) peak hour LOS at the study intersections.

Under this scenario, the intersections of Polk Avenue and Shaw Avenue, State Route 99 Southbound Ramps and Shaw Avenue, State Route 99 Northbound Ramps and Shaw Avenue, and State Route 99 Northbound Off-Ramp and Ashlan Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at these intersections, it is recommended that the following improvements be implemented.

- Polk Avenue and Shaw Avenue
  - Add a second westbound through lane with a receiving lane west of Polk Avenue;
  - Modify the westbound trap right-turn lane to a standard right-turn lane (see Queuing Analysis for recommended storage capacity);
  - Modify the northbound through-right lane to a through lane;
  - Add a northbound right-turn lane;
  - Prohibit westbound to eastbound U-turn movements; and
  - Modify the traffic signal to implement overlap phasing of the northbound right-turn with the westbound left-turn phase and accommodate the added lanes.
- State Route 99 Southbound Ramps and Shaw Avenue
  - Add a second eastbound through lane with a receiving lane east of State Route 99 Southbound Ramps;
  - Modify the eastbound trap right-turn lane to a standard right-turn lane (see Queuing Analysis for recommended storage capacity);
  - Add a second westbound left-turn lane with a receiving lane south of Shaw Avenue; and
  - Modify the traffic signal to accommodate the added lanes.
- State Route 99 Northbound Ramps and Shaw Avenue
  - Add a second eastbound through lane with a receiving lane east of State Route 99 Northbound Ramps; and
  - Modify the traffic signal to accommodate the added lanes.

- State Route 99 Northbound Ramps and Ashlan Avenue
  - Add a second northbound left-turn lane;
  - Modify the northbound left-through-right lane to a through-right lane; and
  - Modify the traffic signal to implement protective left-turn phasing in all directions and overlap phasing of the southbound right-turn with the eastbound left-turn phase and accommodate the added lanes.
  - It is worth noting that improvements to the State Route 99 Northbound Off-Ramp and Ashlan Avenue may not be necessary if the State Route 99 and Shaw Avenue Interchange is upgraded. However, if improvements to the State Route 99 and Shaw Avenue Interchange are not implemented, the detailed recommended improvements presented under this scenario may be necessary in order to improve the LOS. Therefore, it is recommended that the City and Caltrans monitor the State Route 99 Northbound Off-Ramp to Ashlan Avenue.

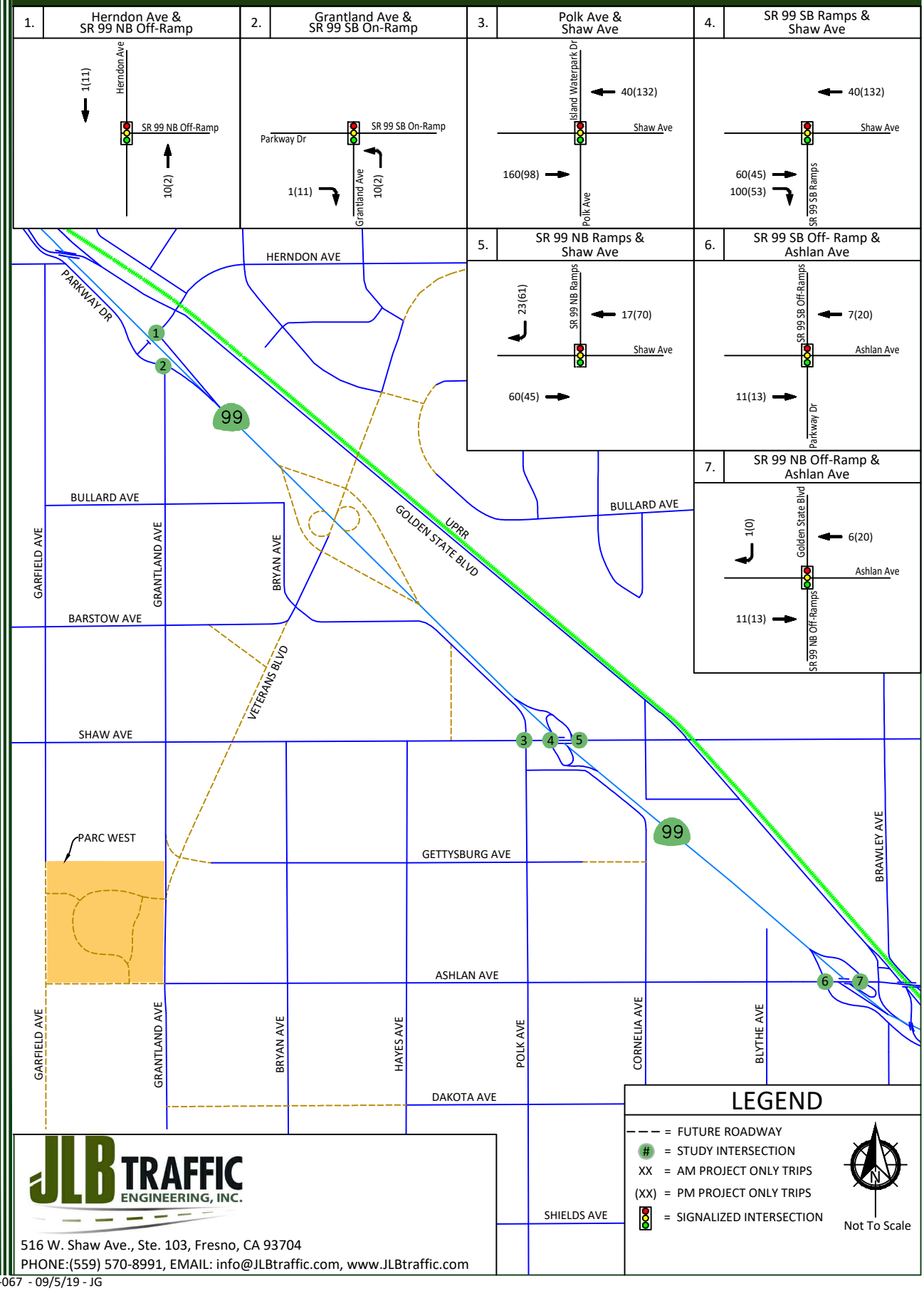
Table VIII: Cumulative Year 2035 plus Project Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM Peak Hour*		*PM Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Herndon Avenue / SR 99 NB Off-Ramp	Signalized	27.9	C	35.9	D
2	Grantland Avenue / SR 99 SB On-Ramp	Signalized	0.2	A	0.2	A
3	Polk Avenue / Shaw Avenue	Signalized	**118.4**	**F**	**>120.0**	**F**
		Signalized (Improved)	54.8	D	46.6	D
4	SR 99 SB Ramps / Shaw Avenue	Signalized	**74.0**	**E**	**95.8**	**F**
		Signalized (Improved)	17.7	B	46.9	C
5	SR 99 NB Ramps / Shaw Avenue	Signalized	34.3	C	**106.3**	**F**
		Signalized (Improved)	23.8	C	41.4	D
6	SR 99 SB Off-Ramp / Ashlan Avenue	Signalized	28.6	C	35.6	D
7	SR 99 NB Off-Ramp / Ashlan Avenue	Signalized	32.1	C	**101.9**	**F**
		Signalized (Improved)	31.7	C	46.4	D

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

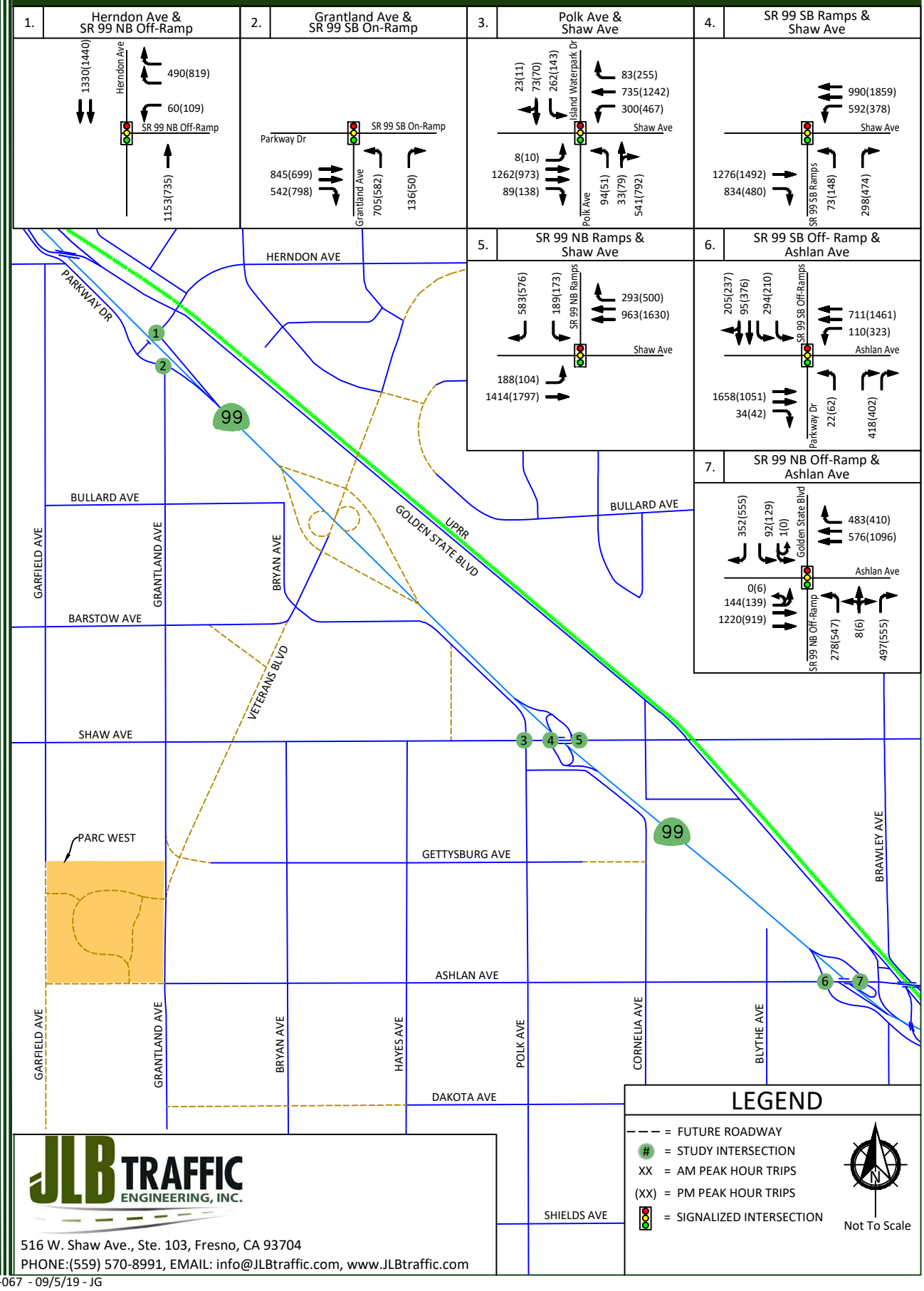
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2035 Project Only Trips (Buildout)

Figure 11



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Parc West - City of Fresno
Figure 12
Cumulative Year 2035 plus Project (Buildout) - Traffic Volumes, Geometrics and Controls



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Queuing Analysis

Table IX 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 C contains the methodologies used to evaluate these intersections. Queuing analyses were completed using Sim Traffic output information. Synchro provides both 50th and 95th percentile maximum queue lengths (in feet). According to the Synchro manual, "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." The queues shown on Table IX are the 95th percentile queue lengths for the respective lane movements.

The Highway Design Manual (HDM) provides guidance for determining deceleration lengths for the left-turn and right-turn lanes based on design speeds. Per the HDM criteria, "tapers for right-turn lanes are usually un-necessary since the main line traffic need not be shifted laterally to provide space for the right-turn lane. If, in some rare instances, a lateral shift was needed, the approach taper would use the same formula as for a left-turn lane." Therefore, a bay taper length pursuant to the Caltrans HDM would need to be added, as necessary, to the recommended storage lengths presented in Table IX.

Based on the SimTraffic output files and engineering judgement, it is recommended that the storage capacity for the following be considered for the Cumulative Year 2035 plus Project Traffic Conditions. While the City of Fresno does not have minimum storage length requirements for left-turn and right-turn lanes on major streets, it does prefer that these be set at 200 feet for left-turns and 75 feet for right-turns. At the remaining approaches, the greater of the existing storage capacity or the 200 feet left-turn lanes and 75 feet right-turn lanes will be sufficient to accommodate the maximum queue.

- Grantland Avenue and State Route 99 Southbound On-Ramp
  - The existing storage capacity of the eastbound right-turn lane is projected to exceed that available for the Cumulative Year 2035 scenarios. While there are no constraints to increasing the storage capacity of this movement, it is recommended that this movement be monitored.
  - The existing storage capacity of the northbound left-turn lane is projected to exceed that available for the Cumulative Year 2035 scenarios. However, this TIA has taken a conservative approach on the number of projected northbound approach traffic due to the upward volume balancing of the 2035 increment. Therefore, it is recommended that this movement be monitored.
- Polk Avenue and Shaw Avenue
  - Consider increasing the storage capacity of the eastbound left-turn lane to 225 feet.
  - Consider increasing the storage capacity of the eastbound right-turn lane to 200 feet.
  - Consider increasing the storage capacity of the westbound left-turn lane to 350 feet.
  - Consider increasing the storage capacity of the northbound left-turn lane to 150 feet.
  - Consider setting the storage capacity of the northbound right-turn lane to 400 feet.
  - Consider increasing the storage capacity of the southbound left-turn lane to 225 feet.

- State Route 99 Southbound Ramps and Shaw Avenue
  - Consider setting the storage capacity of the eastbound right-turn lane to 425 feet.
  - Consider setting the storage capacity of the westbound dual left-turn lanes to 225 feet.
  - Consider increasing the storage capacity of the northbound right-turn lane to 375 feet.
- State Route 99 Northbound Ramps and Shaw Avenue
  - Consider increasing the storage capacity of the eastbound left-turn lane to 200 feet.
  - Consider increasing the storage capacity of the southbound right-turn lane to 200 feet.
- State Route 99 Southbound Off-Ramp and Ashlan Avenue
  - The existing storage capacity of the eastbound right-turn lane is projected to exceed that available for both peak periods in the Cumulative Year 2035 scenarios. While there are no constraints to increasing the storage capacity of this movement, it is recommended that this movement be monitored.
  - Consider increasing the storage capacity of the northbound dual right-turn lanes to 225 feet.
- State Route 99 Northbound Off-Ramp and Ashlan Avenue
  - The existing storage capacity of the westbound right-turn lane is projected to exceed that available for both peak periods in the Cumulative Year 2035 plus Project scenarios. However, increasing the storage capacity of this movement is not possible without impacting the overpass of Ashlan Avenue over Golden State Boulevard and possibly the Union Pacific Railroad. Therefore, it is recommended that this movement be monitored.
  - Consider setting the storage capacity of the northbound dual left-turn lanes to 350 feet.
  - The existing storage capacity of the southbound dual left-turn lanes is projected to exceed that available for the PM peak period in the Cumulative Year 2035 scenarios. However, increasing the storage capacity of this movement is not possible without widening Golden State Boulevard to the north. Therefore, it is recommended that this movement be monitored.
  - Consider increasing the storage capacity of the southbound right-turn lane to 250 feet.

Table IX: Queuing Analysis

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Existing plus Project (Phase I)		Existing plus Project (Phase I & Phase II)		Existing plus Project (Buildout)	
				AM	PM	AM	PM	AM	PM	AM	PM
1	Herndon Avenue / State Route 99 Northbound Off-Ramp	WB Left	290	46	70	50	84	54	73	66	80
		WB Dual Rights	>500	96	111	106	109	107	136	112	111
		NB Thru	>500	342	212	369	203	314	216	284	291
		SB Thru	>500	223	210	207	204	230	211	171	201
		SB Thru	>500	243	319	303	291	247	360	214	332
2	Grantland Avenue / State Route 99 Southbound On-Ramp	EB Thru	>500	337	145	307	90	443	148	451	172
		EB Thru	>500	0	0	17	17	326	0	316	17
		EB Right	295	0	0	0	0	167	0	0	0
		NB Left	295	297	219	282	231	361	237	356	246
		NB Right	>500	65	42	57	45	260	48	184	47
3	Polk Avenue / Shaw Avenue	EB Left	200	19	48	26	38	25	32	10	39
		EB Thru	>500	172	255	194	270	225	252	309	291
		EB Thru	>500	151	225	191	216	219	199	297	256
		EB Right	100	81	65	42	46	131	63	120	88
		WB Left	160	192	267	218	264	251	284	210	273
		WB Thru	>500	240	604	191	524	352	551	304	544
		WB Thru	*	*	*	*	*	*	*	*	*
		WB Right	*	57	362	53	152	50	293	52	218
		NB Left	100	90	101	60	81	38	55	86	110
		NB Thru-Right	>500	242	357	227	272	229	244	246	337
		NB Thru	*	*	*	*	*	*	*	*	*
		NB Right	*	*	*	*	*	*	*	*	*
		SB Left	120	178	123	153	157	189	133	189	138
		SB Thru-Right	>500	114	97	112	182	155	108	151	110
4	State Route 99 Southbound Ramps / Shaw Avenue	EB Thru	>500	331	443	210	322	322	337	392	361
		EB Thru	*	*	*	*	*	*	*	*	*
		EB Right	*	125	252	154	103	166	77	235	96
		WB Left	125	175	260	228	247	218	247	213	264
		WB Dual Lefts	*	*	*	*	*	*	*	*	*
		WB Thru	>300	143	411	194	336	232	360	188	391
		WB Thru	>300	17	296	146	103	10	185	129	206
		NB Left	>300	84	317	86	139	159	216	79	201
		NB Right	25	120	154	118	139	149	153	117	145

Note: * = Does not exist or is not projected to exist

Table IX: Queuing Analysis (cont.)

ID	Intersection	Existing Queue Storage Length (ft.)		Near Term plus Project (Buildout)		Cumulative Year 2035 No Project		Cumulative Year 2035 plus Project (Buildout)	
				AM	PM	AM	PM	AM	PM
1	Herndon Avenue / State Route 99 Northbound Off-Ramp	WB Left	290	246	108	93	121	109	142
		WB Dual Rights	>500	170	213	160	220	132	267
		NB Thru	>500	580	602	602	406	531	618
		SB Thru	>500	1899	431	609	437	1925	561
		SB Thru	>500	1906	557	667	805	1923	746
2	Grantland Avenue / State Route 99 Southbound On-Ramp	EB Thru	>500	709	396	659	372	687	510
		EB Thru	>500	833	252	657	180	793	360
		EB Right	295	437	115	447	115	499	298
		NB Left	295	462	428	390	437	346	458
		NB Right	>500	1013	476	164	447	60	612
3	Polk Avenue / Shaw Avenue	EB Left	200	104	148	32	15	149	212
		EB Thru	>500	510	395	479	589	1548	890
		EB Thru	>500	501	353	581	624	1533	916
		EB Right	100	131	133	192	203	174	194
		WB Left	160	261	280	263	289	338	352
		WB Thru	>500	560	540	331	531	381	356
		WB Thru	*	*	*	171	367	361	301
		WB Right	*	185	214	33	51	44	64
		NB Left	100	71	60	165	63	119	73
		NB Thru-Right	>500	*	*	*	*	*	*
		NB Thru	*	339	123	1603	1902	662	1810
		NB Right	*	369	271	406	435	429	372
		SB Left	120	210	180	195	169	209	194
		SB Thru-Right	>500	360	248	722	146	401	249
4	State Route 99 Southbound Ramps / Shaw Avenue	EB Thru	>500	535	567	520	453	223	399
		EB Thru	*	*	*	584	479	355	411
		EB Right	*	405	367	423	375	413	329
		WB Left	125	287	307	256	279	*	*
		WB Dual Lefts	*	*	*	*	*	211	189
		WB Thru	>300	518	505	498	446	150	192
		WB Thru	>300	267	492	82	276	54	121
		NB Left	>300	327	504	186	604	152	563
		NB Right	25	170	179	150	149	152	149

Note: * = Does not exist or is not projected to exist

Table IX: Queuing Analysis (cont.)

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Existing plus Project (Phase I)		Existing plus Project (Phase I & Phase II)		Existing plus Project (Buildout)	
				AM	PM	AM	PM	AM	PM	AM	PM
5	State Route 99 Northbound Ramps / Shaw Avenue	EB Left	125	72	66	108	63	87	79	75	75
		EB Thru	>300	155	357	133	370	149	285	181	296
		EB Thru	*	*	*	*	*	*	*	*	*
		WB Thru	>300	170	393	217	345	192	383	159	379
		WB Thru	>300	98	319	146	271	92	325	117	315
		WB Right	>300	62	33	52	68	66	60	53	53
		SB Left	>300	120	556	96	454	113	664	91	560
		SB Right	40	122	197	110	190	121	182	122	189
6	State Route 99 Southbound Off-Ramp / Ashlan Avenue	EB Thru	>500	449	362	572	364	457	337	468	364
		EB Thru	>500	426	331	538	314	421	305	452	350
		EB Right	150	89	177	97	132	92	44	197	102
		WB Left	550	144	326	154	344	132	508	145	310
		WB Thru	>500	121	243	92	216	120	205	86	211
		WB Thru	>500	137	232	118	216	139	220	95	231
		NB Left	>300	164	108	194	88	103	138	135	93
		NB Dual Rights	150	179	106	216	109	169	137	190	107
		SB Dual Lefts	380	144	119	116	107	100	119	126	96
		SB Thru	>500	64	139	81	128	65	145	90	132
		SB Thru-Right	>500	57	121	64	115	68	153	55	149
7	State Route 99 Northbound Off-Ramp / Ashlan Avenue	EB Left	300	204	192	142	201	148	182	162	222
		EB Thru	>500	260	224	255	179	231	168	236	185
		EB Thru	>500	256	256	468	196	234	197	259	186
		WB Thru	>500	239	432	225	503	220	568	213	417
		WB Thru	>500	223	449	219	519	208	568	198	434
		WB Right	150	141	261	159	257	166	264	168	260
		NB Left	220	192	279	218	296	187	284	230	278
		NB Dual Lefts	*	*	*	*	*	*	*	*	*
		NB Left-Thru-Right	>500	242	314	259	334	240	319	282	324
		NB Thru-Right	*	*	*	*	*	*	*	*	*
		NB Right	>300	203	210	207	267	184	252	255	237
		SB Dual Lefts	200	35	68	44	72	40	134	36	56
		SB Right	100	81	154	86	170	62	214	64	154

Note: * = Does not exist or is not projected to exist

Table IX: Queuing Analysis (cont.)

ID	Intersection	Existing Queue Storage Length (ft.)		Near Term plus Project (Buildout)		Cumulative Year 2035 No Project		Cumulative Year 2035 plus Project (Buildout)	
				AM	PM	AM	PM	AM	PM
5	State Route 99 Northbound Ramps / Shaw Avenue	EB Left	125	170	173	165	131	167	113
		EB Thru	>300	260	339	308	254	177	152
		EB Thru	*	*	*	327	258	190	137
		WB Thru	>300	420	360	394	349	383	375
		WB Thru	>300	325	351	323	342	294	365
		WB Right	>300	59	98	103	180	88	214
		SB Left	>300	341	874	583	707	724	734
		SB Right	40	193	163	165	161	181	161
6	State Route 99 Southbound Off-Ramp / Ashlan Avenue	EB Thru	>500	497	429	585	411	534	461
		EB Thru	>500	473	409	558	369	526	443
		EB Right	150	153	182	216	180	156	248
		WB Left	550	116	298	129	742	136	360
		WB Thru	>500	96	190	107	970	120	220
		WB Thru	>500	97	221	114	984	126	238
		NB Left	>300	251	138	252	131	210	158
		NB Dual Rights	150	203	145	229	168	200	171
		SB Dual Lefts	380	137	119	220	141	187	148
		SB Thru	>500	96	129	116	302	125	396
		SB Thru-Right	>500	57	120	100	236	100	320
7	State Route 99 Northbound Off-Ramp / Ashlan Avenue	EB Left	300	142	172	170	151	168	188
		EB Thru	>500	231	154	340	199	303	105
		EB Thru	>500	253	164	350	202	333	106
		WB Thru	>500	253	660	242	1020	278	641
		WB Thru	>500	239	670	228	1045	278	681
		WB Right	150	193	255	165	243	204	262
		NB Left	220	197	345	*	*	*	*
		NB Dual Lefts	*	*	*	177	237	184	364
		NB Left-Thru-Right	>500	265	377	*	*	*	*
		NB Thru-Right	*	*	*	198	220	168	550
		NB Right	>300	217	329	186	177	178	338
		SB Dual Lefts	200	38	80	102	548	96	491
		SB Right	100	66	161	186	233	173	233

Note: * = Does not exist or is not projected to exist

Project's Pro-Rata Fair Share of Future Transportation Improvements

The Project'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 X. The Project's fair share percentage impacts were calculated pursuant to the Caltrans Guide for the Preparation of Traffic Impact Studies. The Project's pro-rata fair shares were calculated utilizing the Existing volumes, 2035 Project Only Trips (Buildout) and Cumulative Year 2035 plus Project (Buildout) volumes. Figure 1 illustrates the Existing traffic volumes, Figure 11 illustrates the 2035 Project Only Trips (Buildout), and Figure 12 illustrates the Cumulative Year 2035 plus Project (Buildout) traffic volumes. Since the critical peak period for the study facilities was determined to be during the PM peak, the PM peak volumes are utilized to determine the Project's pro-rata fair share.

It is recommended that the Project contribute its equitable fair share as listed in Table X 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 mitigation measures.

This study does not provide construction costs for the recommended mitigation measures; therefore, if the recommended mitigation measures are implemented, it is recommended that the developer work with the City of Fresno to develop the estimated construction cost.

Table X: Project's Fair Share of Future Roadway Improvements

ID	*Intersection*	*Existing Traffic Volumes (PM Peak)*	*Cumulative Year 2035 plus Project (Buildout) Traffic Volumes (PM Peak)*	*2035 Project Only Trips (Buildout) (PM Peak)*	*Project's Fair Share (%)*
3	Polk Avenue / Shaw Avenue	2,113	4,231	230	10.86
4	SR 99 SB Ramps / Shaw Avenue	2,493	4,831	230	9.84
5	SR 99 NB Ramps / Shaw Avenue	2,670	4,780	176	8.34
7	SR 99 NB Off-Ramp / Ashlan Avenue	3,725	4,362	33	5.18

Note: Project Fair Share = ((2035 Project Only Trips (Buildout)) / (Cumulative Year 2035 + Project (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 five-year period (January 1, 2013 to December 31, 2017). In the five-year period, a total of 67 collisions were reported within the influence zone (assumed to be within 250 feet) of the study intersections.
- JLB was unable to reach a conclusion that would explain any justification for the modification of lane geometrics or traffic controls at the intersections. As a result, the number of correctable collisions experienced at the existing study intersections is considered less than significant.
- At present, all study intersections operate at an acceptable LOS during both peak periods.

Existing plus Project (Phase I) Traffic Conditions

- Under this scenario, all addendum study intersections are projected to operate at an acceptable LOS during both peak periods.

Existing plus Project (Phase I & Phase II) Traffic Conditions

- Under this scenario, all addendum study intersections are projected to operate at an acceptable LOS during both peak periods.

Existing plus Project (Buildout) Traffic Conditions

- Under this scenario, all addendum study intersections are projected to operate at an acceptable LOS during both peak periods.

Near Term plus Project (Buildout) Traffic Conditions

- Under this scenario, the intersection of Polk Avenue and Shaw Avenue is projected to exceed its LOS threshold during both peak periods. To improve the LOS at this intersection, it is recommended that the following improvements be implemented.
  - Polk Avenue and Shaw Avenue
    - Modify the northbound through-right lane to a through lane;
    - Add a northbound right-turn lane;
    - Prohibit westbound to eastbound U-turn movements; and
    - Modify the traffic signals to implement overlap phasing of the northbound right-turn with the westbound left-turn phase and accommodate the added lanes.

Cumulative Year 2035 No Project Traffic Conditions

- Under this scenario, the intersections of Polk Avenue and Shaw Avenue, State Route 99 Southbound Ramps and Shaw Avenue, State Route 99 Northbound Ramps and Shaw Avenue, and State Route 99 Northbound Off-Ramp and Ashlan Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at these intersections, it is recommended that the following improvements be implemented.

- Polk Avenue and Shaw Avenue
  - Add a second westbound through lane with a receiving lane west of Polk Avenue;
  - Modify the westbound trap right-turn lane to a standard right-turn lane (see Queuing Analysis for recommended storage capacity);
  - Modify the northbound through-right lane to a through lane;
  - Add a northbound right-turn lane;
  - Prohibit westbound to eastbound U-turn movements; and
  - Modify the traffic signals to implement overlap phasing of the northbound right-turn with the westbound left-turn phase and accommodate the added lanes.
- State Route 99 Southbound Ramps and Shaw Avenue
  - Add a second eastbound through lane with a receiving lane east of State Route 99 Southbound Ramps;
  - Modify the eastbound trap right-turn lane to a standard right-turn lane (see Queuing Analysis for recommended storage capacity); and
  - Modify the traffic signal to accommodate the added lanes.
- State Route 99 Northbound Ramps and Shaw Avenue
  - Add a second eastbound through lane with a receiving lane east of State Route 99 Northbound Ramps; and
  - Modify the traffic signal to accommodate the added lanes.
- State Route 99 Northbound Ramps and Ashlan Avenue
  - Add a second northbound left-turn lane;
  - Modify the northbound left-through-right lane to a through-right lane;
  - Modify the traffic signal to implement protective left-turn phasing in all directions and accommodate the added lanes.
  - It is worth noting that improvements to the State Route 99 Northbound Off-Ramp and Ashlan Avenue may not be necessary if the State Route 99 and Shaw Avenue Interchange is upgraded. However, if improvements to the State Route 99 and Shaw Avenue Interchange are not implemented, the detailed recommended improvements presented under this scenario may be necessary in order to improve the LOS. Therefore, it is recommended that the City and Caltrans monitor the State Route 99 Northbound Off-Ramp to Ashlan Avenue.

Cumulative Year 2035 plus Project (Buildout)Traffic Conditions

- Under this scenario, the intersections of Polk Avenue and Shaw Avenue, State Route 99 Southbound Ramps and Shaw Avenue, State Route 99 Northbound Ramps and Shaw Avenue, and State Route 99 Northbound Off-Ramp and Ashlan Avenue are projected to exceed their LOS threshold during one or both peak periods. To improve the LOS at these intersections, it is recommended that the following improvements be implemented.

- Polk Avenue and Shaw Avenue
  - Add a second westbound through lane with a receiving lane west of Polk Avenue;
  - Modify the westbound trap right-turn lane to a standard right-turn lane (see Queuing Analysis for recommended storage capacity);
  - Modify the northbound through-right lane to a through lane;
  - Add a northbound right-turn lane;
  - Prohibit westbound to eastbound U-turn movements; and
  - Modify the traffic signal to implement overlap phasing of the northbound right-turn with the westbound left-turn phase and accommodate the added lanes.
- State Route 99 Southbound Ramps and Shaw Avenue
  - Add a second eastbound through lane with a receiving lane east of State Route 99 Southbound Ramps;
  - Modify the eastbound trap right-turn lane to a standard right-turn lane (see Queuing Analysis for recommended storage capacity);
  - Add a second westbound left-turn lane with a receiving lane south of Shaw Avenue; and
  - Modify the traffic signal to accommodate the added lanes.
- State Route 99 Northbound Ramps and Shaw Avenue
  - Add a second eastbound through lane with a receiving lane east of State Route 99 Northbound Ramps; and
  - Modify the traffic signal to accommodate the added lanes.
- State Route 99 Northbound Ramps and Ashlan Avenue
  - Add a second northbound left-turn lane;
  - Modify the northbound left-through-right lane to a through-right lane; and
  - Modify the traffic signal to implement protective left-turn phasing in all directions and overlap phasing of the southbound right-turn with the eastbound left-turn phase and accommodate the added lanes.
  - It is worth noting that improvements to the State Route 99 Northbound Off-Ramp and Ashlan Avenue may not be necessary if the State Route 99 and Shaw Avenue Interchange is upgraded. However, if improvements to the State Route 99 and Shaw Avenue Interchange are not implemented, the detailed recommended improvements presented under this scenario may be necessary in order to improve the LOS. Therefore, it is recommended that the City and Caltrans monitor the State Route 99 Northbound Off-Ramp to Ashlan Avenue.

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 contribute its equitable Fair Share as presented in Table X.

Study Participants

JLB Traffic Engineering, Inc. Personnel:

Jose Luis Benavides, PE, TE	Project Manager
Susana Maciel, EIT	Project Engineer
Matthew Arndt, EIT	Engineer I/II
Javier Rios	Engineer I/II
Jove Alcazar	Engineer I/II
Dennis Wynn	Sr. Engineering Technician
Justin Barnett	Engineering Aide
Jesus Garcia	Engineering Aide
Adrian Benavides	Engineering Aide

Persons Consulted:

Jeff Roberts	Parc West Development, Inc.
Jill Gormley, PE	City of Fresno
Harpreet Kooner	County of Fresno
Tong Xiong	County of Fresno
David Padilla	Caltrans
Kai Han, TE	Fresno COG
Lang Yu	Fresno COG

References

1. City of Fresno, *2035 General Plan*.
2. County of Fresno, *2000 General Plan*.
3. *Guide for the Preparation of Traffic Impact Studies*, Caltrans, dated December 2002.
4. *Trip Generation,* 10th Edition, Washington D.C., Institute of Transportation Engineers, 2017.
5. *2014 California Manual on Uniform Traffic Control Devices*, Caltrans, November 7, 2014.
6. City of Fresno, *Active Transportation Plan*, December 2016, adopted March 2, 2107.

Appendix A: Traffic Counts

JLB Traffic Engineering, Inc.

1300 E. Shaw Ave., Ste. 103
Fresno, CA 93710
(559) 570-8991
Traffic Engineering, Transportation Planning & Parking Solutions
www.JLBtraffic.com

File Name : Herndon Ave and SR 99 NB off-ramp
Site Code : 00091918
Start Date : 9/19/2018
Page No : 1

Groups Printed- Unshifted

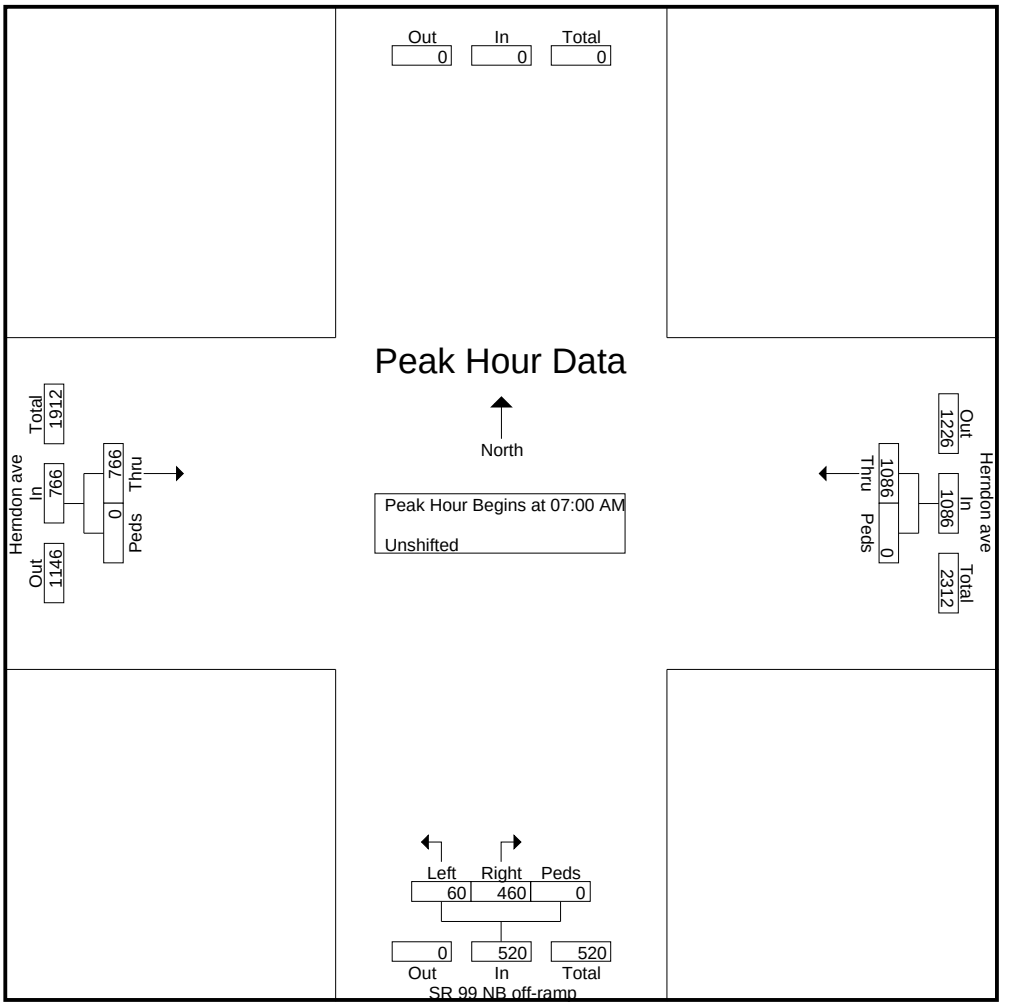
	Herndon ave Westbound			SR 99 NB off-ramp Northbound				Herndon ave Eastbound			
Start Time	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Peds	App. Total	Int. Total
07:00 AM	268	0	268	19	93	0	112	137	0	137	517
07:15 AM	267	0	267	13	121	0	134	215	0	215	616
07:30 AM	295	0	295	15	119	0	134	240	0	240	669
07:45 AM	256	0	256	13	127	0	140	174	0	174	570
Total	1086	0	1086	60	460	0	520	766	0	766	2372
08:00 AM	186	0	186	25	116	0	141	156	0	156	483
08:15 AM	218	0	218	17	110	0	127	159	0	159	504
08:30 AM	268	0	268	15	101	0	116	167	0	167	551
08:45 AM	146	0	146	23	95	0	118	114	0	114	378
Total	818	0	818	80	422	0	502	596	0	596	1916
******											
04:00 PM	280	1	281	32	141	0	173	131	0	131	585
04:15 PM	266	0	266	29	163	0	192	127	0	127	585
04:30 PM	304	0	304	30	161	0	191	152	0	152	647
04:45 PM	274	0	274	19	181	0	200	130	0	130	604
Total	1124	1	1125	110	646	0	756	540	0	540	2421
05:00 PM	284	0	284	25	186	0	211	121	1	122	617
05:15 PM	315	1	316	35	195	0	230	137	0	137	683
05:30 PM	293	0	293	33	173	0	206	147	0	147	646
05:45 PM	281	0	281	26	142	0	168	149	0	149	598
Total	1173	1	1174	119	696	0	815	554	1	555	2544
Grand Total	4201	2	4203	369	2224	0	2593	2456	1	2457	9253
Apprch %	100	0		14.2	85.8	0		100	0		
Total %	45.4	0	45.4	4	24	0	28	26.5	0	26.6	

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Fresno, CA 93710
(559) 570-8991
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File Name : Herndon Ave and SR 99 NB off-ramp
Site Code : 00091918
Start Date : 9/19/2018
Page No : 2

	Herndon ave Westbound			SR 99 NB off-ramp Northbound				Herndon ave Eastbound			
Start Time	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	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 07:00 AM											
07:00 AM	268	0	268	**19**	93	0	112	137	0	137	517
07:15 AM	267	0	267	13	121	0	134	215	0	215	616
07:30 AM	**295**	0	**295**	15	119	0	134	**240**	0	**240**	**669**
07:45 AM	256	0	256	13	**127**	0	**140**	174	0	174	570
Total Volume	1086	0	1086	60	460	0	520	766	0	766	2372
% App. Total	100	0		11.5	88.5	0		100	0		
PHF	.920	.000	.920	.789	.906	.000	.929	.798	.000	.798	.886

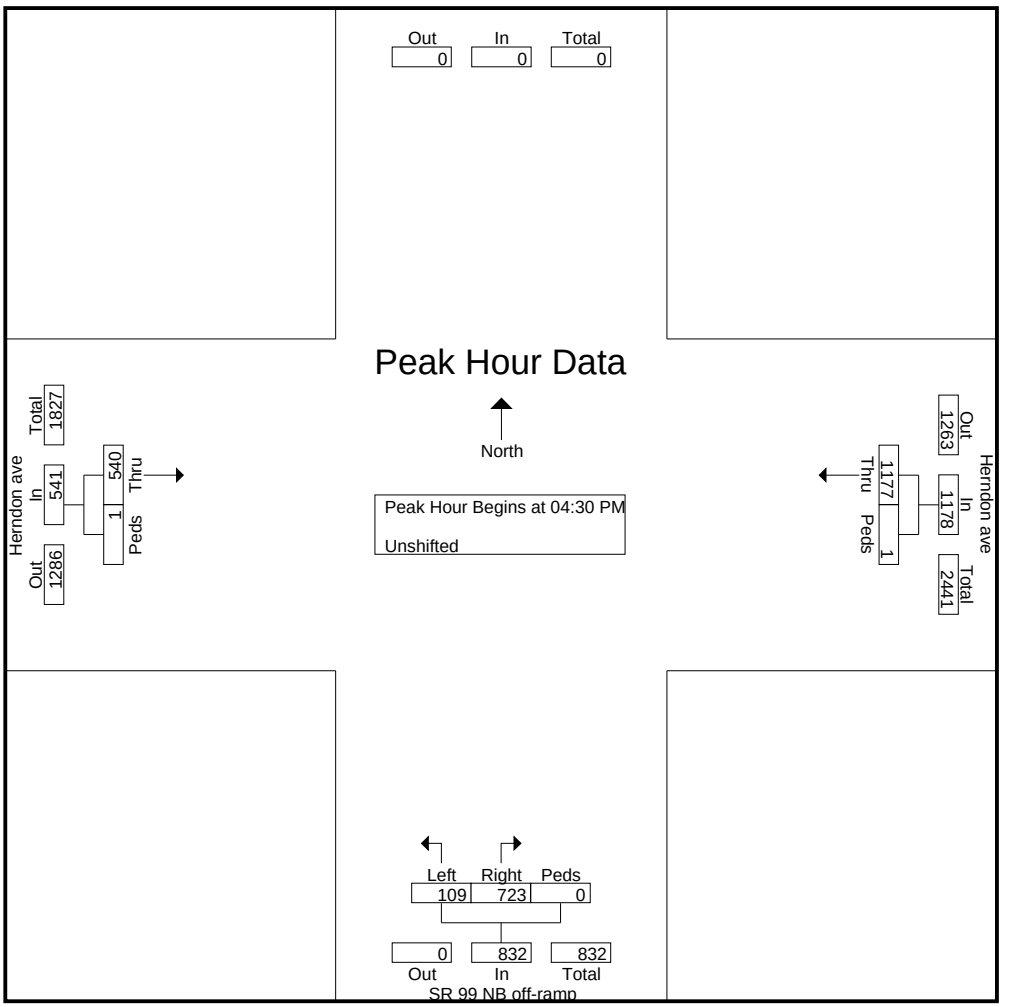


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File Name : Herndon Ave and SR 99 NB off-ramp
Site Code : 00091918
Start Date : 9/19/2018
Page No : 3

	Herndon ave Westbound			SR 99 NB off-ramp Northbound				Herndon ave Eastbound			
Start Time	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	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 04:30 PM											
04:30 PM	304	0	304	30	161	0	191	**152**	0	**152**	647
04:45 PM	274	0	274	19	181	0	200	130	0	130	604
05:00 PM	284	0	284	25	186	0	211	121	**1**	122	617
05:15 PM	**315**	**1**	**316**	**35**	**195**	0	**230**	137	0	137	**683**
Total Volume	1177	1	1178	109	723	0	832	540	1	541	2551
% App. Total	99.9	0.1		13.1	86.9	0		99.8	0.2		
PHF	.934	.250	.932	.779	.927	.000	.904	.888	.250	.890	.934



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File Name : Parkway at Grantland
Site Code : 00121218
Start Date : 12/12/2018
Page No : 1

Groups Printed- Unshifted

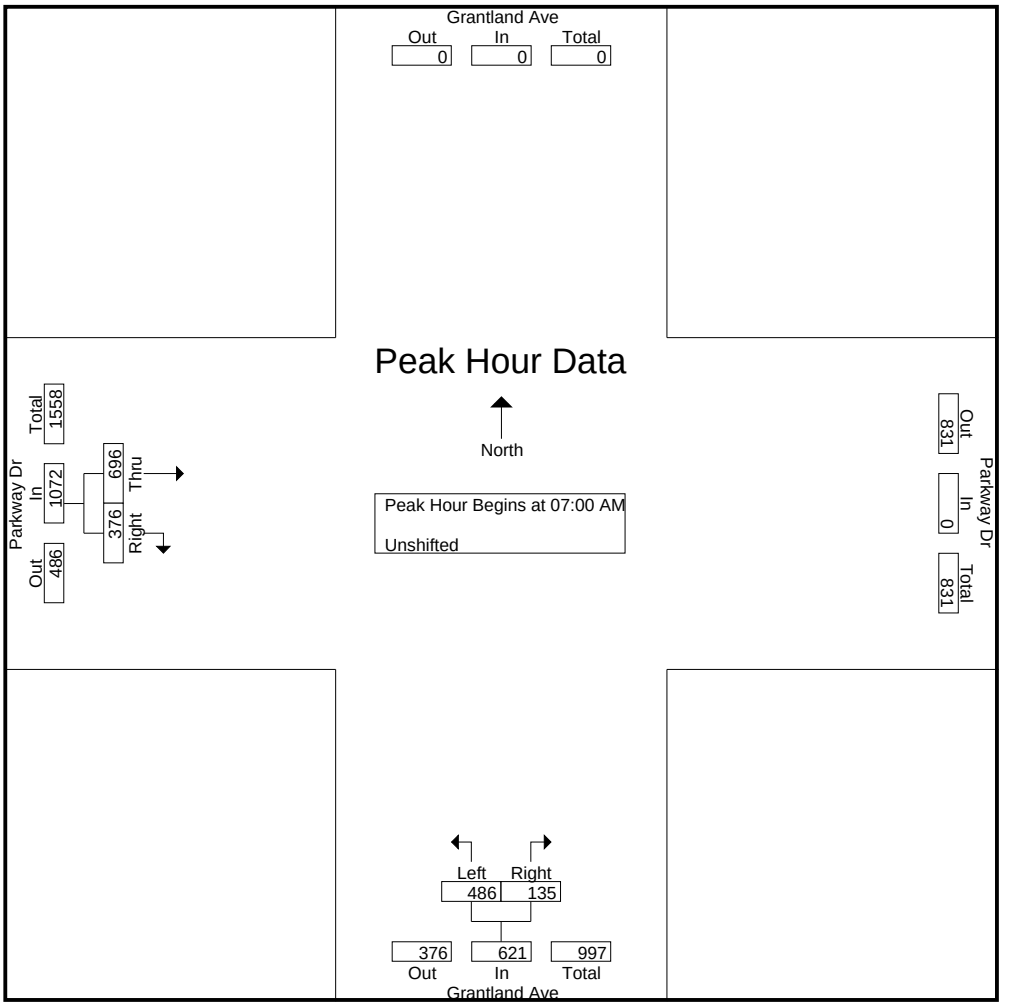
	Grantland Ave Northbound			Parkway Dr Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	98	33	131	186	113	299	430
07:15 AM	159	36	195	227	82	309	504
07:30 AM	136	45	181	151	85	236	417
07:45 AM	93	21	114	132	96	228	342
Total	486	135	621	696	376	1072	1693
08:00 AM	95	29	124	123	60	183	307
08:15 AM	116	23	139	122	96	218	357
08:30 AM	128	25	153	104	68	172	325
08:45 AM	86	12	98	114	59	173	271
Total	425	89	514	463	283	746	1260
******							
04:00 PM	107	9	116	96	123	219	335
04:15 PM	99	8	107	121	149	270	377
04:30 PM	99	9	108	98	131	229	337
04:45 PM	92	13	105	138	141	279	384
Total	397	39	436	453	544	997	1433
05:00 PM	96	10	106	118	128	246	352
05:15 PM	116	18	134	113	161	274	408
05:30 PM	85	15	100	98	137	235	335
05:45 PM	85	13	98	89	134	223	321
Total	382	56	438	418	560	978	1416
Grand Total	1690	319	2009	2030	1763	3793	5802
Apprch %	84.1	15.9		53.5	46.5		
Total %	29.1	5.5	34.6	35	30.4	65.4	

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File Name : Parkway at Grantland
Site Code : 00121218
Start Date : 12/12/2018
Page No : 2

	Grantland Ave Northbound			Parkway Dr Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	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 07:00 AM							
07:00 AM	98	33	131	186	**113**	299	430
07:15 AM	**159**	36	**195**	**227**	82	**309**	**504**
07:30 AM	136	**45**	181	151	85	236	417
07:45 AM	93	21	114	132	96	228	342
Total Volume	486	135	621	696	376	1072	1693
% App. Total	78.3	21.7		64.9	35.1		
PHF	.764	.750	.796	.767	.832	.867	.840

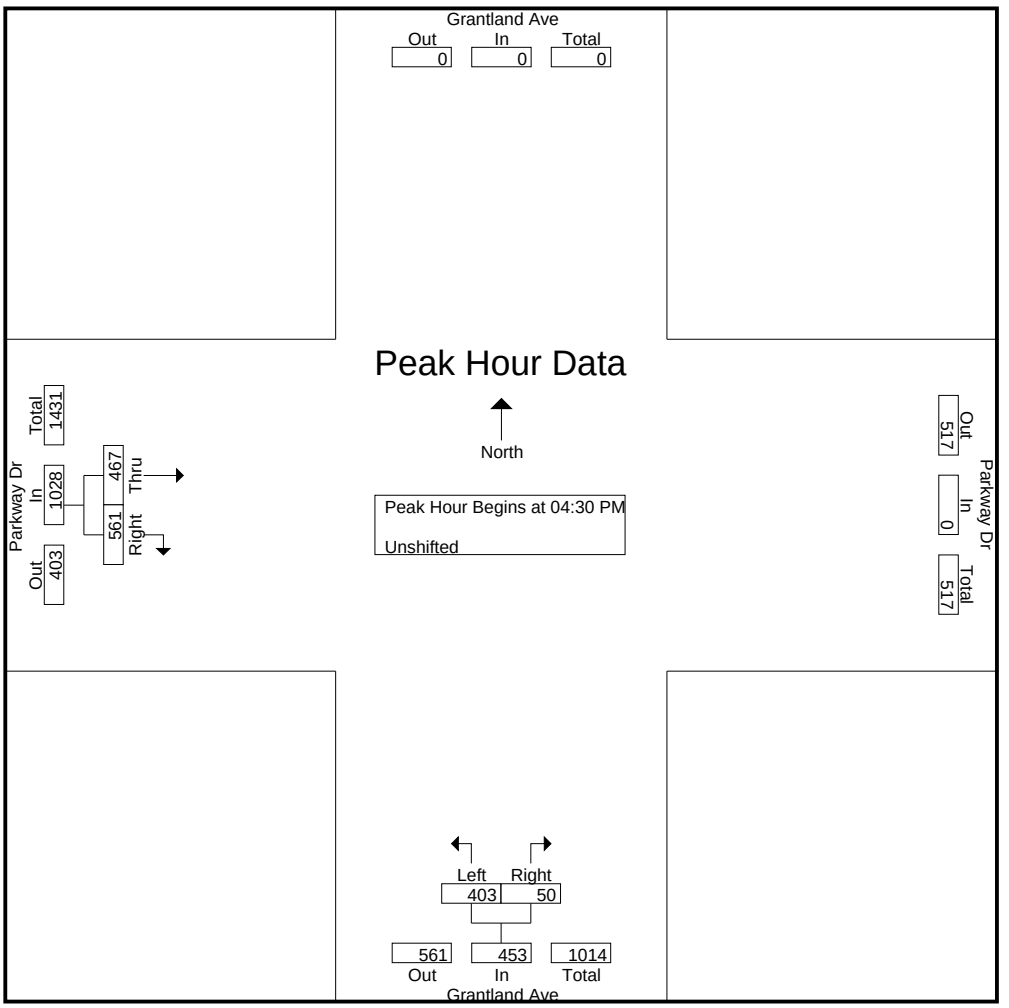


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File Name : Parkway at Grantland
Site Code : 00121218
Start Date : 12/12/2018
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	Grantland Ave Northbound			Parkway Dr Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1							
Peak Hour for Entire Intersection Begins at 04:30 PM							
04:30 PM	99	9	108	98	131	229	337
04:45 PM	92	13	105	**138**	141	**279**	384
05:00 PM	96	10	106	118	128	246	352
05:15 PM	**116**	**18**	**134**	113	**161**	274	**408**
Total Volume	403	50	453	467	561	1028	1481
% App. Total	89	11		45.4	54.6		
PHF	.869	.694	.845	.846	.871	.921	.907



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File Name : shaw at polk
Site Code : 00000000
Start Date : 2/7/2019
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

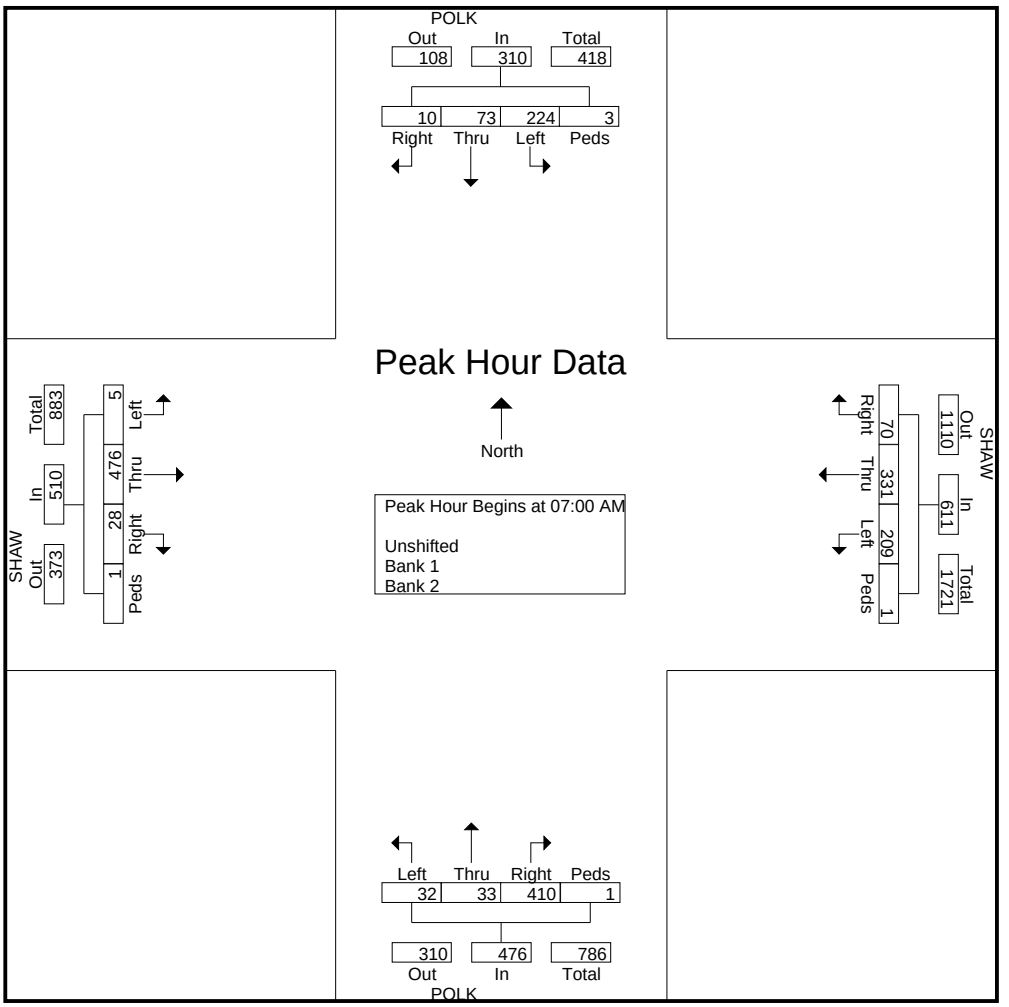
	POLK Southbound					SHAW Westbound					POLK Northbound					SHAW Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	55	33	1	1	90	67	96	13	0	176	8	6	89	0	103	1	91	10	0	102	471
07:15 AM	58	17	4	0	79	39	68	15	1	123	14	10	125	1	150	2	124	2	0	128	480
07:30 AM	61	13	1	1	76	38	85	22	0	145	4	11	111	0	126	1	136	8	1	146	493
07:45 AM	50	10	4	1	65	65	82	20	0	167	6	6	85	0	97	1	125	8	0	134	463
Total	224	73	10	3	310	209	331	70	1	611	32	33	410	1	476	5	476	28	1	510	1907
08:00 AM	45	9	1	0	55	59	84	16	0	159	5	10	75	0	90	1	99	4	1	105	409
08:15 AM	46	13	2	1	62	60	82	17	1	160	7	10	75	3	95	1	128	11	0	140	457
08:30 AM	32	12	2	0	46	49	47	25	0	121	5	11	93	0	109	0	116	14	0	130	406
08:45 AM	42	12	2	0	56	48	50	12	0	110	5	7	65	0	77	1	105	5	0	111	354
Total	165	46	7	1	219	216	263	70	1	550	22	38	308	3	371	3	448	34	1	486	1626
******																					
04:00 PM	26	5	2	1	34	80	107	42	0	229	4	14	66	1	85	1	110	8	0	119	467
04:15 PM	33	12	0	1	46	81	129	43	0	253	7	13	60	1	81	2	65	7	0	74	454
04:30 PM	31	10	3	5	49	72	82	34	0	188	5	12	97	3	117	3	83	16	0	102	456
04:45 PM	29	13	1	0	43	81	90	51	5	227	4	13	49	3	69	2	84	7	0	93	432
Total	119	40	6	7	172	314	408	170	5	897	20	52	272	8	352	8	342	38	0	388	1809
05:00 PM	33	13	1	3	50	86	141	51	2	280	9	9	74	7	99	1	92	11	1	105	534
05:15 PM	27	14	3	0	44	104	145	54	0	303	6	14	75	1	96	4	92	12	1	109	552
05:30 PM	29	17	3	4	53	86	141	57	0	284	2	7	68	5	82	5	108	4	0	117	536
05:45 PM	31	26	1	2	60	94	115	56	4	269	3	17	75	6	101	0	87	10	3	100	530
Total	120	70	8	9	207	370	542	218	6	1136	20	47	292	19	378	10	379	37	5	431	2152
Grand Total	628	229	31	20	908	1109	1544	528	13	3194	94	170	1282	31	1577	26	1645	137	7	1815	7494
Apprch %	69.2	25.2	3.4	2.2		34.7	48.3	16.5	0.4		6	10.8	81.3	2		1.4	90.6	7.5	0.4		
Total %	8.4	3.1	0.4	0.3	12.1	14.8	20.6	7	0.2	42.6	1.3	2.3	17.1	0.4	21	0.3	22	1.8	0.1	24.2	
Unshifted	628	229	31	20	908	1108	1544						1282				1645				
% Unshifted	100	100	100	100	100	99.9	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bank 2	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Bank 2	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : shaw at polk
Site Code : 00000000
Start Date : 2/7/2019
Page No : 2

	POLK Southbound					SHAW Westbound					POLK Northbound					SHAW Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	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 07:00 AM																					
07:00 AM	55	**33**	1	**1**	**90**	**67**	**96**	13	0	**176**	8	6	89	0	103	1	91	**10**	0	102	471
07:15 AM	58	17	**4**	0	79	39	68	15	**1**	123	**14**	10	**125**	**1**	**150**	**2**	124	2	0	128	480
07:30 AM	**61**	13	1	1	76	38	85	**22**	0	145	4	**11**	111	0	126	1	**136**	8	**1**	**146**	**493**
07:45 AM	50	10	4	1	65	65	82	20	0	167	6	6	85	0	97	1	125	8	0	134	463
Total Volume	224	73	10	3	310	209	331	70	1	611	32	33	410	1	476	5	476	28	1	510	1907
% App. Total	72.3	23.5	3.2	1		34.2	54.2	11.5	0.2		6.7	6.9	86.1	0.2		1	93.3	5.5	0.2		
PHF	.918	.553	.625	.750	.861	.780	.862	.795	.250	.868	.571	.750	.820	.250	.793	.625	.875	.700	.250	.873	.967

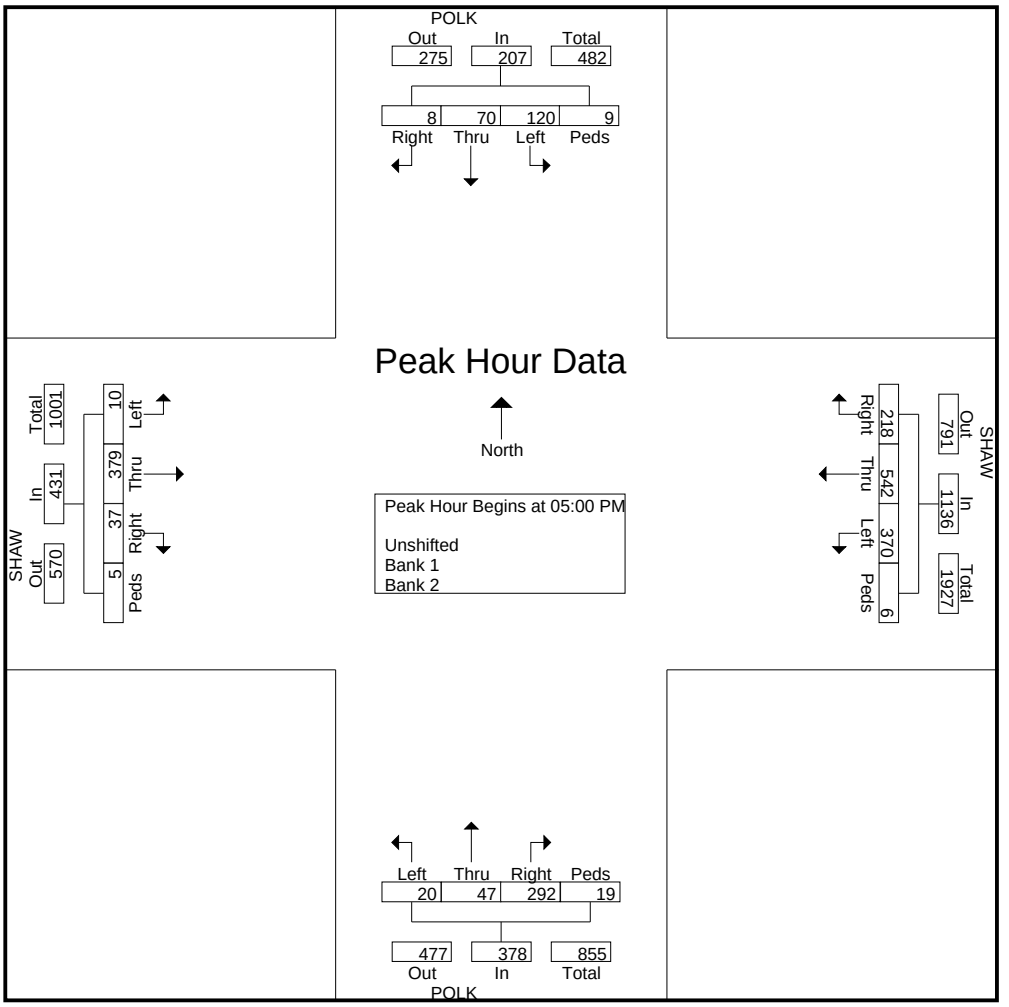


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File Name : shaw at polk
Site Code : 00000000
Start Date : 2/7/2019
Page No : 3

	POLK Southbound					SHAW Westbound					POLK Northbound					SHAW Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	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 05:00 PM																					
05:00 PM	**33**	13	1	3	50	86	141	51	2	280	**9**	9	74	**7**	99	1	92	11	1	105	534
05:15 PM	27	14	**3**	0	44	**104**	**145**	54	0	**303**	6	14	**75**	1	96	4	92	**12**	1	109	**552**
05:30 PM	29	17	3	**4**	53	86	141	**57**	0	284	2	7	68	5	82	**5**	**108**	4	0	**117**	536
05:45 PM	31	**26**	1	2	**60**	94	115	56	**4**	269	3	**17**	75	6	**101**	0	87	10	**3**	100	530
Total Volume	120	70	8	9	207	370	542	218	6	1136	20	47	292	19	378	10	379	37	5	431	2152
% App. Total	58	33.8	3.9	4.3		32.6	47.7	19.2	0.5		5.3	12.4	77.2	5		2.3	87.9	8.6	1.2		
PHF	.909	.673	.667	.563	.863	.889	.934	.956	.375	.937	.556	.691	.973	.679	.936	.500	.877	.771	.417	.921	.975



Prepared by National Data & Surveying Services

SR 99 SB Ramps & Shaw Ave

Peak Hour Turning Movement Count

ID: 19-07214-012
City: Fresno

Day: Thursday
Date: 05/30/2019

PEAK HOURS	
AM	07:00 AM - 08:00 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SR 99 SB Ramps — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

EASTBOUND — Shaw Ave

AM	NOON	PM		
636	0	1193	⇦	
0	0	0	↶	0
0	0	0	↱	0
674	0	577	→	1
421	0	254	↴	1
AM	NOON	PM		

WESTBOUND — Shaw Ave

PM	NOON	AM		
0	0	0	↰	0
1122	0	598	←	2
242	0	278	↰	1
0	0	0	↰	0
804	0	896	⇨	
PM	NOON	AM		

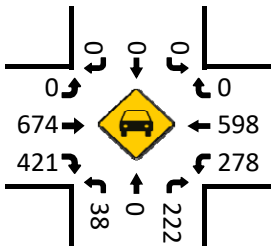
CONTROL: Signalized

TEV	2231 AM	0 NOON	2493 PM
PHF	0.96		0.96

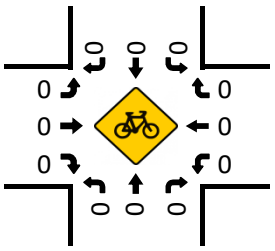
SR 99 SB Ramps — NORTHBOUND

PM	496	0	71	0	227	PM
NOON	0	0	0	0	0	NOON
AM	699	0	38	0	222	AM

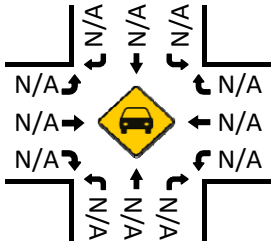
Total Vehicles (AM)



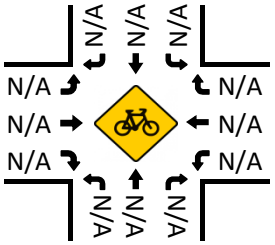
Bikes (AM)



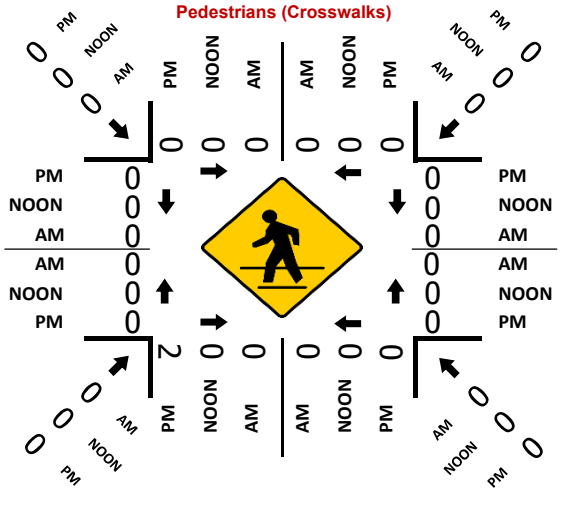
Total Vehicles (NOON)



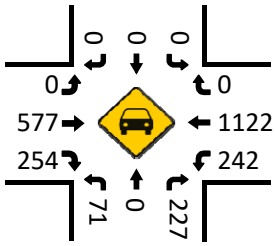
Bikes (NOON)



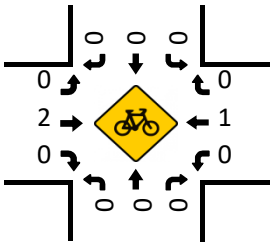
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 99 SB Ramps & Shaw Ave
City: Fresno
Control: Signalized

Project ID: 19-07214-012
Date: 5/30/2019

Total

NS/EW Streets:	SR 99 SB Ramps				SR 99 SB Ramps				Shaw Ave				Shaw Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	0	1	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	10	0	47	0	0	0	0	0	0	144	96	0	75	162	0	0	534
7:15 AM	6	0	39	0	0	0	0	0	0	159	154	0	79	146	0	0	583
7:30 AM	12	0	68	0	0	0	0	0	0	181	107	0	74	126	0	0	568
7:45 AM	10	0	68	0	0	0	0	0	0	190	64	0	50	164	0	0	546
8:00 AM	16	0	57	0	0	0	0	0	0	165	69	0	49	140	0	0	496
8:15 AM	9	0	61	0	0	0	0	0	0	157	78	0	56	134	0	0	495
8:30 AM	9	0	44	0	0	0	0	0	0	168	80	0	50	119	0	0	470
8:45 AM	19	0	54	0	0	0	0	0	0	146	68	0	60	132	0	0	479
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	91	0	438	0	0	0	0	0	0	1310	716	0	493	1123	0	0	4171
APPROACH %'s :	17.20%	0.00%	82.80%	0.00%					0.00%	64.66%	35.34%	0.00%	30.51%	69.49%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	38	0	222	0	0	0	0	0	0	674	421	0	278	598	0	0	2231
PEAK HR FACTOR :	0.792	0.000	0.816	0.000	0.000	0.000	0.000	0.000	0.000	0.887	0.683	0.000	0.880	0.912	0.000	0.000	0.957
	0.813								0.875				0.924				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	0	1	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	15	0	51	0	0	0	0	0	0	146	74	0	62	239	0	0	587
4:15 PM	22	0	54	0	0	0	0	0	0	148	65	0	58	252	0	0	599
4:30 PM	21	0	57	0	0	0	0	0	0	142	74	0	65	277	0	0	636
4:45 PM	13	0	63	0	0	0	0	0	0	149	58	0	56	273	0	0	612
5:00 PM	15	0	53	0	0	0	0	0	0	138	57	0	63	320	0	0	646
5:15 PM	22	0	57	0	0	0	0	0	0	120	50	0	48	264	0	0	561
5:30 PM	10	0	68	0	0	0	0	0	0	146	57	0	61	311	0	0	653
5:45 PM	27	0	67	0	0	0	0	0	0	130	35	0	36	283	0	0	578
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	145	0	470	0	0	0	0	0	0	1119	470	0	449	2219	0	0	4872
APPROACH %'s :	23.58%	0.00%	76.42%	0.00%					0.00%	70.42%	29.58%	0.00%	16.83%	83.17%	0.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	71	0	227	0	0	0	0	0	0	577	254	0	242	1122	0	0	2493
PEAK HR FACTOR :	0.807	0.000	0.901	0.000	0.000	0.000	0.000	0.000	0.000	0.968	0.858	0.000	0.931	0.877	0.000	0.000	0.965
	0.955								0.962				0.890				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 99 SB Ramps & Shaw Ave
City: Fresno
Project ID: 19-07214-012
Date: 5/30/2019

Pedestrians (Crosswalks)

NS/EW Streets:	SR 99 SB Ramps		SR 99 SB Ramps		Shaw Ave		Shaw Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	1	1	0	0	0	0	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	1	2	0	0	0	0	3
APPROACH %'s :			33.33%	66.67%					
PEAK HR :	**07:00 AM - 08:00 AM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	0	0	1
5:15 PM	0	0	1	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	3	0	0	0	0	0	3
APPROACH %'s :			100.00%	0.00%					
PEAK HR :	**04:15 PM - 05:15 PM**								TOTAL
PEAK HR VOL :	0	0	2	0	0	0	0	0	2
PEAK HR FACTOR :			0.500						0.500
			0.500						

Prepared by National Data & Surveying Services

SR 99 NB Ramps & Shaw Ave

Peak Hour Turning Movement Count

ID: 19-07214-013
City: Fresno

Day: Thursday
Date: 05/30/2019

PEAK HOURS

AM	07:00 AM - 08:00 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	2041	0	2670
PHF	0.96		0.93

SR 99 NB Ramps — SOUTHBOUND

	L	T	R	U	Total
AM	198	0	64	0	311
NOON	0	0	0	0	0
PM	340	0	151	0	379

Shaw Ave — EASTBOUND

	L	T	R	U
AM	875	0	1395	
NOON	0	0	0	0
PM	105	0	55	1
	791	0	745	1
	0	0	0	0
	AM	NOON	PM	

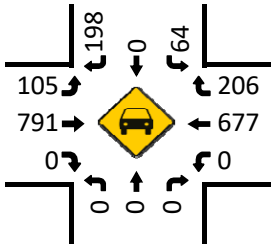
WESTBOUND — Shaw Ave

	L	T	R	U
PM	324	0	206	1
NOON	1055	0	677	2
AM	0	0	0	0
	0	0	0	0
	896	0	855	
	PM	NOON	AM	

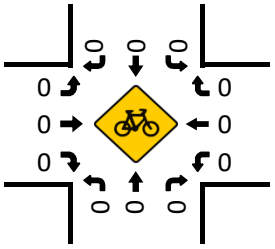
NORTHBOUND — SR 99 NB Ramps

	L	T	R	U	Total
PM	0	0	0	0	0
NOON	0	0	0	0	0
AM	0	0	0	0	0

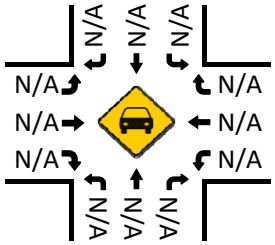
Total Vehicles (AM)



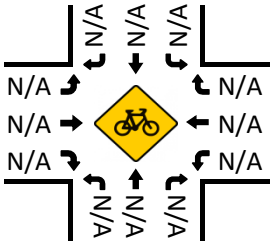
Bikes (AM)



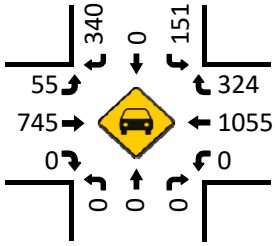
Total Vehicles (Noon)



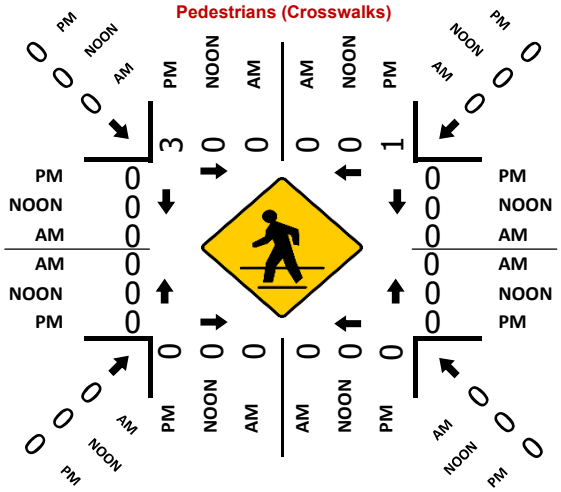
Bikes (NOON)



Total Vehicles (PM)



Pedestrians (Crosswalks)


PM
NOON
AM
3
0
1
0
0
0
0
0
0
0
0
0
0
0

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 99 NB Ramps & Shaw Ave
City: Fresno
Control: Signalized

Project ID: 19-07214-013
Date: 5/30/2019

Total

NS/EW Streets:	SR 99 NB Ramps				SR 99 NB Ramps				Shaw Ave				Shaw Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	1	1	0	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	6	0	46	0	27	163	0	0	0	191	61	0	494
7:15 AM	0	0	0	0	21	0	47	0	31	168	0	0	0	173	50	0	490
7:30 AM	0	0	0	0	11	0	44	0	30	226	0	0	0	161	51	0	523
7:45 AM	0	0	0	0	26	0	61	0	17	234	0	0	0	152	44	0	534
8:00 AM	0	0	0	0	21	0	47	0	24	201	0	0	0	143	39	0	475
8:15 AM	0	0	0	0	16	0	53	0	21	194	0	0	0	137	59	0	480
8:30 AM	0	0	0	0	32	0	51	0	28	189	0	0	0	118	33	0	451
8:45 AM	0	0	0	0	21	0	38	0	13	179	0	0	0	160	44	0	455
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	154	0	387	0	191	1554	0	0	0	1235	381	0	3902
APPROACH %'s :					28.47%	0.00%	71.53%	0.00%	10.95%	89.05%	0.00%	0.00%	0.00%	76.42%	23.58%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	64	0	198	0	105	791	0	0	0	677	206	0	2041
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.615	0.000	0.811	0.000	0.847	0.845	0.000	0.000	0.000	0.886	0.844	0.000	0.956
					0.753				0.875				0.876				

NS/EW Streets:	SR 99 NB Ramps				SR 99 NB Ramps				Shaw Ave				Shaw Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	1	1	0	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	38	0	79	0	15	192	0	0	0	219	70	0	613
4:15 PM	0	0	0	0	41	0	89	0	17	173	0	0	0	229	76	0	625
4:30 PM	0	0	0	0	43	0	85	0	15	188	0	0	0	252	68	0	651
4:45 PM	0	0	0	0	56	0	81	0	9	199	0	0	0	244	81	0	670
5:00 PM	0	0	0	0	30	0	93	0	10	190	0	0	0	294	99	0	716
5:15 PM	0	0	0	0	36	0	77	0	17	153	0	0	0	235	75	0	593
5:30 PM	0	0	0	0	29	0	89	0	19	203	0	0	0	282	69	0	691
5:45 PM	0	0	0	0	32	0	75	0	10	183	0	0	0	250	62	0	612
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	305	0	668	0	112	1481	0	0	0	2005	600	0	5171
APPROACH %'s :					31.35%	0.00%	68.65%	0.00%	7.03%	92.97%	0.00%	0.00%	0.00%	76.97%	23.03%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	151	0	340	0	55	745	0	0	0	1055	324	0	2670
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.674	0.000	0.914	0.000	0.724	0.917	0.000	0.000	0.000	0.897	0.818	0.000	0.932
					0.896				0.901				0.877				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 99 NB Ramps & Shaw Ave
City: Fresno
Project ID: 19-07214-013
Date: 5/30/2019

Pedestrians (Crosswalks)

NS/EW Streets:	SR 99 NB Ramps		SR 99 NB Ramps		Shaw Ave		Shaw Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	1	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	1	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	0	0	0	0	1	0	0	2
APPROACH %'s :	100.00%	0.00%			0.00%	100.00%			
PEAK HR :	07:00 AM - 08:00 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	2	2	0	0	0	0	1	0	5
4:15 PM	0	2	0	0	0	0	0	0	2
4:30 PM	0	1	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	2	0	0	0	0	0	0	0	2
5:15 PM	1	0	0	0	0	0	0	0	1
5:30 PM	0	1	0	0	0	0	0	0	1
5:45 PM	0	2	0	0	0	0	0	0	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	5	8	0	0	0	0	1	0	14
APPROACH %'s :	38.46%	61.54%					100.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	3	1	0	0	0	0	0	0	4
PEAK HR FACTOR :	0.375	0.250							0.500
	0.500								

Prepared by National Data & Surveying Services

SR 99 SB Ramps & Ashlan Ave

Peak Hour Turning Movement Count

ID: 19-07214-024
City: Fresno

Day: Thursday
Date: 05/30/2019

PEAK HOURS

AM	07:00 AM - 08:00 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SR 99 SB Ramps — SOUTHBOUND

AM	101	47	145	0	0	AM
NOON	0	0	0	0	0	NOON
PM	153	97	144	0	0	PM

0.5 1.5 2 0

EASTBOUND (Ashlan Ave)

AM	NOON	PM	
773	0	1493	
0	0	0	0
0	0	0	0
1441	0	925	2
34	0	42	1

AM NOON PM

CONTROL

Signalized

TEV	2957	0	3332
	AM	NOON	PM
PHF	0.94		0.98

WESTBOUND (Ashlan Ave)

PM	NOON	AM	
0	0	0	0
1295	0	650	2
323	0	110	1
0	0	0	0
1377	0	1993	

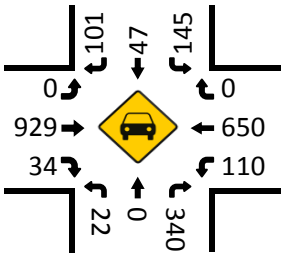
PM NOON AM

0 1 0 2

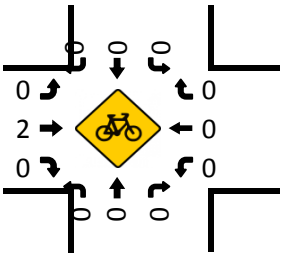
NORTHBOUND — SR 99 SB Ramps

PM	462	0	45	0	308	PM
NOON	0	0	0	0	0	NOON
AM	191	0	22	0	407	AM

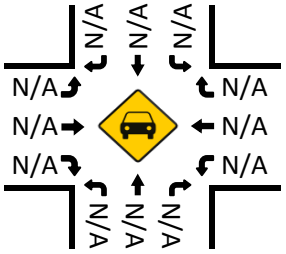
Total Vehicles (AM)



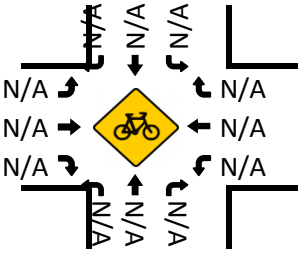
Bikes (AM)



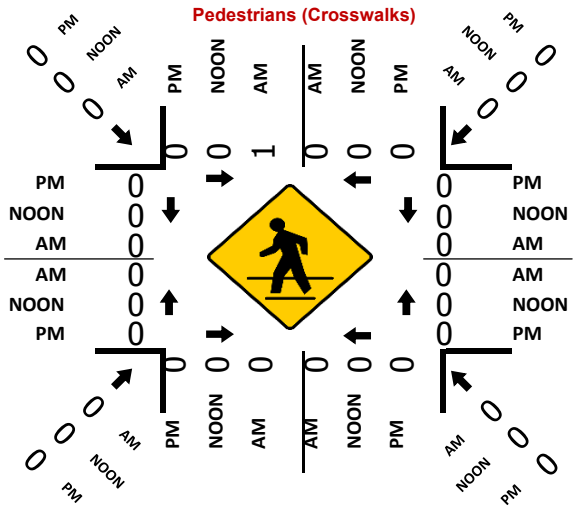
Total Vehicles (Noon)



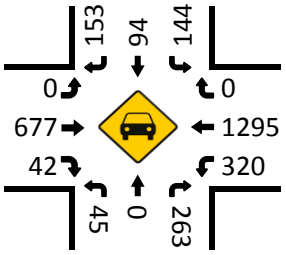
Bikes (NOON)



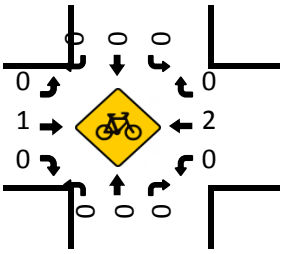
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 99 SB Ramps & Ashlan Ave
City: Fresno
Control: Signalized

Project ID: 19-07214-024
Date: 5/30/2019

Total

NS/EW Streets:	SR 99 SB Ramps					SR 99 SB Ramps					Ashlan Ave					Ashlan Ave					
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					
	1	0	2	0	0	2	1.5	0.5	0	0	0	2	1	0	0	1	2	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	TOTAL
7:00 AM	9	0	94	0	0	21	5	44	0	0	0	323	4	0	0	27	228	0	0	0	755
7:15 AM	4	0	100	0	0	33	14	26	0	0	0	423	19	0	0	23	145	0	0	0	787
7:30 AM	5	0	112	0	0	37	16	17	0	0	0	395	5	0	0	33	133	0	0	0	753
7:45 AM	4	0	101	0	0	54	12	14	0	0	0	300	6	0	0	27	144	0	0	0	662
8:00 AM	7	0	75	0	0	19	5	15	0	0	0	274	6	0	0	32	154	0	0	0	587
8:15 AM	5	0	75	0	0	32	10	12	0	0	0	275	8	0	0	25	145	0	0	0	587
8:30 AM	6	0	82	0	0	18	8	24	0	0	0	299	9	0	0	32	102	0	0	0	580
8:45 AM	8	0	80	0	0	45	8	12	0	0	0	219	10	0	0	41	114	0	0	0	537
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	TOTAL
TOTAL VOLUMES :	48	0	719	0	0	259	78	164	0	0	0	2508	67	0	0	240	1165	0	0	0	5248
APPROACH %'s :	6.26%	0.00%	93.74%	0.00%	0.00%	51.70%	15.57%	32.73%	0.00%	0.00%	0.00%	97.40%	2.60%	0.00%	0.00%	17.08%	82.92%	0.00%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																				TOTAL
PEAK HR VOL :	22	0	407	0	0	145	47	101	0	0	0	1441	34	0	0	110	650	0	0	0	2957
PEAK HR FACTOR :	0.611	0.000	0.908	0.000	0.000	0.671	0.734	0.574	0.000	0.000	0.000	0.852	0.447	0.000	0.000	0.833	0.713	0.000	0.000	0.000	0.939
			0.917					0.916					0.834					0.745			

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					
	1	0	2	0	0	2	1.5	0.5	0	0	0	2	1	0	0	1	2	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	TOTAL
4:00 PM	7	0	78	0	0	41	21	30	0	0	0	233	7	0	0	70	300	0	0	0	787
4:15 PM	15	0	75	0	0	52	27	41	0	0	0	227	12	0	0	99	311	0	0	0	859
4:30 PM	9	0	73	0	0	33	28	54	0	0	0	202	15	0	0	89	283	0	0	0	786
4:45 PM	8	0	71	0	0	47	25	34	0	0	0	247	10	0	0	81	325	0	0	0	848
5:00 PM	9	0	75	0	0	34	14	42	0	0	0	203	12	0	0	99	308	0	0	0	796
5:15 PM	14	0	78	0	0	35	33	34	0	0	0	241	8	0	0	69	342	0	0	0	854
5:30 PM	14	0	84	0	0	28	25	43	0	0	0	234	12	0	0	74	320	0	0	0	834
5:45 PM	15	0	72	0	0	45	22	28	0	0	0	263	18	0	0	80	283	0	0	0	826
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	TOTAL
TOTAL VOLUMES :	91	0	606	0	0	315	195	306	0	0	0	1850	94	0	0	661	2472	0	0	0	6590
APPROACH %'s :	13.06%	0.00%	86.94%	0.00%	0.00%	38.60%	23.90%	37.50%	0.00%	0.00%	0.00%	95.16%	4.84%	0.00%	0.00%	21.10%	78.90%	0.00%	0.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																				TOTAL
PEAK HR VOL :	45	0	308	0	0	144	97	153	0	0	0	925	42	0	0	323	1295	0	0	0	3332
PEAK HR FACTOR :	0.804	0.000	0.917	0.000	0.000	0.766	0.735	0.890	0.000	0.000	0.000	0.936	0.875	0.000	0.000	0.816	0.947	0.000	0.000	0.000	0.975
			0.901					0.929					0.941					0.984			

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 99 SB Ramps & Ashlan Ave
City: Fresno
Control: Signalized

Project ID: 19-07214-024
Date: 5/30/2019

Bikes

NS/EW Streets:	SR 99 SB Ramps					SR 99 SB Ramps					Ashlan Ave					Ashlan Ave					
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					
	1	0	2	0	0	2	1.5	0.5	0	0	0	2	1	0	0	1	2	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	4
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	TOTAL
TOTAL VOLUMES :	0	0	1	0	0	0	0	0	0	0	0	5	0	0	0	0	1	0	0	0	7
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	0.00%						0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																				TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
													0.250								

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					
	1	0	2	0	0	2	1.5	0.5	0	0	0	2	1	0	0	1	2	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	1	0	0	0	4
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	4
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	TOTAL
TOTAL VOLUMES :	0	1	0	0	1	0	1	0	0	0	1	3	0	0	0	0	6	0	0	0	13
APPROACH %'s :	0.00%	50.00%	0.00%	0.00%	50.00%	0.00%	100.00%	0.00%	0.00%	0.00%	25.00%	75.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																				TOTAL
PEAK HR VOL :	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	4
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.333
			0.250										0.250					0.250			

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 99 SB Ramps & Ashlan Ave
City: Fresno
Project ID: 19-07214-024
Date: 5/30/2019

Pedestrians (Crosswalks)

NS/EW Streets:	SR 99 SB Ramps		SR 99 SB Ramps		Ashlan Ave		Ashlan Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	1	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	1	0	0	0	0	0	1	0	2
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	2	0	0	0	0	0	1	0	3
APPROACH %'s :	100.00%	0.00%					100.00%	0.00%	
PEAK HR :	**07:00 AM - 08:00 AM**								TOTAL
PEAK HR VOL :	1	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.250								0.250
	0.250								

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	1	1
4:15 PM	0	0	2	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	2	1	0	0	0	0	0	0	3
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	2	1	2	0	0	0	0	1	6
APPROACH %'s :	66.67%	33.33%	100.00%	0.00%			0.00%	100.00%	
PEAK HR :	**04:45 PM - 05:45 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

SR 99 NB Ramps & Ashlan Ave

Peak Hour Turning Movement Count

ID: 19-07214-025
City: Fresno

Day: Thursday
Date: 05/30/2019

PEAK HOURS

AM: 07:00 AM - 08:00 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SR 99 NB Ramps — SOUTHBOUND

AM	138	0	36	1	630	AM
NOON	0	0	0	0	0	NOON
PM	246	0	57	0	548	PM

Ashlan Ave — EASTBOUND

AM	NOON	PM		
930	0	1731	⇦	
0	0	6	↰	0
140	0	136	↑	1
1114	0	834	→	2
160	0	114	↱	1
AM	NOON	PM		

CONTROL

Signalized

TEV	3367 AM	0 NOON	3839 PM
PHF	0.97		0.97

WESTBOUND — Ashlan Ave

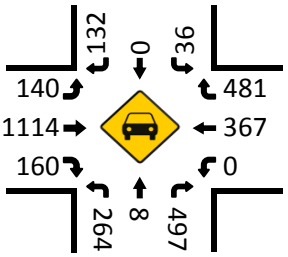
	PM	NOON	AM	
1	406	0	481	↰
2	962	0	526	←
0	0	0	0	↶
0	0	0	0	↩
⇨	1446	0	1647	
	PM	NOON	AM	

SR 99 NB Ramps — NORTHBOUND

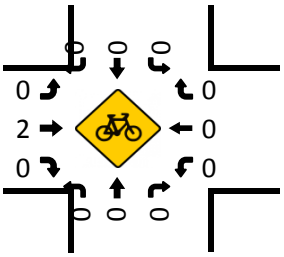
PM	114	0	517	6	555	PM
NOON	0	0	0	0	0	NOON
AM	160	0	266	8	497	AM

1 0 1 0 — 0 1.3 0.3 1.3

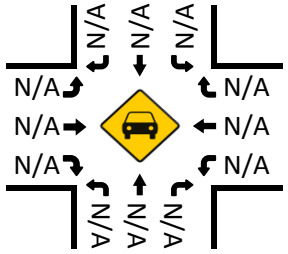
Total Vehicles (AM)



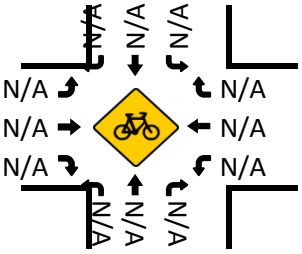
Bikes (AM)



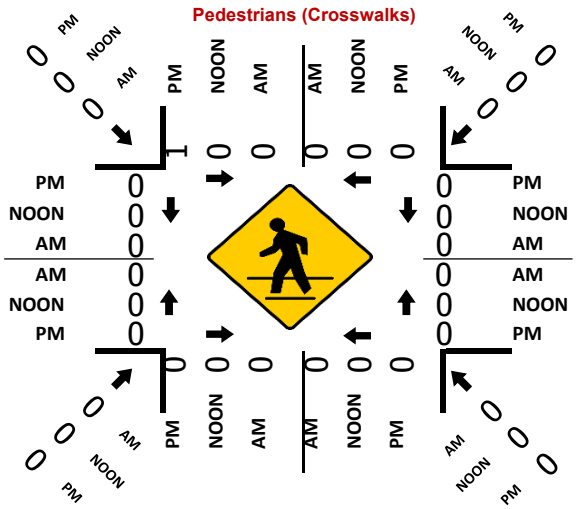
Total Vehicles (Noon)



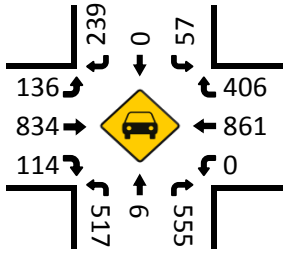
Bikes (NOON)



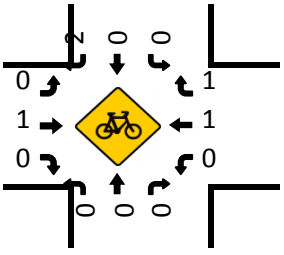
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 99 NB Ramps & Ashlan Ave
City: Fresno
Control: Signalized

Project ID: 19-07214-025
Date: 5/30/2019

Total

NS/EW Streets:	SR 99 NB Ramps					SR 99 NB Ramps					Ashlan Ave					Ashlan Ave					
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					
	1.3	0.3	1.3	0	0	1	0	1	0	0	1	2	1	0	0	0	2	1	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	TOTAL
7:00 AM	96	1	103	0	0	6	0	51	0	0	26	207	40	0	0	0	154	126	0	0	810
7:15 AM	55	1	105	0	0	10	0	32	0	0	39	295	38	0	0	0	117	136	0	0	828
7:30 AM	62	1	127	0	0	13	0	26	1	0	41	305	48	0	0	0	123	115	0	0	862
7:45 AM	53	5	162	0	0	7	0	29	0	0	34	307	34	0	0	0	132	104	0	0	867
8:00 AM	55	1	112	0	0	7	0	30	0	0	16	221	42	0	0	0	139	90	0	0	713
8:15 AM	57	2	117	0	0	5	0	28	1	0	26	222	30	0	0	0	106	104	0	0	698
8:30 AM	39	1	78	0	0	9	0	30	0	0	30	210	28	2	0	0	90	110	0	0	627
8:45 AM	48	4	119	0	0	17	0	29	0	0	24	182	29	2	0	0	91	88	0	0	633
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	TOTAL
TOTAL VOLUMES :	465	16	923	0	0	74	0	255	2	0	236	1949	289	4	0	0	952	873	0	0	6038
APPROACH %'s :	33.12%	1.14%	65.74%	0.00%	0.00%	22.36%	0.00%	77.04%	0.60%	0.00%	9.52%	78.65%	11.66%	0.16%	0.00%	0.00%	52.16%	47.84%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																				TOTAL
PEAK HR VOL :	266	8	497	0	0	36	0	138	1	0	140	1114	160	0	0	0	526	481	0	0	3367
PEAK HR FACTOR :	0.693	0.400	0.767	0.000	0.000	0.692	0.000	0.676	0.250	0.000	0.854	0.907	0.833	0.000	0.000	0.000	0.854	0.884	0.000	0.000	0.971
			0.876					0.768					0.897					0.899			

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					
	1.3	0.3	1.3	0	0	1	0	1	0	0	1	2	1	0	0	0	2	1	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	TOTAL
4:00 PM	105	1	109	0	0	15	0	53	3	0	40	228	25	4	0	0	245	116	0	0	944
4:15 PM	109	2	119	0	0	8	0	69	1	0	25	208	33	1	0	0	266	105	0	0	946
4:30 PM	82	3	125	0	0	20	0	73	1	0	31	186	23	2	0	0	233	121	0	0	900
4:45 PM	133	4	126	0	0	12	0	61	0	0	37	208	22	3	0	0	249	88	0	0	943
5:00 PM	127	2	139	0	0	19	0	65	0	0	35	193	31	0	0	0	243	117	0	0	971
5:15 PM	131	0	136	0	0	16	0	64	0	0	27	207	34	2	0	0	258	111	0	0	986
5:30 PM	126	0	154	0	0	10	0	56	0	0	37	226	27	1	0	0	212	90	0	0	939
5:45 PM	102	1	118	0	0	10	0	49	0	0	35	242	23	0	0	0	245	90	0	0	915
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	TOTAL
TOTAL VOLUMES :	915	13	1026	0	0	110	0	490	5	0	267	1698	218	13	0	0	1951	838	0	0	7544
APPROACH %'s :	46.83%	0.67%	52.51%	0.00%	0.00%	18.18%	0.00%	80.99%	0.83%	0.00%	12.16%	77.32%	9.93%	0.59%	0.00%	0.00%	69.95%	30.05%	0.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																				TOTAL
PEAK HR VOL :	517	6	555	0	0	57	0	246	0	0	136	834	114	6	0	0	962	406	0	0	3839
PEAK HR FACTOR :	0.972	0.375	0.901	0.000	0.000	0.750	0.000	0.946	0.000	0.000	0.919	0.923	0.838	0.500	0.000	0.000	0.932	0.868	0.000	0.000	0.973
			0.963					0.902					0.936					0.927			

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 99 NB Ramps & Ashlan Ave
City: Fresno
Control: Signalized

Project ID: 19-07214-025
Date: 5/30/2019

Bikes

NS/EW Streets:	SR 99 NB Ramps					SR 99 NB Ramps					Ashlan Ave					Ashlan Ave					
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					
	1.3	0.3	1.3	0	0	1	0	1	0	0	1	2	1	0	0	0	2	1	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	4
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	2	4	0	0	0	0	1	0	0	0	7
APPROACH %'s :											33.33%	66.67%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																				TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
													0.250								

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					
	1.3	0.3	1.3	0	0	1	0	1	0	0	1	2	1	0	0	0	2	1	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	1	0	0	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	2	0	0	2	1	0	0	0	0	4	1	0	0	10
APPROACH %'s :						0.00%	0.00%	100.00%	0.00%	0.00%	66.67%	33.33%	0.00%	0.00%	0.00%	0.00%	80.00%	20.00%	0.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																				TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	1	1	0	0	5
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.313
								0.250					0.250					0.500			

National Data & Surveying Services

Intersection Turning Movement Count

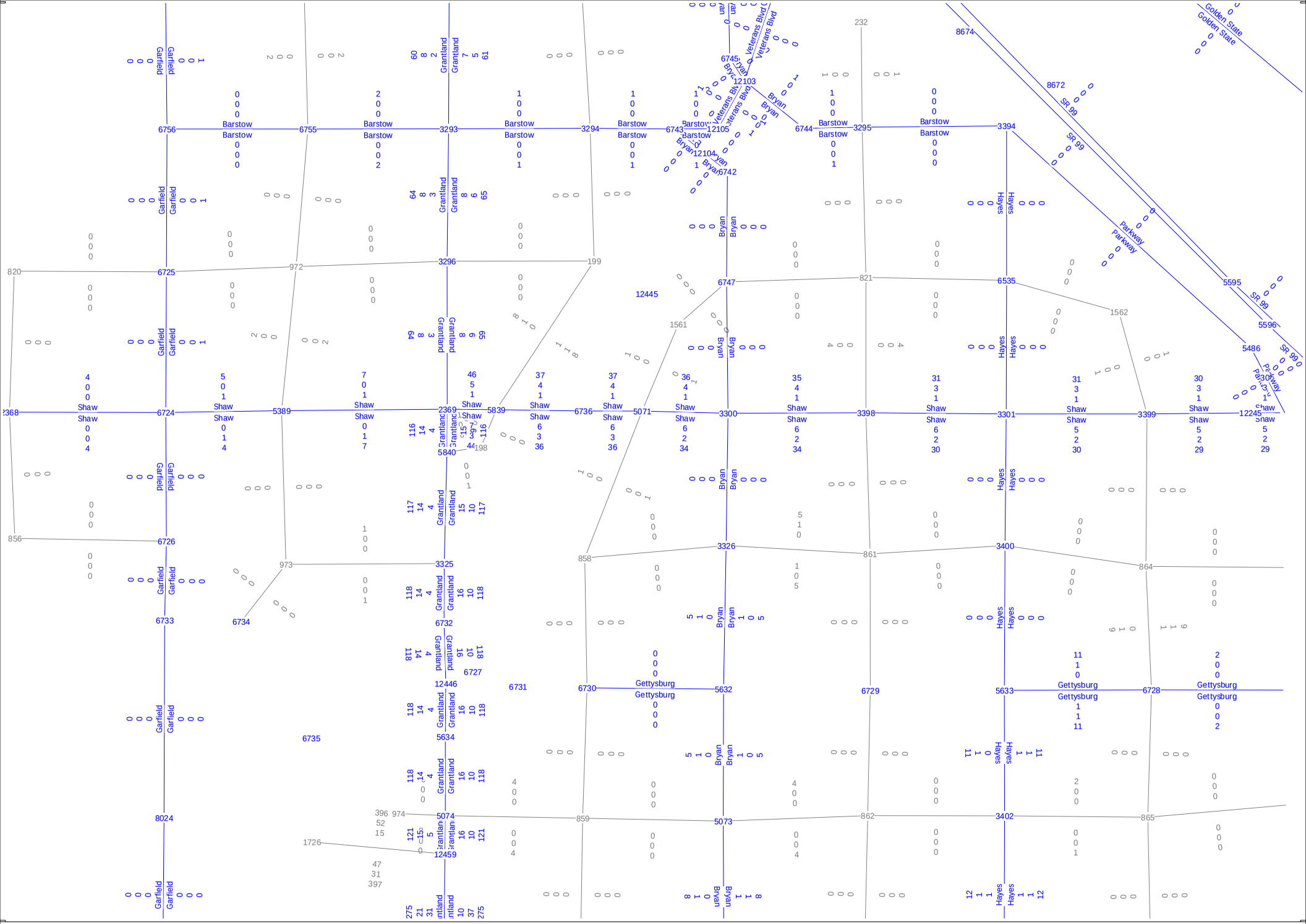
Location: SR 99 NB Ramps & Ashlan Ave
City: Fresno
Project ID: 19-07214-025
Date: 5/30/2019

Pedestrians (Crosswalks)

NS/EW Streets:	SR 99 NB Ramps		SR 99 NB Ramps		Ashlan Ave		Ashlan Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	1	0	0	0	0	0	0	0	1
8:30 AM	1	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	2	0	0	0	0	0	0	0	2
APPROACH %'s :	100.00%	0.00%							
PEAK HR :	**07:00 AM - 08:00 AM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	1	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	2	0	0	0	0	0	0	0	2
4:45 PM	1	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	2	0	0	0	0	0	0	0	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	6	0	0	0	0	0	0	0	6
APPROACH %'s :	100.00%	0.00%							
PEAK HR :	**04:45 PM - 05:45 PM**								TOTAL
PEAK HR VOL :	1	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.250								0.250
	0.250								

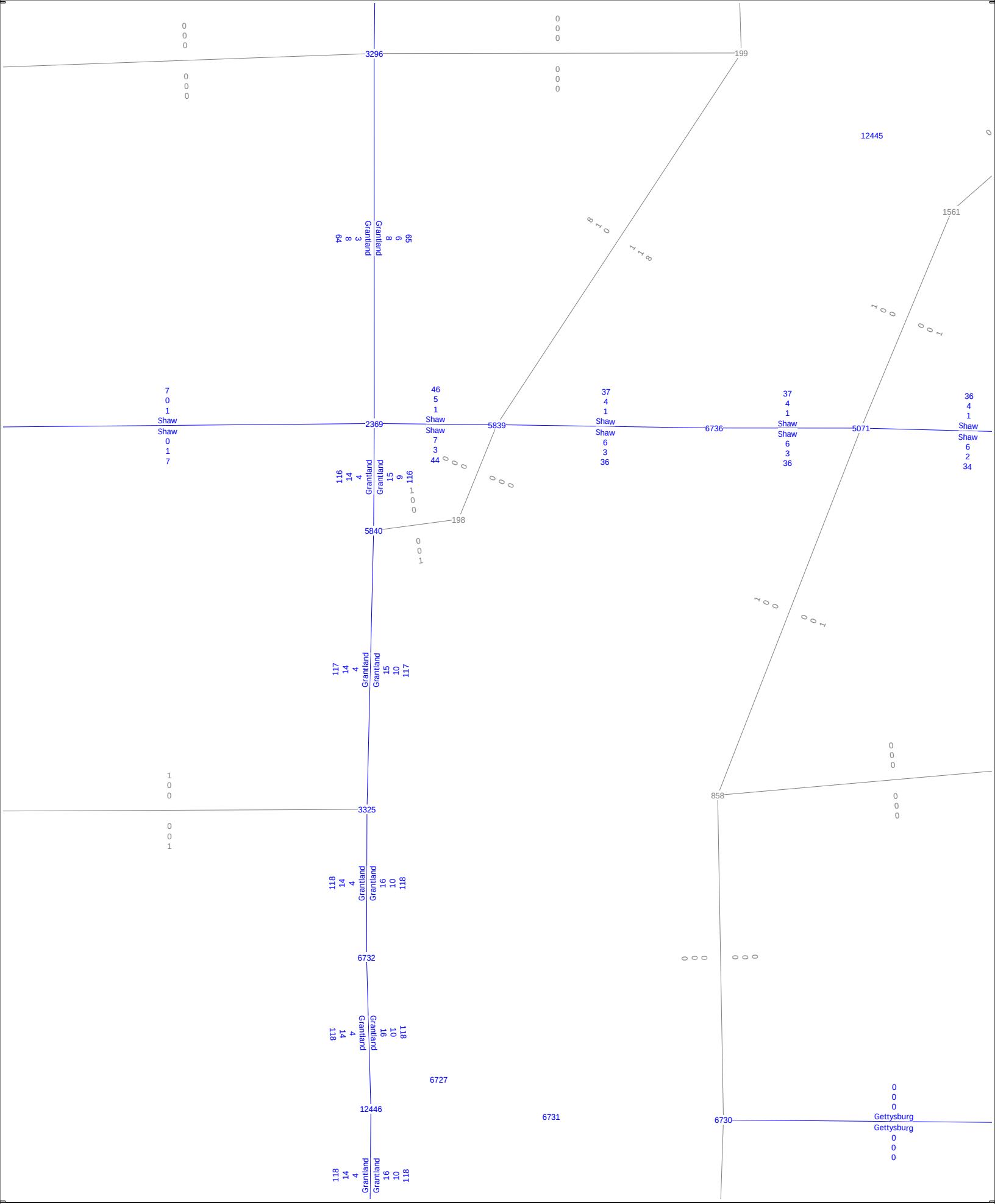
Appendix B: Traffic Modeling



Cumulative Year 2020 Project Select Zone
Project Only Trips
AM, PM and Daily

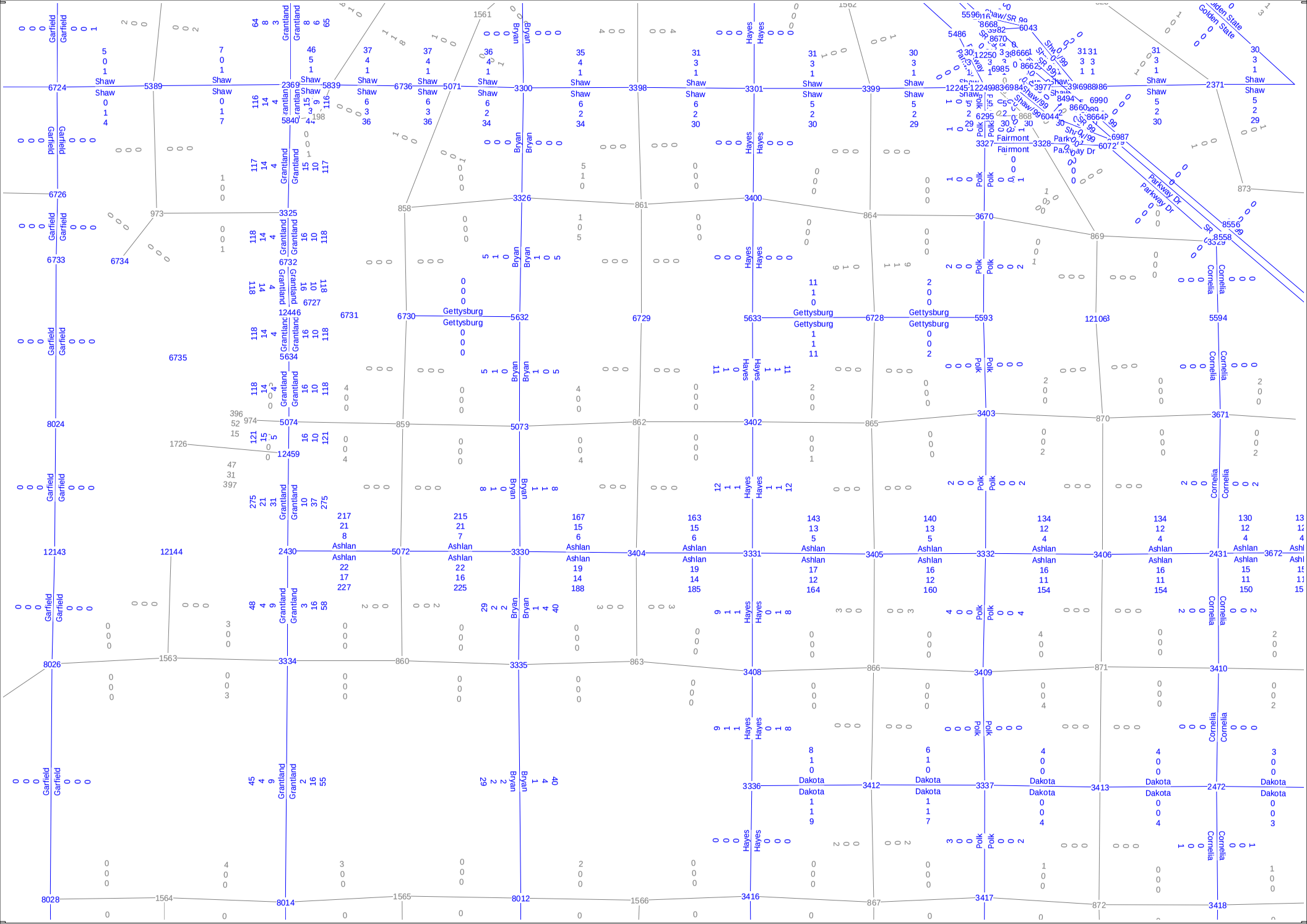
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Project Only Trips
AM, PM and Daily

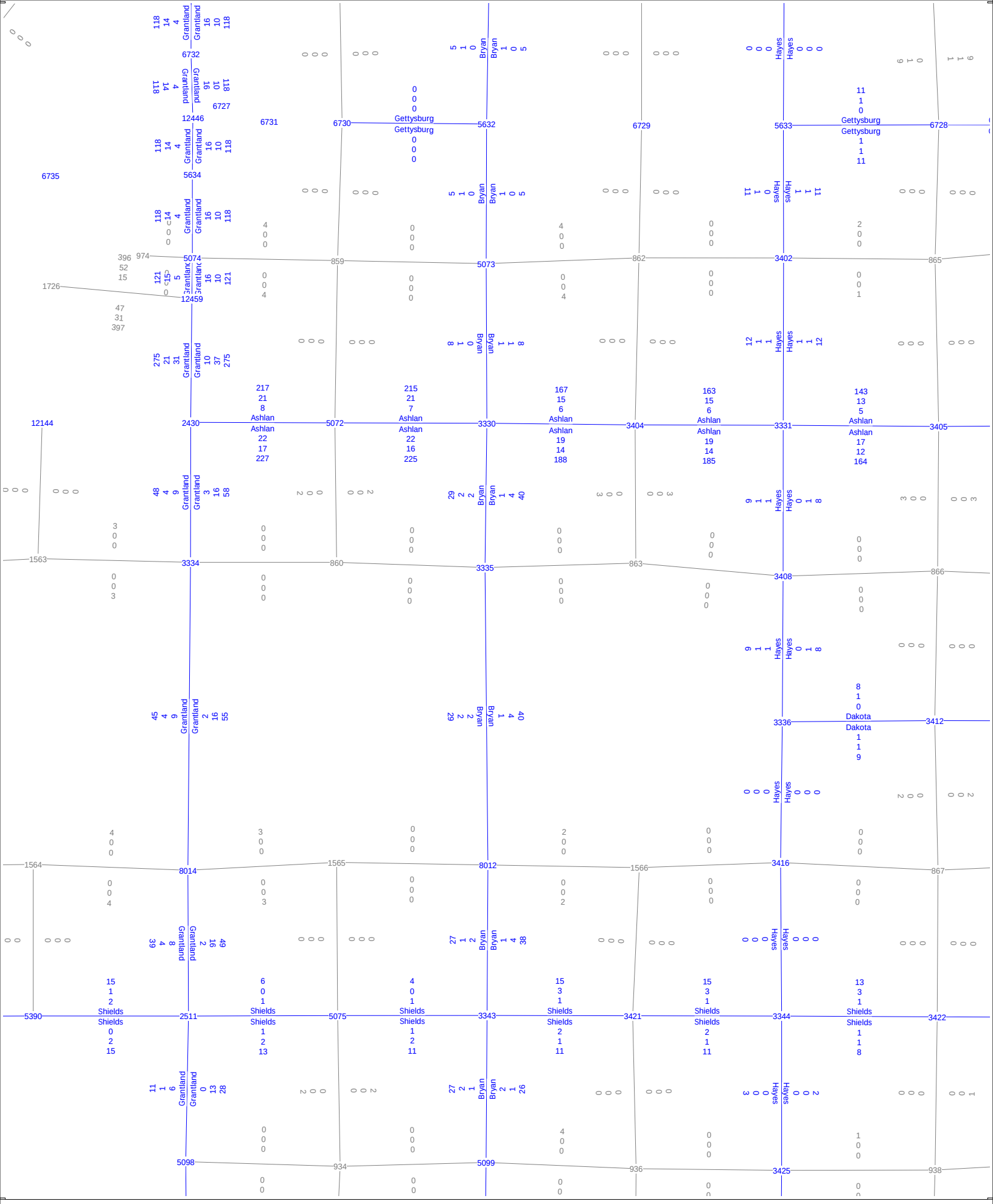
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Cumulative Year 2020 Project Select Zone
Project Only Trips
AM, PM and Daily

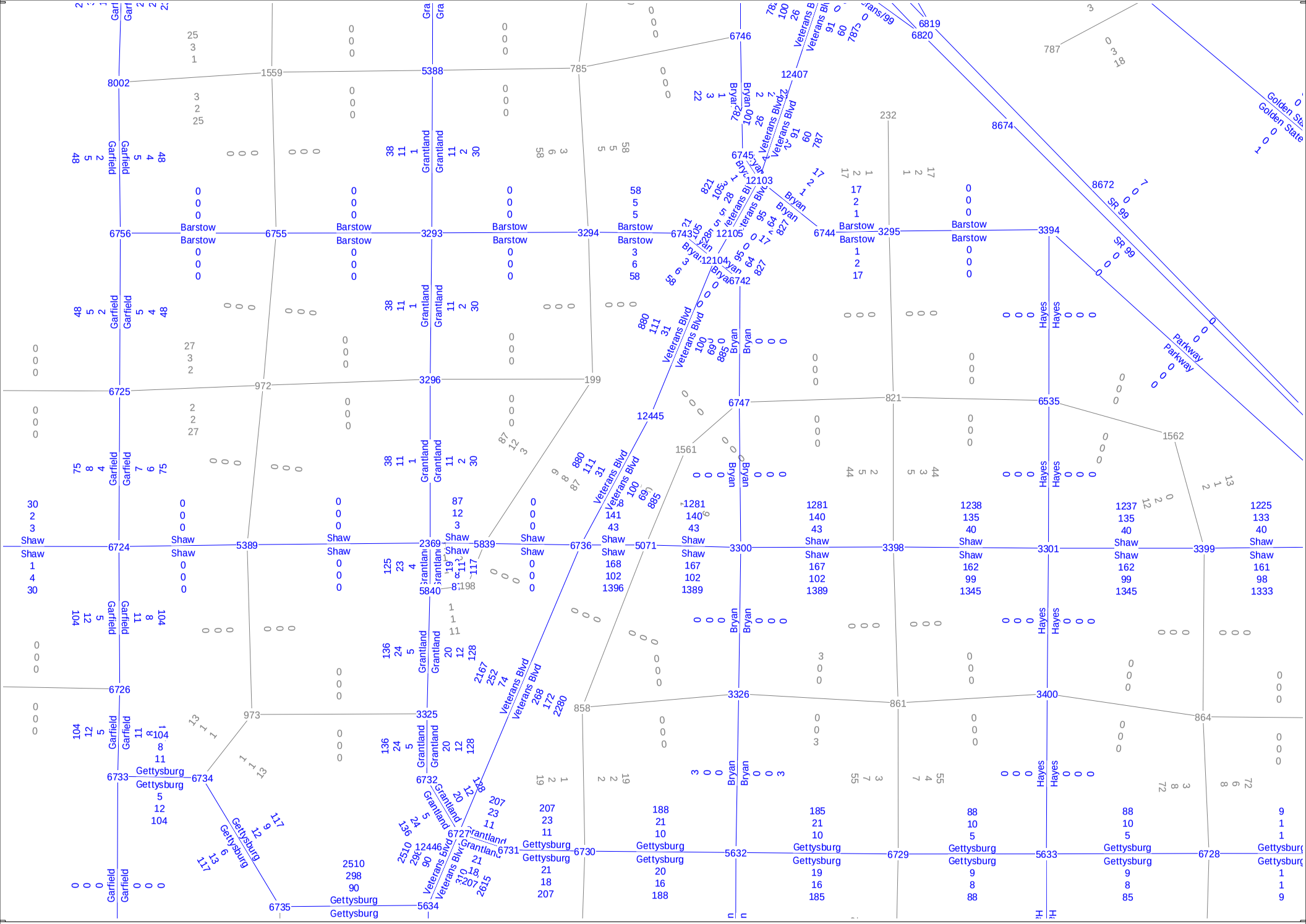
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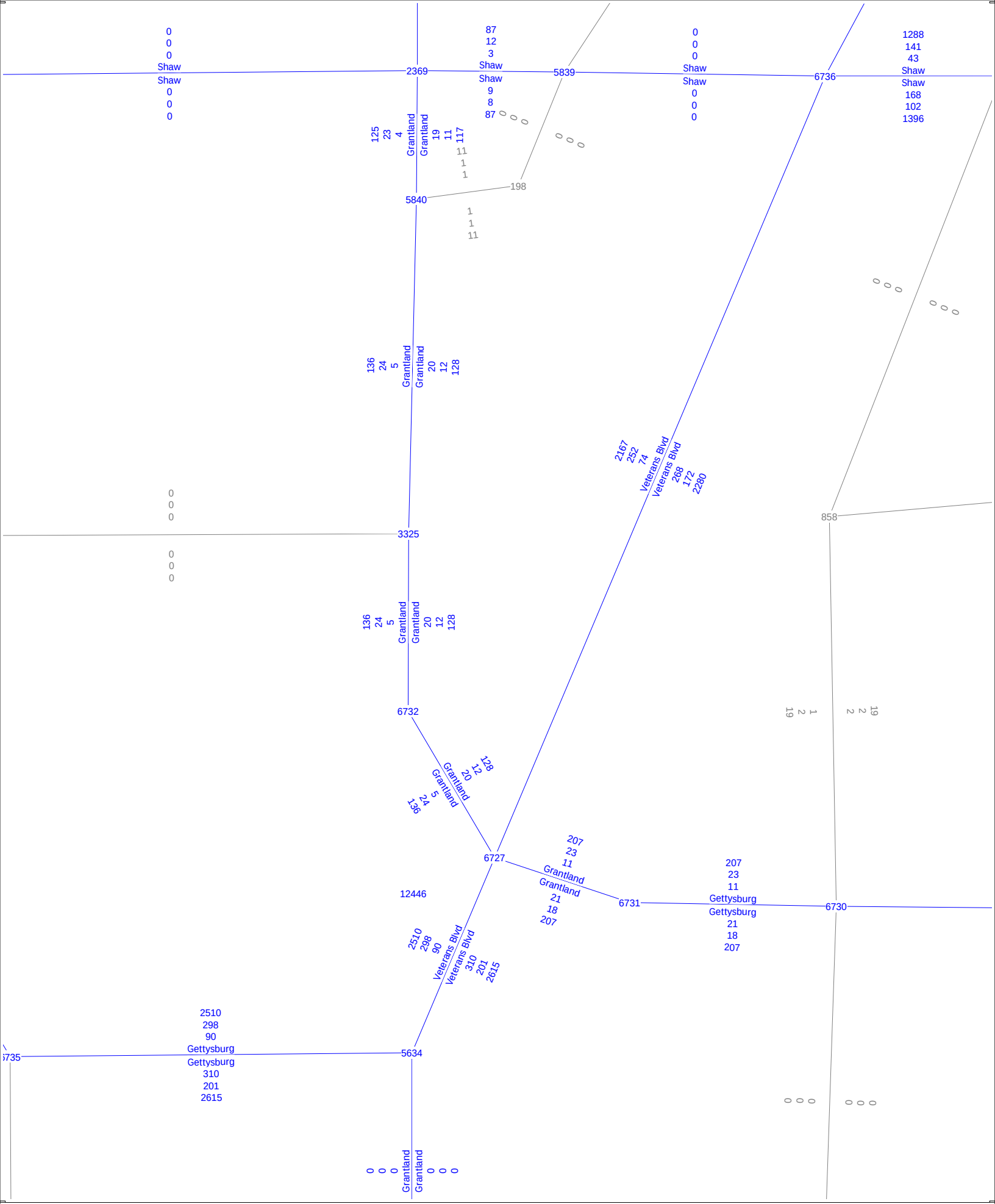
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Project Only Trips
AM, PM and Daily

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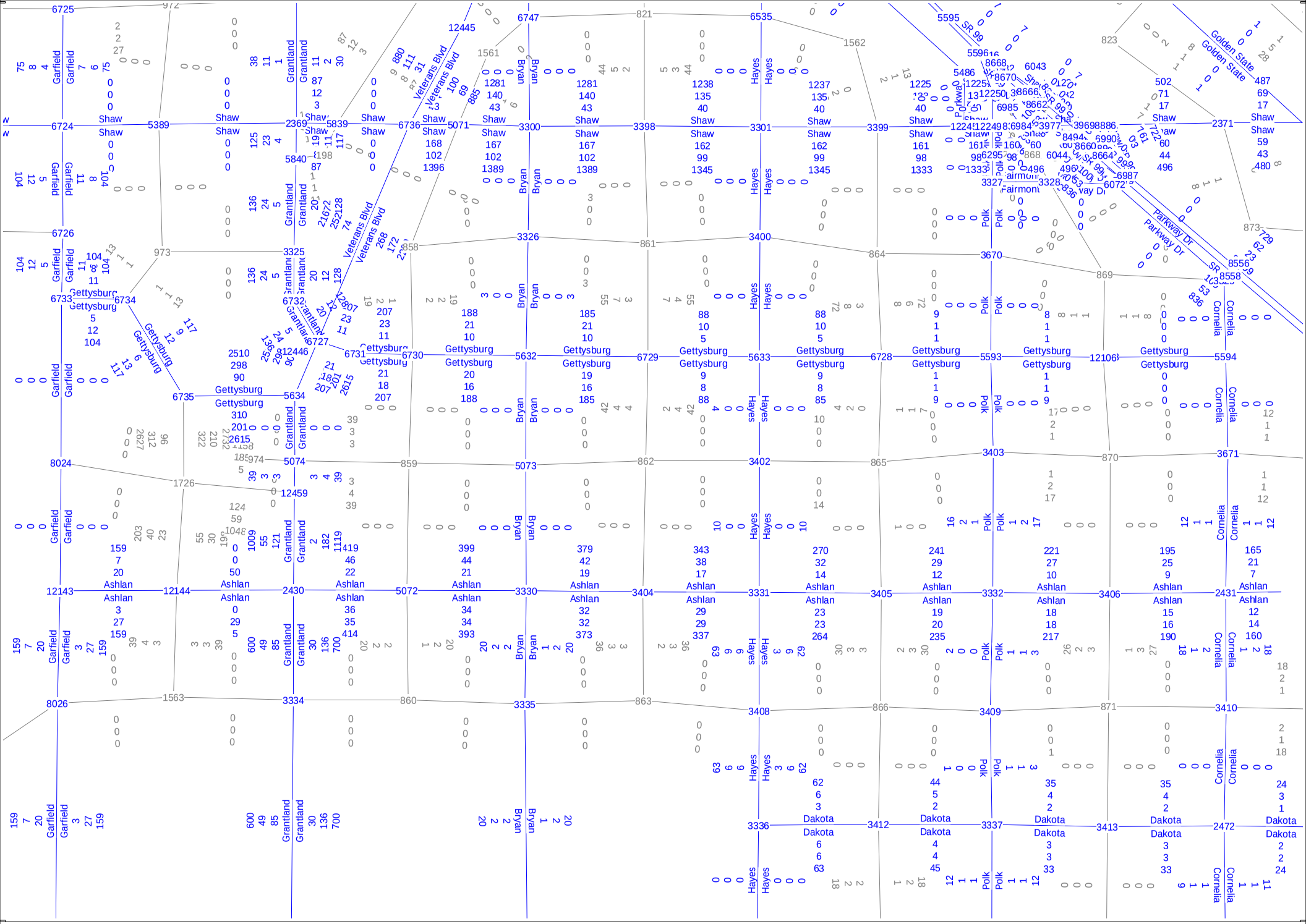
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Project Only Trips
AM, PM, and Daily

cube
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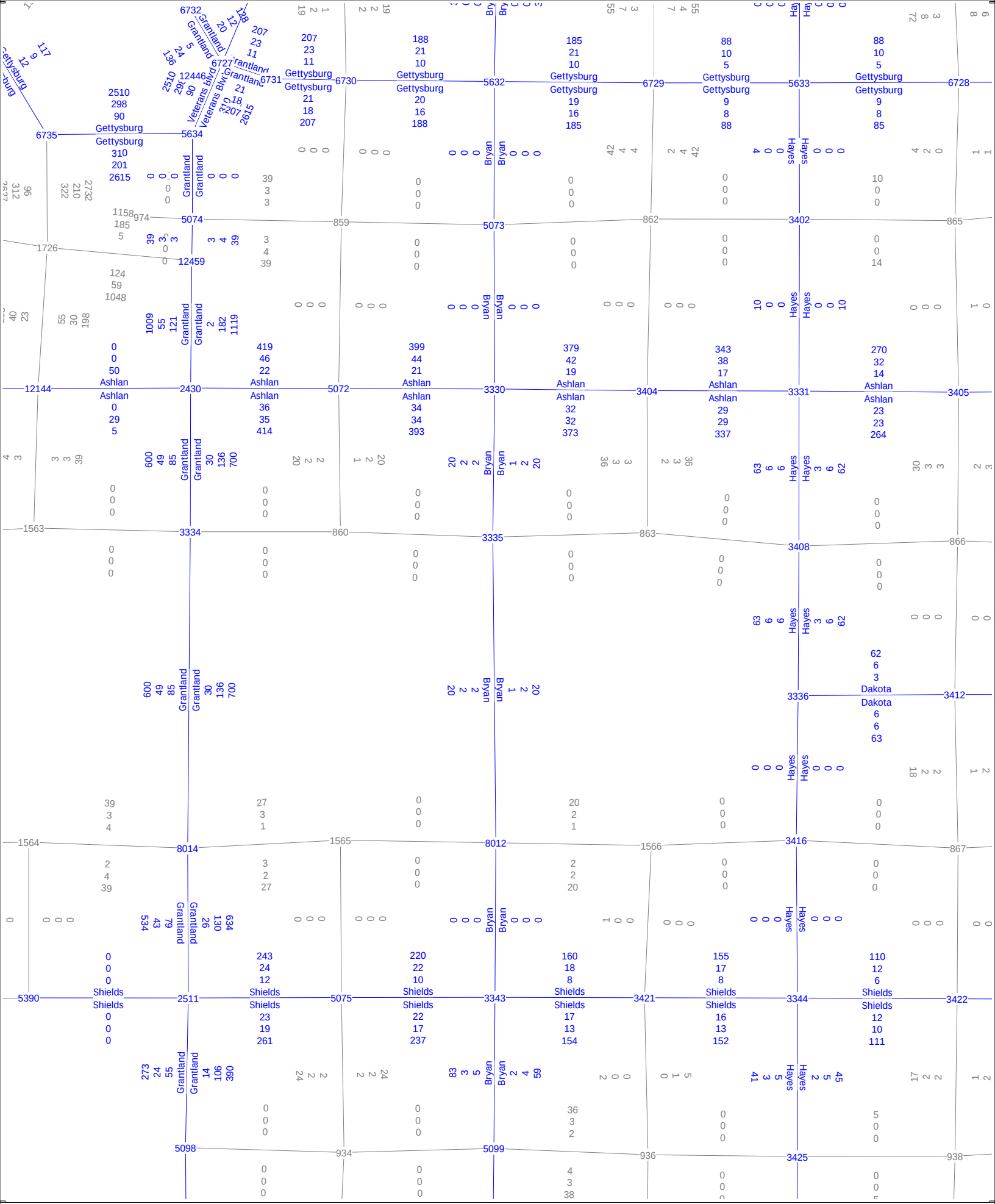
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Project Only Trips
AM, PM, and Daily

cube
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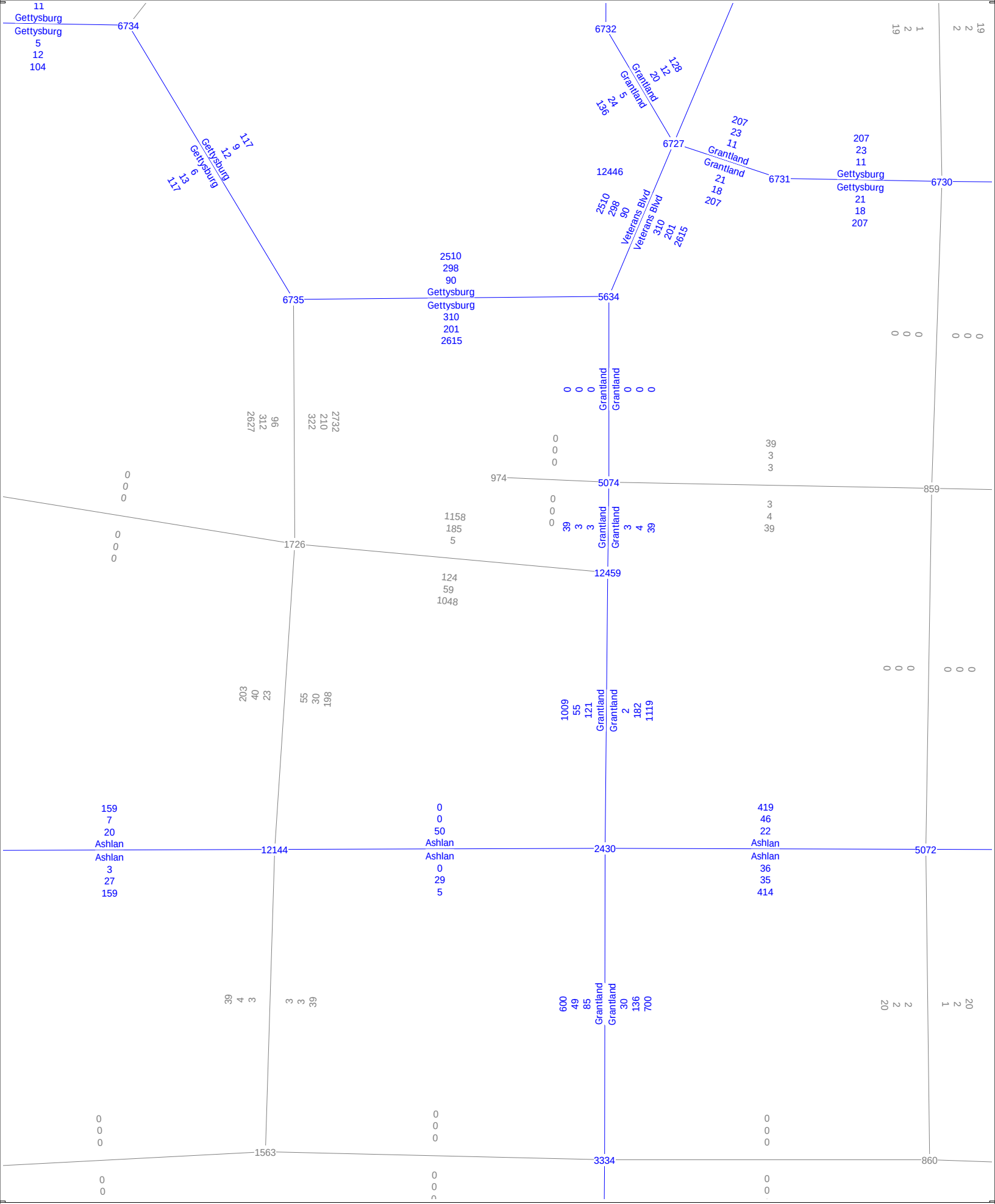
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Project Only Trips
AM, PM, and Daily

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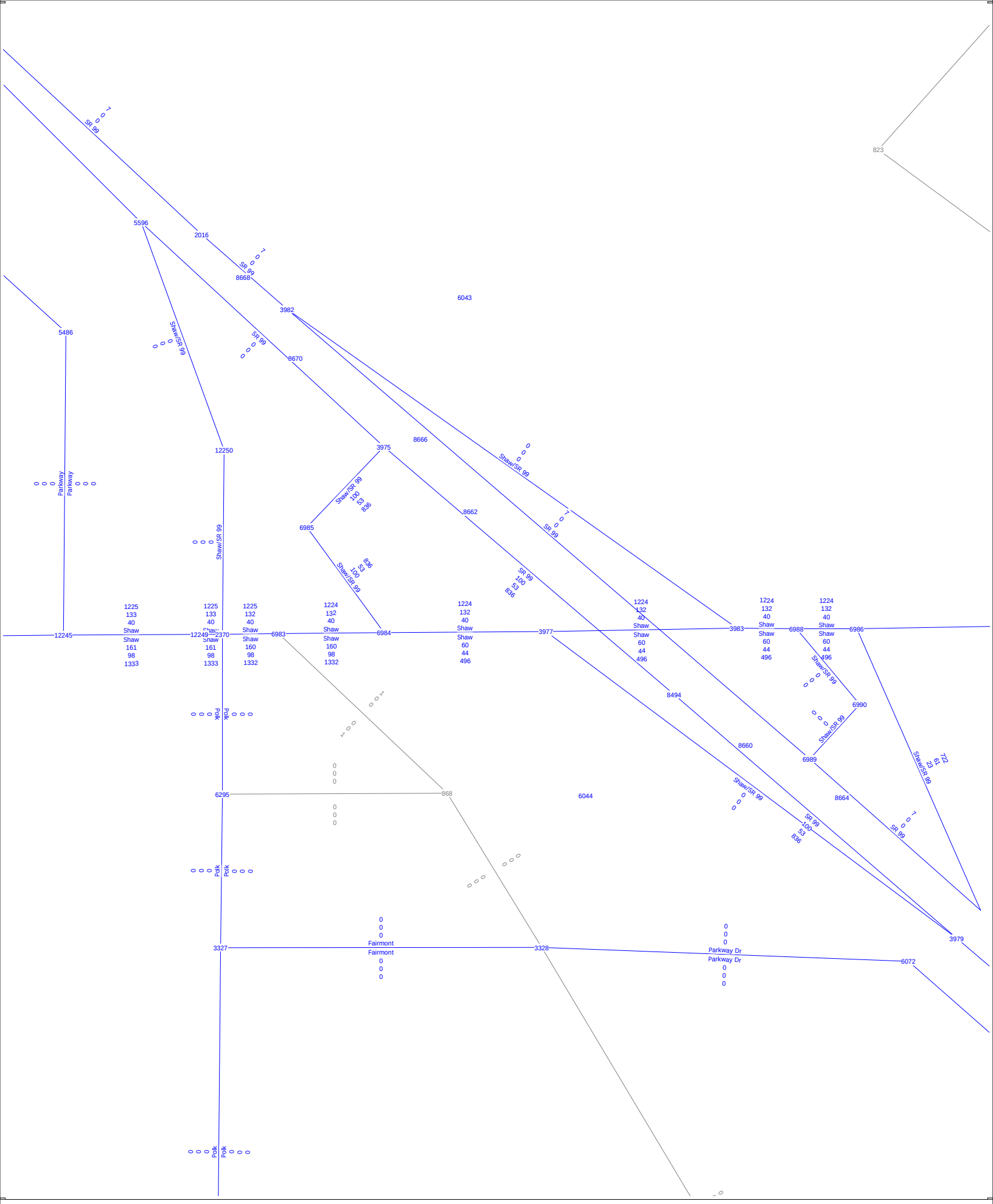
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Project Only Trips
AM, PM, and Daily

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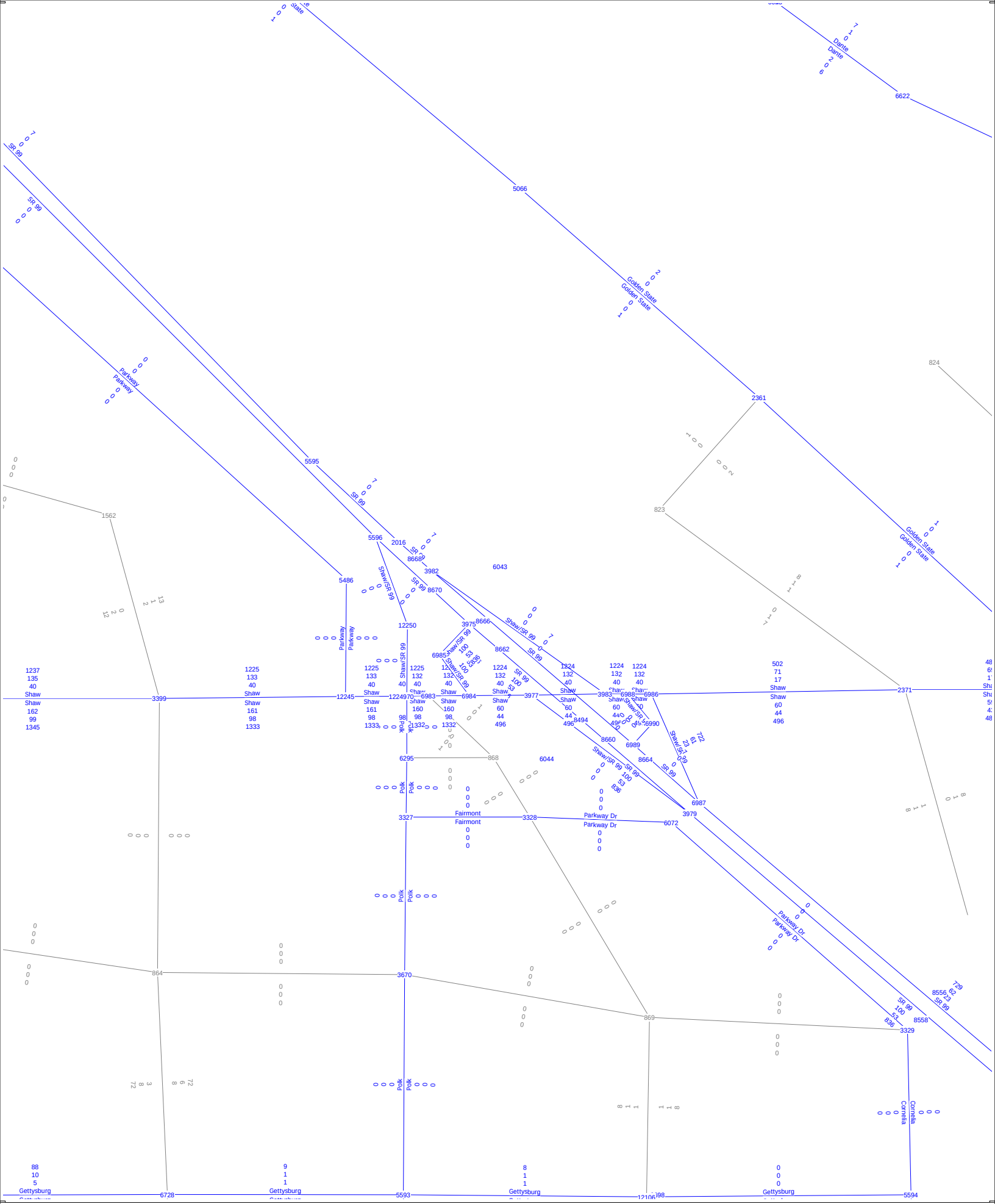
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Project Only Trips
AM, PM, and Daily

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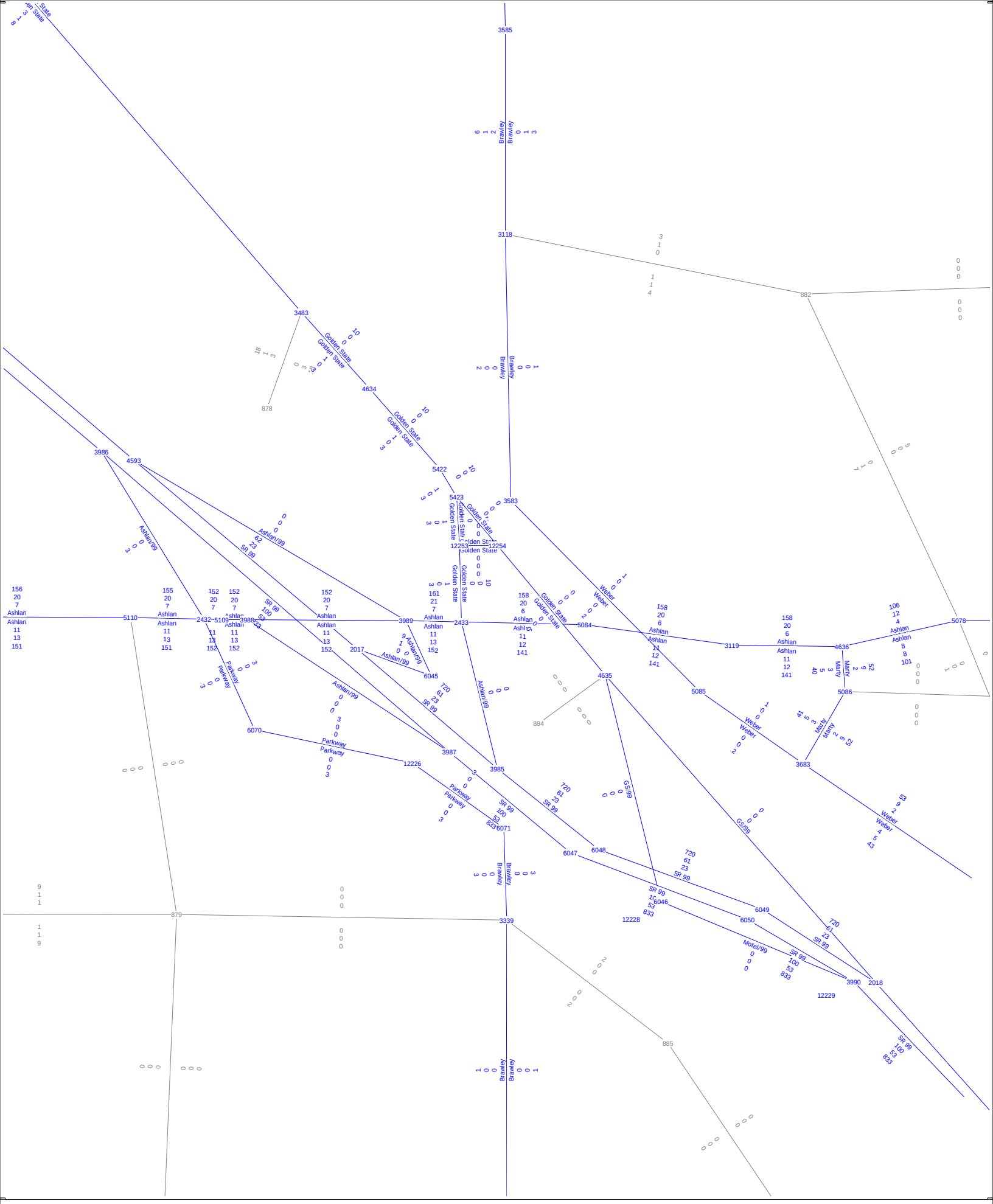
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Project Only Trips
AM, PM, and Daily

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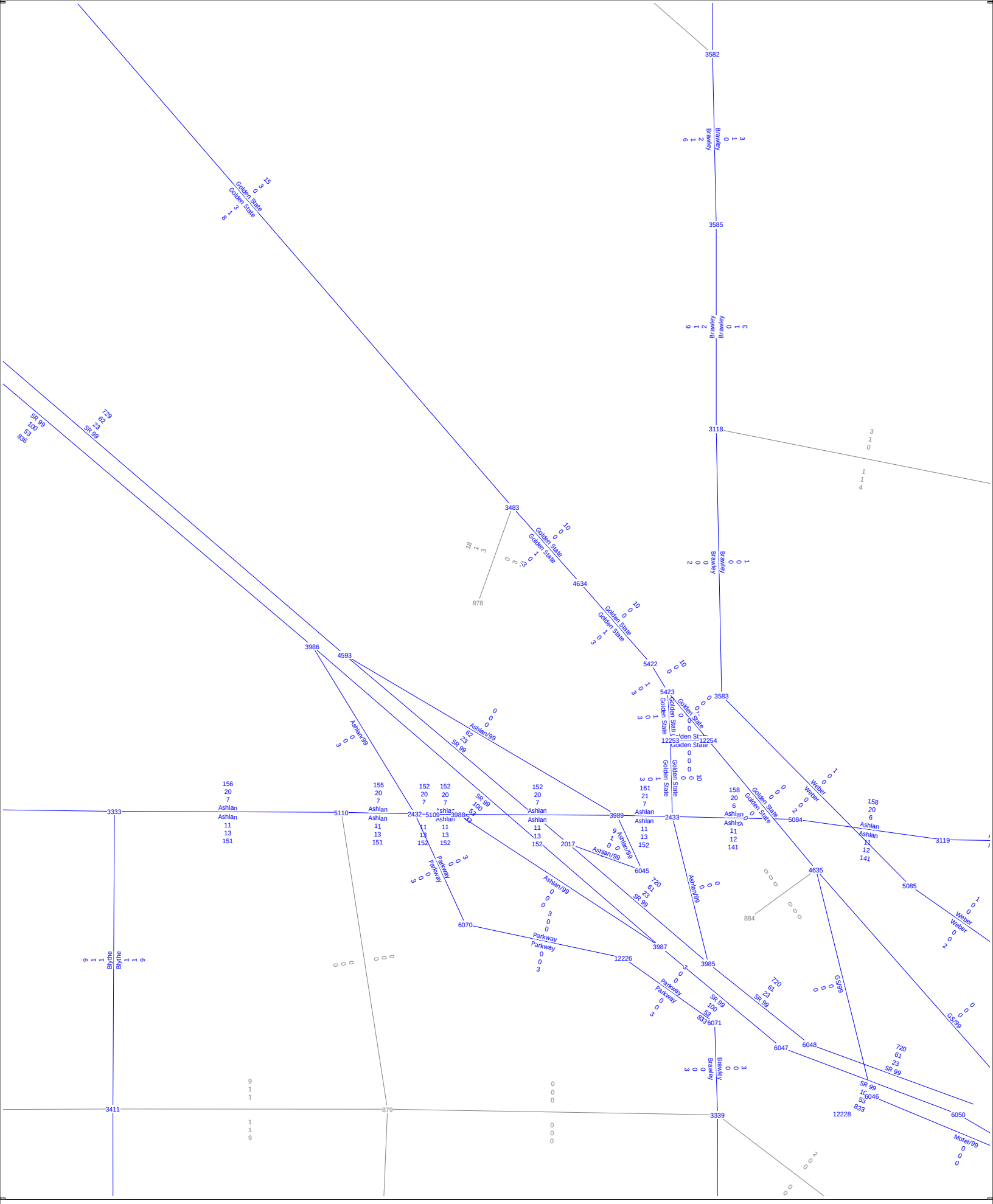
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Project Only Trips
AM, PM, and Daily

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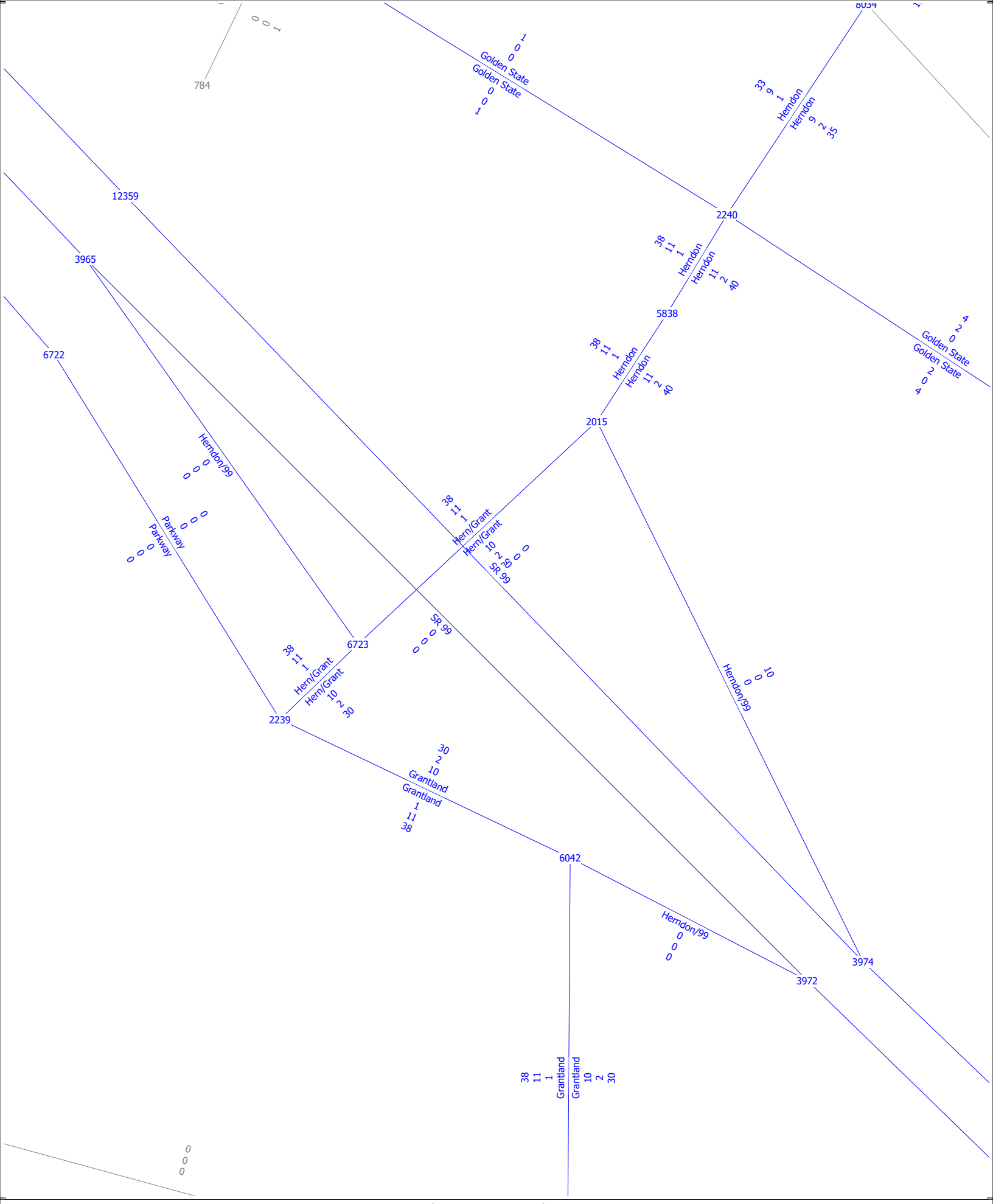
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Project Only Trips
AM, PM, and Daily

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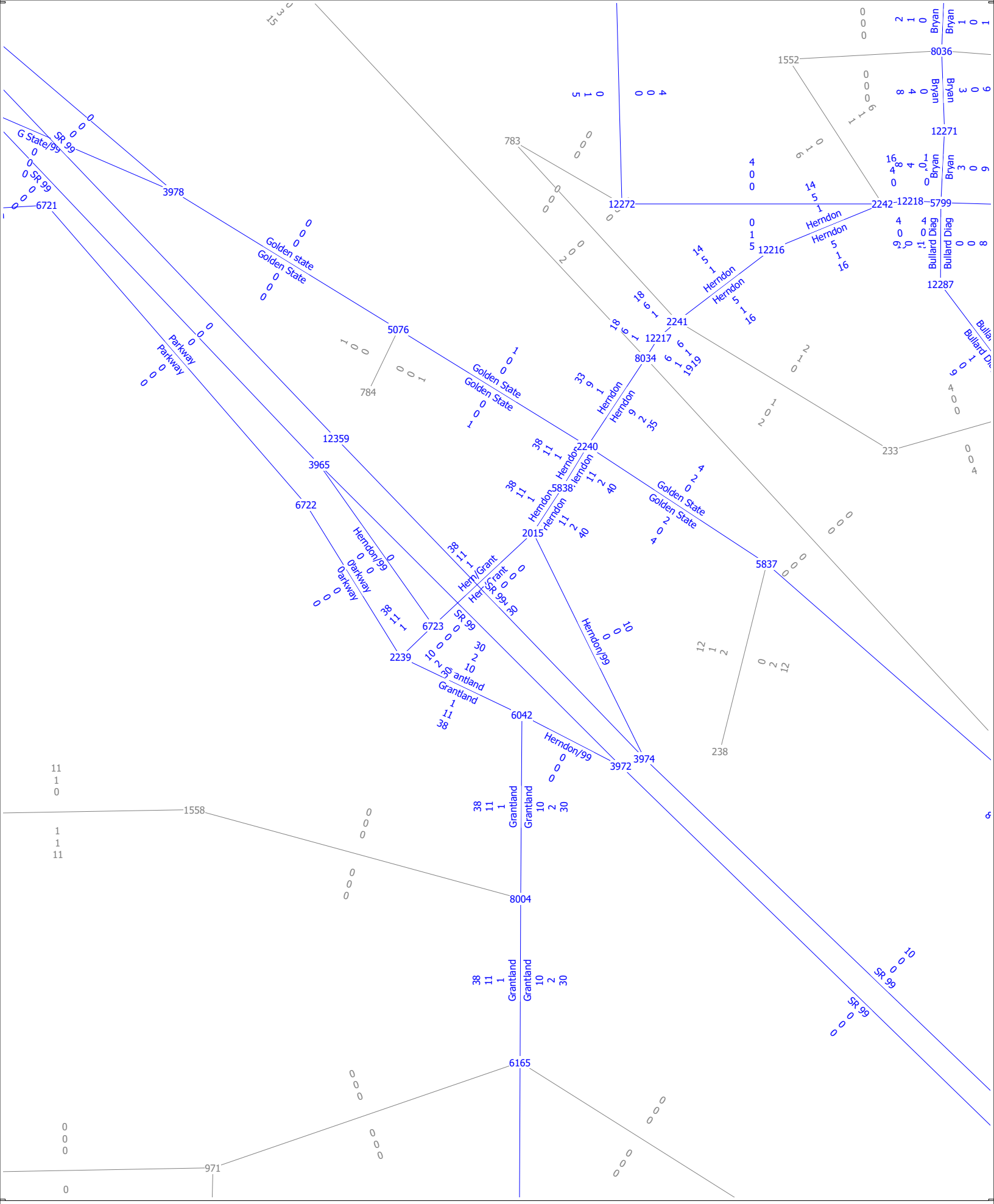
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Project Only Trips
AM, PM, and Daily

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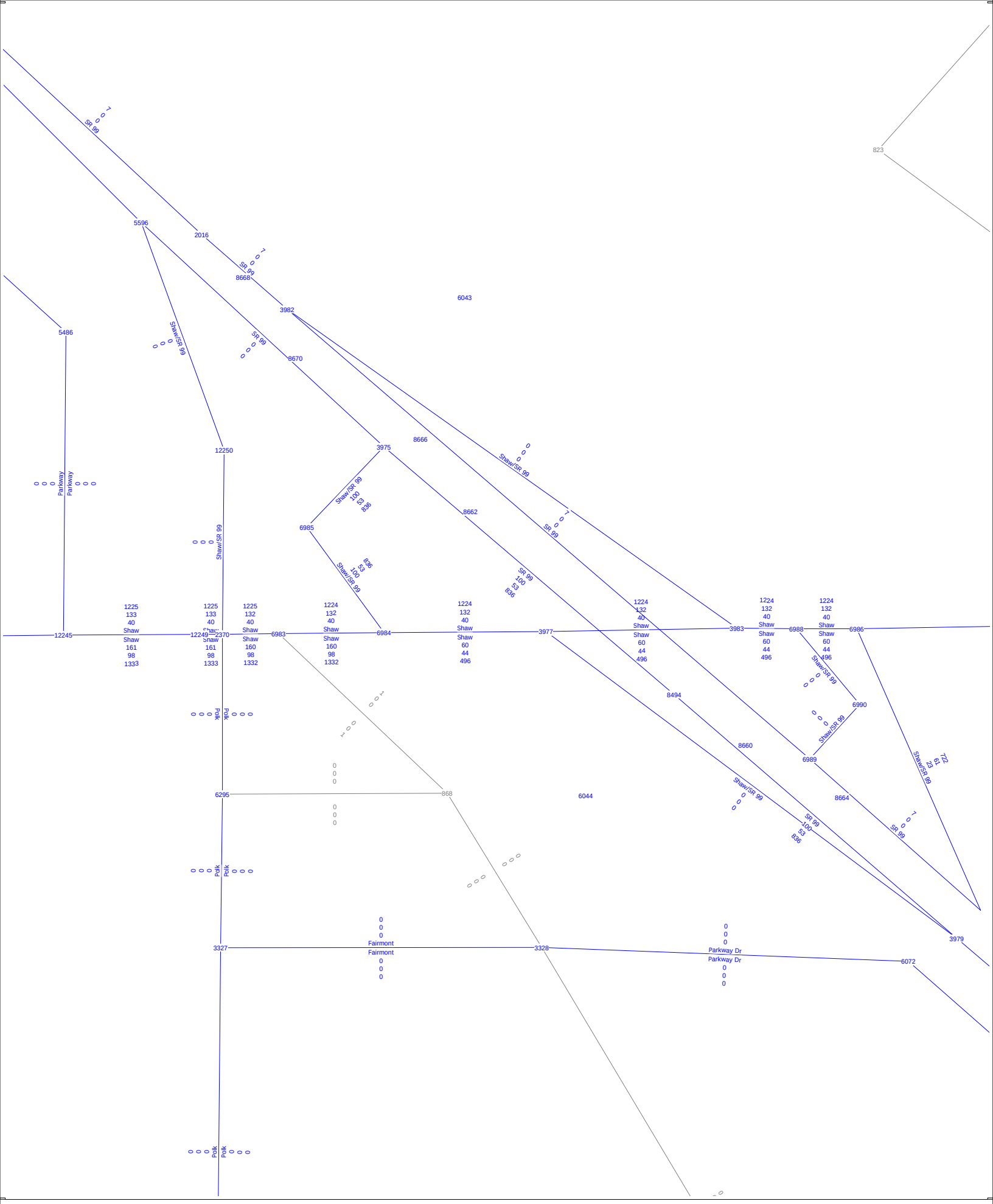


Cumulative Year 2035 Select Zone
Project Only Trips
AM, PM, and Daily

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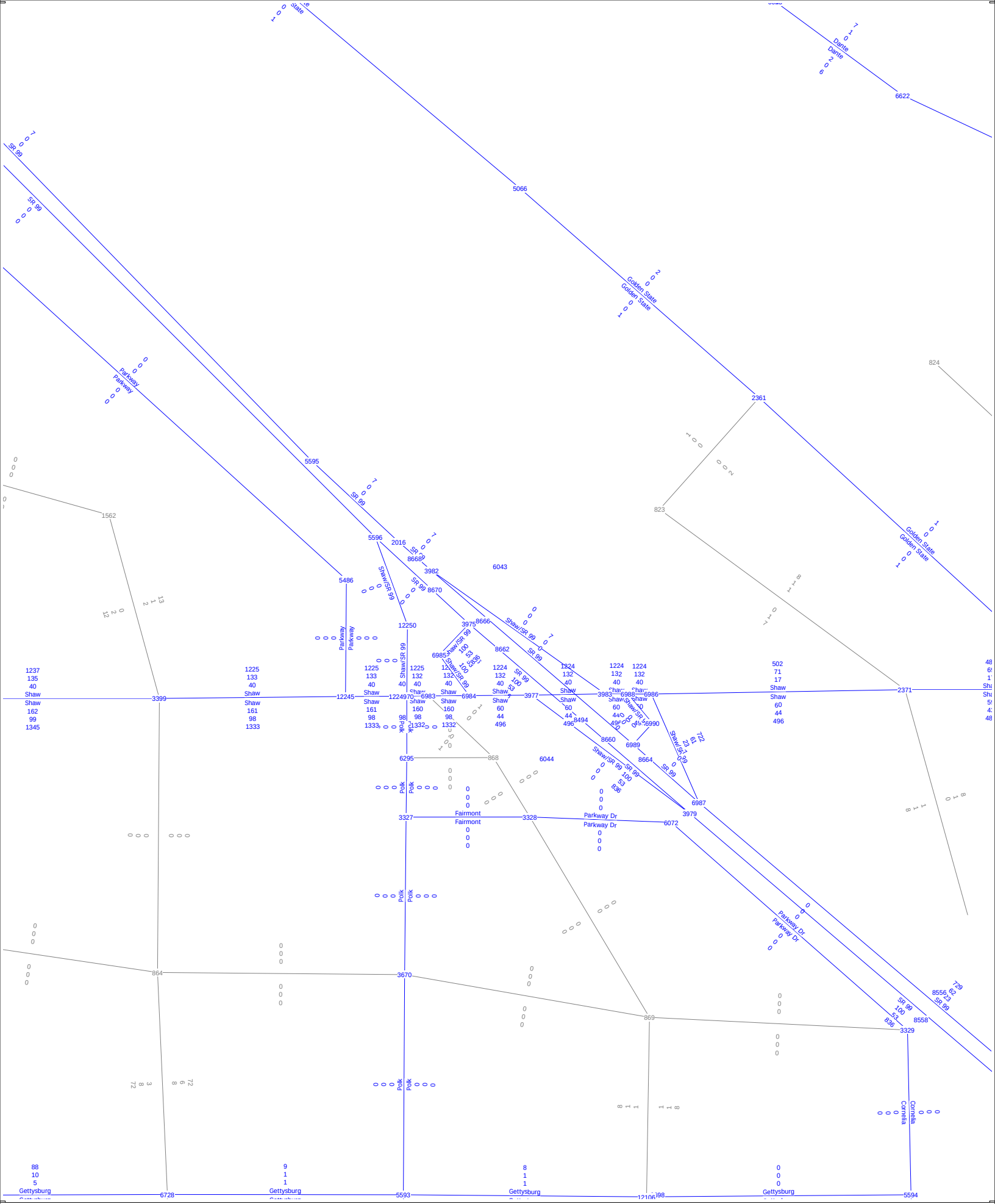


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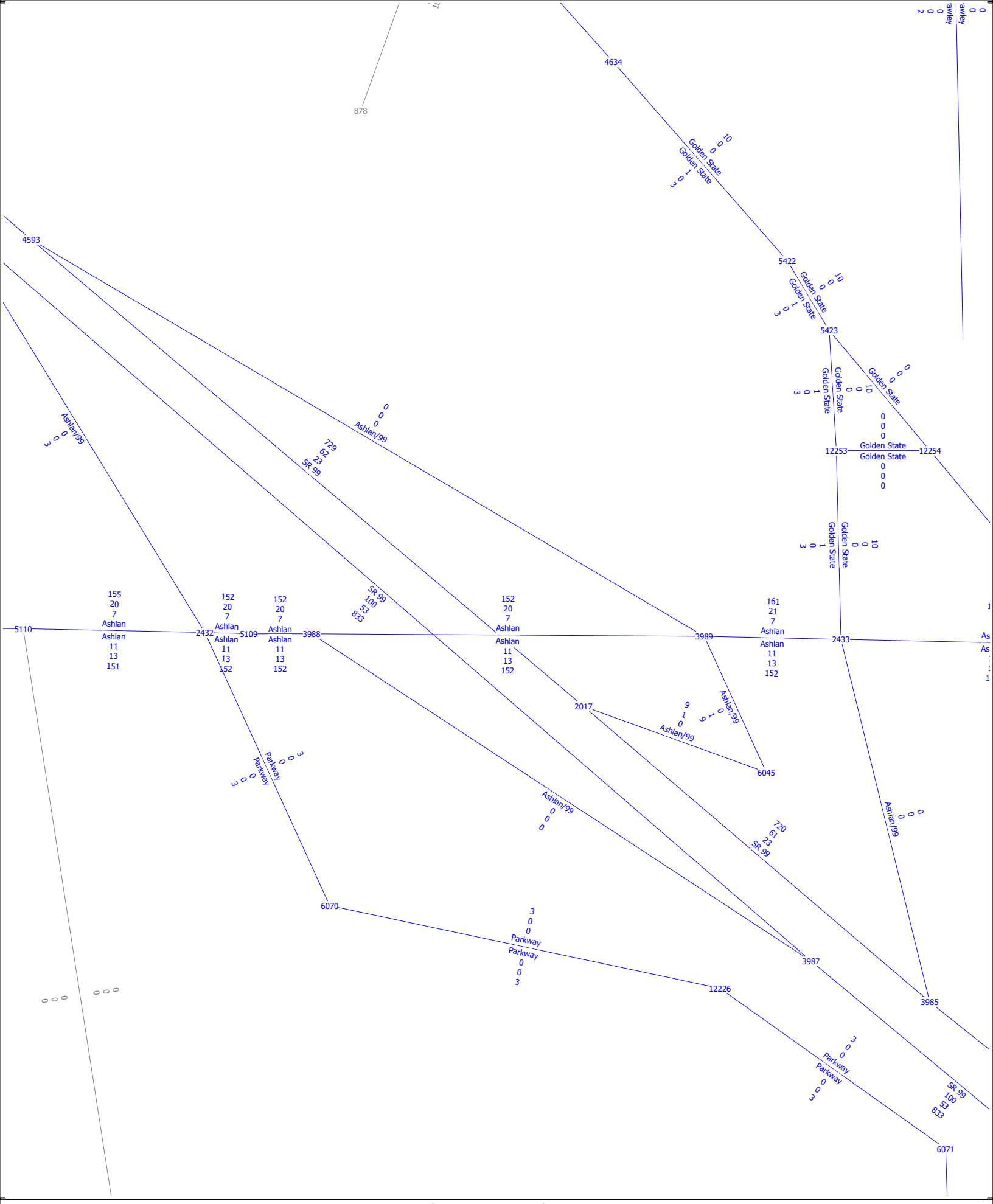
Cumulative Year 2035 Select Zone
Project Only Trips
AM, PM, and Daily

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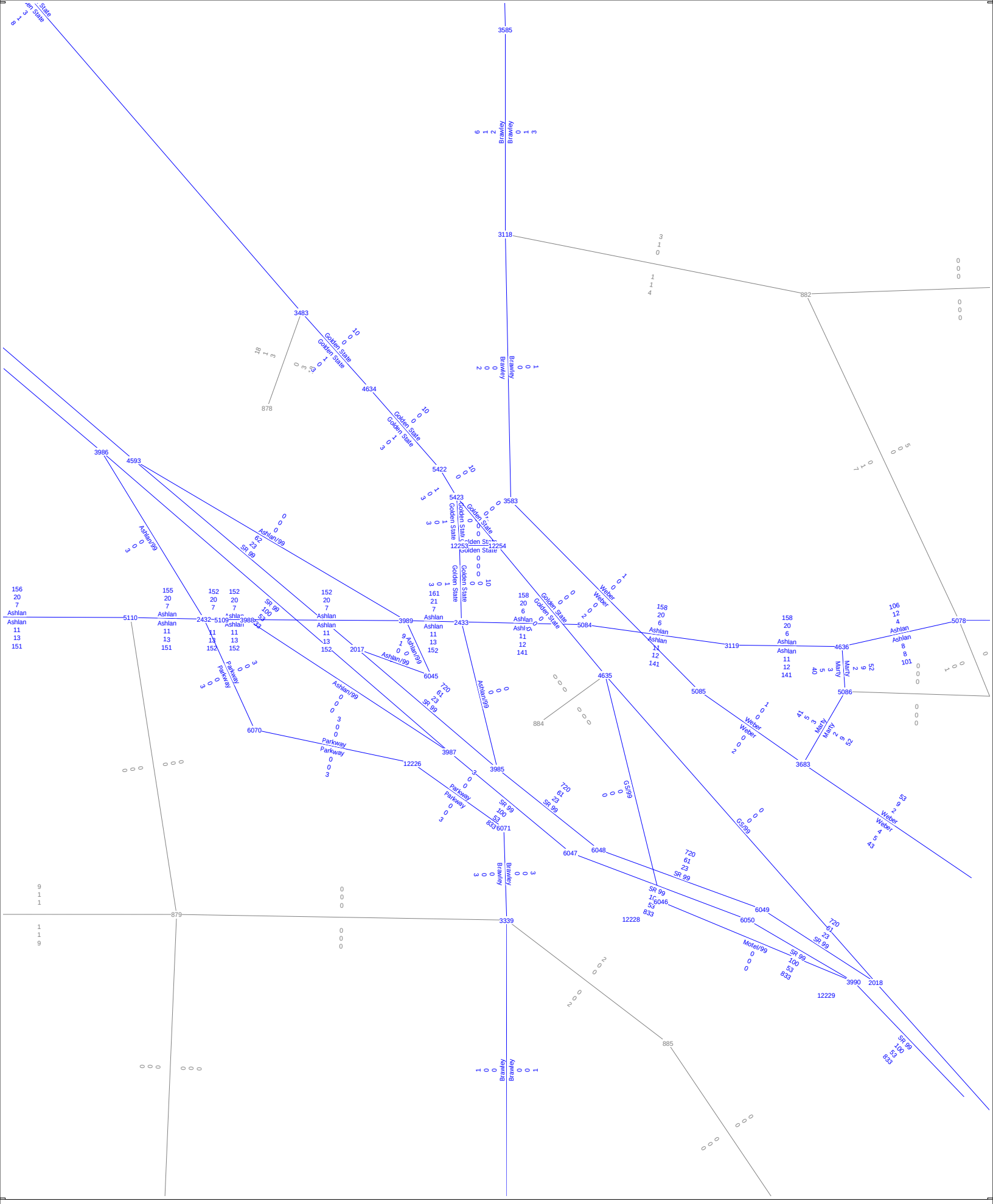
Cumulative Year 2035 Select Zone
Project Only Trips
AM, PM, and Daily

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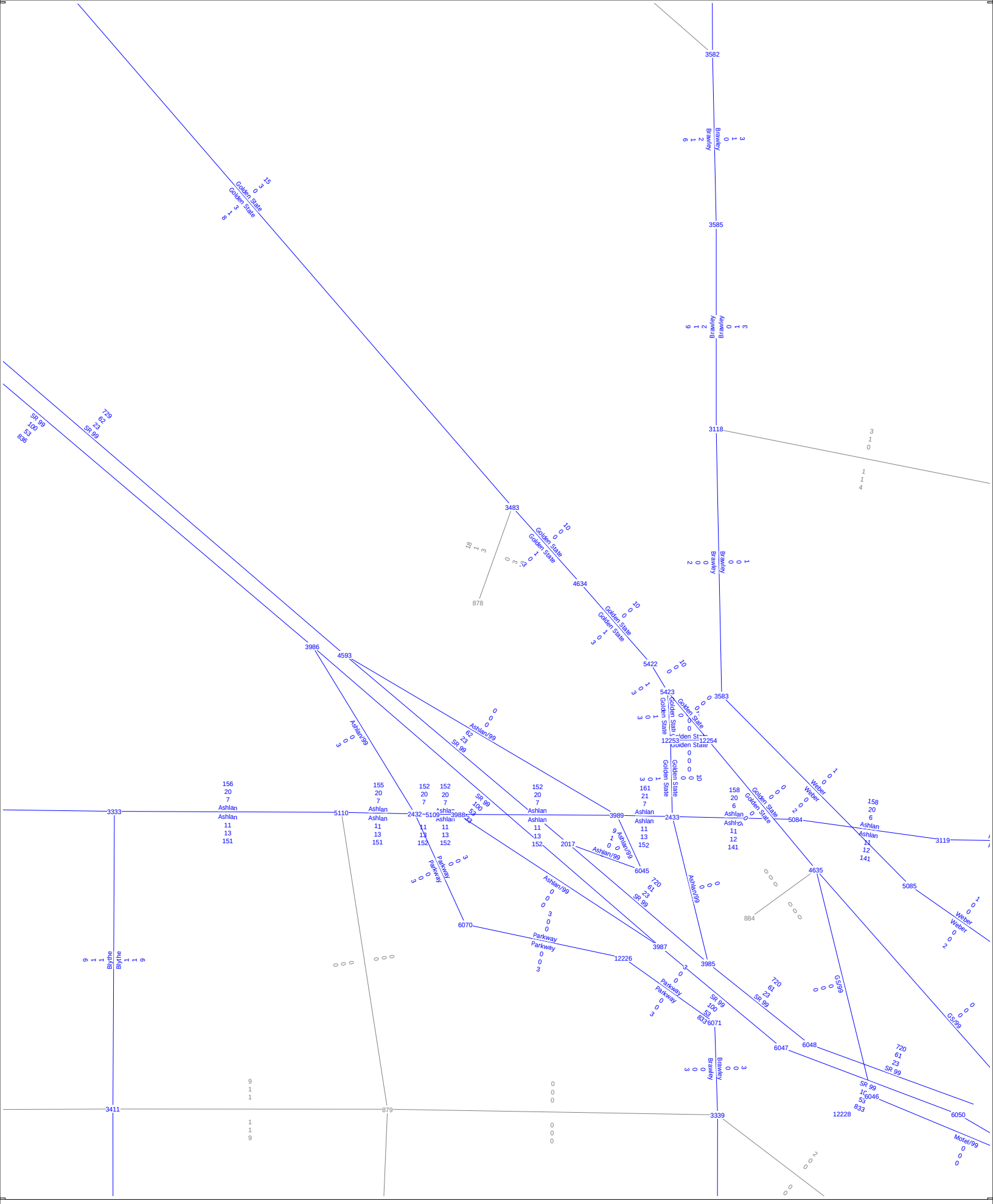
Cumulative Year 2035 Select Zone
Project Only Trips
AM, PM, and Daily

cube
(Licensed to JLB Traffic Engineering Inc)



Cumulative Year 2035 Select Zone
Project Only Trips
AM, PM, and Daily

cube
(Licensed to JLB Traffic Engineering Inc)



Cumulative Year 2035 Select Zone
Project Only Trips
AM, PM, and Daily

cube
(Licensed to JLB Traffic Engineering Inc)

Appendix C: 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 2010 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 a LOS.

Urban Streets (Automobile Mode)

The term "urban streets" refers to urban arterials and collectors, including those in downtown areas. Arterial streets are roads that primarily serve longer through trips. However, providing access to abutting commercial and residential land uses is also an important function of arterials. Collector streets provide both land access and traffic circulation within residential, commercial and industrial areas. Their access function is more important than that of arterials, and unlike arterials their operation is not always dominated by traffic signals. Downtown streets are signalized facilities that often resemble arterials. They not only move through traffic but also provide access to local businesses for passenger cars, transit buses, and trucks. Pedestrian conflicts and lane obstructions created by stopping or standing taxicabs, buses, trucks and parking vehicles that cause turbulence in the traffic flow are typical of downtown streets.

Flow Characteristics

The speed of vehicles on urban streets is influenced by three main factors, street environment, interaction among vehicles and traffic control.

The street environment includes the geometric characteristics of the facility, the character of roadside activity, and adjacent land uses. Thus, the environment reflects the number and width of lanes, type of median, driveway/access point density, spacing between signalized intersections, existence of parking, level of pedestrian and bicyclist activity and speed limit.

The interaction among vehicles is determined by traffic density, the proportion of trucks and buses, and turning movements. This interaction affects the operation of vehicles at intersections and, to a lesser extent, between signals.

Traffic controls (including signals and signs) forces a portion of all vehicles to slow or stop. The delays and speed changes caused by traffic control devices reduce vehicle speeds; however, such controls are needed to establish right-of-way.

Levels of Service (automobile Mode)

The average travel speed for through vehicles along an urban street is the determinant of the operating level of service (LOS). The travel speed along a segment, section or entire length of an urban street is dependent on the running speed between signalized intersections and the amount of control delay incurred at signalized intersections.

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 85 of the base free flow speed (FFS).

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 85 percent of the base FFS.

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.

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, inappropriate signal timing, at the boundary intersections. The travel speed is between 40 and 50 percent of the base FFS.

LOS E is characterized unstable operation and significant delay. Such operations may be due to some combination of adverse progression, high volume, and inappropriate signal timing at the boundary intersections. The travel speed is between 30 and 40 percent of the base FFS.

LOS F is characterized by street 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.

Table A-1: Urban Street Levels of Service (Automobile Mode)

Travel Speed as a Percentage of Base Free-Flow Speed (%)	LOS by Critical Volume-to-Capacity Ratio[a]	
	≤1.0	>1.0
>85	A	F
>67 to 85	B	F
>50 to 67	C	F
>40 to 50	D	F
>30 to 40	E	F
≤30	F	F

a = The Critical volume-to-capacity ratio is based on consideration of the through movement-to-capacity ratio at each boundary intersection in the subject direction of travel. The critical volume-to-capacity ratio is the largest ratio of those considered.
Source: Highway Capacity Manual 2010, Exhibit 16-4. Urban Street LOS Criteria (Automobile Mode)

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 and yield signs.

Signalized Intersections – Performance Measures

For signalized intersections the performance measures include automobile volume-to-capacity ratio, automobile delay, queue storage length, ratio of pedestrian delay, pedestrian circulation area, pedestrian perception score, bicycle delay, and bicycle perception score. LOS is also considered a performance measure. For the automobile mode average control delay per vehicle per approach is determined for the peak hour. A weighted average of control delay per vehicle is then determined for the intersection. A LOS designation is given to the weighted average control delay to better describe the level of operation. A description of LOS for signalized intersections is found in Table A-2.

Table A-2: Signalized Intersection Level of Service Description (Automobile 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 volume-to-capacity ratio is 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. This level is typically assigned when 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 i ndividual 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

Source: Highway Capacity Manual 2010

Unsignalized Intersections

The HCM 2010 procedures use control delay as a measure of effectiveness to determine level of service. Delay is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, i. e., in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Control delay is the increased time of travel for a vehicle approaching and passing through an unsignalized intersection, compared with a free-flow vehicle if it were not required to slow or stop at the intersection.

All-Way Stop Controlled Intersections

All-way stop controlled intersections is a form of traffic controls in which all approaches to an intersection are required to stop. Similar to signalized intersections, at all-way stop controlled intersections the average control delay per vehicle per approach is determined for the peak hour. A weighted average of control delay per vehicle is then determined for the intersection as a whole. In other words the delay measured for all-way stop controlled intersections is a measure of the average delay for all vehicles passing through the intersection during the peak hour. A LOS designation is given to the weighted average control delay to better describe the level of operation.

Two-Way Stop Controlled Intersections

Two-way stop controlled (TWSC) intersections in which stop signs are used to assign the right-of-way, are the most prevalent type of intersection in the United States. At TWSC intersections the stop-controlled approaches are referred as the minor street approaches and can be either public streets or private driveways. The approaches that are not controlled by stop signs are referred to as the major street approaches.

The capacity of movements subject to delay are determined using the "critical gap" method of capacity analysis. Expected average control delay based on movement volume and movement capacity is calculated. A LOS for TWSC intersection is determined by the computed or measured control delay for each minor movement. LOS is not defined for the intersection as a whole for three main reasons: (a) major-street through vehicles are assumed to experience zero delay; (b) the disproportionate number of major-street through vehicles at the typical TWSC intersection skews the weighted average of all movements, resulting in a very low overall average delay from all vehicles; and (c) the resulting low delay can mask important LOS deficiencies for minor movements. Table A-3 provides a description of LOS at unsignalized intersections.

Table A-3: Unsignalized 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

Source: HCM 2010 Exhibit 19-1.

Appendix D: Collision Data

Primary Rd **SAFFORD AV** *Distance (ft)* **150** *Direction* **S** *Secondary Rd* **BELLAIRE WY** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **18860** *Collision Date* **20130118** *Time* **0527** *Day* **FRI**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20140624**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **PKD 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	32	M	W	HNBD		UNS TURN	N	A	0100	FORD	2007	-	3	N		-	M	G
2	PRKD	998	-				PARKED	-	A	0100	NISSA	2006	-	-	N		-	-	-
3	PRKD	998	-				PARKED	S	A	0100	VOLKS	2012	-	-	N		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **SHAW AV** *Distance (ft)* **1056** *Direction* **E** *Secondary Rd* **GOLDENROD AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **017052** *Collision Date* **20131210** *Time* **1905** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20141224**
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 - 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	40	F	H	HNBD		PROC ST	E	A	0100	DODGE	2003	-	3	N		-	M	G
2	PRKD	998	-				PARKED	E	G	2531	-		-	-	N		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		19	F	3	0	M	G

Primary Rd **SHAW AV** *Distance (ft)* **2** *Direction* **W** *Secondary Rd* **GRANTLAND AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **018574** *Collision Date* **20131007** *Time* **1640** *Day* **MON**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **HEAD-ON** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20140421**
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	23	M	H	HNBD		PROC ST	W	A	0100	HONDA	2003	-	3	J		-	L	G
2	DRVR	37	F	W	HNBD		STOPPED	E	A	0700	KIA	2013	-	3	N		-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	SEVERE	23	M	1	0	L	G
DRVR	COMP PN	37	F	1	0	L	G

Primary Rd **SHAW AV** *Distance (ft)* **1056** *Direction* **W** *Secondary Rd* **ROLINDA AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **18934** *Collision Date* **20130804** *Time* **1840** *Day* **SUN**
Primary Collision Factor **NOT STATED** *Violation* *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20140324**
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	25	M	H	HBD-UI		PROC ST	E	D	2200	CADIL	2002	-	3	N		-	M	G
2	DRVR	35	M	H	HNBD		BACKING	E	-	- 00	FORD	2007	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	35	M	1	0	M	G
PASS		18	M	3	0	L	G

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **RT 99** *NCIC* **1005** *State Hwy?* **Y** *Route* **99** *Postmile Prefix* **-** *Postmile* **28.318** *Side of Hwy* **N**
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* *Type* **0** *CalTrans* **6** *Badge* **00001** *Collision Date* **20130406** *Time* **0040** *Day* **SAT**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20150115**
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* **R** *Ramp/Int* **4**

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	35	M	W	HBD-UI		LFT TURN	E	A	0700	KIA	2008	-	3	A	21801	-	M	G
2	DRVR	19	M	H	HNBD		PROC ST	W	A	0100	PONTI	2001	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd **WEST HERNDON AV** *Distance (ft)* **1323** *Direction* **E** *Secondary Rd* **NORTH WEST AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW125** *Beat* **00B** *Type* **0** *CalTrans* *Badge* **P1468** *Collision Date* **20130111** *Time* **0011** *Day* **FRI**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **SIDESWIPE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20150106**
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* **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	34	M	H	HBD-UI		PROC ST	W	A	0700	FORD	2001	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	34	M	1	0	M	G

Primary Rd **WEST MCKINLEY AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N PLEASANT AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **SW235** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P1119** *Collision Date* **20130326** *Time* **1848** *Day* **TUE**
Primary Collision Factor **NOT STATED** *Violation* *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20150106**
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
1	DRVR	20	M	B	HNBD		LFT TURN	W	A	0100	HYUND	1994	-	3	N		-	P	E
2	DRVR	33	F	B	HNBD		PROC ST	E	A	0100	FORD	1997	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	20	M	1	0	P	E
DRVR	COMP PN	33	F	1	0	M	G

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **BRAWLEY AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1647** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **727** *Collision Date* **20130123** *Time* **1859** *Day* **WED**
Primary Collision Factor **R-O-W AUTO** *Violation* **21453B** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20150106**
Weather1 **CLOUDY** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PED** *Lighting* **DARK - ST** *Ped Action* **X-WLK AT** *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	49	M	W	HNBD		RGT TURN	W	A	0100	FORD	2012	-	3	N		-	M	G
2	PED	58	M	W	HNBD		PROC ST	S	N	6000	-	-	-	3	N		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PED	COMP PN	58	M	0	0	P	

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **HWY 99** *NCIC* **1005** *State Hwy?* **Y** *Route* **99** *Postmile Prefix* **-** *Postmile* **27.911** *Side of Hwy* **S**
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW164** *Beat* **00C** *Type* **0** *CalTrans* **6** *Badge* **P827** *Collision Date* **20130309** *Time* **1230** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20150106**
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* *Loc Type* **R** *Ramp/Int* **4**

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	E	A	0100	CHEVR		-	-	A	22350	-	-	-
2	DRVR	76	M	W			PROC ST	E	A	0100	TOYOT	2008	-	3	N		-	M	E
3	DRVR	29	F	O	IMP UNK	IMP UNK	STOPPED	E	A	0100	HONDA	2007	-	3	N		-	M	E

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	76	M	1	0	M	G

Primary Rd **WEST SHAW AV** *Distance (ft)* **600** *Direction* **E** *Secondary Rd* **N BRAWLEY** *NCIC* **1005** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW164** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P827** *Collision Date* **20130112** *Time* **1453** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20150106**
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	38	F	H	HNBD		PROC ST	W	A	0100	FORD	1994	-	3	A	21706	N	L	G
2	DRVR	34	F	H	HNBD		STOPPED	W	A	0100	TOYOT		-	3	N		-	M	E
3	DRVR	998	-				STOPPED	W	A	0100	-		-	-	-		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	38	F	1	0	L	E
PASS		14	M	3	0	M	E

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Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N FELAND AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1649** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **P1306** *Collision Date* **20130219** *Time* **1857** *Day* **TUE**
Primary Collision Factor **PED VIOL** *Violation* **21950B** *Collision Type* **AUTO/PED** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20150106**
Weather1 **RAINING** *Weather2* *Rdwy Surface* **WET** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PED** *Lighting* **DARK - ST** *Ped Action* **X-WLK AT** *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	53	F	W	HNBD		LFT TURN	W	A	0100	DODGE	2003	-	3	N	-	M	G
2	PED	57	F	H	HNBD		-	-	N	6000	-	-	-	3	-	-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PED	OTH VIS	57	F	1	0	N	P

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N POLK AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW164** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P927** *Collision Date* **20130315** *Time* **1236** *Day* **FRI**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20150107**
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	39	F	H	HNBD		RGT TURN	W	A	0100	CHEVR	2001	-	3	N	-	-	-
2	DRVR	35	F	W	HNBD		PROC ST	W	A	0100	BMW	2002	-	3	N	-	P	W

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	35	M	1	0	P	W

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N VALENTINE AVE** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW164** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P804** *Collision Date* **20130127** *Time* **1421** *Day* **SUN**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20150112**
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	30	M	W			PROC ST	W	A	0100	CHEVR	1996	-	-	-	-	L	G
2	DRVR	38	M	W			PROC ST	N	A	0100	LEXUS	2007	-	-	-	-	L	G
3	DRVR	41	M	H			STOPPED	S	A	0100	HYUND	2011	-	-	-	-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		998	M	3	3	L	G
DRVR	COMP PN	38	M	1	3	L	G
PASS		13	F	3	3	M	G

Primary Rd **WEST SHAW AV** *Distance (ft)* **5** *Direction* **E** *Secondary Rd* **N VALENTINE AVE** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW164** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **P835** *Collision Date* **20130128** *Time* **0843** *Day* **MON**
Primary Collision Factor **NOT STATED** *Violation* *Collision Type* **AUTO/PED** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20150107**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PED** *Lighting* **DAYLIGHT** *Ped Action* **X-WLK AT** *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	28	F	W	HNBD		LFT TURN	E	A	0100	HONDA	2007	-	3	E	-	M	G
2	PED	74	M	B		null		N	N	6000	-	-	-	-	-	-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PED	COMP PN	74	M	9	0	P	-

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **NORTH PALM AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW165** *Beat* **00E** *Type* **0** *CalTrans* *Badge* **P850** *Collision Date* **20130121** *Time* **1238** *Day* **MON**
Primary Collision Factor **UNKNOWN** *Violation* *Collision Type* **OTHER** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20150107**
Weather1 **CLOUDY** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER 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
1	DRVR	51	M	H	HNBD		PROC ST	W	C	0200	SUZUK	2007	-	3	N	-	-	W

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	51	M	1	0	P	W

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Primary Rd **N GOLDEN STATE** *Distance (ft)* **0** *Direction* *Secondary Rd* **SHAW AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **FresnoBL** *County* **Fresno** *Population* **7** *Rpt Dist* **NW174** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1265** *Collision Date* **20140919** *Time* **2022** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160317**
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* **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
1	DRVR	18	M	W	HNBD		STOPPED	E	A	0100	CHEVR	2011	-	-	-	-	-	-
2F	DRVR	998	M	W			PROC ST	W	A	0800	TOYOT		-	-	N	-	M	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **N GOLDEN STATE** *Distance (ft)* **165** *Direction* **S** *Secondary Rd* **W SWIFT AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **FresnoBL** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P880** *Collision Date* **20140914** *Time* **0230** *Day* **SUN**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152B** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160125**
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* **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	26	F	H	HBD-UI		RAN OFF RD	S	A	0100	HYUND	2013	-	1	A	21651	M	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	26	F	1	0	L	G

Primary Rd **N GOLDEN STATE** *Distance (ft)* **78** *Direction* **N** *Secondary Rd* **WEST ASHLAN AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **FresnoBL** *County* **Fresno** *Population* **7** *Rpt Dist* **1341** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1036** *Collision Date* **20140518** *Time* **0020** *Day* **SUN**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160317**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *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	998	-				RGT TURN	N	-	0000	-		-	-	A	20002	-	-	-
2	PRKD	998	-				PARKED	-	A	0100	CHEVR	1984	-	-	-	-	-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **N GOLDEN STATE** *Distance (ft)* **726** *Direction* **S** *Secondary Rd* **WEST AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **FresnoBL** *County* **Fresno** *Population* **7** *Rpt Dist* **SW235** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P774** *Collision Date* **20140117** *Time* **2500** *Day* **FRI**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160411**
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* **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	45	M	B			RGT TURN	S	J	4800	DODGE	2009	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **N GOLDEN STATE** *Distance (ft)* **0** *Direction* *Secondary Rd* **WEST MCKINLEY** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **FresnoBL** *County* **Fresno** *Population* **7** *Rpt Dist* **SW235** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P1123** *Collision Date* **20140123** *Time* **1054** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **N** *Process Date* **20160120**
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	18	M	H	HNBD		LFT TURN	S	-	0000	TOYOT	2011	-	3	N	-	G	-
2	DRVR	72	M	A	HNBD		PROC ST	N	-	0000	BMW	1995	-	3	N	-	G	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	72	M	1	0	G	-
PASS	COMP PN	69	F	3	0	G	-

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Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **RT 99** *NCIC* **1005** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1847** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **PC280** *Collision Date* **20141101** *Time* **1215** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160202**
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	-		IMP UNK	IMP UNK	LFT TURN	W	A	0100	HONDA	2002	-	N		-	M B
2	DRVR	52	F	H	IMP UNK	IMP UNK	LFT TURN	W	A	0100	HONDA	2012	-	N		-	M B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST AV** *Distance (ft)* **433** *Direction* **N** *Secondary Rd* **ASHLAN AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **2G** *Beat* **1951** *Type* **0** *CalTrans* *Badge* **P774** *Collision Date* **20140804** *Time* **1433** *Day* **MON**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160217**
Weather1 **CLOUDY** *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
1	DRVR	24	F	H			LFT TURN	S	-	0000	NISSA	2005	-	N		-	M G
2F	DRVR	47	F	B			PROC ST	N	-	0000	NISSA	2013	-	N		-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	COMP PN	14	F	3	0	L	G
PASS		16	M	4	0	P	G
PASS		9	M	6	0	P	G

Primary Rd **WEST AV** *Distance (ft)* **600** *Direction* **S** *Secondary Rd* **ASHLAN AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **2/G** *Beat* **1954** *Type* **0** *CalTrans* *Badge* **P959** *Collision Date* **20140904** *Time* **0752** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21803B** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160120**
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	31	M	B	HNBD		ENT TRAF	W	A	0100	NISSA	2003	- 1	N		-	L G
2	DRVR	21	M	H	HNBD		PROC ST	N	A	0100	HONDA	1993	- 3	N		-	L B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	21	M	1	0	L	B

Primary Rd **WEST AV** *Distance (ft)* **33** *Direction* **N** *Secondary Rd* **DAKOTA AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* *Type* **0** *CalTrans* *Badge* **P776** *Collision Date* **20140625** *Time* **1453** *Day* **WED**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* *Process Date* **20160121**
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	54	F	H	HNBD		PROC ST	S	A	0100	FORD	1996	- 3	N		-	M G
2	DRVR	30	F	O	HNBD			S	A	0100	ACURA	2013	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	54	F	1	0	M	G

Primary Rd **WEST AV** *Distance (ft)* **240** *Direction* **S** *Secondary Rd* **SAN BRUNO AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW** *Beat* **D1651** *Type* **0** *CalTrans* *Badge* **P850** *Collision Date* **20140818** *Time* **0737** *Day* **MON**
Primary Collision Factor **LANE CHANGE** *Violation* **21658A** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* *Process Date* **20160317**
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* **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	BICY	56	M	W	HNBD		CHANG LN	N	L	0400	-		- 3	N		-	- -
2	DRVR	39	M	H	HNBD		PROC ST	N	-	0000	HYUND	2012	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N MARTY AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1648** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P727** *Collision Date* **20140320** *Time* **2108** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21453C** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20160121**
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	19	F	B	HNBD		LFT TURN	S	A	0100	CHRYS	2012	-	3	F	-	M	G
2	DRVR	20	F	H	HNBD		PROC ST	W	A	0100	FORD	2010	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	20	F	1	0	M	G
PASS	COMP PN	28	F	3	0	M	G

Primary Rd **WEST SHAW AV** *Distance (ft)* **45** *Direction* **W** *Secondary Rd* **N MARTY AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1648** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P864** *Collision Date* **20140408** *Time* **1433** *Day* **TUE**
Primary Collision Factor **OTHER IMPROP DRV** *Violation* *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160128**
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* **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	998	F	H	IMP UNK	IMP UNK	PROC ST	N	A	0700	CHEVR	1999	-	-	N	-	M	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST SHAW AV** *Distance (ft)* **35** *Direction* **E** *Secondary Rd* **N POLK AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW164** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1554** *Collision Date* **20140102** *Time* **1948** *Day* **THU**
Primary Collision Factor **TOO CLOSE** *Violation* **21703** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160120**
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	17	M	W	HNBD		PROC ST	W	A	0100	JEEP	1987	-	3	-	-	M	G
2		49	M		HNBD		PROC ST	W	F	2700	KENW	2008	-	3	-	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	17	M	1	0	M	G

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N POLK AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1642** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1486** *Collision Date* **20140610** *Time* **1828** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160324**
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
1	DRVR	39	M	H	HNBD		STOPPED	S	A	0100	CHEVR	2013	-	3	N	-	-	G
2F	DRVR	998	M	H	IMP UNK	IMP UNK	RGT TURN	S	A	0100	ACURA	1990	-	-	A	22350	-	N	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		36	F	3	0	M	G

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N VALENTINE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1649** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **P850** *Collision Date* **20140505** *Time* **1601** *Day* **MON**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **N** *Process Date* **20160120**
Weather1 **CLOUDY** *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	28	M	H	HNBD		PROC ST	W	D	2200	CHEVR	1996	-	3	N	-	M	G
2	DRVR	20	F	O	HNBD		PROC ST	N	A	0100	SATUR	1995	-	3	N	-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	20	F	1	0	M	G
PASS	COMP PN	16	F	3	0	L	G

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Primary Rd WEST SHAW AV | Distance (ft) 0 | Direction | Secondary Rd RT 99 | NCIC 1005 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist 1645 | Beat 00C | Type 0 | CalTrans | Badge P1225 | Collision Date 20140913 | Time 2027 | Day SAT
Primary Collision Factor DRVR ALC|DRG | Violation 23152A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20160317
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	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	57	M	H	HBD-UI		LFT TURN	E	D	2200	CHEVR	1994	-	-	A	21801	- M E								
2	DRVR	17	M	H	HNBD		PROC ST	W	D	2200	GMC	2005	-	-	N		- M E	PASS		50	M	3	0	M	E

Primary Rd WEST SHAW AV | Distance (ft) 0 | Direction | Secondary Rd W JENNIFER AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW164 | Beat 00A | Type 0 | CalTrans | Badge P1108 | Collision Date 20140309 | Time 1916 | Day SUN
Primary Collision Factor R-O-W AUTO | Violation 21801A | Collision Type BROADSIDE | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20160122
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 NT PRS/FCTR | Loc Type | Ramp/Int

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	20	F	W	HNBD		LFT TURN	W	A	0100	CHEVR	2009	-	3	N		- N G								
2	DRVR	61	F	H	HNBD		PROC ST	E	D	2200	TOYOT	1996	-	3	N		- M G	PASS	COMP PN	61	F	3	0	N	G

Primary Rd WEST SHAW AV | Distance (ft) 0 | Direction | Secondary Rd W VALENTINE AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW164 | Beat 00D | Type 0 | CalTrans | Badge P1534 | Collision Date 20140225 | Time 0130 | Day TUE
Primary Collision Factor TOO CLOSE | Violation 21703 | Collision Type OTHER | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20160125
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 DARK - ST | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

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	B	IMP UNK	IMP UNK	PROC ST	E	A	0100	CHEVR	1994	-	-	M		- N B								
2	DRVR	23	M	B	HNBD		SLOWING	E	A	0100	MAZDA	2012	-	3	M		- N B	PASS		20	M	3	0	L	G
3	DRVR	46	M	H	HNBD		LFT TURN	N	A	0100	KIA	2012	-	3	N		- L G	DRVR	COMP PN	46	M	1	0	-	-

Primary Rd WEST SHAW AV | Distance (ft) 1320 | Direction W | Secondary Rd WEST AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW165 | Beat 00D | Type 0 | CalTrans | Badge P727 | Collision Date 20140220 | Time 1827 | Day THU
Primary Collision Factor R-O-W AUTO | Violation 21801A | Collision Type BROADSIDE | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20160121
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 NT FNCT | Loc Type | Ramp/Int

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	35	F	O	HNBD		LFT TURN	W	A	0100	BUICK	2010	-	3	N		- M G								
2	DRVR	55	F	B	HNBD		PROC ST	E	A	0100	FORD	2005	-	3	N		- M G	PASS	COMP PN	51	F	3	0	M	G

Primary Rd WEST SHIELDS AV | Distance (ft) 0 | Direction | Secondary Rd N CORNELIA AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist 2246 | Beat 00F | Type 0 | CalTrans | Badge P1627 | Collision Date 20141003 | Time 1900 | Day FRI
Primary Collision Factor STOP SGN|SIG | Violation 22450A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20160126
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 FNCTNG | Loc Type | Ramp/Int

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	79	M	O	HNBD		SLOWING	N	C	0200	JEEP	2013	-	3	-		- M G								
2	DRVR	40	F	B	HNBD		PROC ST	E	A	0100	DODGE	2013	-	3	-		- M G	PASS		48	M	3	0	M	G
																		PASS		6	F	6	0	M	Q
																		PASS		1	M	4	0	M	Q

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| | | |

Primary Rd **N GLENN AV** *Distance (ft)* **150** *Direction* **S** *Secondary Rd* **N DEL MAR AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW105** *Beat* **00B** *Type* **0** *CalTrans* *Badge* **P1014** *Collision Date* **20150624** *Time* **1830** *Day* **WED**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160322**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **PKD MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *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	30	M	W	HBD-UI		PROC ST	N	A	0100	TOYOT	2003	-	3	A	22107	N L G								
2	PRKD	998	-				PARKED	N	A	0100	HONDA	2014	-	3	N		- - -								

Primary Rd **N GOLDEN STATE** *Distance (ft)* **0** *Direction* *Secondary Rd* **N CARNEGIE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno BL** *County* **Fresno** *Population* **7** *Rpt Dist* **NW154** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P926** *Collision Date* **20151018** *Time* **0941** *Day* **SUN**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160412**
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																	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	-		IMP UNK	IMP UNK	RGT TURN	N	-	0000	TOYOT		-	3	A	22450	- B -								
2	DRVR	24	M	W	HNBD		SLOWING	S	A	0100	HONDA	2015	-	3	-		- L G								

Primary Rd **N GOLDEN STATE** *Distance (ft)* **0** *Direction* *Secondary Rd* **W OLIVE** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno BL** *County* **Fresno** *Population* **7** *Rpt Dist* **2452** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P1021** *Collision Date* **20150104** *Time* **0208** *Day* **SUN**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **AUTO/PED** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160412**
Weather1 **CLEAR** *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 - ST** *Ped Action* **IN RD,** *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	-		IMP UNK	IMP UNK	PROC ST	W	-	9900	FORD		-	-	A		- B -								
2	PED	30	M	A		null		W	N	6000	-		-	-	-		- - -	PED	SEVERE	30	M	9	3	-	-

Primary Rd **N GOLDEN STATE** *Distance (ft)* **53** *Direction* **N** *Secondary Rd* **W RICHERT AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno BL** *County* **Fresno** *Population* **7** *Rpt Dist* **1847** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1646** *Collision Date* **20150519** *Time* **1649** *Day* **TUE**
Primary Collision Factor **UNKNOWN** *Violation* **21356A** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160206**
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																	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	63	M	B	HNBD		MERGING	N	A	0700	CHRYS	2007	-	3	A	20002	N M G								
2	DRVR	19	F	H	HNBD		PROC ST	N	A	0100	BMW	2004	-	3	-		- M G	PASS		19	F	6	0	M	C
																		PASS		21	M	3	0	M	C

Primary Rd **N GOLDEN STATE** *Distance (ft)* **0** *Direction* *Secondary Rd* **WEST ASHLAN AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno BL** *County* **Fresno** *Population* **7** *Rpt Dist* **NW194** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1227** *Collision Date* **20150924** *Time* **1924** *Day* **THU**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160125**
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	M	H	HNBD		PROC ST	E	A	0100	ACURA	2005	-	3	N		- L G								
2	DRVR	68	M	O	HNBD		RGT TURN	N	A	0100	-		-	3	N		- G -	DRVR	OTH VIS	68	M	1	0	M	G

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Primary Rd **PARKWAY DR** *Distance (ft)* **20** *Direction* **N** *Secondary Rd* **BELMONT AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **2451** *Beat* **01A** *Type* **0** *CalTrans* *Badge* **624** *Collision Date* **20150814** *Time* **1417** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160209**
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	998	M	W	IMP UNK	IMP UNK	PROC ST	S	A	0100	TOYOT	1996	-	-	N	-	-	-
2	DRVR	30	F	W	HNBD		STOPPED	S	A	0100	HONDA	2012	-	3	N	-	-	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		27	M	3	0	P	G

Primary Rd **PARKWAY DR** *Distance (ft)* **0** *Direction* *Secondary Rd* **BRAWLEY AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW** *Beat* **1848** *Type* **0** *CalTrans* *Badge* **927** *Collision Date* **20150414** *Time* **1511** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20160212**
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	23	M	W	HNBD		PROC ST	N	A	0100	HONDA	1988	-	3	N	-	M	G
2	DRVR	63	M	A	HNBD		PROC ST	N	A	0100	TOYOT	1996	-	3	N	-	M	G
3	DRVR	54	M	O	HNBD			N	A	0100	TOYOT	1996	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	23	M	1	0	M	G
PASS	COMP PN	22	-	3	0	M	G
PASS		2	M	4	0	M	-
PASS		998	F	6	0	M	-

Primary Rd **PARKWAY DR** *Distance (ft)* **0** *Direction* *Secondary Rd* **GRANTLAND AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **16870** *Collision Date* **20150311** *Time* **0640** *Day* **WED**
Primary Collision Factor **UNKNOWN** *Violation* *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20150831**
Weather1 **RAINING** *Weather2* *Rdwy Surface* **WET** *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
1	DRVR	17	M	W	HNBD		PROC ST	S	D	2200	CHEVR	2001	-	3	N	-	M	G
2	DRVR	43	M	W	HNBD		LFT TURN	N	D	2200	TOYOT	2005	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **PEACH AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **BELMONT AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **SOUTH** *Beat* *Type* **0** *CalTrans* *Badge* **876** *Collision Date* **20150421** *Time* **1423** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160211**
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	39	M	W	HNBD			N	A	0100	TOYOT	1987	-	3	N	-	M	G
2	DRVR	39	M	W	HNBD		STOPPED	N	A	0100	SUZUK	1987	-	3	N	-	M	G
3		998	M		HNBD		STOPPED	N	D	2200	TOYOT		-	3	N	-	B	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	19	F	1	0	M	G
PASS		34	F	3	0	M	G

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Primary Rd **POLK AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **ALLUVIAL AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **FRESN** *Beat* **1246** *Type* **0** *CalTrans* *Badge* **P864** *Collision Date* **20150324** *Time* **1700** *Day* **TUE**
Primary Collision Factor **WRONG SIDE** *Violation* **21650** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* *Process Date* **20160212**
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																	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	BICY	84	M	O	HNBD		RGT TURN	S	L	0400	-		-	3	N		- - -	BICY	OTH VIS	84	M	1	3	-	-
2	DRVR	56	F	W	HNBD		PROC ST	W	D	2200	GMC	2002	-	3	A	22450	- M G								

Primary Rd **POLK AV** *Distance (ft)* **50** *Direction* **S** *Secondary Rd* **SHAW AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW** *Beat* *Type* **0** *CalTrans* *Badge* **P662** *Collision Date* **20150406** *Time* **0630** *Day* **MON**
Primary Collision Factor **NOT DRIVER** *Violation* *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160205**
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																	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*
1	DRVR	58	M	H	HNBD		RAN OFF RD	N	D	2200	CHEVR	2005	-	-	-	-	M B	PASS		19	M	3	0	M	B

Primary Rd **POLK AVENUE** *Distance (ft)* **0** *Direction* *Secondary Rd* **ACACIA AVENUE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **901** *Type* **4** *CalTrans* *Badge* **014896** *Collision Date* **20151027** *Time* **0800** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22100B** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20151117**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **1**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *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	56	F	W	IMP UNK	IMP UNK	LFT TURN	N	H	1300	THOMA	2008	-	3	N		- M G								

Primary Rd **POTTLE AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **KERN ST** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **2854** *Type* **0** *CalTrans* *Badge* **P982** *Collision Date* **20150401** *Time* **1319** *Day* **WED**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* *Process Date* **20160206**
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																	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	31	M	A	HNBD		ENT TRAF	S	I	2000	GILLI	2011	-	3	-	-	M G								
2	DRVR	53	M	H	HNBD		RGT TURN	S	A	0100	CHEVR	2007	-	3	-	-	M G								

Primary Rd **POTTLE AVE** *Distance (ft)* **10** *Direction* **N** *Secondary Rd* **FRESNO ST** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **901** *Type* **4** *CalTrans* *Badge* **017310** *Collision Date* **20151022** *Time* **1310** *Day* **THU**
Primary Collision Factor **IMPROP TURN** *Violation* **22100A** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20151116**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **1**
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	25	F	H	HNBD		RGT TURN	E	H	1300	BLU	2000	-	3	N		- P G	PASS		5	F	0	0	P	G
																		PASS		6	F	0	0	P	G
																		PASS		5	F	0	0	P	G
																		PASS		7	M	0	0	P	G
2	DRVR	24	M	H	HNBD		STOPPED	E	A	0700	CHEV	2004	-	3	N		- M G								

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Primary Rd **SHAW AV** *Distance (ft)* **50** *Direction* **W** *Secondary Rd* **RT 41** *NCIC* **1005** *State Hwy?* **Y** *Route* **41** *Postmile Prefix* **R** *Postmile* **28.264** *Side of Hwy* **N**
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1656** *Beat* **04D** *Type* **0** *CalTrans* **6** *Badge* **P948** *Collision Date* **20150605** *Time* **1407** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* *Process Date* **20160817**
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* **R** *Ramp/Int* **4**

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	19	F	B	HNBD		PROC ST	E	A	0100	MAZDA	2013	-	-	N	-	L B	DRVR	COMP PN	19	F	1	0	L	B
2	DRVR	34	F	A	HNBD		STOPPED	E	A	0100	MAZDA	2015	-	3	N	-	M G								
3	DRVR	49	F	A	HNBD		STOPPED	E	A	0100	CHEVR	2002	-	3	N	-	M G	PASS		17	F	3	0	M	G

Primary Rd **SHAW AV** *Distance (ft)* **100** *Direction* **W** *Secondary Rd* **RT 41** *NCIC* **1005** *State Hwy?* **Y** *Route* **41** *Postmile Prefix* **-** *Postmile* **28.264** *Side of Hwy* **N**
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1656** *Beat* **04D** *Type* **0** *CalTrans* **6** *Badge* **P948** *Collision Date* **20151015** *Time* **0845** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20170203**
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* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* **R** *Ramp/Int* **4**

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		PROC ST	W	A	0100	FORD	2000	-	3	N	-	M G								
2	DRVR	45	M	H	HNBD		STOPPED	W	D	2200	FORD	2005	-	-	N		M G	DRVR	COMP PN	45	M	1	0	M	G

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **RT 99** *NCIC* **1005** *State Hwy?* **Y** *Route* **99** *Postmile Prefix* **-** *Postmile* **27.911** *Side of Hwy* **S**
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1655** *Beat* **00C** *Type* **0** *CalTrans* **6** *Badge* **P911** *Collision Date* **20150622** *Time* **1248** *Day* **MON**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160823**
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* **R** *Ramp/Int* **4**

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	48	F	W	HNBD		LFT TURN	W	A	0100	HONDA	2010	-	3	N	-	M G								
2	DRVR	63	M	B		DRUG	PROC ST	W	A	0100	MERCU	1999	-	3	A	23152	- M G								

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **RT 99** *NCIC* **1005** *State Hwy?* **Y** *Route* **99** *Postmile Prefix* **-** *Postmile* **28.165** *Side of Hwy* **N**
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **5C** *Beat* **1645** *Type* **0** *CalTrans* **6** *Badge* **P959** *Collision Date* **20150721** *Time* **1255** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20161208**
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* **R** *Ramp/Int* **4**

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	-		IMP UNK	IMP UNK	PROC ST	E	A	0100	SATUR	2005	-	3	N	-	- - -								
2	DRVR	55	M	H	HNBD		STOPPED	E	A	0100	CADIL	2006	-	3	N	-	M G								

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **VALENTINE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW** *Beat* **A1648** *Type* **0** *CalTrans* *Badge* **P850** *Collision Date* **20150623** *Time* **0840** *Day* **TUE**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160126**
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	60	F	H	HNBD		PROC ST	W	A	0100	TOYOT	2014	-	3	N	-	M G								
2	DRVR	54	F	O	HNBD		PROC ST	S	A	0100	TOYOT	2000	-	3	N	-	M G	PASS	COMP PN	8	M	5	0	M	-

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Primary Rd **SR-99 N/B FROM** *Distance (ft)* **33** *Direction* **S** *Secondary Rd* **VENTURA ST** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **GOLDEN STATE BLVD** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **018934** *Collision Date* **20151101** *Time* **2110** *Day* **SUN**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20151116**
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* **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	23	M	H	HBD-UI		OTHER	N	A	0100	PONT	2004	-	3	A	22107	- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	23	M	1	0	M	G

Primary Rd **SR-99 N/B FROM** *Distance (ft)* **1000** *Direction* **N** *Secondary Rd* **HERNDON AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **HERNDON AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **020078** *Collision Date* **20151121** *Time* **0240** *Day* **SAT**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20151221**
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	37	M	H	HBD-UI		OTHER	N	A	0100	TOYT	1996	-	3	A	22107	- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		33	M	3	0	M	G

Primary Rd **SR-99 N/B TO** *Distance (ft)* **15** *Direction* **S** *Secondary Rd* **CLINTON AVENUE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **CLINTON AVENUE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **017489** *Collision Date* **20151010** *Time* **1045** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20151019**
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* **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	IMP UNK	IMP UNK	PROC ST	N	D	2200	FORD		-	3	N		- B B
2	DRVR	50	M	H	HNBD		STOPPED	N	A	0100	HYUN	1997	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	50	M	1	0	M	G

Primary Rd **SR-99 N/B TO** *Distance (ft)* **40** *Direction* **S** *Secondary Rd* **HERNDON AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **HERNDON AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **018934** *Collision Date* **20150920** *Time* **1850** *Day* **SUN**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20151019**
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* **DUSK/DAWN** *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	IMP UNK	IMP UNK	PROC ST	N	A	0100	FORD		-	3	N		- B B
2	DRVR	31	F	W	HNBD		STOPPED	N	A	0100	KIA	2014	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		43	M	3	0	M	G

Primary Rd **SR-99 N/B TO** *Distance (ft)* **150** *Direction* **S** *Secondary Rd* **JENSEN AVENUE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **JENSEN AVENUE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019523** *Collision Date* **20151122** *Time* **2330** *Day* **SUN**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20151221**
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	42	M	H	HBD-UI		PROC ST	N	A	0100	KIA	2007	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd **WEBSTER AV** *Distance (ft)* **73** *Direction* **W** *Secondary Rd* **FRESNO ST** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1C** *Beat* **2457** *Type* **0** *CalTrans* *Badge* **P959** *Collision Date* **20150213** *Time* **1147** *Day* **FRI**
Primary Collision Factor **IMPROP TURN** *Violation* **22103** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160411**
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	54	M	W	HNBD		U-TURN	E	J	4900	BMW	2007	-	3	N	-	- W
2	DRVR	46	F	H	HNBD		PROC ST	E	A	0700	CHEVR	2005	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		25	F	3	0	M	G
PASS		3	-	9	0	M	Q

Primary Rd **WELDON** *Distance (ft)* **300** *Direction* **W** *Secondary Rd* **FRUIT** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **2H** *Beat* **2252** *Type* **0** *CalTrans* *Badge* **P959** *Collision Date* **20150702** *Time* **0651** *Day* **THU**
Primary Collision Factor **NOT DRIVER** *Violation* *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* *Process Date* **20160204**
Weather1 **CLOUDY** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PKD 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
1	DRVR	64	F	W	HNBD		RAN OFF RD	E	A	0700	DODGE	2001	-	3	N	-	M G
2	PRKD	998	-				PARKED	S	A	0100	TOYOT	2006	-	3	N	-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WELDON AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **DEARING AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **2261** *Beat* **04H** *Type* **0** *CalTrans* *Badge* **P874** *Collision Date* **20150617** *Time* **1537** *Day* **WED**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152B** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160413**
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* **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	40	M	B	HBD-UI		RGT TURN	N	A	0100	LINCO	2002	-	-	A	22350	- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST** *Distance (ft)* **105** *Direction* **N** *Secondary Rd* **CLINTON** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW215** *Beat* **00H** *Type* **0** *CalTrans* *Badge* **P1064** *Collision Date* **20150923** *Time* **1958** *Day* **WED**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160321**
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* **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	30	M	H	HBD-UI		PROC ST	N	D	2200	CHEVR	1996	-	3	A	22107	N M B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **60** *Direction* **W** *Secondary Rd* **GOLDEN STATE** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P1021** *Collision Date* **20150809** *Time* **1820** *Day* **SUN**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160411**
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	55	M	W	HNBD		PROC ST	E	A	0100	CHEVR	2007	-	-	-	-	L G
2	DRVR	53	F	W	HNBD		LFT TURN	N	A	0100	DODGE	2003	-	-	-	-	G -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		56	M	3	0	L	G

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Primary Rd **WEST ASHLAN AV** *Distance (ft)* **18** *Direction* **E** *Secondary Rd* **N ATLAS WY** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW185** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **P1652** *Collision Date* **20150511** *Time* **0205** *Day* **MON**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **OTHER** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160322**
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* **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	B	IMP UNK	IMP UNK	PROC ST	E	C	0200	HONDA	2008	-	3	N		- L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N BLYTHE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1847** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1653** *Collision Date* **20150520** *Time* **0647** *Day* **WED**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160206**
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	25	M	H	HNBD		ENT TRAF	S	A	0100	HONDA	2008	-	3	A	21453	N M G
2	DRVR	29	F	H	HNBD		PROC ST	E	A	0100	DODGE	2007	-	1	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		58	F	3	0	M	G

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **1320** *Direction* **W** *Secondary Rd* **N BLYTHE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1162** *Collision Date* **20150716** *Time* **1727** *Day* **THU**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160203**
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	52	F	W	HBD-UI	DRUG	RAN OFF RD	E	A	0100	LINCO	2000	-	-	A	22350	- L G
2	DRVR	25	M	W	HNBD		PROC ST	-	A	0100	TOYOT	1995	-	-	-		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N CORNELIA AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW134** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1648** *Collision Date* **20150907** *Time* **2048** *Day* **MON**
Primary Collision Factor **PED VIOL** *Violation* **21950B** *Collision Type* **HEAD-ON** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160125**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PED** *Lighting* **DARK - ST** *Ped Action* **X-WLK AT** *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	PED	18	M	B			OTHER	-	N	6000	-	-	-	-	-	-	- -
2	DRVR	43	F		HNBD		PROC ST	N	A	0700	HONDA	2003	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PED	OTH VIS	18	M	2	3	-	-

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **1** *Direction* **E** *Secondary Rd* **N GOLDEN STATE** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P1193** *Collision Date* **20150902** *Time* **1745** *Day* **WED**
Primary Collision Factor **OTHER IMPROP DRV** *Violation* *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160126**
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	52	F	H	HNBD		PROC ST	W	A	0100	CHEVR	2013	-	-	N		- M G
2	DRVR	30	F	H	HNBD		PROC ST	W	-	0000	HYUND	2011	-	3	G		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	30	F	1	3	-	-
PASS		11	F	3	3	M	G
PASS		6	F	6	0	M	G
PASS		1	M	4	0	M	G

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Primary Rd WEST ASHLAN AV | Distance (ft) 12 | Direction N | Secondary Rd N GOLDEN STATE | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW184 | Beat 00A | Type 0 | CalTrans | Badge P1649 | Collision Date 20151007 | Time 1711 | Day WED
Primary Collision Factor WRONG SIDE | Violation 21202A | Collision Type HEAD-ON | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? | Process Date 20160503
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																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	BICY	21	M	W			PROC ST	W	L	0400	-		-	3	K	N	-	-	BICY	OTH VIS	21	M	9	3	-	-
2	DRVR	63	M	W	HNBD		RGT TURN	N	A	0100	FORD	2001	-	3	N	-	-	-								

Primary Rd WEST ASHLAN AV | Distance (ft) 0 | Direction | Secondary Rd N HUGHES AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW195 | Beat 00G | Type 0 | CalTrans | Badge P1495 | Collision Date 20150106 | Time 2205 | Day TUE
Primary Collision Factor DRVR ALC|DRG | Violation 23152A | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20160206
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																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	F	H	HBD-UI		PROC ST	E	A	0100	CHRYS	2006	-	3	F	-	M	H								

Primary Rd WEST ASHLAN AV | Distance (ft) 0 | Direction | Secondary Rd N HUGHES AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist 1950 | Beat 00G | Type 0 | CalTrans | Badge 1676 | Collision Date 20150912 | Time 2219 | Day SAT
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20160210
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	20	M	W	HNBD		PROC ST	E	A	0100	CHEVR	2000	-	3	F	-	M	G	PASS		19	M	3	0	M	G
2	DRVR	66	M	B	HNBD		SLOWING	E	A	0100	CADIL	1999	-	3	N	-	M	G	PASS		49	F	3	0	M	G

Primary Rd WEST ASHLAN AV | Distance (ft) 0 | Direction | Secondary Rd N HUGHES AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist 1850 | Beat 00D | Type 0 | CalTrans | Badge P1682 | Collision Date 20151012 | Time 1710 | Day MON
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type BROADSIDE | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20160219
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	47	M	W	HBD-UNK		PROC ST	S	C	0200	SUZUK	2001	-	3	M	-	-	W	DRVR	OTH VIS	47	M	1	1	-	W
2	DRVR	23	F	W	HNBD		LFT TURN	W	A	0100	NISSA	2012	-	3	N	-	L	C								

Primary Rd WEST ASHLAN AV | Distance (ft) 0 | Direction | Secondary Rd N MARTY AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW184 | Beat 00A | Type 0 | CalTrans | Badge P1306 | Collision Date 20150309 | Time 1806 | Day MON
Primary Collision Factor R-O-W AUTO | Violation 21453C | Collision Type HEAD-ON | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20160125
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	72	M	B	HNBD		U-TURN	E	A	0100	PONTI	2000	-	-	N	-	M	G								
2	DRVR	33	M	O	HNBD		PROC ST	W	A	0100	TOYOT	2008	-	-	N	-	L	G	DRVR	COMP PN	33	M	1	0	L	G

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Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N MARTY AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P1534** *Collision Date* **20150704** *Time* **0145** *Day* **SAT**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160127**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **MV ON OTHER RD** *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	55	M	B	HBD-UI		LFT TURN	N	A	0100	DODGE	2007	-	-	A	23152	-	L B
2	DRVR	25	F	H	IMP UNK	IMP UNK	PROC ST	W	A	0700	MERCE	1999	-	-	N		-	L B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	55	M	1	0	L	B
PASS		25	F	9	3	P	C

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N PARKWAY DR** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1555** *Collision Date* **20150301** *Time* **2050** *Day* **SUN**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152B** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160201**
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	33	M	H	HBD-UI		PROC ST	W	A	0100	TOYOT	2012	-	3	A	21453	-	L G
2	DRVR	41	M	H	HNBD		STOPPED	W	A	0100	FORD	2004	-	3	-		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N POLK AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1844** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1663** *Collision Date* **20150620** *Time* **1530** *Day* **SAT**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160206**
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	16	M	W			PROC ST	-	A	0100	TOYOT	2013	-	-	A	22450	N	L G
2	DRVR	68	M	H	HNBD		PROC ST	-	A	0100	HONDA	2007	-	-	N		-	M B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N SEQUOIA DR** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1851** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **1684** *Collision Date* **20150813** *Time* **2330** *Day* **THU**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160204**
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* **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	66	F	H	HBD-UI		PROC ST	W	A	0100	TOYOT	2013	-	-	-		-	L C
2	PRKD	998	-				PARKED	-	A	0700	GMC	2000	-	-	N		-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **660** *Direction* **E** *Secondary Rd* **N VALENTINE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NE194** *Beat* **00G** *Type* **0** *CalTrans* *Badge* **P1636** *Collision Date* **20150326** *Time* **1852** *Day* **THU**
Primary Collision Factor **WRONG SIDE** *Violation* **216501** *Collision Type* **OTHER** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160202**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **BICYCLE** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* *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	53	M	O	HNBD		STOPPED	-	D	2200	TOYOT	2003	-	3	N		-	M G
2F	BICY	45	M	W	HNBD		PROC ST	-	L	0400	-		-	3	-		-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
BICY	COMP PN	45	M	9	3	-	-

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Primary Rd WEST ASHLAN AV | Distance (ft) 150 | Direction E | Secondary Rd RT 99 | NCIC 1005 | State Hwy? Y | Route 41 | Postmile Prefix R | Postmile 27.315 | Side of Hwy N
City Fresno | County Fresno | Population 7 | Rpt Dist NW184 | Beat 00C | Type 0 | CalTrans 6 | Badge P1587 | Collision Date 20150304 | Time 2259 | Day WE
Primary Collision Factor DRVR ALC|DRG | Violation 23152A | Collision Type HEAD-ON | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20160727
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 R | Ramp/Int 4

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	31	F	H	HBD-UI		PROC ST	E	A	0100	CHEVR	2006	-	-	A	22350	- L G	DRVR	OTH VIS	31	F	1	0	L	G

Primary Rd WEST AV | Distance (ft) 0 | Direction | Secondary Rd ALAMOS AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist 2D | Beat 1751 | Type 0 | CalTrans | Badge P959 | Collision Date 20150624 | Time 1009 | Day WED
Primary Collision Factor R-O-W AUTO | Violation 21803B | Collision Type SIDESWIPE | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20160126
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	23	F	H	HNBD		ENT TRAF	W	A	0100	MITSU	2012	-	3	N	-	M G	PASS		998	-	6	0	M	-
2	DRVR	28	F	H	HNBD		PROC ST	S	D	2200	CHEVR	2004	-	3	N	-	M G	DRVR	COMP PN	28	F	1	0	M	G

Primary Rd WEST AV | Distance (ft) 75 | Direction N | Secondary Rd ASHLAN AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist 1851 | Beat 00D | Type 0 | CalTrans | Badge P911 | Collision Date 20150909 | Time 1418 | Day WED
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20160126
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																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	34	F	H	HNBD		PROC ST	S	A	0100	CHEVR	2003	-	3	N	-	L G	DRVR	COMP PN	34	F	6	0	L	G
																		PASS		998	M	3	0	L	G
																		PASS		998	M	4	0	L	G
																		PASS		998	M	5	0	L	G
2	DRVR	48	M	H	HNBD		STOPPED	S	A	0800	DODGE	1977	-	3	N	-	M G								
3	DRVR	23	M	W	HNBD		STOPPED	S	A	0100	KIA	2012	-	3	N	-	M G								
4	DRVR	75	F	W	HNBD		STOPPED	S	A	0100	HONDA	1998	-	3	N	-	M G								

Primary Rd WEST AV | Distance (ft) 200 | Direction N | Secondary Rd CARUTHERS AV | NCIC 9435 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist | Beat 020 | Type 3 | CalTrans | Badge 18939 | Collision Date 20150710 | Time 1705 | Day FRI
Primary Collision Factor IMPROP PASS | Violation 21751 | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20151204
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	21	M	H	HNBD		PASSING	N	A	0100	HONDA	1991	-	3	N	-	M G								
2	DRVR	36	M	W	HNBD		PROC ST	N	A	0700	CHEVR	1996	-	3	N	-	M G								

Primary Rd WEST AV | Distance (ft) 300 | Direction N | Secondary Rd EMERSON AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW | Beat | Type 0 | CalTrans | Badge P662 | Collision Date 20151019 | Time 0743 | Day MON
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20160411
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	25	M	W	HNBD		PROC ST	N	A	0100	FORD	1997	-	-	-	-	L G								

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Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N MARTY AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1848** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **1022** *Collision Date* **20150907** *Time* **1145** *Day* **MON**
Primary Collision Factor **STRTNG|BCKNG** *Violation* **22106** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160210**
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																	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	24	F	B	HNBD		STOPPED	W	A	0100	SATUR	2008	-	-	F	-	M G	PASS		24	M	3	0	M	G
																		PASS		4	F	6	0	M	Q
																		PASS		3	F	7	0	M	Q
2	DRVR	38	M	H	HNBD		STOPPED	W	-	0000	FORD	2012	-	-	N	-	M G	PASS		36	F	3	0	N	G
																		PASS		73	F	0	0	P	J

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N MARTY AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P1227** *Collision Date* **20151014** *Time* **1802** *Day* **WED**
Primary Collision Factor **OTHER HAZ** *Violation* **21451A** *Collision Type* **SIDESWIPE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160126**
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	77	M	B	HNBD		LFT TURN	N	A	0700	FORD	2009	-	3	N	-	L G	DRVR	COMP PN	77	M	1	0	L	G
																		PASS		43	F	3	0	L	G
2	DRVR	30	F	B	HNBD		PROC ST	S	A	0100	CHEVR	1993	-	3	N	-	L G								

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N POLK AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW174** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1616** *Collision Date* **20150628** *Time* **2039** *Day* **SUN**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23153A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160128**
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* **DUSK/DAWN** *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*
1	DRVR	23	M	W		DRUG	LFT TURN	W	A	0100	SATUR	2002	-	3	N	-	M G	PASS		23	M	5	0	M	B
2F	DRVR	75	F	H			PROC ST	E	A	0100	NISSA	2000	-	3	N	-	L G	DRVR	COMP PN	75	F	1	0	L	G

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N RT 99** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW164** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1648** *Collision Date* **20150815** *Time* **2049** *Day* **SAT**
Primary Collision Factor **IMPROP TURN** *Violation* **22100A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160414**
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	16	F	H	HNBD		LFT TURN	E	A	0100	MERCE	1983	-	3	E	-	M G	DRVR	COMP PN	16	F	1	0	-	-
2	DRVR	48	F	H	HNBD		PROC ST	W	A	0700	CHEVR	2004	-	3	N	-	M G								

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N VALENTINE** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW164** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **PC290** *Collision Date* **20150315** *Time* **2325** *Day* **SUN**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160202**
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																	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	30	M	H	HBD-UI		RAN OFF RD	E	A	0700	LEXUS	2001	-	3	A	21658	N L G								

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Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **NORTH FRUIT AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW165** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **P579** *Collision Date* **20150609** *Time* **1830** *Day* **TUE**
Primary Collision Factor **NOT STATED** *Violation* *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160322**
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
1	DRVR	57	M	W	HNBD		LFT TURN	N	D	2200	FORD	2002	-	3	A	21801	N - B
2	DRVR	25	F	W	HNBD		PROC ST	S	A	0100	HONDA	2015	-	3	N		- - G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **NORTH FRUIT AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW165** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **P1616** *Collision Date* **20150914** *Time* **1947** *Day* **MON**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160125**
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	18	M	H	HBD-NUI		LFT TURN	N	A	0100	HONDA	2011	-	3	N		- M G
2	DRVR	53	F	H	HBD-NUI		PROC ST	S	A	0100	DODGE	2007	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	53	F	1	0	M	G

Primary Rd **WEST SHAW AV** *Distance (ft)* **28** *Direction* **W** *Secondary Rd* **NORTH WEST AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW165** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **P1672** *Collision Date* **20150908** *Time* **2153** *Day* **TUE**
Primary Collision Factor **NOT DRIVER** *Violation* *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160126**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PED** *Lighting* **DARK - ST** *Ped Action* **IN RD,** *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	PED	55	M	W	HNBD		PROC ST	N	N	6000	-	-	3	A	21202	N	- -
2	DRVR	46	F	H	HNBD		LFT TURN	W	A	0100	DODGE	2007	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PED	OTH VIS	55	M	1	0	-	-

Primary Rd **WEST SHAW AV** *Distance (ft)* **12** *Direction* **E** *Secondary Rd* **RT 99** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW164** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1636** *Collision Date* **20150201** *Time* **2012** *Day* **SUN**
Primary Collision Factor **OTHER IMPROP DRV** *Violation* *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160310**
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* *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	28	F	W	HBD-UNK		RAN OFF RD	N	A	0700	HONDA	2007	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **RT 99** *NCIC* **1005** *State Hwy?* **Y** *Route* **99** *Postmile Prefix* **-** *Postmile* **27.911** *Side of Hwy* **S**
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW164** *Beat* **00C** *Type* **0** *CalTrans* **6** *Badge* **P1022** *Collision Date* **20150712** *Time* **1522** *Day* **SUN**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20161103**
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* **R** *Ramp/Int* **4**

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	29	M	H	HNBD		LFT TURN	W	A	0100	HONDA	2009	-	-	A	21801	- L G
2F	DRVR	57	F	W	HNBD		PROC ST	-	A	0100	BMW	1999	-	-	N		- L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd WEST SHAW AV | Distance (ft) 0 | Direction | Secondary Rd RT 99 | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW164 | Beat 00C | Type 0 | CalTrans | Badge P1321 | Collision Date 20151023 | Time 0623 | Day FRI
Primary Collision Factor OTHER HAZ | Violation 21461A | Collision Type HEAD-ON | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20160411
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 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	32	F	H			LFT TURN	E	A	0100	KIA	2016	-	-	N		-	L G
2	DRVR	24	F	H			PROC ST	W	A	0100	TOYOT	2005	-	-	N		-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd WEST SHAW AV | Distance (ft) 0 | Direction | Secondary Rd W JENNIFER AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist 1647 | Beat 00A | Type 0 | CalTrans | Badge 1236 | Collision Date 20150428 | Time 1809 | Day TUE
Primary Collision Factor TOO CLOSE | Violation 21703 | Collision Type REAR END | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20160212
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	25	F	H	HNBD		PROC ST	E	A	0100	MAZDA	2003	- 3	A	21703	G	M	G
2	DRVR	35	F	B	HNBD		PROC ST	E	A	0700	FORD	1998	- 3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	COMP PN	21	F	6	0	M	G
PASS		25	F	3	0	M	G

Primary Rd WEST SHIELDS AV | Distance (ft) 0 | Direction | Secondary Rd HUGHES | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW205 | Beat 00G | Type 0 | CalTrans | Badge P836 | Collision Date 20150705 | Time 1230 | Day SUN
Primary Collision Factor UNKNOWN | Violation 20002A | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20160204
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	49	M	H	HBD-UI		PROC ST	W	A	0100	CHEVR	2009	- -	A	20002	-	-	-
2	DRVR	37	F	H			STOPPED	W	A	0800	CHRYS	2012	- -	-		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd WEST SHIELDS AV | Distance (ft) 121 | Direction S | Secondary Rd N BRAWLEY | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW224 | Beat 00F | Type 0 | CalTrans | Badge P1488 | Collision Date 20150205 | Time 2008 | Day THU
Primary Collision Factor PED VIOL | Violation 21954A | Collision Type AUTO/PED | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20160212
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With PED | Lighting DARK - ST | Ped Action NOT IN X- | 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	PED	45	F	A	HBD-NUI		OTHER	W	N	6000	-		- 3	F		-	-	-
2	DRVR	64	F	W	HBD-NUI		PROC ST	S	A	0100	NISSA	2003	- 3	-		-	P	E

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PED	OTH VIS	1	F	9	3	-	-

Primary Rd WEST SHIELDS AV | Distance (ft) 0 | Direction | Secondary Rd N CHANNING WY | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW205 | Beat 00G | Type 0 | CalTrans | Badge P1458 | Collision Date 20150218 | Time 1810 | Day WED
Primary Collision Factor R-O-W AUTO | Violation 21802A | Collision Type BROADSIDE | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20160216
Weather1 CLEAR | Weather2 | Rdwy Surface | 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 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	27	F	H	HNBD		PROC ST	N	A	0100	TOYOT	1999	- 3	A	21802	-	P	G
2	DRVR	44	F	H	HNBD		PROC ST	W	A	0100	TOYOT	1998	- 3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		9	F	6	0	P	G
PASS		6	F	5	0	P	G
DRVR	COMP PN	44	F	1	3	-	-

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Primary Rd **N FULTON ST** *Distance (ft)* **0** *Direction* *Secondary Rd* **E NEVADA AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **SW255** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **P1709** *Collision Date* **20160125** *Time* **1814** *Day* **MON**
Primary Collision Factor **PED VIOL** *Violation* **21950B** *Collision Type* **HEAD-ON** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160502**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PED** *Lighting* **DARK - ST** *Ped Action* **X-WLK AT** *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	PED	47	F	H	HNBD			E	N	6000	-		-	A	21950	-	-	-
2	DRVR	68	M	W	HNBD		PROC ST	S	A	0100	NISSA	2015	-	J		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PED	OTH VIS	47	F	9	3	-	-

Primary Rd **N GLENN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **E MICHIGAN AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW215** *Beat* **00H** *Type* **0** *CalTrans* *Badge* **P1610** *Collision Date* **20160218** *Time* **0145** *Day* **THU**
Primary Collision Factor **NOT DRIVER** *Violation* *Collision Type* **OTHER** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160321**
Weather1 **RAINING** *Weather2* *Rdwy Surface* **WET** *Rdwy Cond1* **FLOODED** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER 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
1	DRVR	43	F	W	HNBD		PROC ST	N	J	4800	DODGE	2013	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **N GOLDEN STATE** *Distance (ft)* **0** *Direction* *Secondary Rd* **W OLIVE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno BL** *County* **Fresno** *Population* **7** *Rpt Dist* **SW245** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P772** *Collision Date* **20160214** *Time* **0030** *Day* **SUN**
Primary Collision Factor **NOT STATED** *Violation* *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **N** *Process Date* **20160502**
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* **DARK - NO** *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	52	F	H			STOPPED	S	A	0100	TOYOT	2008	-	3	-	-	-	-
2F	DRVR	998	M	W	IMP UNK	IMP UNK	PROC ST	S	A	0100	FORD	1996	-	-	A	22350	F	-	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	52	F	1	3	-	E
PASS	COMP PN	50	M	3	0	-	E

Primary Rd **N GOLDEN STATE** *Distance (ft)* **3** *Direction* **E** *Secondary Rd* **WASHLAN AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno BL** *County* **Fresno** *Population* **7** *Rpt Dist* **NW194** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1718** *Collision Date* **20160212** *Time* **0431** *Day* **FRI**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **OTHER** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160407**
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
1	DRVR	24	M	H	HNBD		LFT TURN	E	A	0100	CHEVR	2006	-	3	N	-	L	G
2F	BICY	19	M	W			LFT TURN	E	L	0400	-		-	3	A	-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	24	M	1	0	L	G

Primary Rd **N GREGORY AV** *Distance (ft)* **45** *Direction* **S** *Secondary Rd* **WATHENS AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW124** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P1617** *Collision Date* **20160228** *Time* **0200** *Day* **SUN**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160415**
Weather1 *Weather2* *Rdwy Surface* *Rdwy Cond1* *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* *Lighting* *Ped Action* *Cntrl Dev* *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	PRKD	998	-			null		-	A	0100	FORD	1998	-	-	-	-	-	-
2F	DRVR	998	-			null		-	A	0100	TOYOT	2005	-	-	-	-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd SR-99 N/B TO | Distance (ft) 25 | Direction S | Secondary Rd HERNDON AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | HERNDON AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 020060 | Collision Date 20160410 | Time 1700 | Day SUN
Primary Collision Factor DRVR ALC|DRG | Violation 23152A | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20160505
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
1	DRVR	34	F	W	HNBD		PROC ST	N	A	0700	SUBA	2016	-	3	N		- M G
2F	DRVR	39	M	B	HBD-UI		OTHER	N	A	0100	TOYO	2010	-	3	A	22107	- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		43	M	3	0	M	G
PASS		3	M	6	0	P	Q
PASS		998	M	4	0	P	Q

Primary Rd SR-99 N/B TO | Distance (ft) 200 | Direction S | Secondary Rd HERNDON AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | HERNDON AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 020429 | Collision Date 20160708 | Time 1320 | Day FRI
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20160729
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	74	M	W	HNBD		SLOWING	N	A	0700	BMW	2002	-	3	N		- M G
2	DRVR	25	F	A	HNBD		STOPPED	N	A	0800	TOYO	1999	-	3	N		- M G
3	DRVR	61	F	W	HNBD		STOPPED	N	A	0100	HONDA	2003	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		30	M	3	0	M	G
PASS		27	F	4	0	P	G
PASS		21	M	5	0	P	G
PASS		23	F	7	0	P	G
PASS		29	F	7	0	P	G
PASS		32	M	7	0	B	G

Primary Rd SR-99 N/B TO | Distance (ft) 12 | Direction S | Secondary Rd HERNDON AVENUE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | HERNDON AVENUE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 019523 | Collision Date 20160728 | Time 1150 | Day THU
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20160817
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	998	F	W	IMP UNK	IMP UNK	PROC ST	N	-	9900	-		-	3	N		- B B
2	DRVR	71	F	W	HNBD		STOPPED	N	A	0100	CHEV	2007	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B TO | Distance (ft) 35 | Direction S | Secondary Rd JENSEN AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | JENSEN AVENUE | County Fresno | Population 7 | Rpt Dist | Beat 106 | Type 1 | CalTrans | Badge 018920 | Collision Date 20160706 | Time 0702 | Day WED
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20160721
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	23	M	H		FATG	PROC ST	N	A	0100	BUICK	1998	-	3	N		- M G
2	DRVR	34	M	H	HNBD		STOPPED	N	A	0100	OLDS	2000	-	3	N		- M G
3	DRVR	64	M	H	HNBD		STOPPED	N	A	0700	FORD	2003	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd **SR-99 N/B TO** *Distance (ft)* **25** *Direction* **S** *Secondary Rd* **MCKINLEY AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **MCKINLEY AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019926** *Collision Date* **20161207** *Time* **1555** *Day* **WED**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **3** *Tow Away?* **Y** *Process Date* **20161214**
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	60	M	H	HNBD		PROC ST	N	A	0700	DODG	2001	-	3	H	-	M	G
2	DRVR	47	F	B	HNBD		STOPPED	N	A	0100	HYUN	2015	-	3	H	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	47	F	1	0	M	G
PASS	COMP PN	13	F	3	0	M	G
PASS	COMP PN	16	F	5	0	P	G

Primary Rd **SR-99 N/B TO OLIVE** *Distance (ft)* **200** *Direction* **S** *Secondary Rd* **OLIVE AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **019926** *Collision Date* **20160929** *Time* **0800** *Day* **THU**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20161010**
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* **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	38	M	B	HNBD		OTHER	N	A	0100	FORD	1995	-	3	H	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	38	M	1	0	M	G

Primary Rd **SR-99 N/B TO OLIVE** *Distance (ft)* **40** *Direction* **S** *Secondary Rd* **OLIVE AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019926** *Collision Date* **20161228** *Time* **1325** *Day* **WED**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20170105**
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	-		IMP UNK	IMP UNK	PROC ST	N	-	9900	-		-	3	H	-	B	B
2	DRVR	25	M	O	HNBD		STOPPED	N	A	0100	CHEV	2010	-	3	H	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **SR-99 N/B TO OLIVE** *Distance (ft)* **4** *Direction* **S** *Secondary Rd* **OLIVE AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **AVE.** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **018823** *Collision Date* **20160413** *Time* **1645** *Day* **WED**
Primary Collision Factor **WRONG SIDE** *Violation* **21650** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160426**
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
1	DRVR	61	M	W	HNBD		RGT TURN	N	D	2200	FORD	2015	-	3	N	-	M	G
2F	BICY	57	M	H	HNBD		WRONG WY	W	L	0400	WORK	2000	-	3	N	-	V	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	OTH VIS	5	F	0	1	P	X

Primary Rd **SR-99 N/B TO SHAW** *Distance (ft)* **25** *Direction* **N** *Secondary Rd* **SHAW AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **020429** *Collision Date* **20160819** *Time* **1330** *Day* **FRI**
Primary Collision Factor **STRTNG|BCKNG** *Violation* **22106** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **N** *Process Date* **20160826**
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	40	M	H	HNBD		PROC ST	N	D	2200	CHEVR	2005	-	3	N	-	M	G
2	DRVR	55	F	B	HNBD		STOPPED	N	A	0100	PONTI	2006	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	55	F	1	0	M	G
PASS	COMP PN	19	M	3	0	M	G

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Primary Rd **SR-99 N/B TO SR-41** *Distance (ft)* **493** *Direction* **S** *Secondary Rd* **SR-41** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **N/B** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **106** *Type* **1** *CalTrans* *Badge* **020082** *Collision Date* **20161213** *Time* **1730** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20161220**
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 - 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	25	M	H	HNBD		PROC ST	N	A	0100	HOND	1997	-	3	N	-	L	G
2	DRVR	52	M	A	HNBD		SLOWING	N	A	0100	HOND	2009	-	3	N	-	M	G
3	DRVR	51	F	H	HNBD		SLOWING	N	A	0100	FORD	2000	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		18	F	3	0	L	G
DRVR	COMP PN	52	M	1	0	M	G

Primary Rd **SR-99 N/B TO SR-41** *Distance (ft)* **500** *Direction* **N** *Secondary Rd* **SR-99** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **N/B** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **106** *Type* **1** *CalTrans* *Badge* **020297** *Collision Date* **20161202** *Time* **1720** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20161212**
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* **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	27	M	W	HNBD		PROC ST	N	A	0100	FORD	2010	-	3	H	-	M	G
2	DRVR	53	M	W	HNBD		SLOWING	N	A	0100	JAGU	2017	-	3	H	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **SR-99 NB** *Distance (ft)* **528** *Direction* **S** *Secondary Rd* **OLIVE AVE.** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **018944** *Collision Date* **20161006** *Time* **2350** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20161010**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **CONS ZONE** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **OTHER 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	998	-		IMP UNK	IMP UNK	PROC ST	N	A	0100	-		-	3	N	-	B	B
2	DRVR	25	F	H	HNBD		SLOWING	N	A	0100	HOND	2016	-	3	N	-	L	G
3	DRVR	21	M	A	HNBD		STOPPED	N	A	0100	TOYO	2005	-	3	N	-	P	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **SR-99 NB FROM** *Distance (ft)* **100** *Direction* **N** *Secondary Rd* **SHAW AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **SHAW AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **020429** *Collision Date* **20160814** *Time* **1630** *Day* **SUN**
Primary Collision Factor **NOT DRIVER** *Violation* *Collision Type* **OTHER** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160826**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **NON-CLSN** *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
1	DRVR	46	M	B	HNBD		PROC ST	N	A	0100	MERC	1989	-	3	K	-	P	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	46	M	1	0	P	G
PASS		56	M	3	0	P	G

Primary Rd **SR-99 NB TO SR-180** *Distance (ft)* **100** *Direction* **E** *Secondary Rd* **SR-99 NB** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **EB** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **018944** *Collision Date* **20160711** *Time* **0210** *Day* **MON**
Primary Collision Factor **DRVR ALC\|DRG** *Violation* **23152A** *Collision Type* **OVERTURNED** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160801**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **NON-CLSN** *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	41	M	H	HBD-UI		RAN OFF RD	N	D	2200	CHEV	2003	-	3	A	22107	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	SEVERE	41	M	1	0	M	G

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Primary Rd **SR-99 S/B FROM** *Distance (ft)* **730** *Direction* **S** *Secondary Rd* **OLIVE AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **OLIVE AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019210** *Collision Date* **20161022** *Time* **1100** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20161104**
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	27	M	H	HNBD		PROC ST	S	A	0100	DODG	2015	-	3	N		-	L	G
2	DRVR	58	M	H	HNBD		SLOWING	S	D	2200	FORD	2004	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	27	M	1	0	L	G

Primary Rd **SR-99 S/B FROM** *Distance (ft)* **800** *Direction* **S** *Secondary Rd* **SHAW AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **SHAW AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **020490** *Collision Date* **20160409** *Time* **2255** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **3** *Tow Away?* **Y** *Process Date* **20160505**
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* **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	27	M	H	IMP UNK	IMP UNK	PROC ST	S	A	0100	CHRY	2015	-	3	N		-	M	B
2	DRVR	19	M	H	HNBD		PROC ST	S	A	0100	HONDA	2014	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	COMP PN	11	F	4	0	P	G
PASS	COMP PN	50	F	3	0	M	G
PASS	COMP PN	13	F	6	0	P	G

Primary Rd **SR-99 S/B FROM** *Distance (ft)* **500** *Direction* **S** *Secondary Rd* **SHAW AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **SHAW AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **018934** *Collision Date* **20160417** *Time* **1445** *Day* **SUN**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160502**
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* **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	19	M	O	HNBD		OTHER	S	A	0100	HOND	2002	-	3	N		-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	19	M	1	0	L	G

Primary Rd **SR-99 S/B FROM** *Distance (ft)* **200** *Direction* **S** *Secondary Rd* **SHAW AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **SHAW AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019926** *Collision Date* **20160725** *Time* **0950** *Day* **MON**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160805**
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* **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	47	F	H	HNBD		PROC ST	S	A	0100	HOND	2006	-	3	H		-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	47	F	1	0	L	G

Primary Rd **SR-99 S/B TO** *Distance (ft)* **5** *Direction* **N** *Secondary Rd* **ASHLAN AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **ASHLAN AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **018934** *Collision Date* **20160221** *Time* **1845** *Day* **SUN**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160304**
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* **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	55	M	O	HNBD		LFT TURN	S	G	2531	VOLV	2015	-	3	N		-	M	G
2	DRVR	59	F	B	HNBD		PROC ST	S	A	0100	HYUN	2015	-	3	N		-	M	G
3	DRVR	19	M	H	HNBD		PROC ST	S	A	0100	FORD	2000	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd SR-99 S/B TO | Distance (ft) 80 | Direction N | Secondary Rd ASHLAN AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | ASHLAN AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 018823 | Collision Date 20160331 | Time 1725 | Day THU
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20160602
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 CONS ZONE | Rdwy Cond2 REDUCED RD | 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	25	M	A	HNBD		PROC ST	S	G	2531	FREI	2016	- 3	H		-	M G	
2	DRVR	62	M	H	HNBD		STOPPED	S	D	2200	FORD	2000	- 3	H		-	M G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 S/B TO | Distance (ft) 20 | Direction N | Secondary Rd ASHLAN AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | ASHLAN AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 018823 | Collision Date 20160411 | Time 1445 | Day MO
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20160421
Weather1 CLOUDY | Weather2 | Rdwy Surface DRY | Rdwy Cond1 CONS ZONE | Rdwy Cond2 REDUCED RD | 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	50	M	O	HNBD		PROC ST	S	G	2531	VOLV	2016	- 3	N		-	M G	
2	DRVR	72	F	W	HNBD		STOPPED	S	A	0700	GMC	2015	- 3	N		-	M G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 S/B TO | Distance (ft) 0 | Direction | Secondary Rd CENTRAL AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | CENTRAL AVE | County Fresno | Population 7 | Rpt Dist | Beat 106 | Type 1 | CalTrans | Badge 019610 | Collision Date 20161015 | Time 1135 | Day SAT
Primary Collision Factor R-O-W AUTO | Violation 21802A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20161019
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	22	F	H	HNBD		LFT TURN	S	A	0100	TOYT	2009	- 3	N		-	M G	
2	DRVR	33	M	W	HNBD		PROC ST	W	D	2200	FORD	2013	- 3	N		-	M G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		998	M	4	0	M	Q
PASS		18	M	6	0	M	G

Primary Rd SR-99 S/B TO | Distance (ft) 12 | Direction N | Secondary Rd DAKOTA AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | DAKOTA AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 017518 | Collision Date 20160630 | Time 2215 | Day THU
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20160714
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	Ejected
1F	DRVR	998	-		IMP UNK	IMP UNK	RAN OFF RD	S	A	0800	CHEV	1998	- 3	N		-	M B	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 S/B TO | Distance (ft) 50 | Direction S | Secondary Rd SR-99 S/B | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | DAKOTA AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 018944 | Collision Date 20161023 | Time 2130 | Day SUN
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20161104
Weather1 CLOUDY | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run MSDMNR | Motor Vehicle Involved With OTHER OBJ | Lighting DARK - NO | 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	998	-		IMP UNK	IMP UNK	PROC ST	S	A	0100	CHRY	2005	- 3	N		-	B B	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd **STATE ROUTE 99** *Distance (ft)* **528** *Direction* **S** *Secondary Rd* **STATE ROUTE 180** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **N/B** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019039** *Collision Date* **20160808** *Time* **1722** *Day* **MON**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160812**
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	22	M	B	HNBD		PROC ST	N	A	0100	TOYO	2012	- 3	N		-	M	G
2	DRVR	21	F	H	HNBD		SLOWING	N	A	0100	CHRY	2016	- 3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **STATE ROUTE 99** *Distance (ft)* **7** *Direction* **N** *Secondary Rd* **SHAW AVENUE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **N/B TO SHAW AVENUE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019039** *Collision Date* **20160907** *Time* **1951** *Day* **WED**
Primary Collision Factor **STRTNG\|BCKNG** *Violation* **22106** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160912**
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	36	M	W	HNBD		PROC ST	N	D	2200	CHEVY	2015	- 3	N		-	M	G
2	DRVR	46	F	A	HNBD		SLOWING	N	A	0700	NISS	2010	- 3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		12	M	3	0	M	G
PASS		11	M	4	0	P	G
PASS		8	F	6	0	P	G

Primary Rd **STATE ROUTE 99** *Distance (ft)* **160** *Direction* **S** *Secondary Rd* **EL DORADO** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **NB** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019039** *Collision Date* **20160713** *Time* **1338** *Day* **WED**
Primary Collision Factor **LANE CHANGE** *Violation* **21658A** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160801**
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	
1	DRVR	32	M	H	HNBD		CHANG LN	N	D	2200	FORD	2008	- 3	N		-	M	G
2	DRVR	55	F	W	HNBD		CHANG LN	N	A	0100	TOYO	1999	- 3	N		-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	55	F	1	0	L	G

Primary Rd **STATE ROUTE 99** *Distance (ft)* **1056** *Direction* **S** *Secondary Rd* **OLIVE AVENUE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **NB** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019039** *Collision Date* **20160713** *Time* **2052** *Day* **WED**
Primary Collision Factor **LANE CHANGE** *Violation* **21658A** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160727**
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* **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	25	M	B	HNBD		CHANG LN	N	A	0100	BUIC	2005	- 3	N		-	M	G
2	DRVR	998	-		IMP UNK	IMP UNK	PROC ST	N	A	0100	TOYO		- 3	N		-	B	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **STATE ROUTE 99** *Distance (ft)* **528** *Direction* **N** *Secondary Rd* **STATE ROUTE 180** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **NB** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019039** *Collision Date* **20160617** *Time* **1645** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160620**
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	25	M	A	HNBD		PROC ST	N	A	0100	NISS	2011	- 3	N		-	M	G
2	DRVR	25	M	H	HNBD		SLOWING	N	A	0100	HOND	2011	- 3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd **WEST AV** *Distance (ft)* **168** *Direction* **N** *Secondary Rd* **CAMBRIDGE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW** *Beat* **H2252** *Type* **0** *CalTrans* *Badge* **P850** *Collision Date* **20160119** *Time* **1140** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **OTHER** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160322**
Weather1 **CLOUDY** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **NON-CLSN** *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	53	M	W	HNBD		PROC ST	S	C	0200	HARLE	1994	-	3	N	-	P	W

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	53	M	1	1	N	W

Primary Rd **WEST AV** *Distance (ft)* **505** *Direction* **N** *Secondary Rd* **SIERRA AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NWB** *Beat* **1352** *Type* **0** *CalTrans* *Badge* **P1070** *Collision Date* **20160426** *Time* **0354** *Day* **TUE**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152B** *Collision Type* **HIT OBJECT** *Severity* **FATAL** *#Killed* **1** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20171002**
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* **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	25	M	W	HBD-UI		RAN OFF RD	N	A	0100	HONDA	2016	-	3	A	22350	-	L	F

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	KILLED	25	M	1	0	L	F

Primary Rd **WEST CLINTON AV** *Distance (ft)* **2** *Direction* **S** *Secondary Rd* **N MILBURN AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW224** *Beat* **00F** *Type* **0** *CalTrans* *Badge* **P1674** *Collision Date* **20160207** *Time* **0247** *Day* **SUN**
Primary Collision Factor **UNKNOWN** *Violation* **23103A** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160329**
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	M		IMP UNK	IMP UNK	PROC ST	E	A	0100	HYUND	2002	-	-	N	-	M	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST HERNDON AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **NORTH MARKS AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW124** *Beat* **00B** *Type* **0** *CalTrans* *Badge* **P1702** *Collision Date* **20160228** *Time* **1552** *Day* **SUN**
Primary Collision Factor **LANE CHANGE** *Violation* **21658A** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160415**
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	998	M	W	IMP UNK	IMP UNK	CHANG LN	W	A	0700	NISSA	1988	-	3	N	-	M	B
2	DRVR	27	M	H	HNBD		PROC ST	W	A	0100	CHEVR	2008	-	3	N	-	M	E

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		28	F	3	0	L	G
PASS		0	M	4	0	M	Q
PASS		2	F	6	0	M	Q

Primary Rd **WEST SHAW AV** *Distance (ft)* **100** *Direction* **W** *Secondary Rd* **N POLK AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW164** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P960** *Collision Date* **20160214** *Time* **1100** *Day* **SUN**
Primary Collision Factor **OTHER IMPROP DRV** *Violation* *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160824**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **OTHER** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER 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	
1	DRVR	27	F	H			PROC ST	W	A	0100	BMW	2008	-	3	M	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		26	M	3	0	M	G
PASS		2	F	6	0	M	Q

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Primary Rd **SR-99 S/B TO SR-180** *Distance (ft)* **100** *Direction* **N** *Secondary Rd* **NIELSEN AVENUE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **020854** *Collision Date* **20170820** *Time* **1550** *Day* **SUN**
Primary Collision Factor **WRONG SIDE** *Violation* **21651A** *Collision Type* **SIDESWIPE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20170915**
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	998	-		IMP UNK	IMP UNK	OTHER	S	D	2200	CHEV		-	3	N	-	B	B
2	DRVR	45	F	W	HNBD		PROC ST	S	A	0800	KIA	2012	-	3	N	-	M	G
3	DRVR	40	M	W	HNBD		PROC ST	S	A	0100	TOYOT	1991	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	SEVERE	40	M	1	0	M	G
PASS	OTH VIS	47	F	3	0	M	G

Primary Rd **SR-99 TO SHAW AVENUE** *Distance (ft)* **5** *Direction* **N** *Secondary Rd* **SHAW AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **015986** *Collision Date* **20170920** *Time* **0725** *Day* **WE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20170929**
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	45	M	W	HNBD		PROC ST	S	A	0700	FORD	2017	-	3	N	-	M	G
2	DRVR	56	M	H	HNBD		STOPPED	S	D	2200	CHEV	2017	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **SR180 W/B TO SR99** *Distance (ft)* **475** *Direction* **W** *Secondary Rd* **G ST** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **181** *Type* **1** *CalTrans* *Badge* **019895** *Collision Date* **20170502** *Time* **1725** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20170503**
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	16	M	O	HNBD		PROC ST	W	A	0100	TOYO	2014	-	3	N	-	M	G
2	DRVR	24	F	O	HNBD		PROC ST	W	A	0100	HONDA	2014	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **SR180 W/B TO SR99** *Distance (ft)* **600** *Direction* **E** *Secondary Rd* **SR-99 N/B** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **181** *Type* **1** *CalTrans* *Badge* **019603** *Collision Date* **20171118** *Time* **1820** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20171128**
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* **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	19	M	H	HNBD		PROC ST	W	D	2200	FORD	1994	-	3	N	-	M	G
2	DRVR	55	M	A	HNBD		SLOWING	W	A	0100	TOYT	2004	-	3	N	-	M	G
3	DRVR	31	M	O	HNBD		SLOWING	W	A	0100	VOLK	2015	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **SR41 S/B** *Distance (ft)* **675** *Direction* **S** *Secondary Rd* **HERNDON AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **410** *Type* **1** *CalTrans* *Badge* **019473** *Collision Date* **20170513** *Time* **2210** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20170523**
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* **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	-	9900	-		-	3	N	-	B	B
2	DRVR	45	F	A	HNBD		PROC ST	S	A	0100	HOND	2009	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd **SR-99 N/B FROM** *Distance (ft)* **528** *Direction* **N** *Secondary Rd* **NORTH AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **NORTH AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **106** *Type* **1** *CalTrans* *Badge* **016833** *Collision Date* **20170322** *Time* **1020** *Day* **WED**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **OVERTURNED** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20170323**
Weather1 **CLOUDY** *Weather2* **RAINING** *Rdwy Surface* **WET** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **NON-CLSN** *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	26	F	H	HNBD		OTHER	N	D	2200	DODGE	2007	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **SR-99 N/B FROM** *Distance (ft)* **200** *Direction* **N** *Secondary Rd* **OLIVE AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **OLIVE AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019926** *Collision Date* **20171010** *Time* **1600** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20171018**
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	25	F	H	HNBD		PROC ST	N	A	0100	KIA	2013	-	3	H		-	M	G
2	DRVR	83	F	O	HNBD		STOPPED	N	A	0700	CHEV	2011	-	3	H		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **SR-99 N/B FROM** *Distance (ft)* **220** *Direction* **N** *Secondary Rd* **OLIVE AVE.** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **OLIVE AVE.** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **015106** *Collision Date* **20170310** *Time* **0710** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **N** *Process Date* **20170314**
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	37	M	H	HNBD		PROC ST	N	F	2600	GMC	2006	-	3	F		-	M	G
2	DRVR	29	M	H	HNBD		STOPPED	N	D	2200	CHEVY	2017	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	37	M	1	0	M	G
DRVR	COMP PN	29	M	1	0	M	G

Primary Rd **SR-99 N/B FROM** *Distance (ft)* **100** *Direction* **N** *Secondary Rd* **SHAW AVE.** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **SHAW AVE.** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **020680** *Collision Date* **20170312** *Time* **0300** *Day* **SUN**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20170320**
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	23	M	H	HBD-UI		PROC ST	N	A	0100	HOND	2009	-	3	A	22107	-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **SR-99 N/B FROM** *Distance (ft)* **38** *Direction* **N** *Secondary Rd* **SHAW AVENUE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **SHAW AVENUE W/B** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **020064** *Collision Date* **20171022** *Time* **0530** *Day* **SUN**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20171030**
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	23	M	H	HBD-UI		PROC ST	W	D	2200	MAZDA	1994	-	3	A	22350	H	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	MINOR	23	M	1	0	M	G

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Primary Rd SR-99 N/B FROM | Distance (ft) 1056 | Direction N | Secondary Rd STANISLAUS | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | STANISLAUS AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 017489 | Collision Date 20170629 | Time 1015 | Day THU
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170703
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	37	F	A	HNBD		PROC ST	N	A	0100	TOYT	2009	- 3	N		-	M G
2	DRVR	59	M	H	HNBD		STOPPED	N	A	0100	DODG	2008	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B FROM | Distance (ft) 725 | Direction N | Secondary Rd VENTURA AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | VENTURA AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 015468 | Collision Date 20170920 | Time 0852 | Day WED
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity INJURY | #Killed 0 | #Injured 2 | Tow Away? Y | Process Date 20170927
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	28	F	H	HNBD		PROC ST	N	A	0100	CHEV	2012	- 3	N		-	L G
2	DRVR	53	F	A	HNBD		STOPPED	N	A	0700	HOND	2004	- 3	N		-	M G
3	DRVR	19	M	W	HNBD		STOPPED	N	E	2235	FORD	2001	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	53	F	1	0	M	G
PASS	COMP PN	18	F	3	0	M	G

Primary Rd SR-99 N/B FROM | Distance (ft) 500 | Direction N | Secondary Rd VENTURA AVE. | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | VENTURA AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 015106 | Collision Date 20170508 | Time 1040 | Day MON
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20170515
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	25	F	A	HNBD		PROC ST	N	A	0100	CHEVY	2009	- 3	N		-	M G
2	DRVR	24	F	H	HNBD		STOPPED	N	A	0100	HYUND	2013	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	25	F	1	0	M	G

Primary Rd SR-99 N/B FROM | Distance (ft) 300 | Direction N | Secondary Rd VENTURA ST | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | VENTURA ST | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 020193 | Collision Date 20170617 | Time 1905 | Day SAT
Primary Collision Factor IMPROP PASS | Violation 21755 | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170623
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	998	-		IMP UNK	IMP UNK	PASSING	N	A	0700	LEXU		- 3	H		-	B B
2	DRVR	39	F	H	HNBD		PROC ST	N	D	2200	FORD	2002	3	H		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B TO | Distance (ft) 90 | Direction S | Secondary Rd ASHLAN AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | ASHLAN AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 019926 | Collision Date 20170712 | Time 1815 | Day WED
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170714
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	42	M	B	HNBD		PROC ST	N	A	0700	CHEV	2002	- 3	H		-	M G
2	DRVR	50	M	B	HNBD		STOPPED	N	A	0100	TOYO	2015	- 3	H		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd SR-99 N/B TO | Distance (ft) 30 | Direction S | Secondary Rd ASHLAN AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | ASLAN AVENUE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 019113 | Collision Date 20170613 | Time 1617 | Day TU
Primary Collision Factor STRTNG|BCKNG | Violation 22106 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170621
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	23	M	H	IMP UNK	IMP UNK	PROC ST	N	A	0100	CHRY	2005	-	3	N	-	M	G
2	DRVR	24	F	H	HNBD		STOPPED	N	D	2200	CHEV	2017	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B TO | Distance (ft) 50 | Direction S | Secondary Rd ASHLAN AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | ASLAN AVENUE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 015986 | Collision Date 20170906 | Time 0840 | Day WED
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170915
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	28	M	H	HNBD		PROC ST	N	A	0100	MITS	1998	-	3	N	-	M	G
2	DRVR	33	F	H	HNBD		STOPPED	N	A	0100	SUZI	2005	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B TO | Distance (ft) 100 | Direction S | Secondary Rd BELMONT AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | BELMONT AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 019926 | Collision Date 20170509 | Time 1450 | Day TUE
Primary Collision Factor STRTNG|BCKNG | Violation 22106 | Collision Type OTHER | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170516
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	54	M	B	HNBD		BACKING	N	D	2200	CHEV	1988	-	3	H	L	M	G
2	DRVR	38	M	W	HNBD		STOPPED	N	A	0100	HOND	2011	-	3	H	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B TO | Distance (ft) 10 | Direction S | Secondary Rd BELMONT | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | BELMONT AVENUE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 018914 | Collision Date 20170620 | Time 1300 | Day TUE
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity INJURY | #Killed 0 | #Injured 2 | Tow Away? N | Process Date 20170628
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 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	-		IMP UNK	IMP UNK	PROC ST	N	D	2200	FORD		-	3	N	-	B	B
2	DRVR	31	F	H	HNBD		RGT TURN	N	A	0100	NISS	2008	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN 31	F	1	0	M	G	
PASS	COMP PN 56	M	3	0	M	G	

Primary Rd SR-99 N/B TO | Distance (ft) 5 | Direction S | Secondary Rd BELMONT | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | BELMONT AVENUE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 015986 | Collision Date 20171202 | Time 1200 | Day SAT
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20171207
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	31	M	H	HNBD		PROC ST	N	A	0100	CADI	2009	-	3	N	-	M	G
2	DRVR	27	F	H	HNBD		STOPPED	N	A	0100	TOYT	2016	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd SR-99 N/B TO | Distance (ft) 15 | Direction S | Secondary Rd CLINTON AVENUE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County CLINTON AVENUE Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 017327 | Collision Date 20170107 | Time 1145 | Day SAT
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170227
Weather1 CLOUDY | Weather2 | Rdwy Surface WET | 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	998	-		IMP UNK	IMP UNK	PROC ST	N	A	0700	-		-	3	N		- M B
2	DRVR	64	F	W	HNBD		STOPPED	N	A	0100	CHRY	2003	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B TO | Distance (ft) 528 | Direction S | Secondary Rd FRESNO ST | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County FRESNO STREET Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 014479 | Collision Date 20170505 | Time 1028 | Day FRI
Primary Collision Factor NOT DRIVER | Violation | Collision Type OVERTURNED | Severity INJURY | #Killed 0 | #Injured 2 | Tow Away? Y | Process Date 20170525
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 HOLES | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With NON-CLSN | 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
1	DRVR	35	F	H	HNBD		PROC ST	N	A	0100	KIA	2010	-	3	H		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	35	F	1	0	M	G
PASS	COMP PN	16	F	3	0	M	G

Primary Rd SR-99 N/B TO | Distance (ft) 1426 | Direction S | Secondary Rd ASHLAN AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County GOLDENSTATE BLVD Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 017518 | Collision Date 20170519 | Time 0130 | Day FRI
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170531
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 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	-		IMP UNK	IMP UNK	RAN OFF RD	S	A	0700	NISS	2008	-	3	A	22350	H M B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B TO | Distance (ft) 100 | Direction S | Secondary Rd HERNDON AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County HERNDON AVE Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 019926 | Collision Date 20170724 | Time 1720 | Day MON
Primary Collision Factor STRTNG|BCKNG | Violation 22106 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170726
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	51	M	W	HNBD		PROC ST	N	G	2531	PTRB	2015	-	3	H		- M G
2	DRVR	27	F	H	HNBD		STOPPED	N	A	0100	NISS	2011	-	3	H		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B TO | Distance (ft) 30 | Direction S | Secondary Rd HERNDON AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County HERNDON AVENUE Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 015468 | Collision Date 20171027 | Time 0800 | Day FRI
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20171102
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	31	F	H	HNBD		PROC ST	N	A	0700	KIA	2011	-	3	N		- M G
2	DRVR	40	M	O	HNBD		STOPPED	N	A	0100	VOLK	2016	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd SR-99 S/B FROM | Distance (ft) 175 | Direction S | Secondary Rd SHAW AVENUE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | SHAW AVENUE County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 020592 | Collision Date 20170929 | Time 2055 | Day FRI
Primary Collision Factor WRONG SIDE | Violation 21460A | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20171016
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 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	32	F	W	IMP UNK	IMP UNK	OPPOS LN	S	A	0100	FORD	1991	- 3	N		-	P	G	
2	DRVR	38	F	B	HNBD		STOPPED	S	A	0700	FORD	2003	- 3	N		-	M	G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 S/B FROM | Distance (ft) 150 | Direction S | Secondary Rd SHIELDS AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | SHIELDS AVE County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 019895 | Collision Date 20170628 | Time 1330 | Day WED
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170629
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 CONS ZONE | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER 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	32	F	H	HNBD		OTHER	S	A	0700	CHRYS	2004	- 3	N		-	M	G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 S/B TO | Distance (ft) 200 | Direction S | Secondary Rd ASHLAN AVENUE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | ASHLAN AVE County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 019369 | Collision Date 20170315 | Time 1550 | Day WED
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170320
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With NON-CLSN | 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	60	F	B	HNBD		PROC ST	N	A	0100	MERB	2006	- 3	N		-	L	G	
2	DRVR	55	M	H	HNBD		STOPPED	N	G	2531	FREI	2012	- 3	N		-	M	G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 S/B TO | Distance (ft) 50 | Direction N | Secondary Rd JENSEN AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | JENSEN AVE County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 020273 | Collision Date 20170714 | Time 1530 | Day FRI
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170725
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	41	M	H	HNBD		PROC ST	S	A	0700	FORD	2004	- 3	N		-	M	G	
2	DRVR	51	F	H	HNBD		STOPPED	S	A	0700	TOYO	2017	- 3	N		-	M	G	
3	DRVR	51	M	H	HNBD		STOPPED	S	D	2200	NISS	2016	- 3	N		-	M	G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 S/B TO | Distance (ft) 250 | Direction N | Secondary Rd JENSEN AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | JENSEN AVE County Fresno | Population 7 | Rpt Dist | Beat 106 | Type 1 | CalTrans | Badge 019523 | Collision Date 20170925 | Time 1535 | Day MON
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type HIT OBJECT | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20171006
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 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	19	F	H	HNBD		RAN OFF RD	S	A	0100	HYUN	2008	- 3	N		-	L	G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	POSSIBL	19	F	1	0	L	G

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Primary Rd **SR180 W/B** *Distance (ft)* **1056** *Direction* **E** *Secondary Rd* **SR99 N/B** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **181** *Type* **1** *CalTrans* *Badge* **020062** *Collision Date* **20170422** *Time* **2112** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20170501**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **CONS ZONE** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *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	998	-		IMP UNK	IMP UNK	PROC ST	W	A	0100	HOND		-	3	N		-	B	B
2	DRVR	30	M	H	HNBD		SLOWING	W	A	0100	HOND	2001	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **SR180 WB** *Distance (ft)* **550** *Direction* **E** *Secondary Rd* **ABBY AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **181** *Type* **1** *CalTrans* *Badge* **016911** *Collision Date* **20170103** *Time* **2236** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20170111**
Weather1 **RAINING** *Weather2* *Rdwy Surface* **WET** *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* **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	23	M	A	HNBD		CHANG LN	W	A	0100	HOND	1994	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	23	M	1	0	M	G

Primary Rd **SR41 N/B** *Distance (ft)* **792** *Direction* **S** *Secondary Rd* **SR180 E/B** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **410** *Type* **1** *CalTrans* *Badge* **020062** *Collision Date* **20171210** *Time* **0335** *Day* **SUN**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20171215**
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* **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	27	M	A	HBD-UI		PROC ST	N	D	2200	DODG	1997	-	3	A	22107	-	L	G
2	DRVR	22	F	H	HBD-UI		PROC ST	N	A	0100	HOND	2012	-	3	N		-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	POSSIBL	27	M	1	0	L	G
DRVR	SERIOUS	22	F	1	0	L	G

Primary Rd **SR41 S/B** *Distance (ft)* **140** *Direction* **S** *Secondary Rd* **MCKINLEY AVE.** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **410** *Type* **1** *CalTrans* *Badge* **015106** *Collision Date* **20170608** *Time* **1300** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20170615**
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* **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	23	F	A	HNBD		PROC ST	S	A	0100	TOYOT	2001	-	3	N		-	M	G
2	DRVR	49	M	W	HNBD		SLOWING	S	D	2200	FORD	2016	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **SR99 N/B TO** *Distance (ft)* **5** *Direction* **S** *Secondary Rd* **ASHLAN AVE.** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **FresnoASHLAN AVENUE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **015106** *Collision Date* **20170602** *Time* **0855** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20170609**
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	W	HNBD		PROC ST	N	A	0100	BUICK	2000	-	3	N		-	M	G
2	DRVR	69	F	W	HNBD		STOPPED	N	A	0700	BUICK	2013	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd GRANTLAND AV Distance (ft) 0 Direction Secondary Rd MCKINLEY AV NCIC 9435 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City UNINCORP. County Fresno Population 9 Rpt Dist Beat 010 Type 3 CalTrans Badge 15106 Collision Date 20131121 Time 0800 Day THU
Primary Collision Factor STOP SGN|SIG Violation 22450A Collision Type BROADSIDE Severity INJURY #Killed 0 #Injured 1 Tow Away? Y Process Date 20140513
Weather1 CLOUDY 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	35	M	W	HNBD		PROC ST	N	D	2200	DODGE	2005	-	3	N	-	M G
2	DRVR	23	M	H	HNBD		PROC ST	W	A	0100	SUZUK	2006	-	3	N	-	L E
3	DRVR	40	M	H	HNBD		STOPPED	S	G	2533	OTHER	1997	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		23	M	3	0	M	G
DRVR	OTH VIS	23	M	1	0	L	E

Primary Rd GRANTLAND AV Distance (ft) 0 Direction Secondary Rd OLIVE AV NCIC 9435 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City UNINCORP. County Fresno Population 9 Rpt Dist Beat 010 Type 3 CalTrans Badge 017489 Collision Date 20130217 Time 1615 Day SUN
Primary Collision Factor R-O-W AUTO Violation 21802A Collision Type BROADSIDE Severity INJURY #Killed 0 #Injured 3 Tow Away? Y Process Date 20140128
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	40	M	W	HNBD		PROC ST	N	A	0700	CHEVR	2005	-	3	N	-	M G
2	DRVR	43	F	A	HNBD		PROC ST	W	A	0100	TOYOT	2008	-	3	N	-	L G
3	DRVR	45	M	H	HBD-NUI		PROC ST	E	D	2200	CHEVR	1991	-	3	N	-	P G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		35	F	3	0	M	G
PASS		7	M	4	0	P	G
PASS		2	F	6	0	P	Q
DRVR	COMP PN	43	F	1	0	L	G
PASS		14	F	3	0	L	G
PASS		69	F	4	0	L	G
PASS	COMP PN	71	F	6	0	L	G
PASS	OTH VIS	45	M	3	0	P	G

Primary Rd GRANTLAND AV Distance (ft) 0 Direction Secondary Rd PARKWAY DR NCIC 9435 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City UNINCORP. County Fresno Population 9 Rpt Dist Beat 010 Type 3 CalTrans Badge 18944 Collision Date 20130518 Time 1800 Day SAT
Primary Collision Factor R-O-W AUTO Violation 21802A Collision Type BROADSIDE Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20140904
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	H	HNBD		LFT TURN	N	A	0100	HONDA	2000	-	3	N	-	M G
2	DRVR	38	F	A	HNBD		PROC ST	S	A	0100	HONDA	2002	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		17	F	3	0	M	G
PASS		46	F	3	0	P	G
PASS		20	F	6	0	P	G
PASS		7	F	6	0	P	G

Primary Rd GRANTLAND AV Distance (ft) 1320 Direction S Secondary Rd RIALTO AV NCIC 9435 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City UNINCORP. County Fresno Population 9 Rpt Dist Beat 010 Type 3 CalTrans Badge 018912 Collision Date 20130310 Time 0027 Day SUN
Primary Collision Factor IMPROP TURN Violation 22107 Collision Type HIT OBJECT Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20140725
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	18	F	W	HNBD		UNS TURN	S	D	2200	FORD	2001	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd N FRIANT RD | Distance (ft) 0 | Direction | Secondary Rd N FT | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NE085 | Beat 00A | Type 0 | CalTrans | Badge P1066 | Collision Date 20130128 | Time 0855 | Day MON
Primary Collision Factor STOP SGN|SIG | Violation 21453A | Collision Type BROADSIDE | Severity INJURY | #Killed 0 | #Injured 3 | Tow Away? Y | Process Date 20150107
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	51	M	B	HNBD		PROC ST	N	A	0100	CHEVR	2005	- 3	A	14601	-	L G	DRVR	COMP PN	51	M	1	0	L	G
																		PASS	COMP PN	37	F	3	0	L	G
2	DRVR	35	M	W	HNBD		LFT TURN	W	A	0100	FORD	2012	- 3	N		-	L G	DRVR	COMP PN	35	M	1	0	L	G
3	DRVR	49	M	W	HNBD		LFT TURN	W	A	0100	MERCE	1984	- 3	N		-	M G								

Primary Rd N FRIANT RD | Distance (ft) 279 | Direction W | Secondary Rd RT 41 | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NE105 | Beat 00A | Type 0 | CalTrans | Badge P871 | Collision Date 20130119 | Time 1541 | Day SAT
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity INJURY | #Killed 0 | #Injured 2 | Tow Away? Y | Process Date 20150106
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																	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	24	F	W	HNBD		PROC ST	W	A	0100	FORD	2006	- 3	F		-	L G								
2	DRVR	39	F	W	HNBD		STOPPED	W	A	0700	SATUR	2007	- 3	N		-	M G	DRVR	COMP PN	39	F	1	0	M	G
																		PASS	COMP PN	62	F	3	0	M	G

Primary Rd N GOLDEN STATE | Distance (ft) 1736 | Direction N | Secondary Rd W RICHERT AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City FresnoBL | County Fresno | Population 7 | Rpt Dist 1746 | Beat 00C | Type 0 | CalTrans | Badge P864 | Collision Date 20130130 | Time 0954 | Day WED
Primary Collision Factor TOO CLOSE | Violation 21703 | Collision Type REAR END | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20150112
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																	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	48	M	O	HNBD		SLOWING	N	A	0800	FORD	1995	- 3	N		-	L G	DRVR	COMP PN	48	M	1	0	L	G
2	DRVR	31	M	W	HNBD		SLOWING	N	D	2200	CHEVR	2011	- 3	A	21703	-	M G								
3	DRVR	29	M	W	HNBD		SLOWING	N	F	2600	INTER	2010	- 3	N		-	M G								

Primary Rd N GOLDEN STATE | Distance (ft) 30 | Direction N | Secondary Rd WEST ASHLAN AV | NCIC 1005 | State Hwy? Y | Route 99 | Postmile Prefix - | Postmile 26.334 | Side of Hwy N
City FresnoBL | County Fresno | Population 7 | Rpt Dist NW174 | Beat 00C | Type 0 | CalTrans 6 | Badge P1569 | Collision Date 20130218 | Time 1720 | Day MON
Primary Collision Factor R-O-W AUTO | Violation 21804A | Collision Type BROADSIDE | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20150106
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 DUSK/DAWN | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type R | Ramp/Int 4

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	BICY	42	M	H			ENT TRAF	W	L	0400	-		- -	-		-	- -	BICY	COMP PN	42	M	9	1	P	-
2	DRVR	46	F	H	HNBD		PROC ST	N	A	0100	HONDA	2004	- 3	-		-	M G								

Primary Rd N GRANVILLE AV | Distance (ft) 0 | Direction | Secondary Rd E WATERFORD AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist 0760 | Beat 00A | Type 0 | CalTrans | Badge P124 | Collision Date 20130122 | Time 1756 | Day TUE
Primary Collision Factor R-O-W AUTO | Violation 21801A | Collision Type HEAD-ON | Severity INJURY | #Killed 0 | #Injured 2 | Tow Away? N | Process Date 20150112
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 NT PRS/FCTR | 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	58	F	W	HNBD		LFT TURN	N	D	2200	TOYOT	2005	- 3	-		-	L B	DRVR	COMP PN	58	F	1	0	L	B

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Primary Rd **PALMER** *Distance (ft)* **0** *Direction* *Secondary Rd* **O ST** *NCIC* **1006** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Huron** *County* **Fresno** *Population* **2** *Rpt Dist* **1006** *Beat* **ALL** *Type* **0** *CalTrans* *Badge* **2085** *Collision Date* **20130812** *Time* **1811** *Day* **MON**
Primary Collision Factor **NOT DRIVER** *Violation* *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20140402**
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	
1	DRVR	23	F	H	HNBD		OTHER	E	A	0100	TOYOT	2000	-	-	G	-	M	G
2	DRVR	36	M	H	HNBD		STOPPED	E	A	0100	CHEVR	2003	-	-	G	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	23	F	1	0	M	G
PASS		51	F	6	0	M	G
PASS		43	F	3	0	M	G

Primary Rd **PALO ALTO AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **TAKAHASHI AV** *NCIC* **1001** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Clovis** *County* **Fresno** *Population* **5** *Rpt Dist* **CLOVI** *Beat* **006** *Type* **0** *CalTrans* *Badge* **5463** *Collision Date* **20130124** *Time* **0828** *Day* **THU**
Primary Collision Factor **OTHER IMPROP DRV** *Violation* *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20140618**
Weather1 **CLOUDY** *Weather2* *Rdwy Surface* **WET** *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	48	F	W	HNBD		PROC ST	E	A	0100	NISSA	2010	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **PANOCHE RD** *Distance (ft)* **6336** *Direction* **E** *Secondary Rd* **HUDSON AV** *NCIC* **9461** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **060** *Type* **3** *CalTrans* *Badge* **16452** *Collision Date* **20130706** *Time* **1532** *Day* **SAT**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20140311**
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* **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	24	F	H	HNBD		RAN OFF RD	E	A	0100	MAZDA	2013	-	3	A	21750	-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	24	F	1	0	L	G

Primary Rd **PANOCHE RD** *Distance (ft)* **0** *Direction* *Secondary Rd* **RT 5** *NCIC* **9461** *State Hwy?* **Y** *Route* **5** *Postmile Prefix* **-** *Postmile* **48.807** *Side of Hwy* **N**
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **030** *Type* **3** *CalTrans* **6** *Badge* **17493** *Collision Date* **20130712** *Time* **2200** *Day* **FRI**
Primary Collision Factor **OTHER HAZ** *Violation* **21702A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20150623**
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* **R** *Ramp/Int* **4**

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	55	F	A	HNBD		LFT TURN	N	A	0100	HONDA	2005	-	3	N	-	M	G
2	DRVR	20	M	H	HNBD		PROC ST	E	A	0100	DODGE	2000	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		60	M	3	0	M	G
PASS		36	F	6	0	P	G

Primary Rd **PARKWAY DR** *Distance (ft)* **52** *Direction* **N** *Secondary Rd* **GRANTLAND AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **14590** *Collision Date* **20130318** *Time* **0750** *Day* **MON**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20130423**
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	
1	DRVR	45	M	H	HNBD		PROC ST	S	C	0200	YAMAH	2006	-	3	N	-	P	W
2F	DRVR	36	M	W	HNBD		U-TURN	S	J	4800	FORD	2011	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd PARKWAY DR | Distance (ft) 0 | Direction | Secondary Rd GRANTLAND AV | NCIC 9435 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City UNINCORP. | County Fresno | Population 9 | Rpt Dist | Beat 010 | Type 3 | CalTrans | Badge 18574 | Collision Date 20130719 | Time 0440 | Day FRI
Primary Collision Factor R-O-W AUTO | Violation 21802A | Collision Type HEAD-ON | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20140926
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	55	F	H	HNBD		LFT TURN	E	A	0100	TOYOT	2010	- 3	N		-	M G
2	DRVR	56	M	H	HNBD		PROC ST	S	A	0100	BUICK	2003	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd PARKWAY DR | Distance (ft) 19 | Direction S | Secondary Rd HERNDON AV | NCIC 9435 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist | Beat 010 | Type 3 | CalTrans | Badge 18746 | Collision Date 20130304 | Time 1635 | Day MON
Primary Collision Factor DRVR ALC|DRG | Violation 23152A | Collision Type BROADSIDE | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20140204
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	71	M	W	HBD-UI		PROC ST	N	D	2200	GMC	2002	- 3	A	22450	-	M G
2	DRVR	50	M	H	HNBD		LFT TURN	W	H	6600	INTER	2000	- 3	N		-	P G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	71	M	1	0	M	G

Primary Rd PARKWAY DR | Distance (ft) 0 | Direction | Secondary Rd KAMM AV | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City UNINCORP. | County Fresno | Population 9 | Rpt Dist | Beat 040 | Type 3 | CalTrans | Badge 17122 | Collision Date 20130716 | Time 0350 | Day TUE
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type HIT OBJECT | Severity INJURY | #Killed 0 | #Injured 2 | Tow Away? Y | Process Date 20140317
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 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	21	F	H	HNBD		PROC ST	E	A	0100	FORD	2000	- 3	J		-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	21	F	1	0	L	G
PASS	OTH VIS	19	F	3	0	L	G

Primary Rd PARKWAY DR | Distance (ft) 0 | Direction | Secondary Rd MENLO AV | NCIC 9435 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City UNINCORP. | County Fresno | Population 9 | Rpt Dist | Beat 010 | Type 3 | CalTrans | Badge 15966 | Collision Date 20130327 | Time 1755 | Day WED
Primary Collision Factor R-O-W AUTO | Violation 21801A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20140801
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	23	F	A	HNBD		LFT TURN	N	A	0100	BMW	2007	- 3	N		-	M G
2	DRVR	31	M	H	HNBD		PROC ST	S	A	0100	DODGE	2010	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd PARKWAY DR | Distance (ft) 0 | Direction | Secondary Rd VASSAR AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist | Beat | Type 0 | CalTrans | Badge | Collision Date 20130131 | Time 1550 | Day THU
Primary Collision Factor R-O-W AUTO | Violation 21802A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20140530
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	31	M	O	HNBD		LFT TURN	S	A	0100	FORD	2007	- 3	N		-	M G
2	DRVR	23	F	H	HNBD		PROC ST	W	A	0100	TOYOT	1997	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd SHAW AV | Distance (ft) 0 | Direction | Secondary Rd RT 99 | NCIC 1005 | State Hwy? Y | Route 99 | Postmile Prefix - | Postmile 28.318 | Side of Hwy N
City Fresno | County Fresno | Population 7 | Rpt Dist | Beat | Type 0 | CalTrans 6 | Badge 00001 | Collision Date 20130406 | Time 0040 | Day SAT
Primary Collision Factor DRVR ALC|DRG | Violation 23152A | Collision Type HEAD-ON | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20150115
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 R | Ramp/Int 4

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	35	M	W	HBD-UI		LFT TURN	E	A	0700	KIA	2008	-	3	A	21801	- M G
2	DRVR	19	M	H	HNBD		PROC ST	W	A	0100	PONTI	2001	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SHAW AV | Distance (ft) 0 | Direction | Secondary Rd SHAW AV 389 | NCIC 1001 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Clovis | County Fresno | Population 5 | Rpt Dist 1001 | Beat 005 | Type 0 | CalTrans | Badge 5279 | Collision Date 20131231 | Time 1949 | Day TUE
Primary Collision Factor UNKNOWN | Violation | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20141229
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run MSDMNR | 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
1	OTHR	998	-		HBD-UNK		PARKING	-	-	0000	-		-	F		-	- -
2	PRKD	998	-				PARKED	N	D	2200	DODGE	2012	-	-	-	-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SHAW AV | Distance (ft) 10 | Direction W | Secondary Rd SHOCKLEY AV | NCIC 9435 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City UNINCORP. | County Fresno | Population 9 | Rpt Dist | Beat 025 | Type 3 | CalTrans | Badge 18914 | Collision Date 20130127 | Time 1640 | Day SUN
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20140625
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	35	M	W	HNBD		PROC ST	E	A	0700	TOYOT	2006	-	3	F		- G -
2	DRVR	36	F	W	HNBD		SLOWING	E	A	0100	BMW	2005	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SHAW AV | Distance (ft) 0 | Direction | Secondary Rd SIERRA VISTA | NCIC 1001 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Clovis | County Fresno | Population 5 | Rpt Dist CLOVI | Beat 002 | Type 0 | CalTrans | Badge 5450 | Collision Date 20130115 | Time 2226 | Day TUE
Primary Collision Factor UNKNOWN | Violation | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20140613
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
1	DRVR	31	M	H			PROC ST	N	A	0100	HONDA	2001	-	3	A	12500	- M G
2	DRVR	19	M	W			PROC ST	E	D	2200	FORD	2001	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		998	M	3	0	M	H

Primary Rd SHAW AV | Distance (ft) 75 | Direction E | Secondary Rd STANFORD AV | NCIC 1001 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Clovis | County Fresno | Population 5 | Rpt Dist | Beat | Type 0 | CalTrans | Badge 5104 | Collision Date 20130820 | Time 1336 | Day TUE
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20141021
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 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	36	F	W	HNBD	FATG	PROC ST	W	A	0100	INFIN	1996	-	3	N		- L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd WEST ASHLAN AV Distance (ft) 0 Direction Secondary Rd N PARKWAY DR NCIC 1005 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Fresno County Fresno Population 7 Rpt Dist NW184 Beat 00A Type 0 CalTrans Badge P1130 Collision Date 20130324 Time 1200 Day SUN
Primary Collision Factor STOP SGN|SIG Violation 21453A Collision Type BROADSIDE Severity INJURY #Killed 0 #Injured 3 Tow Away? N Process Date 20150106
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	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	47	F	H	HNBD		PROC ST	W	A	0100	FORD	1999	-	3	N	-	L	G								
2	DRVR	40	M	W	HNBD		LFT TURN	S	A	0100	CHEVR	2012	-	3	N	-	M	G								
3	DRVR	30	F	H	HNBD		PROC ST	S	A	0100	LEXUS	2005	-	3	N	-	L	G	DRVR	COMP PN	30	F	1	0	L	G
																			PASS	COMP PN	65	M	4	0	P	G
																			PASS	COMP PN	52	F	3	0	L	G
4	DRVR	35	F	H	HNBD		STOPPED	E	A	0100	LEXUS	2011	-	3	N	-	M	G								

Primary Rd WEST ASHLAN AV Distance (ft) 332 Direction E Secondary Rd N SEQUOIA DR NCIC 1005 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Fresno County Fresno Population 7 Rpt Dist NW185 Beat 00D Type 0 CalTrans Badge P864 Collision Date 20130225 Time 0936 Day MON
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type HIT OBJECT Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20150113
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 NT PRS/FCTR Loc Type Ramp/Int

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	47	M	B	HNBD		PROC ST	E	J	4800	DODGE	2008	-	3	N	-	M	G								

Primary Rd WEST ASHLAN AV Distance (ft) 39 Direction W Secondary Rd WILLOW AV NCIC 1001 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Clovis County Fresno Population 5 Rpt Dist CLOVI Beat C302 Type 0 CalTrans Badge 5469 Collision Date 20130907 Time 0245 Day SAT
Primary Collision Factor DRVR ALC|DRG Violation 23152A Collision Type HIT OBJECT Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20141023
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	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	25	M	H	HBD-UI		RGT TURN	W	A	0100	VOLKS	1999	-	3	A	22107	-	L	G							

Primary Rd WEST AV Distance (ft) 25 Direction N Secondary Rd ASHLAN AV NCIC 9435 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Fresno County Fresno Population 7 Rpt Dist Beat 901 Type 4 CalTrans Badge 013200 Collision Date 20131003 Time 0700 Day THU
Primary Collision Factor STRTNG|BCKNG Violation 22106 Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20141113
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 1
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int

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	50	F	W	HNBD		BACKING	S	H	1700	FORD	2006	-	3	N	-	M	G	PASS		6	M	8	0	P	G
																			PASS		7	F	8	0	-	G
																			PASS		44	F	8	0	P	G
2	DRVR	44	F	B	HNBD		STOPPED	W	A	0100	TOYOT	2006	-	3	N	-	M	G								

Primary Rd WEST AV Distance (ft) 0 Direction Secondary Rd CONEJO AV NCIC 9435 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City UNINCORP. County Fresno Population 9 Rpt Dist Beat 020 Type 3 CalTrans Badge 18896 Collision Date 20130518 Time 1830 Day SAT
Primary Collision Factor STOP SGN|SIG Violation 22450A Collision Type BROADSIDE Severity INJURY #Killed 0 #Injured 1 Tow Away? Y Process Date 20140225
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 FNCTNG Loc Type Ramp/Int

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		IMP UNK	IMP UNK	PROC ST	W	D	2200	FORD	1997	-	3	N	-	M	B								

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Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **BRAWLEY AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1647** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **727** *Collision Date* **20130123** *Time* **1859** *Day* **WED**
Primary Collision Factor **R-O-W AUTO** *Violation* **21453B** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20150106**
Weather1 **CLOUDY** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PED** *Lighting* **DARK - ST** *Ped Action* **X-WLK AT** *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	49	M	W	HNBD		RGT TURN	W	A	0100	FORD	2012	-	3	N		-	M G
2	PED	58	M	W	HNBD		PROC ST	S	N	6000	-		-	3	N		-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PED	COMP PN	58	M	0	0	P	-

Primary Rd **WEST SHAW AV** *Distance (ft)* **110** *Direction* **W** *Secondary Rd* **HELM AV** *NCIC* **1001** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Clovis** *County* **Fresno** *Population* **5** *Rpt Dist* *Beat* *Type* **0** *CalTrans* *Badge* **5440** *Collision Date* **20130802** *Time* **1242** *Day* **FRI**
Primary Collision Factor **WRONG SIDE** *Violation* **21202A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20141023**
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* **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	BICY	81	M		HNBD		WRONG WY	E	L	0400	-		-	3	A	21202	-	- -
2	DRVR	57	M	A	HNBD		ENT TRAF	S	D	7300	TOYOT	2004	-	3	F		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST SHAW AV** *Distance (ft)* **100** *Direction* **W** *Secondary Rd* **HELM AV** *NCIC* **1001** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Clovis** *County* **Fresno** *Population* **5** *Rpt Dist* **C401** *Beat* **001** *Type* **0** *CalTrans* *Badge* **5612** *Collision Date* **20131016** *Time* **1549** *Day* **WED**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **N** *Process Date* **20140426**
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	16	M	O	HNBD		PROC ST	W	A	0100	BMW	2006	-	3	F		N	L G
2	DRVR	45	F	H	HNBD		STOPPED	W	A	0100	DODGE	2012	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	16	M	1	0	L	G
DRVR	COMP PN	45	F	1	0	M	G

Primary Rd **WEST SHAW AV** *Distance (ft)* **14** *Direction* **W** *Secondary Rd* **HUMBOLDT AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **15903** *Collision Date* **20130604** *Time* **2205** *Day* **TUE**
Primary Collision Factor **NOT DRIVER** *Violation* *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20140911**
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
1	DRVR	54	M	W			WRONG WY	W	D	2200	FORD	2000	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **HWY 99** *NCIC* **1005** *State Hwy?* **Y** *Route* **99** *Postmile Prefix* **-** *Postmile* **27.911** *Side of Hwy* **S**
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW164** *Beat* **00C** *Type* **0** *CalTrans* **6** *Badge* **P827** *Collision Date* **20130309** *Time* **1230** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20150106**
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* *Loc Type* **R** *Ramp/Int* **4**

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	E	A	0100	CHEVR		-	-	A	22350	-	- -
2	DRVR	76	M	W			PROC ST	E	A	0100	TOYOT	2008	-	3	N		-	M E
3	DRVR	29	F	O	IMP UNK	IMP UNK	STOPPED	E	A	0100	HONDA	2007	-	3	N		-	M E

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	76	M	1	0	M	G

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Primary Rd WEST SHAW AV | Distance (ft) 600 | Direction E | Secondary Rd N BRAWLEY | NCIC 1005 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW164 | Beat 00A | Type 0 | CalTrans | Badge P827 | Collision Date 20130112 | Time 1453 | Day SAT
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20150106
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	38	F	H	HNBD		PROC ST	W	A	0100	FORD	1994	-	3	A	21706	N	L	G
2	DRVR	34	F	H	HNBD		STOPPED	W	A	0100	TOYOT		-	3	N		-	M	E
3	DRVR	998	-				STOPPED	W	A	0100	-		-	-	-		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	38	F	1	0	L	E
PASS		14	M	3	0	M	E

Primary Rd WEST SHAW AV | Distance (ft) 0 | Direction | Secondary Rd N FELAND AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist 1649 | Beat 00D | Type 0 | CalTrans | Badge P1306 | Collision Date 20130219 | Time 1857 | Day TUE
Primary Collision Factor PED VIOL | Violation 21950B | Collision Type AUTO/PED | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20150106
Weather1 RAINING | Weather2 | Rdwy Surface WET | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With PED | Lighting DARK - ST | Ped Action X-WLK AT | 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	53	F	W	HNBD		LFT TURN	W	A	0100	DODGE	2003	-	3	N		-	M	G
2	PED	57	F	H	HNBD			N		6000	-		-	3	-		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PED	OTH VIS	57	F	1	0	N	P

Primary Rd WEST SHAW AV | Distance (ft) 0 | Direction | Secondary Rd N POLK AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW164 | Beat 00C | Type 0 | CalTrans | Badge P927 | Collision Date 20130315 | Time 1236 | Day FRI
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type BROADSIDE | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20150107
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	39	F	H	HNBD		RGT TURN	W	A	0100	CHEVR	2001	-	3	N		-	-	-
2	DRVR	35	F	W	HNBD		PROC ST	W	A	0100	BMW	2002	-	3	N		-	P	W

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	35	M	1	0	P	W

Primary Rd WEST SHAW AV | Distance (ft) 0 | Direction | Secondary Rd N VALENTINE AVE | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW164 | Beat 00A | Type 0 | CalTrans | Badge P804 | Collision Date 20130127 | Time 1421 | Day SUN
Primary Collision Factor STOP SGN|SIG | Violation 21453A | Collision Type BROADSIDE | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20150112
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	30	M	W			PROC ST	W	A	0100	CHEVR	1996	-	-	-	-	L	G
2	DRVR	38	M	W			PROC ST	N	A	0100	LEXUS	2007	-	-	-	-	L	G
3	DRVR	41	M	H			STOPPED	S	A	0100	HYUND	2011	-	-	-	-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		998	M	3	3	L	G
DRVR	COMP PN	38	M	1	3	L	G
PASS		13	F	3	3	M	G

Primary Rd WEST SHAW AV | Distance (ft) 5 | Direction E | Secondary Rd N VALENTINE AVE | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW164 | Beat 00D | Type 0 | CalTrans | Badge P835 | Collision Date 20130128 | Time 0843 | Day MON
Primary Collision Factor NOT STATED | Violation | Collision Type AUTO/PED | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20150107
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With PED | Lighting DAYLIGHT | Ped Action X-WLK AT | 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	28	F	W	HNBD		LFT TURN	E	A	0100	HONDA	2007	-	3	E		-	M	G
2	PED	74	M	B		null		N	N	6000	-		-	-	-		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PED	COMP PN	74	M	9	0	P	-

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Primary Rd **ASH AV** *Distance (ft)* **8** *Direction* **S** *Secondary Rd* **MANNING AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **034** *Type* **3** *CalTrans* *Badge* **18284** *Collision Date* **20140324** *Time* **1320** *Day* **MON**
Primary Collision Factor **R-O-W PED** *Violation* **21954B** *Collision Type* **AUTO/PED** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20150224**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PED** *Lighting* **DAYLIGHT** *Ped Action* **NOT IN X-** *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	56	M	O	HNBD		RGT TURN	N	D	2200	AMERI	1984	-	3	N		-	M	G
2	PED	28	M	H	HNBD		RGT TURN	W	N	6000	-		-	3	N		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **ASHCROFT AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **ACADEMY AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **030** *Type* **3** *CalTrans* *Badge* **012846** *Collision Date* **20140617** *Time* **0745** *Day* **TUE**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20140821**
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	20	F	W	HNBD		PROC ST	W	A	0100	BMW	1995	-	3	N		-	M	G
2	DRVR	37	F	H	HNBD		PROC ST	N	A	0100	HONDA	2006	-	3	N		-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	37	F	1	0	L	G

Primary Rd **ASHCROFT AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **BUNDY AV** *NCIC* **1001** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Clovis** *County* **Fresno** *Population* **5** *Rpt Dist* *Beat* *Type* **0** *CalTrans* *Badge* **5445** *Collision Date* **20141221** *Time* **2155** *Day* **SUN**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152E** *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20150727**
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	33	M	W		DRUG	PROC ST	W	-	0000	FORD	2001	-	-	A	23152	-	M	B
2	PRKD	998	-				PARKED	-	-	0000	CHEVR	2007	-	-	M		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **ASHLAN** *Distance (ft)* **15** *Direction* **W** *Secondary Rd* **PARKWAY** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* *Type* **0** *CalTrans* *Badge* **P586** *Collision Date* **20140610** *Time* **1436** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* *Process Date* **20160122**
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	998	F	H	IMP UNK	IMP UNK	PROC ST	E	A	0100	MITSU		-	-	M		-	-	-
2	DRVR	61	M	W	HNBD		STOPPED	E	A	0100	CHEVR	2006	-	-	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **ARMSTRONG AV** *NCIC* **1001** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Clovis** *County* **Fresno** *Population* **5** *Rpt Dist* *Beat* *Type* **0** *CalTrans* *Badge* **5027** *Collision Date* **20140918** *Time* **1719** *Day* **THU**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **4** *Tow Away?* **Y** *Process Date* **20141031**
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	58	F	W	HNBD		PROC ST	E	-	0000	HYUND	2003	-	3	N		-	L	G
2	DRVR	38	F		HNBD		LFT TURN	S	-	0000	SCION	2013	-	3	N		-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	58	F	1	0	L	G
PASS	COMP PN	83	F	3	0	L	G
DRVR	COMP PN	38	F	1	0	L	G
PASS	COMP PN	16	F	3	0	L	G

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Primary Rd **GOLDEN STATE BL** *Distance (ft)* **0** *Direction* *Secondary Rd* **AMERICAN AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **034** *Type* **3** *CalTrans* *Badge* **17138** *Collision Date* **20140806** *Time* **1710** *Day* **WED**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20150427**
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	18	F	H	HNBD		PROC ST	W	A	0100	TOYOT	2007	-	3	N	-	M G
2	DRVR	49	M	H	HNBD		PROC ST	S	A	0100	DATSU	1982	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GOLDEN STATE BL** *Distance (ft)* **0** *Direction* *Secondary Rd* **AMERICAN AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **034** *Type* **3** *CalTrans* *Badge* **14650** *Collision Date* **20140807** *Time* **1600** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20150518**
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	51	M	H	HNBD		PROC ST	W	G	2531	FORD	1994	-	3	N	-	P G
2	DRVR	21	M	W	HNBD		PROC ST	S	D	2200	CHEVR	2008	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GOLDEN STATE BL** *Distance (ft)* **0** *Direction* *Secondary Rd* **AMERICAN AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **034** *Type* **3** *CalTrans* *Badge* **018912** *Collision Date* **20141107** *Time* **1710** *Day* **FRI**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20150113**
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 - NO** *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	F	H	HNBD		PROC ST	E	A	0100	HONDA	2004	-	3	N	-	L G
2	DRVR	24	M	H	HNBD		PROC ST	S	A	0100	HONDA	1997	-	3	N	-	P G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	41	F	1	0	L	G
PASS	COMP PN	18	M	3	0	P	G

Primary Rd **GOLDEN STATE BL** *Distance (ft)* **0** *Direction* *Secondary Rd* **AMERICAN AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **034** *Type* **3** *CalTrans* *Badge* **013182** *Collision Date* **20141111** *Time* **0915** *Day* **TUE**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802B** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20150121**
Weather1 **FOG** *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	60	M	W	HNBD		PROC ST	S	D	2200	FORD	2013	-	3	N	-	L G
2	DRVR	39	M	H	HNBD		PROC ST	W	G	2531	PETER	1997	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	60	M	1	0	L	G

Primary Rd **GOLDEN STATE BL** *Distance (ft)* **0** *Direction* *Secondary Rd* **ASHLAN** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* *Type* **0** *CalTrans* *Badge* **P586** *Collision Date* **20141020** *Time* **0929** *Day* **MON**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **HEAD-ON** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160317**
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	18	M	W	HNBD		LFT TURN	S	A	0100	CHEVR	1994	-	3	N	-	M G
2	DRVR	86	M	H	HNBD		PROC ST	N	A	0100	CHEVR	2007	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	86	M	1	0	M	G
PASS		64	M	3	0	M	G

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Primary Rd N GOLDEN STATE Distance (ft) 0 Direction Secondary Rd SHAW AV NCIC 1005 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Fresno BL County Fresno Population 7 Rpt Dist NW174 Beat 00C Type 0 CalTrans Badge P1265 Collision Date 20140919 Time 2022 Day FRI
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20160317
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 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
1	DRVR	18	M	W	HNBD		STOPPED	E	A	0100	CHEVR	2011	-	-	-	-	-	-
2F	DRVR	998	M	W			PROC ST	W	A	0800	TOYOT		-	-	N	-	M	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd N GOLDEN STATE Distance (ft) 165 Direction S Secondary Rd W SWIFT AV NCIC 1005 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Fresno BL County Fresno Population 7 Rpt Dist NW184 Beat 00C Type 0 CalTrans Badge P880 Collision Date 20140914 Time 0230 Day SUN
Primary Collision Factor DRVR ALC|DRG Violation 23152B Collision Type HIT OBJECT Severity INJURY #Killed 0 #Injured 1 Tow Away? Y Process Date 20160125
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 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	26	F	H	HBD-UI		RAN OFF RD	S	A	0100	HYUND	2013	-	1	A	21651	M	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	26	F	1	0	L	G

Primary Rd N GOLDEN STATE Distance (ft) 78 Direction N Secondary Rd WEST ASHLAN AV NCIC 1005 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Fresno BL County Fresno Population 7 Rpt Dist 1341 Beat 00C Type 0 CalTrans Badge P1036 Collision Date 20140518 Time 0020 Day SUN
Primary Collision Factor IMPROP TURN Violation 22107 Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20160317
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run MSDMNR 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	998	-				RGT TURN	N	-	0000	-		-	-	A	20002	-	-	-
2	PRKD	998	-				PARKED	-	A	0100	CHEVR	1984	-	-	-	-	-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd N GOLDEN STATE Distance (ft) 726 Direction S Secondary Rd WEST AV NCIC 1005 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Fresno BL County Fresno Population 7 Rpt Dist SW235 Beat 00A Type 0 CalTrans Badge P774 Collision Date 20140117 Time 2500 Day FRI
Primary Collision Factor IMPROP TURN Violation 22107 Collision Type SIDESWIPE Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20160411
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 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	45	M	B			RGT TURN	S	J	4800	DODGE	2009	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd N GOLDEN STATE Distance (ft) 0 Direction Secondary Rd WEST MCKINLEY NCIC 1005 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Fresno BL County Fresno Population 7 Rpt Dist SW235 Beat 00A Type 0 CalTrans Badge P1123 Collision Date 20140123 Time 1054 Day THU
Primary Collision Factor R-O-W AUTO Violation 21801A Collision Type BROADSIDE Severity INJURY #Killed 0 #Injured 2 Tow Away? N Process Date 20160120
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	18	M	H	HNBD		LFT TURN	S	-	0000	TOYOT	2011	-	3	N	-	G	-
2	DRVR	72	M	A	HNBD		PROC ST	N	-	0000	BMW	1995	-	3	N	-	G	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	72	M	1	0	G	-
PASS	COMP PN	69	F	3	0	G	-

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Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N CORNELIA AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1066** *Collision Date* **20140102** *Time* **1225** *Day* **THU**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160119**
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	30	M	B	HNBD		PROC ST	N	A	0100	FORD	1990	-	3	N		-	M G
2	DRVR	82	M	W	HNBD		PROC ST	W	D	2200	CHEVR	2007	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	82	M	1	0	M	G

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **600** *Direction* **E** *Secondary Rd* **N CORNELIA AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1845** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1573** *Collision Date* **20140223** *Time* **0116** *Day* **SUN**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152B** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160121**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER OBJ** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* *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	26	F	W	HBD-UI		PROC ST	E	A	0700	FORD	1999	-	3	M		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **686** *Direction* **E** *Secondary Rd* **N CORNELIA AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **14046** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1104** *Collision Date* **20140624** *Time* **2221** *Day* **TUE**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160122**
Weather1 **CLEAR** *Weather2* **WIND** *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	
1F	DRVR	21	M	W	HBD-UI		PROC ST	W	A	0100	HONDA	1998	-	-	A	23152	-	E -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* **W** *Secondary Rd* **N GOLDEN STATE** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1848** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P839** *Collision Date* **20140220** *Time* **1939** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160122**
Weather1 **CLOUDY** *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	37	M	H	HBD-UI		PROC ST	E	D	2200	FORD	2002	-	-	A	23152	-	N -
2	DRVR	52	F	H	HNBD		STOPPED	-	A	0700	CHEVR	2007	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		37	M	9	0	N	G

Primary Rd **WEST ASHLAN AV** *Distance (ft)* *Direction* *Secondary Rd* **N GOLDEN STATE** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P926** *Collision Date* **20140420** *Time* **0913** *Day* **SUN**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160120**
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	31	F	H	HNBD		PROC ST	E	A	0100	JEEP	2011	-	3	A	21453	-	M E
2	DRVR	31	F	H	HNBD		LFT TURN	N	D	2200	TOYOT	2008	-	3	-		-	M E

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	COMP PN	3	-	4	0	-	Q

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Primary Rd WEST ASHLAN AV | Distance (ft) 30 | Direction N | Secondary Rd N GOLDEN STATE | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist 1848 | Beat 00A | Type 0 | CalTrans | Badge P1003 | Collision Date 20140616 | Time 1705 | Day MON
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity INJURY | #Killed 0 | #Injured 4 | Tow Away? N | Process Date 20160121
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	19	M	H	HNBD		PROC ST	S	A	0100	FORD	2000	-	3	N	-	P	G
2	DRVR	47	F	H	HNBD		STOPPED	S	A	0100	HYUND	2000	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	47	F	1	0	M	G
PASS	COMP PN	51	F	3	0	M	G
PASS	COMP PN	16	F	6	0	M	G
PASS	COMP PN	72	F	4	0	M	G

Primary Rd WEST ASHLAN AV | Distance (ft) 0 | Direction | Secondary Rd N HUGHES AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist 1950 | Beat 00G | Type 0 | CalTrans | Badge P1321 | Collision Date 20140213 | Time 2149 | Day THU
Primary Collision Factor STOP SGN|SIG | Violation 21453A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20160121
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	23	M	H			PROC ST	E	A	0700	SATUR	2007	-	-	-	-	L	G
2	DRVR	72	F	W			PROC ST	N	A	0100	NISSA	2012	-	-	-	-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		27	M	3	0	L	G
PASS		48	F	3	0	L	G

Primary Rd WEST ASHLAN AV | Distance (ft) 0 | Direction | Secondary Rd N MARTY AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW184 | Beat 00A | Type 0 | CalTrans | Badge P1604 | Collision Date 20140622 | Time 1928 | Day SUN
Primary Collision Factor TOO CLOSE | Violation 21703 | Collision Type REAR END | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20160121
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	23	F	W	HNBD		PROC ST	E	A	0100	TOYOT	2006	-	3	A	21703	N	L	C
2	DRVR	35	F	B	HNBD		SLOWING	E	A	0100	LEXUS	2006	-	3	N	-	M	C

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	35	F	1	0	M	C
PASS		12	M	3	0	M	C

Primary Rd WEST ASHLAN AV | Distance (ft) 0 | Direction | Secondary Rd N MARTY AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW185 | Beat 00E | Type 0 | CalTrans | Badge P210 | Collision Date 20140715 | Time 1055 | Day TUE
Primary Collision Factor STOP SGN|SIG | Violation 21453A | Collision Type BROADSIDE | Severity INJURY | #Killed 0 | #Injured 2 | Tow Away? N | Process Date 20160121
Weather1 CLOUDY | 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	30	F	W	HNBD		PROC ST	E	-	0000	CHEVR		-	3	A	22350	-	L	G
2	DRVR	25	F	W	HNBD		LFT TURN	N	-	0000	LEXUS	2001	-	3	N	-	-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	30	F	1	0	L	G
DRVR	COMP PN	25	F	1	0	-	-

Primary Rd WEST ASHLAN AV | Distance (ft) 80 | Direction E | Secondary Rd N MARTY AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist 1848 | Beat 00A | Type 0 | CalTrans | Badge P1178 | Collision Date 20141009 | Time 0156 | Day THU
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type HEAD-ON | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20160126
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 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	-		IMP UNK	IMP UNK	PROC ST	E	A	0100	CHEVR	2014	-	-	F	-	L	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd WEST ASHLAN AV | Distance (ft) 0 | Direction | Secondary Rd N PARKWAY DR | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW184 | Beat 00D | Type 0 | CalTrans | Badge P1534 | Collision Date 20140222 | Time 1700 | Day SAT
Primary Collision Factor NOT STATED | Violation | Collision Type REAR END | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20160121
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	32	M	W	HNBD		PROC ST	W	A	0100	FORD	1995	-	3	K	-	P	-
2	DRVR	26	F	H	HNBD		STOPPED	W	A	0100	NISSA	2005	-	3	N	-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	26	F	1	0	L	G

Primary Rd WEST ASHLAN AV | Distance (ft) 0 | Direction | Secondary Rd N PARKWAY DR | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist 1847 | Beat 00C | Type 0 | CalTrans | Badge P1488 | Collision Date 20140706 | Time 0328 | Day SUN
Primary Collision Factor STOP SGN|SIG | Violation 21453A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20160324
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run MSDMNR | Motor Vehicle Involved With NON-CLSN | 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	-				PROC ST	W	A	0700	CHEVR	2006	-	-	F	-	L	B
2	DRVR	29	F	W	HNBD		PROC ST	N	A	0100	CHRYS	2009	-	3	-	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		31	M	3	0	M	G
PASS		10	F	4	0	M	G
PASS		9	M	5	0	M	G
PASS		7	F	6	0	M	G
PASS		6	M	5	0	M	G

Primary Rd WEST ASHLAN AV | Distance (ft) 0 | Direction | Secondary Rd N PARKWAY DR | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist 1847 | Beat 00C | Type 0 | CalTrans | Badge P1534 | Collision Date 20141031 | Time 2225 | Day FRI
Primary Collision Factor STOP SGN|SIG | Violation 21453A | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20160201
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run MSDMNR | Motor Vehicle Involved With MV ON OTHER RD | 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	-		IMP UNK	IMP UNK	PROC ST	W	A	0100	TOYOT	2007	-	-	N	-	M	B
2	DRVR	43	M		HNBD		STOPPED	W	A	0100	HONDA	2007	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd WEST ASHLAN AV | Distance (ft) 0 | Direction | Secondary Rd N PKWY | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW184 | Beat 00C | Type 0 | CalTrans | Badge P586 | Collision Date 20140417 | Time 1019 | Day THU
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20160120
Weather1 CLOUDY | 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	18	F	H	HNBD		PROC ST	E	A	0800	KIA	2007	-	3	N	-	M	G
2	DRVR	64	F	H	HNBD		PROC ST	E	A	0100	HONDA	1992	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	64	F	1	0	M	G
PASS		13	M	3	0	M	G
PASS		80	F	4	0	M	G

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| | | |

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N MARTY AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1648** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P727** *Collision Date* **20140320** *Time* **2108** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21453C** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20160121**
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	19	F	B	HNBD		LFT TURN	S	A	0100	CHRYS	2012	-	3	F	-	M	G
2	DRVR	20	F	H	HNBD		PROC ST	W	A	0100	FORD	2010	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	20	F	1	0	M	G
PASS	COMP PN	28	F	3	0	M	G

Primary Rd **WEST SHAW AV** *Distance (ft)* **45** *Direction* **W** *Secondary Rd* **N MARTY AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1648** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P864** *Collision Date* **20140408** *Time* **1433** *Day* **TUE**
Primary Collision Factor **OTHER IMPROP DRV** *Violation* *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160128**
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* **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	998	F	H	IMP UNK	IMP UNK	PROC ST	N	A	0700	CHEVR	1999	-	-	N	-	M	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST SHAW AV** *Distance (ft)* **35** *Direction* **E** *Secondary Rd* **N POLK AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW164** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1554** *Collision Date* **20140102** *Time* **1948** *Day* **THU**
Primary Collision Factor **TOO CLOSE** *Violation* **21703** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160120**
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	17	M	W	HNBD		PROC ST	W	A	0100	JEEP	1987	-	3	-	-	M	G
2		49	M		HNBD		PROC ST	W	F	2700	KENW	2008	-	3	-	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	17	M	1	0	M	G

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N POLK AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1642** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1486** *Collision Date* **20140610** *Time* **1828** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160324**
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
1	DRVR	39	M	H	HNBD		STOPPED	S	A	0100	CHEVR	2013	-	3	N	-	-	G
2F	DRVR	998	M	H	IMP UNK	IMP UNK	RGT TURN	S	A	0100	ACURA	1990	-	-	A	22350	-	N	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		36	F	3	0	M	G

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N VALENTINE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1649** *Beat* **00D** *Type* **0** *CalTrans* *Badge* **P850** *Collision Date* **20140505** *Time* **1601** *Day* **MON**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **N** *Process Date* **20160120**
Weather1 **CLOUDY** *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	28	M	H	HNBD		PROC ST	W	D	2200	CHEVR	1996	-	3	N	-	M	G
2	DRVR	20	F	O	HNBD		PROC ST	N	A	0100	SATUR	1995	-	3	N	-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	20	F	1	0	M	G
PASS	COMP PN	16	F	3	0	L	G

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Primary Rd WEST SHAW AV | Distance (ft) 0 | Direction | Secondary Rd RT 99 | NCIC 1005 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist 1645 | Beat 00C | Type 0 | CalTrans | Badge P1225 | Collision Date 20140913 | Time 2027 | Day SAT
Primary Collision Factor DRVR ALC|DRG | Violation 23152A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20160317
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	57	M	H	HBD-UI		LFT TURN	E	D	2200	CHEVR	1994	-	-	A	21801	-	M E
2	DRVR	17	M	H	HNBD		PROC ST	W	D	2200	GMC	2005	-	-	N		-	M E

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		50	M	3	0	M	E

Primary Rd WEST SHAW AV | Distance (ft) 116 | Direction E | Secondary Rd STREET LIGHT | NCIC 1001 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Clovis | County Fresno | Population 5 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 5465 | Collision Date 20141017 | Time 0600 | Day FRI
Primary Collision Factor PED VIOL | Violation 21956 | Collision Type AUTO/PED | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20150121
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With PED | Lighting DARK - ST | 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	PED	18	F	W	HBD-UNK		OTHER	-	N	6000	-		-	-	A	21956	-	- -
2	DRVR	47	M	H	HNBD		OTHER	W	A	0700	FORD	1998	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PED	SEVERE	18	F	0	3	P	-

Primary Rd WEST SHAW AV | Distance (ft) 0 | Direction | Secondary Rd VILLA AV | NCIC 1001 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Clovis | County Fresno | Population 5 | Rpt Dist | Beat | Type 0 | CalTrans | Badge MEDINA | Collision Date 20140901 | Time 1754 | Day MON
Primary Collision Factor OTHER IMPROP DRV | Violation | Collision Type BROADSIDE | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20160208
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	27	F	B	HNBD		ENT TRAF	W	-	0000	YAMAH	2014	-	3	A	16028	-	M P
2	DRVR	37	M	W	HNBD		PROC ST	N	-	0000	HONDA	2001	-	3	-		-	M C

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	27	F	1	0	M	P

Primary Rd WEST SHAW AV | Distance (ft) 12 | Direction E | Secondary Rd VILLA AV | NCIC 1001 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Clovis | County Fresno | Population 5 | Rpt Dist | Beat 004 | Type 0 | CalTrans | Badge 5465 | Collision Date 20141120 | Time 1833 | Day THU
Primary Collision Factor R-O-W PED | Violation 21950A | Collision Type AUTO/PED | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20160321
Weather1 CLOUDY | Weather2 | Rdwy Surface DRY | Rdwy Cond1 FLOODED | Rdwy Cond2 NO UNUSL CND | Spec Cond 0
Hit and Run | Motor Vehicle Involved With PED | Lighting | Ped Action X-WLK AT | 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	PED	50	M	W	HNBD		OTHER	-	N	6000	-		-	-	A	21950	-	- -
2	DRVR	47	M	O	HNBD		OTHER	E	A	0100	CHEVR	2000	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PED	OTH VIS	50	M	9	3	-	-

Primary Rd WEST SHAW AV | Distance (ft) 47 | Direction E | Secondary Rd VILLA AV | NCIC 1001 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Clovis | County Fresno | Population 5 | Rpt Dist | Beat | Type 0 | CalTrans | Badge 5484 | Collision Date 20141219 | Time 1947 | Day FRI
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? | Process Date 20150818
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 - 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	M	H	HNBD		PROC ST	W	-	0000	GMC	1996	-	3	F		-	M B
2	DRVR	54	M	W	HNBD		STOPPED	W	-	0000	LEXUS	2002	-	3	N		-	M B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd **ARRANTS ST** *Distance (ft)* **0** *Direction* *Secondary Rd* **MCCALL AV** *NCIC* **1015** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Selma** *County* **Fresno** *Population* **3** *Rpt Dist* **SELMA** *Beat* **004** *Type* **0** *CalTrans* *Badge* **N411** *Collision Date* **20150727** *Time* **1233** *Day* **MON**
Primary Collision Factor **PED VIOL** *Violation* **21954A** *Collision Type* **AUTO/PED** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20150805**
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* **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	BICY	13	M	H			ENT TRAF	E	L	0400	-		-	-	A	21954	E - -
2	DRVR	26	M	H	HNBD		SLOWING	W	-	0000	NISSA	1993	-	-	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
BICY	OTH VIS	13	M	1	3	P	V
PASS		4	M	4	0	M	Q

Primary Rd **ARRANTS ST** *Distance (ft)* **0** *Direction* *Secondary Rd* **UNION PACIFIC RR** *NCIC* **1015** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Selma** *County* **Fresno** *Population* **3** *Rpt Dist* *Beat* **002** *Type* **0** *CalTrans* *Badge* **N083** *Collision Date* **20150426** *Time* **1355** *Day* **SUN**
Primary Collision Factor **STOP SGN\|SIG** *Violation* **22451A** *Collision Type* **OTHER** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20151008**
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	45	M	H	HNBD		STOPPED	E	-	0000	CHEVR	2002	- 3	N		-	M B
2	DRVR	62	M	W	HNBD		OTHER	S	-	0000	OTHER	2012	- 3	N		-	P A

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		36	F	3	0	M	B
PASS		7	F	4	0	M	S
PASS		31	M	9	0	P	B

Primary Rd **ASHLAN** *Distance (ft)* **0** *Direction* *Secondary Rd* **GOLDEN STATE** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW** *Beat* *Type* **0** *CalTrans* *Badge* **P662** *Collision Date* **20151014** *Time* **0954** *Day* **WED**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160411**
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	26	M	H	HNBD		UNS TURN	W	A	0100	HONDA	2001	- -	-		-	M B
2	DRVR	42	M	W	HNBD		PROC ST	S	F	2600	FORD	2011	- -	-		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **ASHLAN** *Distance (ft)* **313** *Direction* **W** *Secondary Rd* **MANILA AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **030** *Type* **3** *CalTrans* *Badge* **19473** *Collision Date* **20150311** *Time* **0545** *Day* **WED**
Primary Collision Factor **LANE CHANGE** *Violation* **21658A** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20150904**
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* **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	HNBD		UNS TURN	E	A	0100	TOYOT	2011	- 3	N		-	M G
2	DRVR	55	M	W	HNBD		PROC ST	W	D	2200	CHEVR	2003	- 3	N		-	M F

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **ASHLAN** *Distance (ft)* **0** *Direction* *Secondary Rd* **RT 41** *NCIC* **1005** *State Hwy?* **Y** *Route* **41** *Postmile Prefix* **R** *Postmile* **27.315** *Side of Hwy* **N**
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NORTH** *Beat* **1956** *Type* **0** *CalTrans* **6** *Badge* **P982** *Collision Date* **20150225** *Time* **1512** *Day* **WED**
Primary Collision Factor **WRONG SIDE** *Violation* **21650** *Collision Type* **SIDESWIPE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* *Process Date* **20160727**
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* **R** *Ramp/Int* **4**

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	BICY	8	F	H	HNBD		PROC ST	W	L	0400	-		- 3	-		-	- - -
2	DRVR	21	F	H	HNBD		RGT TURN	N	A	0100	HONDA	2000	- 3	-		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
BICY	COMP PN	8	F	1	1	-	-

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Primary Rd **GOLDEN STATE** *Distance (ft)* **340** *Direction* **S** *Secondary Rd* **STATE** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **1645** *Type* **0** *CalTrans* *Badge* **P982** *Collision Date* **20150502** *Time* **1218** *Day* **SAT**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20160129**
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	64	M	W	HNBD		LFT TURN	N	A	0100	PONTI	1995	-	3	F	-	M	G
2	DRVR	18	F	B	HNBD		PROC ST	S	A	0100	HONDA	2005	-	3	-	-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	OTH VIS	18	F	1	0	L	G
PASS	COMP PN	18	-	3	0	L	G

Primary Rd **GOLDEN STATE BL** *Distance (ft)* **0** *Direction* *Secondary Rd* **41 HWY** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **2757** *Beat* **01G** *Type* **0** *CalTrans* *Badge* **P1070** *Collision Date* **20150517** *Time* **0204** *Day* **SUN**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152B** *Collision Type* **HIT OBJECT** *Severity* **FATAL** *#Killed* **1** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160211**
Weather1 **CLOUDY** *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	22	M	H	HBD-UI	DRUG	RAN OFF RD	S	D	2200	CHEVR	2003	-	1	A	22350	-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	KILLED	22	M	1	0	L	G

Primary Rd **GOLDEN STATE BL** *Distance (ft)* **0** *Direction* *Secondary Rd* **AMERICAN AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **034** *Type* **3** *CalTrans* *Badge* **19327** *Collision Date* **20150725** *Time* **1905** *Day* **SAT**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20151204**
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	19	M	H	HNBD		PROC ST	E	A	0700	CHEVR	2000	-	3	N	-	M	G
2	DRVR	27	M	W	HNBD		PROC ST	S	A	0100	BMW	2013	-	3	N	-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		45	M	3	0	L	G
PASS		24	M	3	0	L	G

Primary Rd **GOLDEN STATE BL** *Distance (ft)* **100** *Direction* **N** *Secondary Rd* **ASHLAN AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW** *Beat* *Type* **0** *CalTrans* *Badge* **P662** *Collision Date* **20151005** *Time* **1508** *Day* **MON**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160125**
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	21	M	O	HNBD		PROC ST	S	A	0100	HONDA	2011	-	-	-	-	M	G
2	DRVR	22	F	H	HNBD			-	A	0100	LINCO	1998	-	-	-	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	22	F	1	0	M	G
PASS		27	M	3	0	M	G
PASS		3	F	4	0	M	Q

Primary Rd **GOLDEN STATE BL** *Distance (ft)* **0** *Direction* *Secondary Rd* **CENTRAL AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **034** *Type* **3** *CalTrans* *Badge* **013112** *Collision Date* **20150106** *Time* **0910** *Day* **TUE**
Primary Collision Factor **R-O-W AUTO** *Violation* **21453C** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **3** *Tow Away?* **Y** *Process Date* **20150224**
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	46	M	W	HNBD		LFT TURN	E	A	0100	FORD	2001	-	3	N	-	M	G
2	DRVR	31	F	W	HNBD		PROC ST	S	D	2200	FORD	1997	-	3	N	-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	46	M	1	0	M	G
DRVR	COMP PN	31	F	1	0	L	G
PASS	COMP PN	50	F	3	0	L	G

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Primary Rd **N GLENN AV** *Distance (ft)* **150** *Direction* **S** *Secondary Rd* **N DEL MAR AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW105** *Beat* **00B** *Type* **0** *CalTrans* *Badge* **P1014** *Collision Date* **20150624** *Time* **1830** *Day* **WED**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160322**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *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	30	M	W	HBD-UI		PROC ST	N	A	0100	TOYOT	2003	-	3	A	22107	N	L G
2	PRKD	998	-				PARKED	N	A	0100	HONDA	2014	-	3	N		-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **N GOLDEN STATE** *Distance (ft)* **0** *Direction* *Secondary Rd* **N CARNEGIE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **BL** *County* **Fresno** *Population* **7** *Rpt Dist* **NW154** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P926** *Collision Date* **20151018** *Time* **0941** *Day* **SUN**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160412**
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	998	-		IMP UNK	IMP UNK	RGT TURN	N	-	0000	TOYOT		-	3	A	22450	-	B -
2	DRVR	24	M	W	HNBD		SLOWING	S	A	0100	HONDA	2015	-	3	-		-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **N GOLDEN STATE** *Distance (ft)* **0** *Direction* *Secondary Rd* **W OLIVE** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **BL** *County* **Fresno** *Population* **7** *Rpt Dist* **2452** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P1021** *Collision Date* **20150104** *Time* **0208** *Day* **SUN**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **AUTO/PED** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160412**
Weather1 **CLEAR** *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 - ST** *Ped Action* **IN RD,** *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	-		IMP UNK	IMP UNK	PROC ST	W	-	9900	FORD		-	-	A		-	B -
2	PED	30	M	A		null		W	N	6000	-		-	-	-		-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PED	SEVERE	30	M	9	3	-	-

Primary Rd **N GOLDEN STATE** *Distance (ft)* **53** *Direction* **N** *Secondary Rd* **W RICHERT AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **BL** *County* **Fresno** *Population* **7** *Rpt Dist* **1847** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1646** *Collision Date* **20150519** *Time* **1649** *Day* **TUE**
Primary Collision Factor **UNKNOWN** *Violation* **21356A** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160206**
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	63	M	B	HNBD		MERGING	N	A	0700	CHRYS	2007	-	3	A	20002	N	M G
2	DRVR	19	F	H	HNBD		PROC ST	N	A	0100	BMW	2004	-	3	-		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		19	F	6	0	M	C
PASS		21	M	3	0	M	C

Primary Rd **N GOLDEN STATE** *Distance (ft)* **0** *Direction* *Secondary Rd* **WEST ASHLAN AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **BL** *County* **Fresno** *Population* **7** *Rpt Dist* **NW194** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1227** *Collision Date* **20150924** *Time* **1924** *Day* **THU**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160125**
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	M	H	HNBD		PROC ST	E	A	0100	ACURA	2005	-	3	N		-	L G
2	DRVR	68	M	O	HNBD		RGT TURN	N	A	0100	-		-	3	N		-	G -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	68	M	1	0	M	G

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Primary Rd **POLE LINE RD** *Distance (ft)* **1056** *Direction* **N** *Secondary Rd* **NEES AVE** *NCIC* **9461** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **030** *Type* **3** *CalTrans* *Badge* **017029** *Collision Date* **20151108** *Time* **2500** *Day* **SUN**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20151113**
Weather1 **CLOUDY** *Weather2* **RAINING** *Rdwy Surface* **WET** *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	998	-		HBD-UNK		RAN OFF RD	S	A	0700	CHEV	2005	-	3	N		-	-	A

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **POLK AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **ALLUVIAL AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **FRESN** *Beat* **1246** *Type* **0** *CalTrans* *Badge* **P864** *Collision Date* **20150324** *Time* **1700** *Day* **TUE**
Primary Collision Factor **WRONG SIDE** *Violation* **21650** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* *Process Date* **20160212**
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	BICY	84	M	O	HNBD		RGT TURN	S	L	0400	-		-	3	N		-	-	-
2	DRVR	56	F	W	HNBD		PROC ST	W	D	2200	GMC	2002	-	3	A	22450	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
BICY	OTH VIS	84	M	1	3	-	-

Primary Rd **POLK AV** *Distance (ft)* **137** *Direction* **S** *Secondary Rd* **MCKINLEY AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **14650** *Collision Date* **20150415** *Time* **1115** *Day* **WED**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20150924**
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* **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	19	M	H	HNBD		UNS TURN	S	A	0700	CHEVR	2003	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **POLK AV** *Distance (ft)* **132** *Direction* **S** *Secondary Rd* **MCKINLEY AV** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **018574** *Collision Date* **20150706** *Time* **1850** *Day* **MON**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20151124**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER 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
1F	DRVR	18	M	W	HNBD		UNS TURN	S	D	2200	DODGE	2003	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **POLK AV** *Distance (ft)* **50** *Direction* **S** *Secondary Rd* **SHAW AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW** *Beat* *Type* **0** *CalTrans* *Badge* **P662** *Collision Date* **20150406** *Time* **0630** *Day* **MON**
Primary Collision Factor **NOT DRIVER** *Violation* *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160205**
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
1	DRVR	58	M	H	HNBD		RAN OFF RD	N	D	2200	CHEVR	2005	-	-	-		-	M	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		19	M	3	0	M	B

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3	DRVR	49	F	A	HNBD		STOPPED	E	A	0100	CHEVR	2002	-	3	N		-	M	G	PASS		17	F	3	0	M	G				

Primary Rd **SHAW AV** *Distance (ft)* **100** *Direction* **W** *Secondary Rd* **RT 41** *NCIC* **1005** *State Hwy?* **Y** *Route* **41** *Postmile Prefix* **-** *Postmile* **28.264** *Side of Hwy* **N**
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1656** *Beat* **04D** *Type* **0** *CalTrans* **6** *Badge* **P948** *Collision Date* **20151015** *Time* **0845** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20170203**
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* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* **R** *Ramp/Int* **4**

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		PROC ST	W	A	0100	FORD	2000	-	3	N		-	M	G
2	DRVR	45	M	H	HNBD		STOPPED	W	D	2200	FORD	2005			N		-	M	G

Victim Info

ROLE	*Ext Of Inj*	*AGE*	*Sex*	*Seat Pos*	*Safety*	*EQUIP*	*Ejected*
DRVR	COMP PN	45	M	1	0	M	G

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **RT 99** *NCIC* **1005** *State Hwy?* **Y** *Route* **99** *Postmile Prefix* **-** *Postmile* **27.911** *Side of Hwy* **S**
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1655** *Beat* **00C** *Type* **0** *CalTrans* **6** *Badge* **P911** *Collision Date* **20150622** *Time* **1248** *Day* **MON**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160823**
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* **R** *Ramp/Int* **4**

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	F	W	HNBD		LFT TURN	W	A	0100	HONDA	2010	-	3	N		-	M	G
2	DRVR	63	M	B		DRUG	PROC ST	W	A	0100	MERCU	1999	-	3	A	23152	-	M	G

Victim Info

ROLE	*Ext Of Inj*	*AGE*	*Sex*	*Seat Pos*	*Safety*	*EQUIP*	*Ejected*

Primary Rd **SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **RT 99** *NCIC* **1005** *State Hwy?* **Y** *Route* **99** *Postmile Prefix* **-** *Postmile* **28.165** *Side of Hwy* **N**
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **5C** *Beat* **1645** *Type* **0** *CalTrans* **6** *Badge* **P959** *Collision Date* **20150721** *Time* **1255** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20161208**
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* **R** *Ramp/Int* **4**

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	E	A	0100	SATUR	2005	-	3	N		-	-	-
2	DRVR	55	M	H	HNBD		STOPPED	E	A	0100	CADIL	2006	-	3	N		-	M	G

Victim Info

ROLE	*Ext Of Inj*	*AGE*	*Sex*	*Seat Pos*	*Safety*	*EQUIP*	*Ejected*

Primary Rd **SHAW AV** *Distance (ft)* **205** *Direction* **W** *Secondary Rd* **SUNNYSIDE** *NCIC* **1001** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Clovis** *County* **Fresno** *Population* **5** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **5145** *Collision Date* **20151222** *Time* **1255** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **5** *Tow Away?* **Y** *Process Date* **20160105**
Weather1 *Weather2* *Rdwy Surface* **DRY** *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*		
1F	DRVR	58	F	O	HNBD		PROC ST	W	A	0100	TOYOT	2010	-	3	F		-	L	G
2	DRVR	28	F	O	HNBD		SLOWING	W	A	0100	FORD	2010	-	3	N		-	M	G
3	DRVR	59	M	O	HNBD		STOPPED	W	A	0100	TOYOT	2015	-	3	N		-	M	G

Victim Info

ROLE	*Ext Of Inj*	*AGE*	*Sex*	*Seat Pos*	*Safety*	*EQUIP*	*Ejected*
DRVR	OTH VIS	58	F	1	0	L	G
DRVR	COMP PN	28	F	1	0	M	G
DRVR	COMP PN	59	M	1	0	M	G
PASS	COMP PN	58	F	3	0	M	G
PASS	COMP PN	19	M	4	0	M	G

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Primary Rd SR-99 N/B TO | Distance (ft) 15 | Direction S | Secondary Rd CLINTON AVENUE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | CLINTON AVENUE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 017489 | Collision Date 20151010 | Time 1045 | Day SAT
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20151019
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 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	IMP UNK	IMP UNK	PROC ST	N	D	2200	FORD		-	3	N	-	B	B
2	DRVR	50	M	H	HNBD		STOPPED	N	A	0100	HYUN	1997	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	50	M	1	0	M	G

Primary Rd SR-99 N/B TO | Distance (ft) 0 | Direction | Secondary Rd CLOVIS AVE. | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City UNINCORP | CLOVIS AVE. | County Fresno | Population 9 | Rpt Dist | Beat 034 | Type 3 | CalTrans | Badge 018609 | Collision Date 20151230 | Time 1630 | Day WED
Primary Collision Factor R-O-W AUTO | Violation 21802A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20160121
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With MV ON OTHER RD | 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	W	HNBD		LFT TURN	N	A	0100	FORD	2016	-	3	N	-	L	G
2	DRVR	48	M	H	HNBD		PROC ST	N	D	2200	GMC	1996	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		29	F	3	0	L	G
PASS		4	M	4	0	P	Q
PASS		45	F	3	0	M	G
PASS		48	M	4	0	P	G
PASS		39	M	6	0	P	G

Primary Rd SR-99 N/B TO | Distance (ft) 40 | Direction S | Secondary Rd HERNDON AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | HERNDON AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 018934 | Collision Date 20150920 | Time 1850 | Day SUN
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20151019
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 DUSK/DAWN | 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	IMP UNK	IMP UNK	PROC ST	N	A	0100	FORD		-	3	N	-	B	B
2	DRVR	31	F	W	HNBD		STOPPED	N	A	0100	KIA	2014	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		43	M	3	0	M	G

Primary Rd SR-99 N/B TO | Distance (ft) 42 | Direction S | Secondary Rd JENSEN AVENUE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City UNINCORP | JENSEN AVENUE | County Fresno | Population 9 | Rpt Dist | Beat 106 | Type 1 | CalTrans | Badge 015602 | Collision Date 20151006 | Time 0700 | Day TUE
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20151019
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	34	M	H	HNBD		PROC ST	N	D	2200	FORD	2009	-	3	N	-	M	G
2	DRVR	55	M	H	HNBD		PROC ST	N	A	0700	FORD	2012	-	3	N	-	M	G
3	DRVR	25	M	H	HNBD		PROC ST	N	A	0100	TOYT	2010	-	3	N	-	M	G

Primary Rd SR-99 N/B TO | Distance (ft) 150 | Direction S | Secondary Rd JENSEN AVENUE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | JENSEN AVENUE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 019523 | Collision Date 20151122 | Time 2330 | Day SUN
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20151221
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	42	M	H	HBD-UI		PROC ST	N	A	0100	KIA	2007	-	3	N	-	M	G

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Primary Rd WELDON AV Distance (ft) 0 Direction Secondary Rd KENMORE DR W NCIC 9435 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City UNINCORP. County Fresno Population 9 Rpt Dist Beat 030 Type 3 CalTrans Badge 018860 Collision Date 20150803 Time 1740 Day MON
Primary Collision Factor R-O-W AUTO Violation 21802A Collision Type BROADSIDE Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20151224
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	26	M	A	HNBD		ENT TRAF	N	A	0100	LEXUS	2013	-	3	N	-	M	G	
2	DRVR	21	F	H	HNBD		PROC ST	E	A	0100	NISSA	2003	-	3	N	-	M	G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		23	F	3	0	M	G
PASS		2	M	4	0	P	Q
PASS		24	F	6	0	P	G

Primary Rd WELDON AVE Distance (ft) 110 Direction E Secondary Rd MAYWOOD DR. NCIC 9435 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City UNINCORP. County Fresno Population 9 Rpt Dist Beat 030 Type 3 CalTrans Badge 019473 Collision Date 20150922 Time 2210 Day TUE
Primary Collision Factor IMPROP TURN Violation 22107 Collision Type REAR END Severity INJURY #Killed 0 #Injured 1 Tow Away? Y Process Date 20151019
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	27	F	A	HNBD		UNS TURN	E	A	0100	FORD	2002	-	3	F	-	L	G	
2	PRKD	998	-				PARKED	E	A	0100	MITS	2000	-	3	N	-	-	-	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	27	F	1	0	L	G

Primary Rd WEST Distance (ft) 105 Direction N Secondary Rd CLINTON NCIC 1005 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Fresno County Fresno Population 7 Rpt Dist NW215 Beat 00H Type 0 CalTrans Badge P1064 Collision Date 20150923 Time 1958 Day WED
Primary Collision Factor DRVR ALC|DRG Violation 23152A Collision Type HIT OBJECT Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20160321
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 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	30	M	H	HBD-UI		PROC ST	N	D	2200	CHEVR	1996	-	3	A	22107	N	M	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd WEST Distance (ft) 62 Direction N Secondary Rd PALM AV NCIC 1013 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Sanger County Fresno Population 3 Rpt Dist SANGE Beat 002 Type 0 CalTrans Badge M137 Collision Date 20150618 Time 0800 Day THU
Primary Collision Factor DRVR ALC|DRG Violation 23152A Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20151109
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	23	M	H	HBD-UI		RGT TURN	S	-	0000	HONDA	2001	-	3	E	F	M	G	
2	PRKD	998	-				PARKED	-	-	0000	CHEVR	2003	-	-	-	-	-	-	
3	PRKD	998	-				PARKED	-	-	0000	HONDA	2002	-	-	-	-	-	-	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd WEST ASHLAN AV Distance (ft) 60 Direction W Secondary Rd GOLDEN STATE NCIC 1005 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Fresno County Fresno Population 7 Rpt Dist NW184 Beat 00A Type 0 CalTrans Badge P1021 Collision Date 20150809 Time 1820 Day SU
Primary Collision Factor STOP SGN|SIG Violation 21453A Collision Type BROADSIDE Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20160411
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	55	M	W	HNBD		PROC ST	E	A	0100	CHEVR	2007	-	-	-	-	L	G	
2	DRVR	53	F	W	HNBD		LFT TURN	N	A	0100	DODGE	2003	-	-	-	-	G	-	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		56	M	3	0	L	G

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Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N BLYTHE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1847** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1653** *Collision Date* **20150520** *Time* **0647** *Day* **WED**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160206**
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	25	M	H	HNBD		ENT TRAF	S	A	0100	HONDA	2008	-	3	A	21453	N	M	G
2	DRVR	29	F	H	HNBD		PROC ST	E	A	0100	DODGE	2007	-	1	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		58	F	3	0	M	G

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **1320** *Direction* **W** *Secondary Rd* **N BLYTHE AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1162** *Collision Date* **20150716** *Time* **1727** *Day* **THU**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160203**
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	52	F	W	HBD-UI	DRUG	RAN OFF RD	E	A	0100	LINCO	2000	-	-	A	22350	-	L	G
2	DRVR	25	M	W	HNBD		PROC ST	-	A	0100	TOYOT	1995	-	-	-		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N CORNELIA AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW134** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1648** *Collision Date* **20150907** *Time* **2048** *Day* **MON**
Primary Collision Factor **PED VIOL** *Violation* **21950B** *Collision Type* **HEAD-ON** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160125**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PED** *Lighting* **DARK - ST** *Ped Action* **X-WLK AT** *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	PED	18	M	B			OTHER	-	N	6000	-		-	-	-	-	-	-
2	DRVR	43	F		HNBD		PROC ST	N	A	0700	HONDA	2003	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PED	OTH VIS	18	M	2	3	-	-

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **1** *Direction* **E** *Secondary Rd* **N GOLDEN STATE** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P1193** *Collision Date* **20150902** *Time* **1745** *Day* **WED**
Primary Collision Factor **OTHER IMPROP DRV** *Violation* *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160126**
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	52	F	H	HNBD		PROC ST	W	A	0100	CHEVR	2013	-	-	N		-	M	G
2	DRVR	30	F	H	HNBD		PROC ST	W	-	0000	HYUND	2011	-	3	G		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	30	F	1	3	-	-
PASS		11	F	3	3	M	G
PASS		6	F	6	0	M	G
PASS		1	M	4	0	M	G

Primary Rd **WEST ASHLAN AV** *Distance (ft)* **12** *Direction* **N** *Secondary Rd* **N GOLDEN STATE** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P1649** *Collision Date* **20151007** *Time* **1711** *Day* **WED**
Primary Collision Factor **WRONG SIDE** *Violation* **21202A** *Collision Type* **HEAD-ON** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* *Process Date* **20160503**
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	BICY	21	M	W			PROC ST	W	L	0400	-		-	3	K		N	-	-
2	DRVR	63	M	W	HNBD		RGT TURN	N	A	0100	FORD	2001	-	3	N		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
BICY	OTH VIS	21	M	9	3	-	-

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Primary Rd WEST ASHLAN AV Distance (ft) 0 Direction Secondary Rd N PARKWAY DR NCIC 1005 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Fresno County Fresno Population 7 Rpt Dist NW184 Beat 00C Type 0 CalTrans Badge P1555 Collision Date 20150301 Time 2050 Day SUN
Primary Collision Factor DRVR ALC|DRG Violation 23152B Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20160201
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	33	M	H	HBD-UI		PROC ST	W	A	0100	TOYOT	2012	-	3	A	21453	- L G
2	DRVR	41	M	H	HNBD		STOPPED	W	A	0100	FORD	2004	-	3	-		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd WEST ASHLAN AV Distance (ft) 0 Direction Secondary Rd N POLK AV NCIC 1005 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Fresno County Fresno Population 7 Rpt Dist 1844 Beat 00C Type 0 CalTrans Badge P1663 Collision Date 20150620 Time 1530 Day SAT
Primary Collision Factor STOP SGN|SIG Violation 22450A Collision Type SIDESWIPE Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20160206
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	16	M	W			PROC ST	-	A	0100	TOYOT	2013	-	-	A	22450	N L G
2	DRVR	68	M	H	HNBD		PROC ST	-	A	0100	HONDA	2007	-	-	N		- M B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd WEST ASHLAN AV Distance (ft) 0 Direction Secondary Rd N SEQUOIA DR NCIC 1005 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Fresno County Fresno Population 7 Rpt Dist 1851 Beat 00D Type 0 CalTrans Badge 1684 Collision Date 20150813 Time 2330 Day THU
Primary Collision Factor DRVR ALC|DRG Violation 23152A Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20160204
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 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	66	F	H	HBD-UI		PROC ST	W	A	0100	TOYOT	2013	-	-	-		- L C
2	PRKD	998	-				PARKED	-	A	0700	GMC	2000	-	-	N		- - -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd WEST ASHLAN AV Distance (ft) 660 Direction E Secondary Rd N VALENTINE AV NCIC 1005 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Fresno County Fresno Population 7 Rpt Dist NE194 Beat 00G Type 0 CalTrans Badge P1636 Collision Date 20150326 Time 1852 Day THU
Primary Collision Factor WRONG SIDE Violation 216501 Collision Type OTHER Severity INJURY #Killed 0 #Injured 1 Tow Away? N Process Date 20160202
Weather1 CLEAR Weather2 Rdwy Surface Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Vehicle Involved With BICYCLE Lighting DAYLIGHT Ped Action Cntrl Dev 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	53	M	O	HNBD		STOPPED	-	D	2200	TOYOT	2003	-	3	N		- M G
2F	BICY	45	M	W	HNBD		PROC ST	-	L	0400	-		-	3	-		- - -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
BICY	COMP PN	45	M	9	3	-	-

Primary Rd WEST ASHLAN AV Distance (ft) 0 Direction Secondary Rd N VALENTINE AVE NCIC 1005 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Fresno County Fresno Population 7 Rpt Dist NW194 Beat 00G Type 0 CalTrans Badge P1681 Collision Date 20150908 Time 1117 Day TUE
Primary Collision Factor STRTNG|BCKNG Violation 22106 Collision Type AUTO/PED Severity INJURY #Killed 0 #Injured 1 Tow Away? N Process Date 20160125
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run FELONY Motor Vehicle Involved With PED Lighting DAYLIGHT Ped Action NOT 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	57	F	H			BACKING	-	A	0100	HONDA	2009	-	3	A		F M G
2	PED	37	F				OTHER	-	N	6000	-		-	3	N		- - -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PED	OTH VIS	37	F	9	3	-	-

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Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N MARTY AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1848** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P1162** *Collision Date* **20150503** *Time* **1350** *Day* **SUN**
Primary Collision Factor **NOT STATED** *Violation* *Collision Type* **AUTO/PED** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160126**
Weather1 *Weather2* *Rdwy Surface* *Rdwy Cond1* *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PED** *Lighting* **DAYLIGHT** *Ped Action* **NOT IN RD** *Cntrl Dev* *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	44	F	W	HNBD		RGT TURN	S	D	2200	CHEVR	2000	-	2	F	-	-	-								
2	PED	77	M		HNBD		OTHER	N	N	6000	-		-	3	-	-	-	-	PED	SEVERE	77	M	0	0	P	-

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N MARTY AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **1848** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **1022** *Collision Date* **20150907** *Time* **1145** *Day* **MON**
Primary Collision Factor **STRTNG|BCKNG** *Violation* **22106** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160210**
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																	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	24	F	B	HNBD		STOPPED	W	A	0100	SATUR	2008	-	-	F	-	M	G	PASS		24	M	3	0	M	G
																			PASS		4	F	6	0	M	Q
																			PASS		3	F	7	0	M	Q
2	DRVR	38	M	H	HNBD		STOPPED	W	-	0000	FORD	2012	-	-	N	-	M	G	PASS		36	F	3	0	N	G
																			PASS		73	F	0	0	P	J

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N MARTY AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW184** *Beat* **00A** *Type* **0** *CalTrans* *Badge* **P1227** *Collision Date* **20151014** *Time* **1802** *Day* **WED**
Primary Collision Factor **OTHER HAZ** *Violation* **21451A** *Collision Type* **SIDESWIPE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160126**
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	77	M	B	HNBD		LFT TURN	N	A	0700	FORD	2009	-	3	N	-	L	G	DRVR	COMP PN	77	M	1	0	L	G
																			PASS		43	F	3	0	L	G
2	DRVR	30	F	B	HNBD		PROC ST	S	A	0100	CHEVR	1993	-	3	N	-	L	G								

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N POLK AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW174** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1616** *Collision Date* **20150628** *Time* **2039** *Day* **SUN**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23153A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160128**
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* **DUSK/DAWN** *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*
1	DRVR	23	M	W		DRUG	LFT TURN	W	A	0100	SATUR	2002	-	3	N	-	M	G	PASS		23	M	5	0	M	B
2F	DRVR	75	F	H			PROC ST	E	A	0100	NISSA	2000	-	3	N	-	L	G	DRVR	COMP PN	75	F	1	0	L	G

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **N RT 99** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW164** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P1648** *Collision Date* **20150815** *Time* **2049** *Day* **SAT**
Primary Collision Factor **IMPROP TURN** *Violation* **22100A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160414**
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	16	F	H	HNBD		LFT TURN	E	A	0100	MERCE	1983	-	3	E	-	M	G	DRVR	COMP PN	16	F	1	0	-	-

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Primary Rd N GOLDEN STATE | Distance (ft) 3 | Direction E | Secondary Rd WASHLAN AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno BL | County Fresno | Population 7 | Rpt Dist NW194 | Beat 00C | Type 0 | CalTrans | Badge P1718 | Collision Date 20160212 | Time 0431 | Day FRI
Primary Collision Factor STOP SGN|SIG | Violation 21453A | Collision Type OTHER | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20160407
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
1	DRVR	24	M	H	HNBD		LFT TURN	E	A	0100	CHEVR	2006	-	3	N		-	L	G
2F	BICY	19	M	W			LFT TURN	E	L	0400	-		-	3	A		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	24	M	1	0	L	G

Primary Rd N GREGORY AV | Distance (ft) 45 | Direction S | Secondary Rd WATHENS AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NW124 | Beat 00A | Type 0 | CalTrans | Badge P1617 | Collision Date 20160228 | Time 0200 | Day SUN
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20160415
Weather1 | Weather2 | Rdwy Surface | Rdwy Cond1 | Rdwy Cond2 | Spec Cond 0
Hit and Run MSDMNR | Motor Vehicle Involved With | Lighting | Ped Action | Cntrl Dev | 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	PRKD	998	-			null		-	A	0100	FORD	1998	-	-	-		-	-	-
2F	DRVR	998	-			null		-	A	0100	TOYOT	2005	-	-	-		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd N HANEY AV | Distance (ft) 0 | Direction | Secondary Rd EAST NORTH AV | NCIC 1012 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Reedley | County Fresno | Population 3 | Rpt Dist REEDL | Beat 002 | Type 0 | CalTrans | Badge L67 | Collision Date 20161021 | Time 2227 | Day FRI
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20161215
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 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	-		HBD-UNK		PROC ST	N	-	0000	CHEVR	2009	-	3	A	20002	N	M	B
2	PRKD	998	-				PARKED	N	-	0000	SATUR	1998	-	3	N		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd N HARVARD AV | Distance (ft) 0 | Direction | Secondary Rd BARSTOW AV | NCIC 1001 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Clovis | County Fresno | Population 5 | Rpt Dist | Beat 004 | Type 0 | CalTrans | Badge 5700 | Collision Date 20160320 | Time 2500 | Day SUN
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20160407
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 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	998	-					-	-	0000	-		-	-	-		-	-	-
2	PRKD	998	-				PARKED	N	A	0100	HYUND	2006	-	-	A	22107	-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd N HAZEL AV | Distance (ft) 30 | Direction S | Secondary Rd W MORRIS AV | NCIC 1005 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist NORTH | Beat NTU | Type 0 | CalTrans | Badge P1451 | Collision Date 20160220 | Time 1836 | Day SAT
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type HEAD-ON | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20160824
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 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	19	M	W	HNBD		LFT TURN	W	A	0100	HYUND	2014	-	3	N		-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		17	M	3	0	L	G

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Primary Rd **PARK AV** *Distance (ft)* **100** *Direction* **S** *Secondary Rd* **LINCOLN AV** *NCIC* **1001** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Clovis** *County* **Fresno** *Population* **5** *Rpt Dist* *Beat* **007** *Type* **0** *CalTrans* *Badge* **5277** *Collision Date* **20160712** *Time* **0732** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160726**
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* **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	16	F	W	HNBD		PROC ST	S	A	0100	FORD	2007	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	16	F	1	0	M	G

Primary Rd **PARK ST** *Distance (ft)* **40** *Direction* **W** *Secondary Rd* **SHERIDAN ST** *NCIC* **1015** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Selma** *County* **Fresno** *Population* **3** *Rpt Dist* **SELMA** *Beat* **004** *Type* **0** *CalTrans* *Badge* **N078** *Collision Date* **20161122** *Time* **1752** *Day* **TUE**
Primary Collision Factor **UNKNOWN** *Violation* **23123A** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20161206**
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	52	M	H	HBD-UI		PROC ST	W	-	0000	CHEVR	1989	-	1	A		F	M	G
2	PRKD	998	-				PARKED	W	-	0000	HYUND	2016	-	-	N		-	-	-
3	PRKD	998	-				PARKED	W	-	0000	HONDA	2006	-	-	N		-	-	-
4	OTHR	998	-				PARKED	W	-	0000	CHRYS	2002	-	-	N		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **PARKWAY DR** *Distance (ft)* **100** *Direction* **N** *Secondary Rd* **GRANTLAND AVE** *NCIC* **9435** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **019323** *Collision Date* **20160115** *Time* **0115** *Day* **FRI**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160210**
Weather1 **CLOUDY** *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* **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	25	F	A	HBD-UI		PROC ST	S	A	0100	TOYT	2014	-	2	A	22350	-	L	G
2	DRVR	998	-		IMP UNK	IMP UNK	SLOWING	S	A	0700	-		-	3	N		-	B	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **PARKWAY DR** *Distance (ft)* **0** *Direction* *Secondary Rd* **KAMM AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **040** *Type* **3** *CalTrans* *Badge* **019610** *Collision Date* **20161022** *Time* **1311** *Day* **SAT**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20161027**
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	57	M	H	HNBD		PROC ST	W	A	0100	CHEV	1992	-	3	N		-	L	G
2	DRVR	44	F	W	HNBD		PROC ST	S	D	2200	GMC	2011	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	57	M	1	0	L	G

Primary Rd **PARKWAY DR** *Distance (ft)* **432** *Direction* **N** *Secondary Rd* **SHIELDS AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **2149** *Beat* **NWF** *Type* **0** *CalTrans* *Badge* **P731** *Collision Date* **20160313** *Time* **1736** *Day* **SUN**
Primary Collision Factor **WRONG SIDE** *Violation* **21460A** *Collision Type* **HEAD-ON** *Severity* **FATAL** *#Killed* **1** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20171002**
Weather1 **CLOUDY** *Weather2* **RAINING** *Rdwy Surface* **WET** *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	18	F	H	HNBD		OPPOS LN	S	A	0100	TOYOT	2002	-	3	A	22350	-	L	G
2	DRVR	61	F	H	HNBD		PROC ST	N	A	0100	PONTI	1999	-	3	N		-	L	H

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	SEVERE	18	F	1	0	L	G
PASS	KILLED	53	F	6	0	P	H
DRVR	SEVERE	61	F	1	0	L	H

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Primary Rd **SR-99 N/B TO** *Distance (ft)* **40** *Direction* **S** *Secondary Rd* **CLINTON AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **CLINTON AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019210** *Collision Date* **20160906** *Time* **1450** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160920**
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	36	M	H	IMP UNK	IMP UNK	PROC ST	N	A	0100	CADI	1995	-	3	N		-	M	G
2	DRVR	22	M	A	HNBD		STOPPED	N	A	0100	HONDA	2015	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **SR-99 N/B TO** *Distance (ft)* **800** *Direction* **S** *Secondary Rd* **CLOVIS AVE.** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP** **CLOVIS AVE.** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **106** *Type* **1** *CalTrans* *Badge* **016730** *Collision Date* **20160412** *Time* **1725** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **OVERTURNED** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20160426**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **NON-CLSN** *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	20	M	H	HNBD		OTHER	N	C	0200	SUZI	2005	-	3	H		-	-	W

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	20	M	1	1	P	W

Primary Rd **SR-99 N/B TO** *Distance (ft)* **85** *Direction* **S** *Secondary Rd* **FLORAL AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Selma** **FLORAL AVE.** *County* **Fresno** *Population* **3** *Rpt Dist* *Beat* **107** *Type* **1** *CalTrans* *Badge* **016570** *Collision Date* **20160406** *Time* **1145** *Day* **WED**
Primary Collision Factor **STRTNG|BCKNG** *Violation* **22106** *Collision Type* **OTHER** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160418**
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	25	F	B	HNBD		BACKING	N	G	2731	VOLVO	2016	-	3	H		-	M	G
2	DRVR	24	M	H	HNBD		STOPPED	N	A	0100	TOYT	2007	-	3	H		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **SR-99 N/B TO** *Distance (ft)* **15** *Direction* **S** *Secondary Rd* **FLORAL AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP** **FLORAL AVENUE** *County* **Fresno** *Population* **9** *Rpt Dist* *Beat* **107** *Type* **1** *CalTrans* *Badge* **017310** *Collision Date* **20160513** *Time* **1805** *Day* **FRI**
Primary Collision Factor **OTHER HAZ** *Violation* **21461A** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160520**
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	998	F	W	IMP UNK	IMP UNK	WRONG WY	S	A	0700	-		-	3	H		-	B	B
2	DRVR	29	M	B	HNBD		STOPPED	N	A	0100	TOYOT	2005	-	3	H		-	M	G
3	DRVR	30	F	W	HNBD		STOPPED	N	A	0700	CHEV	2010	-	3	H		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		29	F	3	0	M	G
PASS		1	F	5	0	P	Q

Primary Rd **SR-99 N/B TO** *Distance (ft)* **25** *Direction* **S** *Secondary Rd* **HERNDON AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **HERNDON AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **020060** *Collision Date* **20160410** *Time* **1700** *Day* **SUN**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160505**
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* **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
1	DRVR	34	F	W	HNBD		PROC ST	N	A	0700	SUBA	2016	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		43	M	3	0	M	G
PASS		3	M	6	0	P	Q
PASS		998	M	4	0	P	Q

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2F	DRVR	39	M	B	HBD-UI		OTHER	N	A	0100	TOYO	2010	3	A	22107	-	M	G

Primary Rd **SR-99 N/B TO** *Distance (ft)* **200** *Direction* **S** *Secondary Rd* **HERNDON AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **HERNDON AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **020429** *Collision Date* **20160708** *Time* **1320** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160729**
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	74	M	W	HNBD		SLOWING	N	A	0700	BMW	2002	-	3	N	-	M	G
2	DRVR	25	F	A	HNBD		STOPPED	N	A	0800	TOYO	1999	-	3	N	-	M	G
3	DRVR	61	F	W	HNBD		STOPPED	N	A	0100	HONDA	2003	-	3	N	-	M	G

Victim Info

ROLE	*Ext Of Inj*	*AGE*	*Sex*	*Seat Pos*	*Safety*	*EQUIP*	*Ejected*
PASS		30	M	3	0	M	G
PASS		27	F	4	0	P	G
PASS		21	M	5	0	P	G
PASS		23	F	7	0	P	G
PASS		29	F	7	0	P	G
PASS		32	M	7	0	B	G

Primary Rd **SR-99 N/B TO** *Distance (ft)* **12** *Direction* **S** *Secondary Rd* **HERNDON AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **HERNDON AVENUE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019523** *Collision Date* **20160728** *Time* **1150** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160817**
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	998	F	W	IMP UNK	IMP UNK	PROC ST	N	-	9900	-		-	3	N	-	B	B
2	DRVR	71	F	W	HNBD		STOPPED	N	A	0100	CHEV	2007	-	3	N	-	M	G

Victim Info

ROLE	*Ext Of Inj*	*AGE*	*Sex*	*Seat Pos*	*Safety*	*EQUIP*	*Ejected*

Primary Rd **SR-99 N/B TO** *Distance (ft)* **35** *Direction* **S** *Secondary Rd* **JENSEN AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **JENSEN AVENUE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **106** *Type* **1** *CalTrans* *Badge* **018920** *Collision Date* **20160706** *Time* **0702** *Day* **WED**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160721**
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	23	M	H		FATG	PROC ST	N	A	0100	BUICK	1998	-	3	N	-	M	G
2	DRVR	34	M	H	HNBD		STOPPED	N	A	0100	OLDS	2000	-	3	N	-	M	G
3	DRVR	64	M	H	HNBD		STOPPED	N	A	0700	FORD	2003	-	3	N	-	M	G

Victim Info

ROLE	*Ext Of Inj*	*AGE*	*Sex*	*Seat Pos*	*Safety*	*EQUIP*	*Ejected*

Primary Rd **SR-99 N/B TO** *Distance (ft)* **25** *Direction* **S** *Secondary Rd* **MCKINLEY AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **MCKINLEY AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019926** *Collision Date* **20161207** *Time* **1555** *Day* **WED**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **3** *Tow Away?* **Y** *Process Date* **20161214**
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	60	M	H	HNBD		PROC ST	N	A	0700	DODG	2001	-	3	H	-	M	G
2	DRVR	47	F	B	HNBD		STOPPED	N	A	0100	HYUN	2015	-	3	H	-	M	G

Victim Info

ROLE	*Ext Of Inj*	*AGE*	*Sex*	*Seat Pos*	*Safety*	*EQUIP*	*Ejected*
DRVR	COMP PN	47	F	1	0	M	G
PASS	COMP PN	13	F	3	0	M	G
PASS	COMP PN	16	F	5	0	P	G

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Primary Rd **SR-99 N/B TO** *Distance (ft)* **15** *Direction* **S** *Secondary Rd* **MERCED AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fowler** **MERCED AVE** *County* **Fresno** *Population* **2** *Rpt Dist* *Beat* **106** *Type* **1** *CalTrans* *Badge* **019895** *Collision Date* **20160630** *Time* **1430** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160714**
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	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	21	M	W	HNBD		PROC ST	N	D	2200	CHEV	2006	-	3	N		-	M	G
2	DRVR	30	F	H	HNBD		STOPPED	N	A	0100	FORD	2011	-	3	N		-	M	G

Primary Rd **SR-99 N/B TO OLIVE** *Distance (ft)* **200** *Direction* **S** *Secondary Rd* **OLIVE AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **010** *Type* **3** *CalTrans* *Badge* **019926** *Collision Date* **20160929** *Time* **0800** *Day* **THU**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20161010**
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* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

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	38	M	B	HNBD		OTHER	N	A	0100	FORD	1995	-	3	H		-	M	G	DRVR	COMP PN	38	M	1	0	M	G

Primary Rd **SR-99 N/B TO OLIVE** *Distance (ft)* **40** *Direction* **S** *Secondary Rd* **OLIVE AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019926** *Collision Date* **20161228** *Time* **1325** *Day* **WED**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20170105**
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	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	N	-	9900	-		-	3	H		-	B	B
2	DRVR	25	M	O	HNBD		STOPPED	N	A	0100	CHEV	2010	-	3	H		-	M	G

Primary Rd **SR-99 N/B TO OLIVE** *Distance (ft)* **4** *Direction* **S** *Secondary Rd* **OLIVE AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **AVE.** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **018823** *Collision Date* **20160413** *Time* **1645** *Day* **WED**
Primary Collision Factor **WRONG SIDE** *Violation* **21650** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160426**
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	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
1	DRVR	61	M	W	HNBD		RGT TURN	N	D	2200	FORD	2015	-	3	N		-	M	G								
2F	BICY	57	M	H	HNBD		WRONG WY	W	L	0400	WORK	2000	-	3	N		-	V		PASS	OTH VIS	5	F	0	1	P	X

Primary Rd **SR-99 N/B TO SHAW** *Distance (ft)* **25** *Direction* **N** *Secondary Rd* **SHAW AVE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **AVE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **020429** *Collision Date* **20160819** *Time* **1330** *Day* **FRI**
Primary Collision Factor **STRTNG|BCKNG** *Violation* **22106** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **N** *Process Date* **20160826**
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	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	40	M	H	HNBD		PROC ST	N	D	2200	CHEVR	2005	-	3	N		-	M	G								
2	DRVR	55	F	B	HNBD		STOPPED	N	A	0100	PONTI	2006	-	3	N		-	M	G	DRVR	COMP PN	55	F	1	0	M	G
																				PASS	COMP PN	19	M	3	0	M	G

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Primary Rd SR-99 NB FROM | Distance (ft) 100 | Direction N | Secondary Rd SHAW AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | SHAW AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 020429 | Collision Date 20160814 | Time 1630 | Day SUN
Primary Collision Factor NOT DRIVER | Violation | Collision Type OTHER | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20160826
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With NON-CLSN | 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
1	DRVR	46	M	B	HNBD		PROC ST	N	A	0100	MERC	1989	-	3	K	-	P	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	46	M	1	0	P	G
PASS		56	M	3	0	P	G

Primary Rd SR-99 NB TO SR-180 | Distance (ft) 100 | Direction E | Secondary Rd SR-99 NB | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno EB | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 018944 | Collision Date 20160711 | Time 0210 | Day MON
Primary Collision Factor DRVR ALC|DRG | Violation 23152A | Collision Type OVERTURNED | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20160801
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With NON-CLSN | 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	41	M	H	HBD-UI		RAN OFF RD	N	D	2200	CHEV	2003	-	3	A	22107	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	SEVERE	41	M	1	0	M	G

Primary Rd SR-99 NB TO SR-180 | Distance (ft) 545 | Direction E | Secondary Rd SR-99 | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno EB | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 020082 | Collision Date 20160814 | Time 1830 | Day SUN
Primary Collision Factor DRVR ALC|DRG | Violation 23152A | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20160818
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 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	43	M	H	HBD-UI		OTHER	N	A	0700	CHEV	1999	-	3	A	22107	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 | Distance (ft) 225 | Direction S | Secondary Rd ADAMS AVENUE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City UNINCORP | NORTHBOUND | County Fresno | Population 9 | Rpt Dist | Beat 106 | Type 1 | CalTrans | Badge 015095 | Collision Date 20160102 | Time 1314 | Day SAT
Primary Collision Factor LANE CHANGE | Violation 21658A | Collision Type SIDESWIPE | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20160129
Weather1 CLOUDY | 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
1	DRVR	23	F	H	HNBD		PROC ST	N	A	0100	TOYT	2013	-	3	N	-	L	G
2F	DRVR	998	-		IMP UNK	IMP UNK	CHANG LN	N	D	2200	DODG		-	3	N	-	-	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	23	F	1	0	L	G

Primary Rd SR-99 | Distance (ft) 3168 | Direction S | Secondary Rd AMERICAN | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City UNINCORP | NORTHBOUND | County Fresno | Population 9 | Rpt Dist | Beat 106 | Type 1 | CalTrans | Badge 015095 | Collision Date 20160227 | Time 1043 | Day SAT
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20160308
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 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	HNBD		OTHER	N	A	0100	DODG	2016	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		23	M	3	0	M	G

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Primary Rd SR-99 S/B FROM | Distance (ft) 200 | Direction S | Secondary Rd SHAW AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | SHAW AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 019926 | Collision Date 20160725 | Time 0950 | Day MON
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type HIT OBJECT | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20160805
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 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	47	F	H	HNBD		PROC ST	S	A	0100	HOND	2006	- 3	H		-	L G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	47	F	1	0	L	G

Primary Rd SR-99 S/B TO | Distance (ft) 5 | Direction N | Secondary Rd ASHLAN AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | ASHLAN AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 018934 | Collision Date 20160221 | Time 1845 | Day SUN
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20160304
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 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	55	M	O	HNBD		LFT TURN	S	G	2531	VOLV	2015	- 3	N		-	M G
2	DRVR	59	F	B	HNBD		PROC ST	S	A	0100	HYUN	2015	- 3	N		-	M G
3	DRVR	19	M	H	HNBD		PROC ST	S	A	0100	FORD	2000	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 S/B TO | Distance (ft) 80 | Direction N | Secondary Rd ASHLAN AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | ASHLAN AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 018823 | Collision Date 20160331 | Time 1725 | Day THU
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20160602
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 CONS ZONE | Rdwy Cond2 REDUCED RD | 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	25	M	A	HNBD		PROC ST	S	G	2531	FREI	2016	- 3	H		-	M G
2	DRVR	62	M	H	HNBD		STOPPED	S	D	2200	FORD	2000	- 3	H		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 S/B TO | Distance (ft) 20 | Direction N | Secondary Rd ASHLAN AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | ASHLAN AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 018823 | Collision Date 20160411 | Time 1445 | Day MON
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20160421
Weather1 CLOUDY | Weather2 | Rdwy Surface DRY | Rdwy Cond1 CONS ZONE | Rdwy Cond2 REDUCED RD | 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	50	M	O	HNBD		PROC ST	S	G	2531	VOLV	2016	- 3	N		-	M G
2	DRVR	72	F	W	HNBD		STOPPED	S	A	0700	GMC	2015	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 S/B TO | Distance (ft) 0 | Direction | Secondary Rd CENTRAL AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | CENTRAL AVE | County Fresno | Population 7 | Rpt Dist | Beat 106 | Type 1 | CalTrans | Badge 019610 | Collision Date 20161015 | Time 1135 | Day SAT
Primary Collision Factor R-O-W AUTO | Violation 21802A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20161019
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	22	F	H	HNBD		LFT TURN	S	A	0100	TOYT	2009	- 3	N		-	M G
2	DRVR	33	M	W	HNBD		PROC ST	W	D	2200	FORD	2013	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		998	M	4	0	M	Q
PASS		18	M	6	0	M	G

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Primary Rd **STATE ROUTE 99** *Distance (ft)* **528** *Direction* **S** *Secondary Rd* **JENSEN AVENUE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **N/B** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **106** *Type* **1** *CalTrans* *Badge* **019385** *Collision Date* **20161020** *Time* **0001** *Day* **THU**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20161025**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER 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	19	M	W		FATG	OTHER	N	A	0100	FORD	2016	-	3	M	-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	19	M	1	0	L	G
PASS	SEVERE	19	F	3	0	L	G

Primary Rd **STATE ROUTE 99** *Distance (ft)* **528** *Direction* **S** *Secondary Rd* **OLIVE AVENUE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **N/B** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019039** *Collision Date* **20160803** *Time* **1820** *Day* **WED**
Primary Collision Factor **LANE CHANGE** *Violation* **21658A** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160808**
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	IMP UNK	IMP UNK	PROC ST	N	A	0100	-		-	3	N	-	-	B
2	DRVR	38	F	H	HNBD		PROC ST	N	A	0100	MITS	2007	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **STATE ROUTE 99** *Distance (ft)* **80** *Direction* **N** *Secondary Rd* **STATE ROUTE 180** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **N/B** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019039** *Collision Date* **20160804** *Time* **1355** *Day* **THU**
Primary Collision Factor **OTHER EQPMNT** *Violation* **24002A** *Collision Type* **OTHER** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20160808**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **NON-CLSN** *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	26	F	B	HNBD		PROC ST	N	A	0100	FORD	2006	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		27	F	3	0	M	G

Primary Rd **STATE ROUTE 99** *Distance (ft)* **528** *Direction* **S** *Secondary Rd* **STATE ROUTE 180** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **N/B** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019039** *Collision Date* **20160808** *Time* **1722** *Day* **MON**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160812**
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	22	M	B	HNBD		PROC ST	N	A	0100	TOYO	2012	-	3	N	-	M	G
2	DRVR	21	F	H	HNBD		SLOWING	N	A	0100	CHRY	2016	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **STATE ROUTE 99** *Distance (ft)* **7** *Direction* **N** *Secondary Rd* **SHAW AVENUE** *NCIC* **9435** *State Hwy?* **Y** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** **N/B TO SHAW AVENUE** *County* **Fresno** *Population* **7** *Rpt Dist* *Beat* **105** *Type* **1** *CalTrans* *Badge* **019039** *Collision Date* **20160907** *Time* **1951** *Day* **WED**
Primary Collision Factor **STRTNG|BCKNG** *Violation* **22106** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160912**
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	36	M	W	HNBD		PROC ST	N	D	2200	CHEVY	2015	-	3	N	-	M	G
2	DRVR	46	F	A	HNBD		SLOWING	N	A	0700	NISS	2010	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		12	M	3	0	M	G
PASS		11	M	4	0	P	G
PASS		8	F	6	0	P	G

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Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **HELM AV** *NCIC* **1001** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Clovis** *County* **Fresno** *Population* **5** *Rpt Dist* *Beat* **001** *Type* **0** *CalTrans* *Badge* **5465** *Collision Date* **20160923** *Time* **1926** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20161101**
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	61	F	W	HNBD		PROC ST	E	A	0100	SATUR	2004	-	3	N		-	M G
2	DRVR	24	F	H	HNBD		STOPPED	E	A	0100	NISSA	2013	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	21	F	3	0	M	G

Primary Rd **WEST SHAW AV** *Distance (ft)* **63** *Direction* **W** *Secondary Rd* **MINNEWAWA** *NCIC* **1001** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Clovis** *County* **Fresno** *Population* **5** *Rpt Dist* *Beat* *Type* **0** *CalTrans* *Badge* *Collision Date* **20160910** *Time* **1110** *Day* **SAT**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20170620**
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	28	F	W	HNBD		U-TURN	W	A	0100	SUBAR	2006	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	18	F	1	0	M	G

Primary Rd **WEST SHAW AV** *Distance (ft)* **100** *Direction* **W** *Secondary Rd* **N POLK AV** *NCIC* **1005** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Fresno** *County* **Fresno** *Population* **7** *Rpt Dist* **NW164** *Beat* **00C** *Type* **0** *CalTrans* *Badge* **P960** *Collision Date* **20160214** *Time* **1100** *Day* **SUN**
Primary Collision Factor **OTHER IMPROP DRV** *Violation* *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20160824**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **OTHER** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER 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	
1	DRVR	27	F	H			PROC ST	W	A	0100	BMW	2008	-	3	M		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		26	M	3	0	M	G
PASS		2	F	6	0	M	Q

Primary Rd **WEST SHAW AV** *Distance (ft)* **129** *Direction* **W** *Secondary Rd* **PEACH** *NCIC* **1001** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Clovis** *County* **Fresno** *Population* **5** *Rpt Dist* *Beat* **001** *Type* **0** *CalTrans* *Badge* **5145** *Collision Date* **20160525** *Time* **1148** *Day* **WED**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20160615**
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	63	M	A	HNBD		PROC ST	E	A	0100	NISSA	2008	-	3	N		-	M G
2	DRVR	45	F	W	HNBD		SLOWING	E	A	0100	BMW	2013	-	3	N		-	- G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	COMP PN	10	M	4	0	M	G

Primary Rd **WEST SHAW AV** *Distance (ft)* **0** *Direction* *Secondary Rd* **RT 168** *NCIC* **1001** *State Hwy?* **Y** *Route* **168** *Postmile Prefix* **R** *Postmile* **4.451** *Side of Hwy* **W**
City **Clovis** *County* **Fresno** *Population* **5** *Rpt Dist* *Beat* **001** *Type* **0** *CalTrans* **6** *Badge* **5650** *Collision Date* **20160903** *Time* **2025** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20170224**
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* **R** *Ramp/Int* **1**

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	79	M	W	HNBD		PROC ST	N	A	0100	TOYOT	2014	-	3	A	22350	-	M C
2	DRVR	61	M	W	HNBD		RGT TURN	N	A	0100	TOYOT	1996	-	3	N		-	M C

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	61	M	1	0	M	C

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Primary Rd SR-99 N/B TO SR-180 E/B | Distance (ft) 1584 | Direction E | Secondary Rd SR-99 N/B | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 016833 | Collision Date 20170216 | Time 1003 | Day THU
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type OVERTURNED | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170216
Weather1 CLOUDY | Weather2 | Rdwy Surface WET | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With NON-CLSN | 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	34	F	H	HNBD		OTHER	E	A	0100	DODGE	2008	-	3	N	-	M	G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 S/B TO SR-180 | Distance (ft) 100 | Direction N | Secondary Rd NIELSEN AVENUE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 020854 | Collision Date 20170820 | Time 1550 | Day SUN
Primary Collision Factor WRONG SIDE | Violation 21651A | Collision Type SIDESWIPE | Severity INJURY | #Killed 0 | #Injured 2 | Tow Away? Y | Process Date 20170915
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	998	-		IMP UNK	IMP UNK	OTHER	S	D	2200	CHEV		-	3	N	-	B	B	
2	DRVR	45	F	W	HNBD		PROC ST	S	A	0800	KIA	2012	-	3	N	-	M	G	
3	DRVR	40	M	W	HNBD		PROC ST	S	A	0100	TOYOT	1991	-	3	N	-	M	G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	SEVERE	40	M	1	0	M	G
PASS	OTH VIS	47	F	3	0	M	G

Primary Rd SR-99 | Distance (ft) 800 | Direction S | Secondary Rd MANNING AVE. | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City UNINCORP | County Fresno | Population 9 | Rpt Dist | Beat 107 | Type 1 | CalTrans | Badge 020082 | Collision Date 20170622 | Time 1525 | Day THU
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170629
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 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	29	F	H	HNBD		OTHER	S	A	0100	TOYOT	2000	-	3	N	-	M	G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 TO SHAW AVENUE | Distance (ft) 5 | Direction N | Secondary Rd SHAW AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 015986 | Collision Date 20170920 | Time 0725 | Day WED
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170929
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	45	M	W	HNBD		PROC ST	S	A	0700	FORD	2017	-	3	N	-	M	G	
2	DRVR	56	M	H	HNBD		STOPPED	S	D	2200	CHEV	2017	-	3	N	-	M	G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR180 W/B TO SR99 | Distance (ft) 475 | Direction W | Secondary Rd G ST | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist | Beat 181 | Type 1 | CalTrans | Badge 019895 | Collision Date 20170502 | Time 1725 | Day TUE
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170503
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	16	M	O	HNBD		PROC ST	W	A	0100	TOYO	2014	-	3	N	-	M	G	
2	DRVR	24	F	O	HNBD		PROC ST	W	A	0100	HONDA	2014	-	3	N	-	M	G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd SR-99 N/B FROM | Distance (ft) 528 | Direction N | Secondary Rd NORTH AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | NORTH AVE | County Fresno | Population 7 | Rpt Dist | Beat 106 | Type 1 | CalTrans | Badge 016833 | Collision Date 20170322 | Time 1020 | Day WED
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type OVERTURNED | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170323
Weather1 CLOUDY | Weather2 RAINING | Rdwy Surface WET | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With NON-CLSN | 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	26	F	H	HNBD		OTHER	N	D	2200	DODGE	2007	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B FROM | Distance (ft) 200 | Direction N | Secondary Rd OLIVE AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | OLIVE AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 019926 | Collision Date 20171010 | Time 1600 | Day TUE
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20171018
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	25	F	H	HNBD		PROC ST	N	A	0100	KIA	2013	-	3	H		-	M G
2	DRVR	83	F	O	HNBD		STOPPED	N	A	0700	CHEV	2011	-	3	H		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B FROM | Distance (ft) 220 | Direction N | Secondary Rd OLIVE AVE. | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | OLIVE AVE. | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 015106 | Collision Date 20170310 | Time 0710 | Day FRI
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity INJURY | #Killed 0 | #Injured 2 | Tow Away? N | Process Date 20170314
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	37	M	H	HNBD		PROC ST	N	F	2600	GMC	2006	-	3	F		-	M G
2	DRVR	29	M	H	HNBD		STOPPED	N	D	2200	CHEVY	2017	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	37	M	1	0	M	G
DRVR	COMP PN	29	M	1	0	M	G

Primary Rd SR-99 N/B FROM | Distance (ft) 100 | Direction N | Secondary Rd SHAW AVE. | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | SHAW AVE. | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 020680 | Collision Date 20170312 | Time 0300 | Day SUN
Primary Collision Factor DRVR ALC|DRG | Violation 23152A | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170320
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	Ejected
1F	DRVR	23	M	H	HBD-UI		PROC ST	N	A	0100	HOND	2009	-	3	A	22107	- L G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B FROM | Distance (ft) 38 | Direction N | Secondary Rd SHAW AVENUE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | SHAW AVENUE W/B | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 020064 | Collision Date 20171022 | Time 0530 | Day SUN
Primary Collision Factor DRVR ALC|DRG | Violation 23152A | Collision Type HIT OBJECT | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? Y | Process Date 20171030
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	Ejected
1F	DRVR	23	M	H	HBD-UI		PROC ST	W	D	2200	MAZDA	1994	-	3	A	22350	H	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	MINOR	23	M	1	0	M	G

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Primary Rd SR-99 N/B FROM Distance (ft) 1056 Direction N Secondary Rd STANISLAUS NCIC 9435 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City Fresno STANISLAUS AVE County Fresno Population 7 Rpt Dist Beat 105 Type 1 CalTrans Badge 017489 Collision Date 20170629 Time 1015 Day THU
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20170703
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	37	F	A	HNBD		PROC ST	N	A	0100	TOYT	2009	-	3	N	-	M G
2	DRVR	59	M	H	HNBD		STOPPED	N	A	0100	DODG	2008	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B FROM Distance (ft) 725 Direction N Secondary Rd VENTURA AVE NCIC 9435 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City Fresno VENTURA AVE County Fresno Population 7 Rpt Dist Beat 105 Type 1 CalTrans Badge 015468 Collision Date 20170920 Time 0852 Day WED
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type REAR END Severity INJURY #Killed 0 #Injured 2 Tow Away? Y Process Date 20170927
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	28	F	H	HNBD		PROC ST	N	A	0100	CHEV	2012	-	3	N	-	L G
2	DRVR	53	F	A	HNBD		STOPPED	N	A	0700	HOND	2004	-	3	N	-	M G
3	DRVR	19	M	W	HNBD		STOPPED	N	E	2235	FORD	2001	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	53	F	1	0	M	G
PASS	COMP PN	18	F	3	0	M	G

Primary Rd SR-99 N/B FROM Distance (ft) 500 Direction N Secondary Rd VENTURA AVE. NCIC 9435 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City Fresno VENTURA AVE County Fresno Population 7 Rpt Dist Beat 105 Type 1 CalTrans Badge 015106 Collision Date 20170508 Time 1040 Day MON
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type REAR END Severity INJURY #Killed 0 #Injured 1 Tow Away? N Process Date 20170515
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	25	F	A	HNBD		PROC ST	N	A	0100	CHEVY	2009	-	3	N	-	M G
2	DRVR	24	F	H	HNBD		STOPPED	N	A	0100	HYUND	2013	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	25	F	1	0	M	G

Primary Rd SR-99 N/B FROM Distance (ft) 300 Direction N Secondary Rd VENTURA ST NCIC 9435 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City Fresno VENTURA ST County Fresno Population 7 Rpt Dist Beat 105 Type 1 CalTrans Badge 020193 Collision Date 20170617 Time 1905 Day SAT
Primary Collision Factor IMPROP PASS Violation 21755 Collision Type SIDESWIPE Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20170623
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	998	-		IMP UNK	IMP UNK	PASSING	N	A	0700	LEXU		-	3	H	-	B B
2	DRVR	39	F	H	HNBD		PROC ST	N	D	2200	FORD	2002	-	3	H	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B TO Distance (ft) 90 Direction S Secondary Rd ASHLAN AVE NCIC 9435 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City Fresno ASHLAN AVE County Fresno Population 7 Rpt Dist Beat 105 Type 1 CalTrans Badge 019926 Collision Date 20170712 Time 1815 Day WE
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20170714
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	42	M	B	HNBD		PROC ST	N	A	0700	CHEV	2002	-	3	H	-	M G
2	DRVR	50	M	B	HNBD		STOPPED	N	A	0100	TOYO	2015	-	3	H	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd SR-99 N/B TO | Distance (ft) 10 | Direction S | Secondary Rd ASHLAN AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City UNINCORPORATED | County Fresno | Population 9 | Rpt Dist | Beat 106 | Type 1 | CalTrans | Badge 016833 | Collision Date 20170917 | Time 2030 | Day SUN
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170926
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	38	M	B	IMP UNK	IMP UNK	PROC ST	N	A	0700	GMC	2005	-	3	N	-	M G
2	DRVR	20	M	H	IMP UNK	IMP UNK	STOPPED	N	A	0700	HONDA	2005	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B TO | Distance (ft) 30 | Direction S | Secondary Rd ASHLAN AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 019113 | Collision Date 20170613 | Time 1617 | Day TUE
Primary Collision Factor STRTNG|BCKNG | Violation 22106 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170621
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	23	M	H	IMP UNK	IMP UNK	PROC ST	N	A	0100	CHRY	2005	-	3	N	-	M G
2	DRVR	24	F	H	HNBD		STOPPED	N	D	2200	CHEV	2017	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B TO | Distance (ft) 50 | Direction S | Secondary Rd ASHLAN AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 015986 | Collision Date 20170906 | Time 0840 | Day WED
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170915
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	28	M	H	HNBD		PROC ST	N	A	0100	MITS	1998	-	3	N	-	M G
2	DRVR	33	F	H	HNBD		STOPPED	N	A	0100	SUZI	2005	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B TO | Distance (ft) 100 | Direction S | Secondary Rd BELMONT AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 019926 | Collision Date 20170509 | Time 1450 | Day TUE
Primary Collision Factor STRTNG|BCKNG | Violation 22106 | Collision Type OTHER | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170516
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	54	M	B	HNBD		BACKING	N	D	2200	CHEV	1988	-	3	H	L	M G
2	DRVR	38	M	W	HNBD		STOPPED	N	A	0100	HOND	2011	-	3	H	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B TO | Distance (ft) 10 | Direction S | Secondary Rd BELMONT | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 018914 | Collision Date 20170620 | Time 1300 | Day TUE
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity INJURY | #Killed 0 | #Injured 2 | Tow Away? N | Process Date 20170628
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 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	-		IMP UNK	IMP UNK	PROC ST	N	D	2200	FORD		-	3	N	-	B B
2	DRVR	31	F	H	HNBD		RGT TURN	N	A	0100	NISS	2008	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN 31	F	1	0	M	G	
PASS	COMP PN 56	M	3	0	M	G	

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Primary Rd SR-99 N/B TO | Distance (ft) 528 | Direction S | Secondary Rd FRESNO ST | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 014479 | Collision Date 20170505 | Time 1028 | Day FRI
Primary Collision Factor NOT DRIVER | Violation | Collision Type OVERTURNED | Severity INJURY | #Killed 0 | #Injured 2 | Tow Away? Y | Process Date 20170525
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 HOLES | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With NON-CLSN | 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	
1	DRVR	35	F	H	HNBD		PROC ST	N	A	0100	KIA	2010	-	3	H		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	35	F	1	0	M	G
PASS	COMP PN	16	F	3	0	M	G

Primary Rd SR-99 N/B TO | Distance (ft) 1584 | Direction S | Secondary Rd ASHLAN AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City UNINCORP | County Fresno | Population 9 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 016833 | Collision Date 20170711 | Time 0740 | Day TUE
Primary Collision Factor UNKNOWN | Violation | Collision Type OTHER | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170712
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER 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	
1	DRVR	32	M	W	HNBD		PROC ST	N	D	2200	DODGE	1996	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B TO | Distance (ft) 1426 | Direction S | Secondary Rd ASHLAN AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 017518 | Collision Date 20170519 | Time 0130 | Day FRI
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170531
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 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	-		IMP UNK	IMP UNK	RAN OFF RD	S	A	0700	NISS	2008	-	3	A	22350	H	M B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B TO | Distance (ft) 100 | Direction S | Secondary Rd HERNDON AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 019926 | Collision Date 20170724 | Time 1720 | Day MON
Primary Collision Factor STRTNG|BCKNG | Violation 22106 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170726
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	51	M	W	HNBD		PROC ST	N	G	2531	PTRB	2015	-	3	H		-	M G
2	DRVR	27	F	H	HNBD		STOPPED	N	A	0100	NISS	2011	-	3	H		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 N/B TO | Distance (ft) 30 | Direction S | Secondary Rd HERNDON AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 015468 | Collision Date 20171027 | Time 0800 | Day FRI
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20171102
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	31	F	H	HNBD		PROC ST	N	A	0700	KIA	2011	-	3	N		-	M G
2	DRVR	40	M	O	HNBD		STOPPED	N	A	0100	VOLK	2016	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd SR-99 S/B FROM Distance (ft) 400 Direction S Secondary Rd OLIVE AVENUE NCIC 9435 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City Fresno OLIVE AVENUE County Fresno Population 7 Rpt Dist Beat 105 Type 1 CalTrans Badge 019113 Collision Date 20171228 Time 1502 Day THU
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type REAR END Severity INJURY #Killed 0 #Injured 1 Tow Away? Y Process Date 20180104
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 CONS ZONE 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	68	F	W	HNBD		PROC ST	S	A	0700	NISS	2009	-	3	N		- M G
2	DRVR	47	M	H	HNBD		STOPPED	S	A	0100	NISS	2016	-	3	N		- M G
3	DRVR	32	M	W	HNBD		STOPPED	S	A	0100	NISS	2005	-	3	N		- M G
4	DRVR	998	M	H	IMP UNK	IMP UNK	STOPPED	S	A	0100	-	-	-	3	N		- B B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	POSSIBL	48	F	3	0	M	G

Primary Rd SR-99 S/B FROM Distance (ft) 75 Direction S Secondary Rd GRANTLAND AVE NCIC 9435 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City UNINCORP County Fresno Population 9 Rpt Dist Beat 105 Type 1 CalTrans Badge 020680 Collision Date 20170529 Time 0054 Day MON
Primary Collision Factor DRVR ALC|DRG Violation 23152A Collision Type HIT OBJECT Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20170607
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	43	M	H	HBD-UI		PROC ST	S	A	0700	TOYT	2004	-	3	A	22107	- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 S/B FROM Distance (ft) 528 Direction S Secondary Rd HERNDON AVE. NCIC 9435 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City Fresno PARKWAY DR County Fresno Population 7 Rpt Dist Beat 105 Type 1 CalTrans Badge 018944 Collision Date 20170827 Time 0205 Day SUN
Primary Collision Factor DRVR ALC|DRG Violation 23152A Collision Type HIT OBJECT Severity INJURY #Killed 0 #Injured 1 Tow Away? Y Process Date 20170905
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 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	26	M	H	HBD-UI		RAN OFF RD	S	A	0100	HOND	2007	-	3	A	22107	- L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	26	M	1	0	L	G

Primary Rd SR-99 S/B FROM Distance (ft) 1056 Direction S Secondary Rd SHAW AVE NCIC 9435 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City Fresno SHAW AVE County Fresno Population 7 Rpt Dist Beat 105 Type 1 CalTrans Badge 015890 Collision Date 20171204 Time 1540 Day MON
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20171212
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	34	M	H	IMP UNK	IMP UNK	PROC ST	S	A	0100	JAGUA	2009	-	3	N		- M G
2	DRVR	70	M	W	HNBD		PROC ST	S	G	2532	FRHT	2001	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd SR-99 S/B FROM Distance (ft) 175 Direction S Secondary Rd SHAW AVENUE NCIC 9435 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City Fresno SHAW AVENUE County Fresno Population 7 Rpt Dist Beat 105 Type 1 CalTrans Badge 020592 Collision Date 20170929 Time 2055 Day FRI
Primary Collision Factor WRONG SIDE Violation 21460A Collision Type SIDESWIPE Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20171016
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 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	32	F	W	IMP UNK	IMP UNK	OPPOS LN	S	A	0100	FORD	1991	-	3	N		- P G
2	DRVR	38	F	B	HNBD		STOPPED	S	A	0700	FORD	2003	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

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Primary Rd SR-99 S/B FROM | Distance (ft) 150 | Direction S | Secondary Rd SHIELDS AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | SHIELDS AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 019895 | Collision Date 20170628 | Time 1330 | Day WED
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170629
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 CONS ZONE | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER 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	32	F	H	HNBD		OTHER	S	A	0700	CHRYS	2004	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety EQUIP	Ejected

Primary Rd SR-99 S/B TO | Distance (ft) 200 | Direction S | Secondary Rd ASHLAN AVENUE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Fresno | ASHLAN AVE | County Fresno | Population 7 | Rpt Dist | Beat 105 | Type 1 | CalTrans | Badge 019369 | Collision Date 20170315 | Time 1550 | Day WED
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170320
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With NON-CLSN | 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	60	F	B	HNBD		PROC ST	N	A	0100	MERB	2006	-	3	N	-	L G
2	DRVR	55	M	H	HNBD		STOPPED	N	G	2531	FREI	2012	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety EQUIP	Ejected

Primary Rd SR-99 S/B TO | Distance (ft) 60 | Direction N | Secondary Rd CENTRAL AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City UNINCORP | CENTRAL AVE | County Fresno | Population 9 | Rpt Dist | Beat 106 | Type 1 | CalTrans | Badge 019523 | Collision Date 20171030 | Time 1520 | Day MON
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20171109
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	36	F	A	HNBD		PROC ST	S	A	0100	TOYOT	2015	-	1	F	-	M G
2	DRVR	62	M	W	HNBD		STOPPED	S	G	2731	VOLVO	2016	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety EQUIP	Ejected

Primary Rd SR-99 S/B TO | Distance (ft) 40 | Direction N | Secondary Rd CENTRAL AVENUE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City UNINCORP | CENTRAL AVENUE | County Fresno | Population 9 | Rpt Dist | Beat 106 | Type 1 | CalTrans | Badge 015181 | Collision Date 20170919 | Time 1625 | Day TUE
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170929
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 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	M	O	IMP UNK	IMP UNK	PROC ST	S	A	0100	-		-	3	N	-	- B
2	DRVR	42	F	H	HNBD		STOPPED	E	A	0100	VOLK	2015	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety EQUIP	Ejected

Primary Rd SR-99 S/B TO | Distance (ft) 1200 | Direction N | Secondary Rd FLORAL AVE | NCIC 9435 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City Selma | FLORAL AVE / SR 43 | County Fresno | Population 3 | Rpt Dist | Beat 107 | Type 1 | CalTrans | Badge 013703 | Collision Date 20170720 | Time 0833 | Day THU
Primary Collision Factor LANE CHANGE | Violation 21658A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170725
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	31	M	H	HNBD		CHANG LN	S	A	0100	TOYO	2012	-	3	H	-	M G
2	DRVR	57	M	W	HNBD		PROC ST	S	D	2200	CHEV	2005	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety EQUIP	Ejected

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Primary Rd SR43 (HIGHLAND AVE.) Distance (ft) 480 Direction S Secondary Rd CARUTHERS AVE NCIC 9435 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City UNINCORP. County Fresno Population 9 Rpt Dist Beat 430 Type 1 CalTrans Badge 015556 Collision Date 20171002 Time 0630 Day MON
Primary Collision Factor NOT DRIVER Violation Collision Type OTHER Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20171010
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Vehicle Involved With ANIMAL 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
1	DRVR	53	M	W	HNBD		PROC ST	N	A	0100	MAZD	2016	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety EQUIP	Ejected

Primary Rd SR43 (HIGHLAND AVENUE) Distance (ft) 1584 Direction S Secondary Rd DAVIS AVE NCIC 9435 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City UNINCORP. County Fresno Population 9 Rpt Dist Beat 430 Type 1 CalTrans Badge 013112 Collision Date 20170519 Time 0001 Day FRI
Primary Collision Factor IMPROP TURN Violation 22107 Collision Type HIT OBJECT Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20170524
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 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	998	-		IMP UNK	IMP UNK	RAN OFF RD	N	-	9900	NISS		-	3	N	-	B B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety EQUIP	Ejected

Primary Rd SR99 N/B Distance (ft) 3696 Direction S Secondary Rd HERNDON AVE NCIC 9435 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City UNINCORP. County Fresno Population 9 Rpt Dist Beat 105 Type 1 CalTrans Badge 020062 Collision Date 20170421 Time 2253 Day FRI
Primary Collision Factor DRVR ALC|DRG Violation 23152A Collision Type HIT OBJECT Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20170426
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	27	M	H	HBD-UI		OTHER	N	A	0100	TOYT	2002	-	3	A	22107	N M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety EQUIP	Ejected

Primary Rd SR99 N/B Distance (ft) 528 Direction N Secondary Rd ROAD 12 NCIC 9435 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City Kingsburg County Fresno Population 2 Rpt Dist Beat 107 Type 1 CalTrans Badge 020062 Collision Date 20171001 Time 0223 Day SUN
Primary Collision Factor TOO CLOSE Violation 21703 Collision Type HIT OBJECT Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20171005
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Vehicle Involved With OTHER 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	32	F	H	HNBD		PROC ST	N	A	0100	MAZD	2011	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety EQUIP	Ejected

Primary Rd SR99 N/B TO Fresno ASHLAN AVENUE Distance (ft) 5 Direction S Secondary Rd ASHLAN AVE. NCIC 9435 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City Fresno County Fresno Population 7 Rpt Dist Beat 105 Type 1 CalTrans Badge 015106 Collision Date 20170602 Time 0855 Day FRI
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type SIDESWIPE Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20170609
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	W	HNBD		PROC ST	N	A	0100	BUICK	2000	-	3	N	-	M G
2	DRVR	69	F	W	HNBD		STOPPED	N	A	0700	BUICK	2013	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety EQUIP	Ejected

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Appendix E: Existing Traffic Conditions



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	60	460	766	0	0	1086
Future Volume (veh/h)	60	460	766	0	0	1086
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	0	1856
Adj Flow Rate, veh/h	67	517	861	0	0	1220
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	0	0	3
Cap, veh/h	561	878	969	0	0	1840
Arrive On Green	0.32	0.32	0.52	0.00	0.00	0.52
Sat Flow, veh/h	1767	2768	1856	0	0	3711
Grp Volume(v), veh/h	67	517	861	0	0	1220
Grp Sat Flow(s),veh/h/ln	1767	1384	1856	0	0	1763
Q Serve(g_s), s	1.8	10.3	27.3	0.0	0.0	16.7
Cycle Q Clear(g_c), s	1.8	10.3	27.3	0.0	0.0	16.7
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	561	878	969	0	0	1840
V/C Ratio(X)	0.12	0.59	0.89	0.00	0.00	0.66
Avail Cap(c_a), veh/h	561	878	1192	0	0	2265
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.84	0.00	0.00	1.00
Uniform Delay (d), s/veh	16.0	18.9	14.1	0.0	0.0	11.5
Incr Delay (d2), s/veh	0.4	2.9	6.3	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.1	10.8	0.0	0.0	5.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.4	21.8	20.3	0.0	0.0	12.1
LnGrp LOS	B	C	C	A	A	B
Approach Vol, veh/h	584		861			1220
Approach Delay, s/veh	21.2		20.3			12.1
Approach LOS	C		C			B

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	26.9	39.1	39.1
Change Period (Y+Rc), s	6.0	4.6	4.6
Max Green Setting (Gmax), s	13.0	42.4	42.4
Max Q Clear Time (g_c+I1), s	12.3	29.3	18.7
Green Ext Time (p_c), s	0.2	5.1	9.7

Intersection Summary	
HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	696	376	0	0	486	135
Future Volume (veh/h)	696	376	0	0	486	135
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)		1.00			1.00	1.00
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No				No	
Adj Sat Flow, veh/h/ln	1856	1856			1856	1856
Adj Flow Rate, veh/h	829	0			579	161
Peak Hour Factor	0.84	0.84			0.84	0.84
Percent Heavy Veh, %	3	3			3	3
Cap, veh/h	3301				0	0
Arrive On Green	0.94	0.00			0.00	0.00
Sat Flow, veh/h	3618	1572			0	
Grp Volume(v), veh/h	829	0			0.0	
Grp Sat Flow(s),veh/h/ln	1763	1572				
Q Serve(g_s), s	1.3	0.0				
Cycle Q Clear(g_c), s	1.3	0.0				
Prop In Lane		1.00				
Lane Grp Cap(c), veh/h	3301					
V/C Ratio(X)	0.25					
Avail Cap(c_a), veh/h	3301					
HCM Platoon Ratio	1.00	1.00				
Upstream Filter(I)	0.85	0.00				
Uniform Delay (d), s/veh	0.2	0.0				
Incr Delay (d2), s/veh	0.2	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.1	0.0				
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.3	0.0				
LnGrp LOS	A					
Approach Vol, veh/h	829	A				
Approach Delay, s/veh	0.3					
Approach LOS	A					

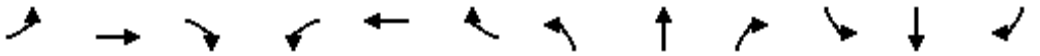
Timer - Assigned Phs	4
Phs Duration (G+Y+Rc), s	66.0
Change Period (Y+Rc), s	* 4.2
Max Green Setting (Gmax), s	* 23
Max Q Clear Time (g_c+I1), s	3.3
Green Ext Time (p_c), s	4.9

Intersection Summary	
HCM 6th Ctrl Delay	0.3
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	476	28	209	331	70	32	33	410	224	73	10
Future Volume (veh/h)	5	476	28	209	331	70	32	33	410	224	73	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
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	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	1856
Adj Flow Rate, veh/h	5	491	29	215	341	72	33	34	423	231	75	10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	12	629	280	244	599	507	656	38	471	255	136	18
Arrive On Green	0.01	0.18	0.18	0.14	0.32	0.32	0.37	0.32	0.32	0.14	0.08	0.08
Sat Flow, veh/h	1767	3526	1568	1767	1856	1570	1767	118	1471	1767	1599	213
Grp Volume(v), veh/h	5	491	29	215	341	72	33	0	457	231	0	85
Grp Sat Flow(s),veh/h/ln	1767	1763	1568	1767	1856	1570	1767	0	1589	1767	0	1813
Q Serve(g_s), s	0.2	11.3	1.3	10.2	13.0	1.8	1.0	0.0	23.4	11.0	0.0	3.8
Cycle Q Clear(g_c), s	0.2	11.3	1.3	10.2	13.0	1.8	1.0	0.0	23.4	11.0	0.0	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.93	1.00		0.12
Lane Grp Cap(c), veh/h	12	629	280	244	599	507	656	0	508	255	0	154
V/C Ratio(X)	0.43	0.78	0.10	0.88	0.57	0.14	0.05	0.00	0.90	0.91	0.00	0.55
Avail Cap(c_a), veh/h	104	851	379	244	611	517	656	0	596	255	0	797
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	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.2	33.5	29.3	36.1	23.9	8.3	17.2	0.0	27.7	35.9	0.0	37.5
Incr Delay (d2), s/veh	23.4	3.3	0.2	28.6	1.2	0.1	0.0	0.0	15.0	32.8	0.0	3.1
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	0.0
%ile BackOfQ(50%),veh/ln	0.2	4.8	0.5	6.2	5.6	1.0	0.4	0.0	10.5	6.8	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.6	36.8	29.5	64.6	25.2	8.4	17.2	0.0	42.7	68.8	0.0	40.5
LnGrp LOS	E	D	C	E	C	A	B	A	D	E	A	D
Approach Vol, veh/h		525			628			490			316	
Approach Delay, s/veh		36.6			36.7			41.0			61.2	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	31.9	16.4	20.5	35.8	12.5	4.8	32.2
Change Period (Y+Rc), s	4.2	* 4.6	4.6	* 5.3	4.2	* 5.3	* 4.2	4.6
Max Green Setting (Gmax), s	12.3	* 32	11.8	* 21	6.1	* 38	* 5	28.1
Max Q Clear Time (g_c+I1), s	13.0	25.4	12.2	13.3	3.0	5.8	2.2	15.0
Green Ext Time (p_c), s	0.0	1.6	0.0	1.8	0.0	0.4	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	41.7
HCM 6th LOS	D

Notes

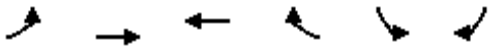
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	674	421	278	598	38	222
Future Volume (veh/h)	674	421	278	598	38	222
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	702	439	290	623	40	231
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	821	696	567	2624	126	485
Arrive On Green	0.47	0.47	0.50	1.00	0.08	0.08
Sat Flow, veh/h	1752	1485	1668	3416	1668	1485
Grp Volume(v), veh/h	702	439	290	623	40	231
Grp Sat Flow(s),veh/h/ln	1752	1485	1668	1664	1668	1485
Q Serve(g_s), s	23.5	14.7	0.0	0.0	1.5	0.0
Cycle Q Clear(g_c), s	23.5	14.7	0.0	0.0	1.5	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	821	696	567	2624	126	485
V/C Ratio(X)	0.86	0.63	0.51	0.24	0.32	0.48
Avail Cap(c_a), veh/h	1035	877	567	2624	126	486
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.94	0.94	1.00	1.00
Uniform Delay (d), s/veh	15.5	13.2	11.9	0.0	28.9	17.7
Incr Delay (d2), s/veh	7.7	2.9	0.7	0.2	1.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	4.7	2.2	0.1	0.6	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.3	16.1	12.6	0.2	30.4	18.4
LnGrp LOS	C	B	B	A	C	B
Approach Vol, veh/h	1141			913	271	
Approach Delay, s/veh	20.5			4.2	20.2	
Approach LOS	C			A	C	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	21.1	35.4				56.5	9.5
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	8.5	39.0				52.0	5.0
Max Q Clear Time (g_c+I1), s	2.0	25.5				2.0	3.5
Green Ext Time (p_c), s	0.5	5.5				4.8	0.1

Intersection Summary			
HCM 6th Ctrl Delay		14.1	
HCM 6th LOS		B	



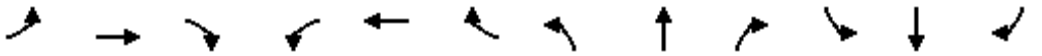
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	105	791	677	206	64	198
Future Volume (veh/h)	105	791	677	206	64	198
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	109	824	705	0	67	206
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	575	1314	2051		190	266
Arrive On Green	0.13	1.00	0.62	0.00	0.11	0.11
Sat Flow, veh/h	1668	1752	3416	1485	1668	1485
Grp Volume(v), veh/h	109	824	705	0	67	206
Grp Sat Flow(s),veh/h/ln	1668	1752	1664	1485	1668	1485
Q Serve(g_s), s	1.3	0.0	6.8	0.0	2.4	7.5
Cycle Q Clear(g_c), s	1.3	0.0	6.8	0.0	2.4	7.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	575	1314	2051		190	266
V/C Ratio(X)	0.19	0.63	0.34		0.35	0.77
Avail Cap(c_a), veh/h	681	1314	2051		190	266
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	3.4	0.0	6.2	0.0	27.0	25.8
Incr Delay (d2), s/veh	0.1	1.8	0.5	0.0	1.1	13.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.7	1.9	0.0	1.0	7.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.5	1.8	6.6	0.0	28.1	39.1
LnGrp LOS	A	A	A		C	D
Approach Vol, veh/h		933	705	A	273	
Approach Delay, s/veh		2.0	6.6		36.4	
Approach LOS		A	A		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		54.0		12.0	8.8	45.2
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		49.5		7.5	8.5	36.5
Max Q Clear Time (g_c+I1), s		2.0		9.5	3.3	8.8
Green Ext Time (p_c), s		7.4		0.0	0.1	5.2

Intersection Summary	
HCM 6th Ctrl Delay	8.6
HCM 6th LOS	A

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



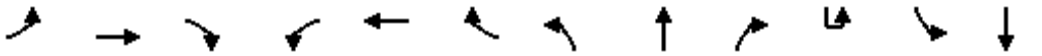
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1441	34	110	650	0	22	0	407	145	47	101
Future Volume (veh/h)	0	1441	34	110	650	0	22	0	407	145	47	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1533	36	117	691	0	23	0	433	154	50	107
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	0.94
Percent Heavy Veh, %	0	3	3	3	3	0	3	0	3	3	3	3
Cap, veh/h	0	2263	1009	123	2670	0	40	0	0	563	159	141
Arrive On Green	0.00	0.64	0.64	0.14	1.00	0.00	0.02	0.00	0.00	0.16	0.09	0.09
Sat Flow, veh/h	0	3618	1572	1767	3618	0	1767	23		3428	1763	1572
Grp Volume(v), veh/h	0	1533	36	117	691	0	23	68.6		154	50	107
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1763	0	1767	E		1714	1763	1572
Q Serve(g_s), s	0.0	32.0	0.7	7.6	0.0	0.0	1.5			4.6	3.1	7.7
Cycle Q Clear(g_c), s	0.0	32.0	0.7	7.6	0.0	0.0	1.5			4.6	3.1	7.7
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	2263	1009	123	2670	0	40			563	159	141
V/C Ratio(X)	0.00	0.68	0.04	0.95	0.26	0.00	0.58			0.27	0.32	0.76
Avail Cap(c_a), veh/h	0	2263	1009	123	2670	0	76			1360	532	474
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.84	0.84	0.00	1.00			1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	13.2	3.9	49.7	0.0	0.0	56.1			42.4	49.4	51.5
Incr Delay (d2), s/veh	0.0	1.7	0.1	58.6	0.2	0.0	12.5			0.3	1.1	8.0
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
%ile BackOfQ(50%),veh/ln	0.0	11.7	0.3	5.1	0.1	0.0	0.8			1.9	1.4	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	14.8	4.0	108.3	0.2	0.0	68.6			42.7	50.6	59.5
LnGrp LOS	A	B	A	F	A	A	E			D	D	E
Approach Vol, veh/h		1569			808						311	
Approach Delay, s/veh		14.6			15.9						49.7	
Approach LOS		B			B						D	

Timer - Assigned Phs	1		3	4	5	6		8
Phs Duration (G+Y+Rc), s	23.3		13.4	79.3	6.8	16.4		92.7
Change Period (Y+Rc), s	* 4.2		5.3	4.9	4.2	* 6		4.9
Max Green Setting (Gmax), s	* 46		8.1	47.5	5.0	* 35		60.9
Max Q Clear Time (g_c+I1), s	6.6		9.6	34.0	3.5	9.7		2.0
Green Ext Time (p_c), s	0.5		0.0	8.7	0.0	0.7		5.2

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	140	1114	0	0	526	481	266	8	497	1	36	0
Future Volume (vph)	140	1114	0	0	526	481	266	8	497	1	36	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95		0.97	
Frt	1.00	1.00			1.00	0.85	1.00	0.87	0.85		1.00	
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1752	3505			3505	1568	1665	1452	1490		3400	
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1752	3505			3505	1568	1665	1452	1490		3400	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	144	1148	0	0	542	496	274	8	512	1	37	0
RTOR Reduction (vph)	0	0	0	0	0	303	0	189	189	0	0	0
Lane Group Flow (vph)	144	1148	0	0	542	193	247	87	82	0	38	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm	Prot	Prot	
Protected Phases	7	4			8		2	2		1	1	
Permitted Phases						8			2			
Actuated Green, G (s)	14.2	63.6			45.2	45.2	22.0	22.0	22.0		3.8	
Effective Green, g (s)	14.2	63.6			45.2	45.2	22.0	22.0	22.0		3.8	
Actuated g/C Ratio	0.12	0.55			0.39	0.39	0.19	0.19	0.19		0.03	
Clearance Time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	214	1921			1365	610	315	275	282		111	
v/s Ratio Prot	0.08	c0.33			0.15		c0.15	0.06			c0.01	
v/s Ratio Perm						0.12			0.06			
v/c Ratio	0.67	0.60			0.40	0.32	0.78	0.32	0.29		0.34	
Uniform Delay, d1	48.7	17.6			25.6	24.6	44.7	40.5	40.3		54.9	
Progression Factor	0.74	0.49			1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	6.1	1.0			0.9	1.4	12.0	0.7	0.6		1.8	
Delay (s)	42.1	9.6			26.4	26.0	56.8	41.2	40.9		56.7	
Level of Service	D	A			C	C	E	D	D		E	
Approach Delay (s)		13.2			26.2			45.9				53.2
Approach LOS		B			C			D				D

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	24.1
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	138
Future Volume (vph)	138
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	142
RTOR Reduction (vph)	134
Lane Group Flow (vph)	8
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	6.7
Effective Green, g (s)	6.7
Actuated g/C Ratio	0.06
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	90
v/s Ratio Prot	
v/s Ratio Perm	c0.01
v/c Ratio	0.09
Uniform Delay, d1	51.8
Progression Factor	1.00
Incremental Delay, d2	0.4
Delay (s)	52.2
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	109	723	540	0	0	1177
Future Volume (veh/h)	109	723	540	0	0	1177
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	0	1856
Adj Flow Rate, veh/h	117	777	581	0	0	1266
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	0	0	3
Cap, veh/h	645	1011	820	0	0	1558
Arrive On Green	0.37	0.37	0.44	0.00	0.00	0.44
Sat Flow, veh/h	1767	2768	1856	0	0	3711
Grp Volume(v), veh/h	117	777	581	0	0	1266
Grp Sat Flow(s),veh/h/ln	1767	1384	1856	0	0	1763
Q Serve(g_s), s	2.5	13.6	14.0	0.0	0.0	17.2
Cycle Q Clear(g_c), s	2.5	13.6	14.0	0.0	0.0	17.2
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	645	1011	820	0	0	1558
V/C Ratio(X)	0.18	0.77	0.71	0.00	0.00	0.81
Avail Cap(c_a), veh/h	645	1011	924	0	0	1756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.94	0.00	0.00	1.00
Uniform Delay (d), s/veh	11.9	15.4	12.5	0.0	0.0	13.4
Incr Delay (d2), s/veh	0.6	5.6	2.1	0.0	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.9	5.0	0.0	0.0	5.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.5	21.0	14.5	0.0	0.0	16.1
LnGrp LOS	B	C	B	A	A	B
Approach Vol, veh/h	894		581			1266
Approach Delay, s/veh	19.9		14.5			16.1
Approach LOS	B		B			B

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	26.1	28.9	28.9
Change Period (Y+Rc), s	6.0	4.6	4.6
Max Green Setting (Gmax), s	17.0	27.4	27.4
Max Q Clear Time (g_c+I1), s	15.6	16.0	19.2
Green Ext Time (p_c), s	0.6	2.8	5.1

Intersection Summary	
HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	467	561	0	0	403	50
Future Volume (veh/h)	467	561	0	0	403	50
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)		1.00			1.00	1.00
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No				No	
Adj Sat Flow, veh/h/ln	1856	1856			1856	1856
Adj Flow Rate, veh/h	513	0			443	55
Peak Hour Factor	0.91	0.91			0.91	0.91
Percent Heavy Veh, %	3	3			3	3
Cap, veh/h	3256				0	0
Arrive On Green	0.92	0.00			0.00	0.00
Sat Flow, veh/h	3618	1572			0	
Grp Volume(v), veh/h	513	0			0.0	
Grp Sat Flow(s),veh/h/ln	1763	1572				
Q Serve(g_s), s	0.7	0.0				
Cycle Q Clear(g_c), s	0.7	0.0				
Prop In Lane		1.00				
Lane Grp Cap(c), veh/h	3256					
V/C Ratio(X)	0.16					
Avail Cap(c_a), veh/h	3256					
HCM Platoon Ratio	1.00	1.00				
Upstream Filter(I)	0.93	0.00				
Uniform Delay (d), s/veh	0.2	0.0				
Incr Delay (d2), s/veh	0.1	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.0	0.0				
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.3	0.0				
LnGrp LOS	A					
Approach Vol, veh/h	513	A				
Approach Delay, s/veh	0.3					
Approach LOS	A					

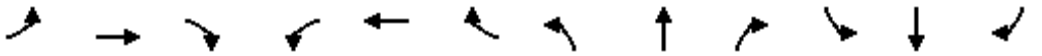
Timer - Assigned Phs	4
Phs Duration (G+Y+Rc), s	55.0
Change Period (Y+Rc), s	* 4.2
Max Green Setting (Gmax), s	* 18
Max Q Clear Time (g_c+I1), s	2.7
Green Ext Time (p_c), s	2.5

Intersection Summary	
HCM 6th Ctrl Delay	0.3
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	379	37	370	542	218	20	47	292	120	70	8
Future Volume (veh/h)	10	379	37	370	542	218	20	47	292	120	70	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.99
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	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	1856
Adj Flow Rate, veh/h	10	387	38	378	553	222	20	48	298	122	71	8
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	21	506	222	592	885	745	37	56	349	149	530	60
Arrive On Green	0.01	0.14	0.14	0.56	0.80	0.80	0.02	0.26	0.26	0.08	0.32	0.32
Sat Flow, veh/h	1767	3526	1545	1767	1856	1563	1767	219	1357	1767	1635	184
Grp Volume(v), veh/h	10	387	38	378	553	222	20	0	346	122	0	79
Grp Sat Flow(s),veh/h/ln	1767	1763	1545	1767	1856	1563	1767	0	1575	1767	0	1819
Q Serve(g_s), s	0.6	11.6	2.1	16.1	13.3	2.8	1.2	0.0	23.0	7.5	0.0	3.4
Cycle Q Clear(g_c), s	0.6	11.6	2.1	16.1	13.3	2.8	1.2	0.0	23.0	7.5	0.0	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.86	1.00		0.10
Lane Grp Cap(c), veh/h	21	506	222	592	885	745	37	0	405	149	0	590
V/C Ratio(X)	0.47	0.76	0.17	0.64	0.63	0.30	0.54	0.00	0.85	0.82	0.00	0.13
Avail Cap(c_a), veh/h	80	676	296	592	885	745	88	0	458	174	0	605
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.0	45.3	31.7	19.7	7.2	2.8	53.3	0.0	38.9	49.5	0.0	26.3
Incr Delay (d2), s/veh	15.5	10.5	1.7	2.1	3.0	0.9	12.0	0.0	13.4	22.8	0.0	0.1
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	0.0
%ile BackOfQ(50%),veh/ln	0.4	5.7	1.0	5.4	3.9	1.3	0.7	0.0	10.2	4.1	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.5	55.8	33.3	21.7	10.3	3.7	65.3	0.0	52.3	72.3	0.0	26.4
LnGrp LOS	E	E	C	C	B	A	E	A	D	E	A	C
Approach Vol, veh/h		435			1153			366			201	
Approach Delay, s/veh		54.1			12.8			53.0			54.3	
Approach LOS		D			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	32.9	41.5	21.1	6.5	41.0	5.5	57.0
Change Period (Y+Rc), s	5.3	* 4.6	4.6	* 5.3	* 4.2	5.3	* 4.2	4.6
Max Green Setting (Gmax), s	10.8	* 32	27.8	* 21	* 5.5	36.6	* 5	44.6
Max Q Clear Time (g_c+I1), s	9.5	25.0	18.1	13.6	3.2	5.4	2.6	15.3
Green Ext Time (p_c), s	0.0	1.2	0.8	1.4	0.0	0.3	0.0	4.6

Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Notes

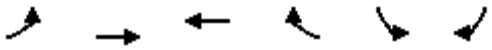
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	577	254	242	1122	71	227
Future Volume (veh/h)	577	254	242	1122	71	227
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	601	265	252	1169	74	236
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	638	539	840	2835	111	762
Arrive On Green	0.73	0.73	0.59	1.00	0.07	0.07
Sat Flow, veh/h	1752	1480	1668	3416	1668	1485
Grp Volume(v), veh/h	601	265	252	1169	74	236
Grp Sat Flow(s),veh/h/ln	1752	1480	1668	1664	1668	1485
Q Serve(g_s), s	32.7	8.3	0.6	0.0	4.8	0.0
Cycle Q Clear(g_c), s	32.7	8.3	0.6	0.0	4.8	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	638	539	840	2835	111	762
V/C Ratio(X)	0.94	0.49	0.30	0.41	0.67	0.31
Avail Cap(c_a), veh/h	1027	868	840	2835	190	832
HCM Platoon Ratio	2.00	2.00	1.33	1.33	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.76	0.76	1.00	1.00
Uniform Delay (d), s/veh	13.9	10.6	12.0	0.0	50.2	15.5
Incr Delay (d2), s/veh	22.6	2.9	0.2	0.3	6.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	2.4	2.6	0.1	2.2	3.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.6	13.6	12.2	0.3	56.9	15.7
LnGrp LOS	D	B	B	A	E	B
Approach Vol, veh/h	866			1421	310	
Approach Delay, s/veh	29.5			2.4	25.6	
Approach LOS	C			A	C	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	53.6	44.6				98.2	11.8
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	19.5	64.5				88.5	12.5
Max Q Clear Time (g_c+I1), s	2.6	34.7				2.0	6.8
Green Ext Time (p_c), s	0.7	5.4				11.9	0.5

Intersection Summary	
HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B



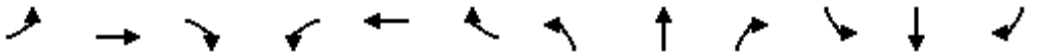
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	745	1055	324	151	340
Future Volume (veh/h)	55	745	1055	324	151	340
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	59	801	1134	0	162	366
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	355	1296	2201		297	321
Arrive On Green	0.04	0.74	0.66	0.00	0.18	0.18
Sat Flow, veh/h	1668	1752	3416	1485	1668	1485
Grp Volume(v), veh/h	59	801	1134	0	162	366
Grp Sat Flow(s),veh/h/ln	1668	1752	1664	1485	1668	1485
Q Serve(g_s), s	1.1	24.1	19.3	0.0	9.7	19.6
Cycle Q Clear(g_c), s	1.1	24.1	19.3	0.0	9.7	19.6
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	355	1296	2201		297	321
V/C Ratio(X)	0.17	0.62	0.52		0.54	1.14
Avail Cap(c_a), veh/h	648	1296	2201		297	321
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	6.9	6.9	9.6	0.0	41.1	43.1
Incr Delay (d2), s/veh	0.2	1.9	0.9	0.0	2.1	93.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	7.8	6.5	0.0	4.2	25.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.1	8.8	10.4	0.0	43.2	137.0
LnGrp LOS	A	A	B		D	F
Approach Vol, veh/h		860	1134	A	528	
Approach Delay, s/veh		8.7	10.4		108.2	
Approach LOS		A	B		F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		85.9		24.1	8.7	77.2
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		81.4		19.6	23.5	53.4
Max Q Clear Time (g_c+I1), s		26.1		21.6	3.1	21.3
Green Ext Time (p_c), s		7.2		0.0	0.1	9.9

Intersection Summary	
HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	925	42	323	1295	0	45	0	308	147	94	153
Future Volume (veh/h)	0	925	42	323	1295	0	45	0	308	147	94	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	944	43	330	1321	0	46	0	314	150	96	156
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	3	3	3	3	0	3	0	3	3	3	3
Cap, veh/h	0	1068	477	643	2500	0	59	0	0	717	219	195
Arrive On Green	0.00	0.30	0.30	0.73	1.00	0.00	0.03	0.00	0.00	0.21	0.12	0.12
Sat Flow, veh/h	0	3618	1572	1767	3618	0	1767	46		3428	1763	1572
Grp Volume(v), veh/h	0	944	43	330	1321	0	46	87.0		150	96	156
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1763	0	1767	F		1714	1763	1572
Q Serve(g_s), s	0.0	29.6	2.3	9.4	0.0	0.0	3.0			4.2	5.9	11.2
Cycle Q Clear(g_c), s	0.0	29.6	2.3	9.4	0.0	0.0	3.0			4.2	5.9	11.2
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	1068	477	643	2500	0	59			717	219	195
V/C Ratio(X)	0.00	0.88	0.09	0.51	0.53	0.00	0.78			0.21	0.44	0.80
Avail Cap(c_a), veh/h	0	1182	527	643	2500	0	76			1360	532	474
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.44	0.44	0.00	1.00			1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	38.5	29.0	11.3	0.0	0.0	55.6			37.9	47.1	49.4
Incr Delay (d2), s/veh	0.0	10.6	0.4	0.3	0.4	0.0	31.4			0.1	1.4	7.4
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
%ile BackOfQ(50%),veh/ln	0.0	13.9	0.9	2.7	0.1	0.0	1.8			1.7	2.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	49.1	29.3	11.6	0.4	0.0	87.0			38.1	48.5	56.8
LnGrp LOS	A	D	C	B	A	A	F			D	D	E
Approach Vol, veh/h		987			1651						402	
Approach Delay, s/veh		48.3			2.6						47.8	
Approach LOS		D			A						D	

Timer - Assigned Phs	1		3	4	5	6		8
Phs Duration (G+Y+Rc), s	28.5		47.5	40.1	8.1	20.4		87.5
Change Period (Y+Rc), s	* 4.2		5.3	4.9	4.2	* 6		* 5.3
Max Green Setting (Gmax), s	* 46		16.7	38.9	5.0	* 35		* 61
Max Q Clear Time (g_c+I1), s	6.2		11.4	31.6	5.0	13.2		2.0
Green Ext Time (p_c), s	0.5		0.5	3.6	0.0	1.2		13.4

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	6	136	834	0	0	962	406	517	6	555	57	0
Future Volume (vph)	6	136	834	0	0	962	406	517	6	555	57	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5	
Lane Util. Factor		1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97	
Frpb, ped/bikes		1.00	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	
Frt		1.00	1.00			1.00	0.85	1.00	0.91	0.85	1.00	
Flt Protected		0.95	1.00			1.00	1.00	0.95	0.98	1.00	0.95	
Satd. Flow (prot)		1752	3505			3505	1548	1665	1502	1490	3400	
Flt Permitted		0.95	1.00			1.00	1.00	0.95	0.98	1.00	0.95	
Satd. Flow (perm)		1752	3505			3505	1548	1665	1502	1490	3400	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	140	860	0	0	992	419	533	6	572	59	0
RTOR Reduction (vph)	0	0	0	0	0	0	169	0	43	189	0	0
Lane Group Flow (vph)	0	146	860	0	0	992	250	384	329	166	59	0
Confl. Peds. (#/hr)							1					
Turn Type	Prot	Prot	NA			NA	Perm	Split	NA	Perm	Prot	
Protected Phases	7	7	4			8		2	2		1	
Permitted Phases							8			2		
Actuated Green, G (s)		11.0	56.0			40.8	40.8	28.0	28.0	28.0	4.0	
Effective Green, g (s)		11.0	56.0			40.8	40.8	28.0	28.0	28.0	4.0	
Actuated g/C Ratio		0.09	0.48			0.35	0.35	0.24	0.24	0.24	0.03	
Clearance Time (s)		4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5	
Vehicle Extension (s)		3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		166	1692			1232	544	401	362	359	117	
v/s Ratio Prot		c0.08	0.25			c0.28		c0.23	0.22		c0.02	
v/s Ratio Perm							0.16			0.11		
v/c Ratio		0.88	0.51			0.81	0.46	0.96	0.91	0.46	0.50	
Uniform Delay, d1		51.8	20.6			34.0	29.1	43.4	42.8	37.6	55.0	
Progression Factor		0.78	0.44			1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		33.7	1.0			5.7	2.8	33.7	25.5	0.9	3.4	
Delay (s)		74.1	9.9			39.7	31.8	77.1	68.3	38.5	58.4	
Level of Service		E	A			D	C	E	E	D	E	
Approach Delay (s)			19.2			37.4			61.8			55.6
Approach LOS			B			D			E			E

Intersection Summary			
HCM 2000 Control Delay	41.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	24.1
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	246
Future Volume (vph)	246
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	254
RTOR Reduction (vph)	204
Lane Group Flow (vph)	50
Confl. Peds. (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	8.1
Effective Green, g (s)	8.1
Actuated g/C Ratio	0.07
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	109
v/s Ratio Prot	
v/s Ratio Perm	c0.03
v/c Ratio	0.46
Uniform Delay, d1	51.9
Progression Factor	1.00
Incremental Delay, d2	3.1
Delay (s)	54.9
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary

Intersection: 1: Herndon Avenue & SR 99 NB Off-Ramp

Movement	NW	NW	NW	NE	SW	SW
Directions Served	L	R	R	T	T	T
Maximum Queue (ft)	62	113	113	440	222	310
Average Queue (ft)	20	69	53	188	128	138
95th Queue (ft)	46	100	92	342	223	243
Link Distance (ft)		772	772	566	1583	1583
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	290					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Grantland Avenue & Parkway Drive/SR 99 SB On-Ramp

Movement	EB	NB	NB
Directions Served	T	L	R
Maximum Queue (ft)	388	333	86
Average Queue (ft)	157	191	37
95th Queue (ft)	337	297	65
Link Distance (ft)	604		1688
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		295	
Storage Blk Time (%)		1	
Queuing Penalty (veh)		1	

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	30	180	182	150	234	312	65	199	379	177	177
Average Queue (ft)	4	110	94	19	124	132	27	33	132	111	48
95th Queue (ft)	19	172	151	81	192	240	57	90	242	178	114
Link Distance (ft)		1319	1319			477	477		1387		1182
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200			100	160			100		120	
Storage Blk Time (%)			6	0	5	3			17	7	0
Queuing Penalty (veh)			2	0	17	7			5	6	0

Intersection: 4: SR 99 SB Ramps & Shaw Avenue

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	R	L	T	T	L	R
Maximum Queue (ft)	361	186	194	229	31	148	135
Average Queue (ft)	167	64	102	40	3	29	67
95th Queue (ft)	331	125	175	143	17	84	120
Link Distance (ft)	477	477		384	384	488	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			125				25
Storage Blk Time (%)			4	0		21	38
Queuing Penalty (veh)			11	0		47	14

Intersection: 5: Shaw Avenue & SR 99 NB Ramps

Movement	EB	EB	WB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	79	205	175	134	126	137	151
Average Queue (ft)	37	61	100	31	12	56	69
95th Queue (ft)	72	155	170	98	62	120	122
Link Distance (ft)		384	260	260	260	654	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	125						40
Storage Blk Time (%)		1				14	15
Queuing Penalty (veh)		1				28	10

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	R	R	L	L	T
Maximum Queue (ft)	488	424	250	173	195	188	257	236	186	138	161	88
Average Queue (ft)	296	272	14	79	44	49	51	117	82	55	88	24
95th Queue (ft)	449	426	89	144	121	137	164	186	172	136	151	64
Link Distance (ft)	1212	1212			1024	1024	247					656
Upstream Blk Time (%)							0	0				
Queuing Penalty (veh)							0	0				
Storage Bay Dist (ft)			150	550				150	150	380	380	
Storage Blk Time (%)		18					2	3	1			
Queuing Penalty (veh)		6					7	1	0			

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	SB
Directions Served	TR
Maximum Queue (ft)	70
Average Queue (ft)	30
95th Queue (ft)	57
Link Distance (ft)	656
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	T	T	T	R	L	LTR	R	UL	L	R
Maximum Queue (ft)	294	339	351	261	264	200	196	255	267	22	86	116
Average Queue (ft)	90	122	123	150	122	70	112	182	128	1	28	39
95th Queue (ft)	204	260	256	239	223	141	192	242	203	7	63	81
Link Distance (ft)		1024	1024	1607	1607			535	535		544	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300					150	220			200		100
Storage Blk Time (%)	0	1			1	2		2			0	0
Queuing Penalty (veh)	1	1			6	5		3			0	0

Zone Summary

Zone wide Queuing Penalty: 179

Intersection: 1: Herndon Avenue & SR 99 NB Off-Ramp

Movement	NW	NW	NW	NE	SW	SW
Directions Served	L	R	R	T	T	T
Maximum Queue (ft)	86	135	104	347	349	408
Average Queue (ft)	36	79	69	111	105	193
95th Queue (ft)	70	120	102	212	210	319
Link Distance (ft)		772	772	566	1583	1583
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	290					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Grantland Avenue & Parkway Drive/SR 99 SB On-Ramp

Movement	EB	NB	NB
Directions Served	T	L	R
Maximum Queue (ft)	182	270	50
Average Queue (ft)	62	132	19
95th Queue (ft)	145	219	42
Link Distance (ft)	604		1688
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		295	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	91	288	255	150	235	506	497	200	455	150	142
Average Queue (ft)	14	164	112	19	216	383	104	20	172	65	38
95th Queue (ft)	48	255	225	65	267	604	362	101	357	123	97
Link Distance (ft)		1318	1318			477	477		1389		1182
Upstream Blk Time (%)						11	1				
Queuing Penalty (veh)						68	7				
Storage Bay Dist (ft)	200			100	160			100		120	
Storage Blk Time (%)		8	8		24	26			27	4	1
Queuing Penalty (veh)		1	3		130	95			5	3	1

Intersection: 4: SR 99 SB Ramps & Shaw Avenue

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	R	L	T	T	L	R
Maximum Queue (ft)	486	439	245	398	395	394	145
Average Queue (ft)	203	72	149	182	87	118	78
95th Queue (ft)	443	252	260	411	296	317	154
Link Distance (ft)	477	477		384	384	488	
Upstream Blk Time (%)	1			4	2		
Queuing Penalty (veh)	5			25	12		
Storage Bay Dist (ft)			125				25
Storage Blk Time (%)			11	14		57	34
Queuing Penalty (veh)			63	35		129	24

Intersection: 5: Shaw Avenue & SR 99 NB Ramps

Movement	EB	EB	WB	WB	WB	B35	B35	SB	SB
Directions Served	L	T	T	T	R	T	T	L	R
Maximum Queue (ft)	89	384	342	307	56	291	303	688	160
Average Queue (ft)	24	163	271	204	6	40	16	272	136
95th Queue (ft)	66	357	393	319	33	163	120	556	197
Link Distance (ft)		384	260	260	260	1251	1251	654	
Upstream Blk Time (%)		0	16	2				2	
Queuing Penalty (veh)		2	0	0				0	
Storage Bay Dist (ft)	125								40
Storage Blk Time (%)		8						63	41
Queuing Penalty (veh)		4						215	62

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	R	R	L	L	T
Maximum Queue (ft)	389	348	249	382	307	295	165	184	96	139	152	165
Average Queue (ft)	244	213	47	201	103	112	45	72	35	35	75	67
95th Queue (ft)	362	331	177	326	243	232	108	128	84	100	137	139
Link Distance (ft)	1212	1212			1024	1024	247					656
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	550				150	150	380	380	
Storage Blk Time (%)		16					0	0				
Queuing Penalty (veh)		7					0	0				

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	SB
Directions Served	TR
Maximum Queue (ft)	152
Average Queue (ft)	57
95th Queue (ft)	121
Link Distance (ft)	656
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	T	T	T	R	L	LTR	R	L	L	R
Maximum Queue (ft)	202	237	264	451	453	200	332	346	211	24	165	190
Average Queue (ft)	103	111	131	300	288	147	191	238	147	1	56	89
95th Queue (ft)	192	224	256	432	449	261	279	314	210	8	127	154
Link Distance (ft)		1024	1024	1584	1584			535	535		544	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300					150	220			200		100
Storage Blk Time (%)					22	0	3	13			0	12
Queuing Penalty (veh)					89	1	15	33			1	7

Zone Summary

Zone wide Queuing Penalty: 1044

Appendix F: Existing plus Project (Phase I) Traffic Conditions



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	60	460	772	0	0	1088
Future Volume (veh/h)	60	460	772	0	0	1088
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	0	1856
Adj Flow Rate, veh/h	67	517	867	0	0	1222
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	0	0	3
Cap, veh/h	556	870	974	0	0	1851
Arrive On Green	0.31	0.31	0.52	0.00	0.00	0.52
Sat Flow, veh/h	1767	2768	1856	0	0	3711
Grp Volume(v), veh/h	67	517	867	0	0	1222
Grp Sat Flow(s),veh/h/ln	1767	1384	1856	0	0	1763
Q Serve(g_s), s	1.8	10.4	27.5	0.0	0.0	16.6
Cycle Q Clear(g_c), s	1.8	10.4	27.5	0.0	0.0	16.6
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	556	870	974	0	0	1851
V/C Ratio(X)	0.12	0.59	0.89	0.00	0.00	0.66
Avail Cap(c_a), veh/h	556	870	1192	0	0	2265
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.84	0.00	0.00	1.00
Uniform Delay (d), s/veh	16.1	19.1	14.0	0.0	0.0	11.4
Incr Delay (d2), s/veh	0.4	3.0	6.4	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.1	10.9	0.0	0.0	5.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.6	22.0	20.4	0.0	0.0	11.9
LnGrp LOS	B	C	C	A	A	B
Approach Vol, veh/h	584		867			1222
Approach Delay, s/veh	21.4		20.4			11.9
Approach LOS	C		C			B

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	26.8	39.2	39.2
Change Period (Y+Rc), s	6.0	4.6	4.6
Max Green Setting (Gmax), s	13.0	42.4	42.4
Max Q Clear Time (g_c+I1), s	12.4	29.5	18.6
Green Ext Time (p_c), s	0.2	5.1	9.7

Intersection Summary	
HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	696	378	0	0	492	135
Future Volume (veh/h)	696	378	0	0	492	135
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)		1.00			1.00	1.00
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No				No	
Adj Sat Flow, veh/h/ln	1856	1856			1856	1856
Adj Flow Rate, veh/h	829	0			586	161
Peak Hour Factor	0.84	0.84			0.84	0.84
Percent Heavy Veh, %	3	3			3	3
Cap, veh/h	3301				0	0
Arrive On Green	0.94	0.00			0.00	0.00
Sat Flow, veh/h	3618	1572			0	
Grp Volume(v), veh/h	829	0			0.0	
Grp Sat Flow(s),veh/h/ln	1763	1572				
Q Serve(g_s), s	1.3	0.0				
Cycle Q Clear(g_c), s	1.3	0.0				
Prop In Lane		1.00				
Lane Grp Cap(c), veh/h	3301					
V/C Ratio(X)	0.25					
Avail Cap(c_a), veh/h	3301					
HCM Platoon Ratio	1.00	1.00				
Upstream Filter(I)	0.85	0.00				
Uniform Delay (d), s/veh	0.2	0.0				
Incr Delay (d2), s/veh	0.2	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.1	0.0				
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.3	0.0				
LnGrp LOS	A					
Approach Vol, veh/h	829	A				
Approach Delay, s/veh	0.3					
Approach LOS	A					

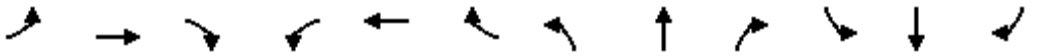
Timer - Assigned Phs	4
Phs Duration (G+Y+Rc), s	66.0
Change Period (Y+Rc), s	* 4.2
Max Green Setting (Gmax), s	* 23
Max Q Clear Time (g_c+I1), s	3.3
Green Ext Time (p_c), s	4.9

Intersection Summary	
HCM 6th Ctrl Delay	0.3
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	481	28	209	332	70	32	33	410	224	73	10
Future Volume (veh/h)	5	481	28	209	332	70	32	33	410	224	73	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
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	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	1856
Adj Flow Rate, veh/h	5	496	29	215	342	72	33	34	423	231	75	10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	12	633	282	244	601	509	655	38	470	254	136	18
Arrive On Green	0.01	0.18	0.18	0.14	0.32	0.32	0.37	0.32	0.32	0.14	0.08	0.08
Sat Flow, veh/h	1767	3526	1568	1767	1856	1570	1767	118	1471	1767	1599	213
Grp Volume(v), veh/h	5	496	29	215	342	72	33	0	457	231	0	85
Grp Sat Flow(s),veh/h/ln	1767	1763	1568	1767	1856	1570	1767	0	1589	1767	0	1813
Q Serve(g_s), s	0.2	11.5	1.3	10.2	13.1	1.8	1.0	0.0	23.5	11.0	0.0	3.8
Cycle Q Clear(g_c), s	0.2	11.5	1.3	10.2	13.1	1.8	1.0	0.0	23.5	11.0	0.0	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.93	1.00		0.12
Lane Grp Cap(c), veh/h	12	633	282	244	601	509	655	0	508	254	0	154
V/C Ratio(X)	0.43	0.78	0.10	0.88	0.57	0.14	0.05	0.00	0.90	0.91	0.00	0.55
Avail Cap(c_a), veh/h	103	850	378	244	610	516	655	0	595	254	0	795
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	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.3	33.5	29.3	36.2	23.9	8.3	17.3	0.0	27.8	36.0	0.0	37.6
Incr Delay (d2), s/veh	23.4	3.5	0.2	28.9	1.2	0.1	0.0	0.0	15.1	33.3	0.0	3.1
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	0.0
%ile BackOfQ(50%),veh/ln	0.2	4.9	0.5	6.2	5.6	1.0	0.4	0.0	10.5	6.8	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.7	36.9	29.5	65.1	25.2	8.4	17.3	0.0	42.9	69.3	0.0	40.6
LnGrp LOS	E	D	C	E	C	A	B	A	D	E	A	D
Approach Vol, veh/h		530			629			490			316	
Approach Delay, s/veh		36.8			36.9			41.2			61.6	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	31.9	16.4	20.6	35.9	12.6	4.8	32.3
Change Period (Y+Rc), s	4.2	* 4.6	4.6	* 5.3	4.2	* 5.3	* 4.2	4.6
Max Green Setting (Gmax), s	12.3	* 32	11.8	* 21	6.1	* 38	* 5	28.1
Max Q Clear Time (g_c+I1), s	13.0	25.5	12.2	13.5	3.0	5.8	2.2	15.1
Green Ext Time (p_c), s	0.0	1.6	0.0	1.8	0.0	0.4	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	41.9
HCM 6th LOS	D

Notes

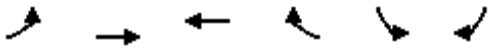
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	679	421	278	599	38	222
Future Volume (veh/h)	679	421	278	599	38	222
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	707	439	290	624	40	231
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	825	699	563	2624	126	481
Arrive On Green	0.47	0.47	0.50	1.00	0.08	0.08
Sat Flow, veh/h	1752	1485	1668	3416	1668	1485
Grp Volume(v), veh/h	707	439	290	624	40	231
Grp Sat Flow(s),veh/h/ln	1752	1485	1668	1664	1668	1485
Q Serve(g_s), s	23.6	14.7	0.0	0.0	1.5	0.0
Cycle Q Clear(g_c), s	23.6	14.7	0.0	0.0	1.5	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	825	699	563	2624	126	481
V/C Ratio(X)	0.86	0.63	0.52	0.24	0.32	0.48
Avail Cap(c_a), veh/h	1035	877	563	2624	126	482
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.94	0.94	1.00	1.00
Uniform Delay (d), s/veh	15.5	13.1	12.1	0.0	28.9	17.8
Incr Delay (d2), s/veh	7.8	2.9	0.8	0.2	1.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	4.7	2.2	0.1	0.6	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.3	16.0	12.8	0.2	30.4	18.6
LnGrp LOS	C	B	B	A	C	B
Approach Vol, veh/h	1146			914	271	
Approach Delay, s/veh	20.5			4.2	20.3	
Approach LOS	C			A	C	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	20.9	35.6				56.5	9.5
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	8.5	39.0				52.0	5.0
Max Q Clear Time (g_c+I1), s	2.0	25.6				2.0	3.5
Green Ext Time (p_c), s	0.5	5.5				4.8	0.1

Intersection Summary							
HCM 6th Ctrl Delay			14.1				
HCM 6th LOS			B				



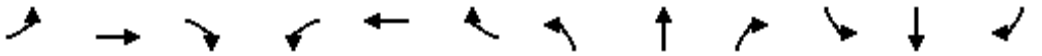
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	105	796	678	206	64	198
Future Volume (veh/h)	105	796	678	206	64	198
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	109	829	706	0	67	206
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	575	1314	2051		190	266
Arrive On Green	0.13	1.00	0.62	0.00	0.11	0.11
Sat Flow, veh/h	1668	1752	3416	1485	1668	1485
Grp Volume(v), veh/h	109	829	706	0	67	206
Grp Sat Flow(s),veh/h/ln	1668	1752	1664	1485	1668	1485
Q Serve(g_s), s	1.3	0.0	6.8	0.0	2.4	7.5
Cycle Q Clear(g_c), s	1.3	0.0	6.8	0.0	2.4	7.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	575	1314	2051		190	266
V/C Ratio(X)	0.19	0.63	0.34		0.35	0.77
Avail Cap(c_a), veh/h	680	1314	2051		190	266
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	3.4	0.0	6.2	0.0	27.0	25.8
Incr Delay (d2), s/veh	0.1	1.9	0.5	0.0	1.1	13.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.7	1.9	0.0	1.0	7.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.5	1.9	6.6	0.0	28.1	39.1
LnGrp LOS	A	A	A		C	D
Approach Vol, veh/h		938	706	A	273	
Approach Delay, s/veh		2.0	6.6		36.4	
Approach LOS		A	A		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		54.0		12.0	8.8	45.2
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		49.5		7.5	8.5	36.5
Max Q Clear Time (g_c+I1), s		2.0		9.5	3.3	8.8
Green Ext Time (p_c), s		7.5		0.0	0.1	5.2

Intersection Summary	
HCM 6th Ctrl Delay	8.6
HCM 6th LOS	A

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



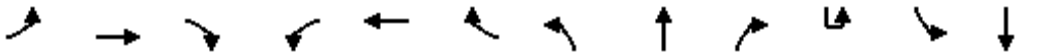
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1448	34	110	654	0	22	0	407	145	47	101
Future Volume (veh/h)	0	1448	34	110	654	0	22	0	407	145	47	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1540	36	117	696	0	23	0	433	154	50	107
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	0.94
Percent Heavy Veh, %	0	3	3	3	3	0	3	0	3	3	3	3
Cap, veh/h	0	2263	1009	123	2670	0	40	0	0	563	159	141
Arrive On Green	0.00	0.64	0.64	0.14	1.00	0.00	0.02	0.00	0.00	0.16	0.09	0.09
Sat Flow, veh/h	0	3618	1572	1767	3618	0	1767	23		3428	1763	1572
Grp Volume(v), veh/h	0	1540	36	117	696	0	23	68.6		154	50	107
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1763	0	1767	E		1714	1763	1572
Q Serve(g_s), s	0.0	32.2	0.7	7.6	0.0	0.0	1.5			4.6	3.1	7.7
Cycle Q Clear(g_c), s	0.0	32.2	0.7	7.6	0.0	0.0	1.5			4.6	3.1	7.7
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	2263	1009	123	2670	0	40			563	159	141
V/C Ratio(X)	0.00	0.68	0.04	0.95	0.26	0.00	0.58			0.27	0.32	0.76
Avail Cap(c_a), veh/h	0	2263	1009	123	2670	0	76			1360	532	474
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.84	0.84	0.00	1.00			1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	13.2	3.9	49.7	0.0	0.0	56.1			42.4	49.4	51.5
Incr Delay (d2), s/veh	0.0	1.7	0.1	58.6	0.2	0.0	12.5			0.3	1.1	8.0
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
%ile BackOfQ(50%),veh/ln	0.0	11.8	0.3	5.1	0.1	0.0	0.8			1.9	1.4	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	14.9	4.0	108.3	0.2	0.0	68.6			42.7	50.6	59.5
LnGrp LOS	A	B	A	F	A	A	E			D	D	E
Approach Vol, veh/h		1576			813						311	
Approach Delay, s/veh		14.6			15.8						49.7	
Approach LOS		B			B						D	

Timer - Assigned Phs	1		3	4	5	6		8
Phs Duration (G+Y+Rc), s	23.3		13.4	79.3	6.8	16.4		92.7
Change Period (Y+Rc), s	* 4.2		5.3	4.9	4.2	* 6		4.9
Max Green Setting (Gmax), s	* 46		8.1	47.5	5.0	* 35		60.9
Max Q Clear Time (g_c+I1), s	6.6		9.6	34.2	3.5	9.7		2.0
Green Ext Time (p_c), s	0.5		0.0	8.6	0.0	0.7		5.2

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	140	1121	0	0	530	481	266	8	497	1	36	0
Future Volume (vph)	140	1121	0	0	530	481	266	8	497	1	36	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95		0.97	
Frt	1.00	1.00			1.00	0.85	1.00	0.87	0.85		1.00	
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1752	3505			3505	1568	1665	1452	1490		3400	
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1752	3505			3505	1568	1665	1452	1490		3400	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	144	1156	0	0	546	496	274	8	512	1	37	0
RTOR Reduction (vph)	0	0	0	0	0	303	0	189	189	0	0	0
Lane Group Flow (vph)	144	1156	0	0	546	193	247	87	82	0	38	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm	Prot	Prot	
Protected Phases	7	4			8		2	2		1	1	
Permitted Phases						8			2			
Actuated Green, G (s)	14.2	63.6			45.2	45.2	22.0	22.0	22.0		3.8	
Effective Green, g (s)	14.2	63.6			45.2	45.2	22.0	22.0	22.0		3.8	
Actuated g/C Ratio	0.12	0.55			0.39	0.39	0.19	0.19	0.19		0.03	
Clearance Time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	214	1921			1365	610	315	275	282		111	
v/s Ratio Prot	0.08	c0.33			0.16		c0.15	0.06			c0.01	
v/s Ratio Perm						0.12			0.06			
v/c Ratio	0.67	0.60			0.40	0.32	0.78	0.32	0.29		0.34	
Uniform Delay, d1	48.7	17.7			25.6	24.6	44.7	40.5	40.3		54.9	
Progression Factor	0.74	0.48			1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	6.1	1.0			0.9	1.4	12.0	0.7	0.6		1.8	
Delay (s)	42.0	9.6			26.5	26.0	56.8	41.2	40.9		56.7	
Level of Service	D	A			C	C	E	D	D		E	
Approach Delay (s)		13.2			26.3			45.9				53.2
Approach LOS		B			C			D				D

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	24.1
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	138
Future Volume (vph)	138
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	142
RTOR Reduction (vph)	134
Lane Group Flow (vph)	8
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	6.7
Effective Green, g (s)	6.7
Actuated g/C Ratio	0.06
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	90
v/s Ratio Prot	
v/s Ratio Perm	c0.01
v/c Ratio	0.09
Uniform Delay, d1	51.8
Progression Factor	1.00
Incremental Delay, d2	0.4
Delay (s)	52.2
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	109	723	544	0	0	1184
Future Volume (veh/h)	109	723	544	0	0	1184
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	0	1856
Adj Flow Rate, veh/h	117	777	585	0	0	1273
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	0	0	3
Cap, veh/h	658	1030	826	0	0	1569
Arrive On Green	0.37	0.37	0.45	0.00	0.00	0.45
Sat Flow, veh/h	1767	2768	1856	0	0	3711
Grp Volume(v), veh/h	117	777	585	0	0	1273
Grp Sat Flow(s),veh/h/ln	1767	1384	1856	0	0	1763
Q Serve(g_s), s	2.6	14.2	14.8	0.0	0.0	18.2
Cycle Q Clear(g_c), s	2.6	14.2	14.8	0.0	0.0	18.2
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	658	1030	826	0	0	1569
V/C Ratio(X)	0.18	0.75	0.71	0.00	0.00	0.81
Avail Cap(c_a), veh/h	658	1030	941	0	0	1787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.94	0.00	0.00	1.00
Uniform Delay (d), s/veh	12.2	15.9	13.0	0.0	0.0	14.0
Incr Delay (d2), s/veh	0.6	5.1	2.0	0.0	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	4.0	5.4	0.0	0.0	6.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.8	21.0	15.0	0.0	0.0	16.6
LnGrp LOS	B	C	B	A	A	B
Approach Vol, veh/h	894		585			1273
Approach Delay, s/veh	19.9		15.0			16.6
Approach LOS	B		B			B

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	27.6	30.4	30.4
Change Period (Y+Rc), s	6.0	4.6	4.6
Max Green Setting (Gmax), s	18.0	29.4	29.4
Max Q Clear Time (g_c+I1), s	16.2	16.8	20.2
Green Ext Time (p_c), s	0.7	3.0	5.6

Intersection Summary	
HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	467	568	0	0	407	50
Future Volume (veh/h)	467	568	0	0	407	50
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)		1.00			1.00	1.00
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No				No	
Adj Sat Flow, veh/h/ln	1856	1856			1856	1856
Adj Flow Rate, veh/h	513	0			447	55
Peak Hour Factor	0.91	0.91			0.91	0.91
Percent Heavy Veh, %	3	3			3	3
Cap, veh/h	3270				0	0
Arrive On Green	0.93	0.00			0.00	0.00
Sat Flow, veh/h	3618	1572			0	
Grp Volume(v), veh/h	513	0			0.0	
Grp Sat Flow(s),veh/h/ln	1763	1572				
Q Serve(g_s), s	0.7	0.0				
Cycle Q Clear(g_c), s	0.7	0.0				
Prop In Lane		1.00				
Lane Grp Cap(c), veh/h	3270					
V/C Ratio(X)	0.16					
Avail Cap(c_a), veh/h	3270					
HCM Platoon Ratio	1.00	1.00				
Upstream Filter(I)	0.93	0.00				
Uniform Delay (d), s/veh	0.2	0.0				
Incr Delay (d2), s/veh	0.1	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.0	0.0				
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.3	0.0				
LnGrp LOS	A					
Approach Vol, veh/h	513	A				
Approach Delay, s/veh	0.3					
Approach LOS	A					

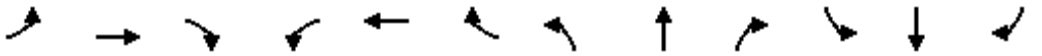
Timer - Assigned Phs	4
Phs Duration (G+Y+Rc), s	58.0
Change Period (Y+Rc), s	* 4.2
Max Green Setting (Gmax), s	* 19
Max Q Clear Time (g_c+I1), s	2.7
Green Ext Time (p_c), s	2.6

Intersection Summary	
HCM 6th Ctrl Delay	0.3
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	381	37	370	545	218	20	47	292	120	70	8
Future Volume (veh/h)	10	381	37	370	545	218	20	47	292	120	70	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.99
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	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	1856
Adj Flow Rate, veh/h	10	389	38	378	556	222	20	48	298	122	71	8
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	21	498	218	623	912	768	36	55	341	149	520	59
Arrive On Green	0.01	0.14	0.14	0.59	0.82	0.82	0.02	0.25	0.25	0.08	0.32	0.32
Sat Flow, veh/h	1767	3526	1545	1767	1856	1563	1767	218	1356	1767	1635	184
Grp Volume(v), veh/h	10	389	38	378	556	222	20	0	346	122	0	79
Grp Sat Flow(s),veh/h/ln	1767	1763	1545	1767	1856	1563	1767	0	1574	1767	0	1819
Q Serve(g_s), s	0.7	12.4	2.2	15.9	12.5	2.6	1.3	0.0	24.5	7.9	0.0	3.6
Cycle Q Clear(g_c), s	0.7	12.4	2.2	15.9	12.5	2.6	1.3	0.0	24.5	7.9	0.0	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.86	1.00		0.10
Lane Grp Cap(c), veh/h	21	498	218	623	912	768	36	0	396	149	0	579
V/C Ratio(X)	0.48	0.78	0.17	0.61	0.61	0.29	0.55	0.00	0.87	0.82	0.00	0.14
Avail Cap(c_a), veh/h	76	641	281	623	912	768	85	0	434	195	0	604
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.0	48.1	34.0	18.7	6.4	2.5	56.3	0.0	41.7	52.3	0.0	28.2
Incr Delay (d2), s/veh	15.8	11.6	1.7	1.5	2.8	0.9	12.5	0.0	16.7	18.7	0.0	0.1
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	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.1	1.1	5.2	3.6	1.3	0.7	0.0	11.2	4.2	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.8	59.6	35.8	20.2	9.2	3.4	68.8	0.0	58.4	70.9	0.0	28.3
LnGrp LOS	E	E	D	C	A	A	E	A	E	E	A	C
Approach Vol, veh/h		437			1156			366			201	
Approach Delay, s/veh		57.9			11.7			58.9			54.2	
Approach LOS		E			B			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	33.8	45.5	21.7	6.6	42.2	5.6	61.6
Change Period (Y+Rc), s	5.3	* 4.6	4.6	* 5.3	* 4.2	5.3	* 4.2	4.6
Max Green Setting (Gmax), s	12.8	* 32	31.8	* 21	* 5.6	38.5	* 5	48.6
Max Q Clear Time (g_c+I1), s	9.9	26.5	17.9	14.4	3.3	5.6	2.7	14.5
Green Ext Time (p_c), s	0.1	1.0	1.0	1.3	0.0	0.3	0.0	4.8

Intersection Summary	
HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C

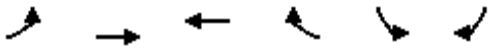
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	579	254	242	1125	71	227
Future Volume (veh/h)	579	254	242	1125	71	227
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	603	265	252	1172	74	236
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	638	539	847	2852	109	771
Arrive On Green	0.73	0.73	0.60	1.00	0.07	0.07
Sat Flow, veh/h	1752	1481	1668	3416	1668	1485
Grp Volume(v), veh/h	603	265	252	1172	74	236
Grp Sat Flow(s),veh/h/ln	1752	1481	1668	1664	1668	1485
Q Serve(g_s), s	34.8	8.8	0.8	0.0	5.0	0.0
Cycle Q Clear(g_c), s	34.8	8.8	0.8	0.0	5.0	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	638	539	847	2852	109	771
V/C Ratio(X)	0.94	0.49	0.30	0.41	0.68	0.31
Avail Cap(c_a), veh/h	1050	887	847	2852	194	846
HCM Platoon Ratio	2.00	2.00	1.33	1.33	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.76	0.76	1.00	1.00
Uniform Delay (d), s/veh	14.7	11.2	12.3	0.0	53.0	15.9
Incr Delay (d2), s/veh	23.1	2.9	0.1	0.3	7.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	2.6	2.7	0.1	2.3	3.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.8	14.1	12.4	0.3	60.1	16.2
LnGrp LOS	D	B	B	A	E	B
Approach Vol, veh/h	868			1424	310	
Approach Delay, s/veh	30.6			2.5	26.6	
Approach LOS	C			A	C	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	57.1	46.8				103.9	12.1
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	19.5	69.5				93.5	13.5
Max Q Clear Time (g_c+I1), s	2.8	36.8				2.0	7.0
Green Ext Time (p_c), s	0.6	5.5				12.0	0.6

Intersection Summary			
HCM 6th Ctrl Delay		14.7	
HCM 6th LOS		B	



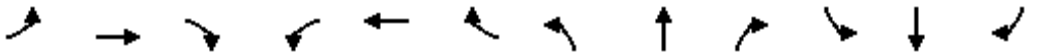
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	747	1058	324	151	340
Future Volume (veh/h)	55	747	1058	324	151	340
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	59	803	1138	0	162	366
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	354	1306	2231		295	317
Arrive On Green	0.05	0.99	0.67	0.00	0.18	0.18
Sat Flow, veh/h	1668	1752	3416	1485	1668	1485
Grp Volume(v), veh/h	59	803	1138	0	162	366
Grp Sat Flow(s),veh/h/ln	1668	1752	1664	1485	1668	1485
Q Serve(g_s), s	1.2	1.1	19.9	0.0	10.3	20.5
Cycle Q Clear(g_c), s	1.2	1.1	19.9	0.0	10.3	20.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	354	1306	2231		295	317
V/C Ratio(X)	0.17	0.61	0.51		0.55	1.16
Avail Cap(c_a), veh/h	660	1306	2231		295	317
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	0.1	9.6	0.0	43.5	45.6
Incr Delay (d2), s/veh	0.2	1.9	0.8	0.0	2.2	99.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.8	6.8	0.0	4.5	27.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.0	2.0	10.4	0.0	45.7	145.2
LnGrp LOS	A	A	B		D	F
Approach Vol, veh/h		862	1138	A	528	
Approach Delay, s/veh		2.4	10.4		114.7	
Approach LOS		A	B		F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		91.0		25.0	8.8	82.2
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		86.5		20.5	25.5	56.5
Max Q Clear Time (g_c+I1), s		3.1		22.5	3.2	21.9
Green Ext Time (p_c), s		7.3		0.0	0.1	10.2

Intersection Summary	
HCM 6th Ctrl Delay	29.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	933	42	323	1307	0	45	0	308	147	94	153
Future Volume (veh/h)	0	933	42	323	1307	0	45	0	308	147	94	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	952	43	330	1334	0	46	0	314	150	96	156
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	3	3	3	3	0	3	0	3	3	3	3
Cap, veh/h	0	1074	479	640	2500	0	59	0	0	717	219	195
Arrive On Green	0.00	0.30	0.30	0.72	1.00	0.00	0.03	0.00	0.00	0.21	0.12	0.12
Sat Flow, veh/h	0	3618	1572	1767	3618	0	1767	46		3428	1763	1572
Grp Volume(v), veh/h	0	952	43	330	1334	0	46	87.0		150	96	156
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1763	0	1767	F		1714	1763	1572
Q Serve(g_s), s	0.0	29.8	2.3	9.5	0.0	0.0	3.0			4.2	5.9	11.2
Cycle Q Clear(g_c), s	0.0	29.8	2.3	9.5	0.0	0.0	3.0			4.2	5.9	11.2
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	1074	479	640	2500	0	59			717	219	195
V/C Ratio(X)	0.00	0.89	0.09	0.52	0.53	0.00	0.78			0.21	0.44	0.80
Avail Cap(c_a), veh/h	0	1182	527	640	2500	0	76			1360	532	474
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.44	0.44	0.00	1.00			1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	38.4	28.8	11.5	0.0	0.0	55.6			37.9	47.1	49.4
Incr Delay (d2), s/veh	0.0	10.8	0.4	0.3	0.4	0.0	31.4			0.1	1.4	7.4
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
%ile BackOfQ(50%),veh/ln	0.0	14.0	0.9	2.7	0.1	0.0	1.8			1.7	2.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	49.2	29.2	11.8	0.4	0.0	87.0			38.1	48.5	56.8
LnGrp LOS	A	D	C	B	A	A	F			D	D	E
Approach Vol, veh/h		995			1664						402	
Approach Delay, s/veh		48.3			2.6						47.8	
Approach LOS		D			A						D	

Timer - Assigned Phs	1		3	4	5	6		8
Phs Duration (G+Y+Rc), s	28.5		47.3	40.2	8.1	20.4		87.5
Change Period (Y+Rc), s	* 4.2		5.3	4.9	4.2	* 6		* 5.3
Max Green Setting (Gmax), s	* 46		16.7	38.9	5.0	* 35		* 61
Max Q Clear Time (g_c+I1), s	6.2		11.5	31.8	5.0	13.2		2.0
Green Ext Time (p_c), s	0.5		0.5	3.5	0.0	1.2		13.6

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	6	136	842	0	0	974	406	517	6	555	57	0
Future Volume (vph)	6	136	842	0	0	974	406	517	6	555	57	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5	
Lane Util. Factor		1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97	
Frpb, ped/bikes		1.00	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	
Frt		1.00	1.00			1.00	0.85	1.00	0.91	0.85	1.00	
Flt Protected		0.95	1.00			1.00	1.00	0.95	0.98	1.00	0.95	
Satd. Flow (prot)		1752	3505			3505	1548	1665	1502	1490	3400	
Flt Permitted		0.95	1.00			1.00	1.00	0.95	0.98	1.00	0.95	
Satd. Flow (perm)		1752	3505			3505	1548	1665	1502	1490	3400	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	140	868	0	0	1004	419	533	6	572	59	0
RTOR Reduction (vph)	0	0	0	0	0	0	167	0	43	188	0	0
Lane Group Flow (vph)	0	146	868	0	0	1004	252	384	329	167	59	0
Confl. Peds. (#/hr)							1					
Turn Type	Prot	Prot	NA			NA	Perm	Split	NA	Perm	Prot	
Protected Phases	7	7	4			8		2	2		1	
Permitted Phases							8			2		
Actuated Green, G (s)		11.0	56.0			40.8	40.8	28.0	28.0	28.0	4.0	
Effective Green, g (s)		11.0	56.0			40.8	40.8	28.0	28.0	28.0	4.0	
Actuated g/C Ratio		0.09	0.48			0.35	0.35	0.24	0.24	0.24	0.03	
Clearance Time (s)		4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5	
Vehicle Extension (s)		3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		166	1692			1232	544	401	362	359	117	
v/s Ratio Prot		c0.08	0.25			c0.29		c0.23	0.22		c0.02	
v/s Ratio Perm							0.16			0.11		
v/c Ratio		0.88	0.51			0.81	0.46	0.96	0.91	0.46	0.50	
Uniform Delay, d1		51.8	20.6			34.2	29.1	43.4	42.8	37.6	55.0	
Progression Factor		0.78	0.43			1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		33.6	1.0			6.0	2.8	33.7	25.5	1.0	3.4	
Delay (s)		73.9	9.9			40.2	31.9	77.1	68.3	38.6	58.4	
Level of Service		E	A			D	C	E	E	D	E	
Approach Delay (s)			19.1			37.7			61.8			55.6
Approach LOS			B			D			E			E

Intersection Summary			
HCM 2000 Control Delay	41.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	24.1
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	246
Future Volume (vph)	246
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	254
RTOR Reduction (vph)	204
Lane Group Flow (vph)	50
Confl. Peds. (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	8.1
Effective Green, g (s)	8.1
Actuated g/C Ratio	0.07
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	109
v/s Ratio Prot	
v/s Ratio Perm	c0.03
v/c Ratio	0.46
Uniform Delay, d1	51.9
Progression Factor	1.00
Incremental Delay, d2	3.1
Delay (s)	54.9
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary

Intersection: 1: Herndon Avenue & SR 99 NB Off-Ramp

Movement	NW	NW	NW	NE	SW	SW
Directions Served	L	R	R	T	T	T
Maximum Queue (ft)	84	136	114	508	271	517
Average Queue (ft)	19	73	47	203	124	147
95th Queue (ft)	50	123	88	369	207	303
Link Distance (ft)		772	772	566	1583	1583
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	290					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Grantland Avenue & Parkway Drive/SR 99 SB On-Ramp

Movement	EB	EB	NB	NB
Directions Served	T	T	L	R
Maximum Queue (ft)	357	52	286	77
Average Queue (ft)	168	2	185	34
95th Queue (ft)	307	17	282	57
Link Distance (ft)	604	604		1688
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			295	
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	30	223	230	52	225	210	68	90	323	160	164
Average Queue (ft)	6	129	121	16	141	110	21	20	126	99	45
95th Queue (ft)	26	194	191	42	218	191	53	60	227	153	112
Link Distance (ft)		1319	1319			477	477		1387		1182
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200			100	160			100		120	
Storage Blk Time (%)		1	14		7	2		0	15	5	0
Queuing Penalty (veh)		0	4		25	4		0	5	4	0

Intersection: 4: SR 99 SB Ramps & Shaw Avenue

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	R	L	T	T	L	R
Maximum Queue (ft)	268	286	244	391	384	138	137
Average Queue (ft)	122	70	135	55	26	32	64
95th Queue (ft)	210	154	228	194	146	86	118
Link Distance (ft)	477	477		384	384	488	
Upstream Blk Time (%)				0	0		
Queuing Penalty (veh)				1	0		
Storage Bay Dist (ft)			125				25
Storage Blk Time (%)			12	0		23	38
Queuing Penalty (veh)			35	1		51	14

Intersection: 5: Shaw Avenue & SR 99 NB Ramps

Movement	EB	EB	WB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	204	184	309	260	99	123	131
Average Queue (ft)	46	52	117	47	11	51	67
95th Queue (ft)	108	133	217	146	52	96	110
Link Distance (ft)		384	260	260	260	654	
Upstream Blk Time (%)			0	0			
Queuing Penalty (veh)			0	0			
Storage Bay Dist (ft)	125						40
Storage Blk Time (%)	1	1				16	17
Queuing Penalty (veh)	7	1				32	11

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	B41	SB	SB
Directions Served	T	T	R	L	T	T	L	R	R	T	L	L
Maximum Queue (ft)	598	593	250	194	138	151	310	243	221	40	101	140
Average Queue (ft)	345	318	22	77	35	50	69	146	119	1	46	85
95th Queue (ft)	572	538	97	154	92	118	194	220	211	13	104	127
Link Distance (ft)	1212	1212			1024	1024	247			1114		
Upstream Blk Time (%)							1	0				
Queuing Penalty (veh)							0	0				
Storage Bay Dist (ft)			150	550				150	150		380	380
Storage Blk Time (%)		26					2	6	1			
Queuing Penalty (veh)		9					10	1	0			

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	103	88
Average Queue (ft)	40	34
95th Queue (ft)	81	64
Link Distance (ft)	656	656
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	T	T	T	R	L	LTR	R	UL	L	R
Maximum Queue (ft)	143	295	1032	238	266	200	236	268	245	24	110	112
Average Queue (ft)	81	162	195	153	123	86	125	187	135	2	27	43
95th Queue (ft)	142	255	468	225	219	159	218	259	207	12	76	86
Link Distance (ft)		1024	1024	1607	1607			535	535		544	
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			1									
Storage Bay Dist (ft)	300					150	220			200		100
Storage Blk Time (%)		0			5	0	0	4			1	0
Queuing Penalty (veh)		0			24	0	0	5			1	0

Zone Summary

Zone wide Queuing Penalty: 246

Intersection: 1: Herndon Avenue & SR 99 NB Off-Ramp

Movement	NW	NW	NW	NE	SW	SW
Directions Served	L	R	R	T	T	T
Maximum Queue (ft)	98	125	127	248	267	310
Average Queue (ft)	42	71	64	134	107	185
95th Queue (ft)	84	120	98	203	204	291
Link Distance (ft)		772	772	566	1583	1583
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	290					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Grantland Avenue & Parkway Drive/SR 99 SB On-Ramp

Movement	EB	EB	NB	NB
Directions Served	T	T	L	R
Maximum Queue (ft)	119	52	243	51
Average Queue (ft)	46	2	148	18
95th Queue (ft)	90	17	231	45
Link Distance (ft)	604	604		1688
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			295	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	52	344	289	50	235	490	359	199	360	176	298
Average Queue (ft)	13	156	111	20	207	307	50	22	131	86	62
95th Queue (ft)	38	270	216	46	264	524	152	81	272	157	182
Link Distance (ft)		1318	1318			477	477		1389		1182
Upstream Blk Time (%)						3					
Queuing Penalty (veh)						15					
Storage Bay Dist (ft)	200			100	160			100		120	
Storage Blk Time (%)		8	12		23	17			16	5	0
Queuing Penalty (veh)		1	4		128	64			3	4	0

Intersection: 4: SR 99 SB Ramps & Shaw Avenue

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	R	L	T	T	L	R
Maximum Queue (ft)	378	144	244	410	126	188	145
Average Queue (ft)	140	40	135	133	35	62	74
95th Queue (ft)	322	103	247	336	103	139	139
Link Distance (ft)	477	477		384	384	488	
Upstream Blk Time (%)				0			
Queuing Penalty (veh)				3			
Storage Bay Dist (ft)			125				25
Storage Blk Time (%)			11	5		37	37
Queuing Penalty (veh)			60	11		83	26

Intersection: 5: Shaw Avenue & SR 99 NB Ramps

Movement	EB	EB	WB	WB	WB	B35	B35	SB	SB
Directions Served	L	T	T	T	R	T	T	L	R
Maximum Queue (ft)	71	398	348	274	149	239	234	514	160
Average Queue (ft)	29	197	216	135	14	14	8	234	143
95th Queue (ft)	63	370	345	271	68	91	77	454	190
Link Distance (ft)		384	260	260	260	1251	1251	654	
Upstream Blk Time (%)		0	5	0					
Queuing Penalty (veh)		3	0	0					
Storage Bay Dist (ft)	125								40
Storage Blk Time (%)		9						59	39
Queuing Penalty (veh)		5						201	59

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	R	R	L	L	T
Maximum Queue (ft)	398	335	250	432	261	261	98	145	116	110	117	162
Average Queue (ft)	251	215	35	192	112	116	46	70	33	40	68	68
95th Queue (ft)	364	314	132	344	216	216	88	127	91	96	118	128
Link Distance (ft)	1212	1212			1024	1024	247					656
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	550				150	150	380	380	
Storage Blk Time (%)		18						1				
Queuing Penalty (veh)		8						1				

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	SB
Directions Served	TR
Maximum Queue (ft)	173
Average Queue (ft)	60
95th Queue (ft)	115
Link Distance (ft)	656
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	T	T	T	R	L	LTR	R	L	L	R
Maximum Queue (ft)	212	227	260	593	584	200	339	356	318	24	170	190
Average Queue (ft)	120	87	95	320	311	153	191	232	166	3	58	99
95th Queue (ft)	201	179	196	503	519	257	296	334	267	14	130	170
Link Distance (ft)		1024	1024	1584	1584			535	535		544	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300					150	220			200		100
Storage Blk Time (%)					28	0	1	10			2	13
Queuing Penalty (veh)					115	1	6	26			5	7

Zone Summary

Zone wide Queuing Penalty: 839

Appendix G: Existing plus Project (Phase I & Phase II) Traffic Conditions



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	60	460	819	0	0	1100
Future Volume (veh/h)	60	460	819	0	0	1100
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	0	1856
Adj Flow Rate, veh/h	67	517	920	0	0	1236
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	0	0	3
Cap, veh/h	511	801	1021	0	0	1939
Arrive On Green	0.29	0.29	0.55	0.00	0.00	0.55
Sat Flow, veh/h	1767	2768	1856	0	0	3711
Grp Volume(v), veh/h	67	517	920	0	0	1236
Grp Sat Flow(s),veh/h/ln	1767	1384	1856	0	0	1763
Q Serve(g_s), s	1.8	10.8	29.2	0.0	0.0	16.0
Cycle Q Clear(g_c), s	1.8	10.8	29.2	0.0	0.0	16.0
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	511	801	1021	0	0	1939
V/C Ratio(X)	0.13	0.65	0.90	0.00	0.00	0.64
Avail Cap(c_a), veh/h	511	801	1192	0	0	2265
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.81	0.00	0.00	1.00
Uniform Delay (d), s/veh	17.3	20.5	13.3	0.0	0.0	10.3
Incr Delay (d2), s/veh	0.5	4.0	7.2	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.3	11.4	0.0	0.0	5.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.9	24.5	20.5	0.0	0.0	10.8
LnGrp LOS	B	C	C	A	A	B
Approach Vol, veh/h	584		920			1236
Approach Delay, s/veh	23.7		20.5			10.8
Approach LOS	C		C			B

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	25.1	40.9	40.9
Change Period (Y+Rc), s	6.0	4.6	4.6
Max Green Setting (Gmax), s	13.0	42.4	42.4
Max Q Clear Time (g_c+I1), s	12.8	31.2	18.0
Green Ext Time (p_c), s	0.1	5.1	9.9

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	696	390	0	0	539	135
Future Volume (veh/h)	696	390	0	0	539	135
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)		1.00			1.00	1.00
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No				No	
Adj Sat Flow, veh/h/ln	1856	1856			1856	1856
Adj Flow Rate, veh/h	829	0			642	161
Peak Hour Factor	0.84	0.84			0.84	0.84
Percent Heavy Veh, %	3	3			3	3
Cap, veh/h	3301				0	0
Arrive On Green	0.94	0.00			0.00	0.00
Sat Flow, veh/h	3618	1572			0	
Grp Volume(v), veh/h	829	0			0.0	
Grp Sat Flow(s),veh/h/ln	1763	1572				
Q Serve(g_s), s	1.3	0.0				
Cycle Q Clear(g_c), s	1.3	0.0				
Prop In Lane		1.00				
Lane Grp Cap(c), veh/h	3301					
V/C Ratio(X)	0.25					
Avail Cap(c_a), veh/h	3301					
HCM Platoon Ratio	1.00	1.00				
Upstream Filter(I)	0.85	0.00				
Uniform Delay (d), s/veh	0.2	0.0				
Incr Delay (d2), s/veh	0.2	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.1	0.0				
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.3	0.0				
LnGrp LOS	A					
Approach Vol, veh/h	829	A				
Approach Delay, s/veh	0.3					
Approach LOS	A					

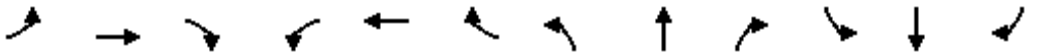
Timer - Assigned Phs	4
Phs Duration (G+Y+Rc), s	66.0
Change Period (Y+Rc), s	* 4.2
Max Green Setting (Gmax), s	* 23
Max Q Clear Time (g_c+I1), s	3.3
Green Ext Time (p_c), s	4.8

Intersection Summary	
HCM 6th Ctrl Delay	0.3
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	551	28	209	350	70	32	33	410	224	73	10
Future Volume (veh/h)	5	551	28	209	350	70	32	33	410	224	73	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
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	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	1856
Adj Flow Rate, veh/h	5	568	29	215	361	72	33	34	423	231	75	10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	12	690	307	237	623	528	646	38	467	247	134	18
Arrive On Green	0.01	0.20	0.20	0.13	0.34	0.34	0.37	0.32	0.32	0.14	0.08	0.08
Sat Flow, veh/h	1767	3526	1568	1767	1856	1570	1767	118	1471	1767	1599	213
Grp Volume(v), veh/h	5	568	29	215	361	72	33	0	457	231	0	85
Grp Sat Flow(s),veh/h/ln	1767	1763	1568	1767	1856	1570	1767	0	1589	1767	0	1813
Q Serve(g_s), s	0.2	13.6	1.3	10.5	14.1	1.8	1.1	0.0	24.2	11.4	0.0	4.0
Cycle Q Clear(g_c), s	0.2	13.6	1.3	10.5	14.1	1.8	1.1	0.0	24.2	11.4	0.0	4.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.93	1.00		0.12
Lane Grp Cap(c), veh/h	12	690	307	237	623	528	646	0	505	247	0	152
V/C Ratio(X)	0.43	0.82	0.09	0.91	0.58	0.14	0.05	0.00	0.91	0.93	0.00	0.56
Avail Cap(c_a), veh/h	100	826	367	237	623	528	646	0	578	247	0	773
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	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.5	33.9	29.0	37.5	24.1	8.3	18.1	0.0	28.8	37.4	0.0	38.7
Incr Delay (d2), s/veh	23.5	5.8	0.1	34.6	1.3	0.1	0.0	0.0	16.6	39.8	0.0	3.2
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	0.0
%ile BackOfQ(50%),veh/ln	0.2	6.0	0.5	6.7	6.1	1.0	0.4	0.0	11.0	7.4	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.0	39.7	29.1	72.1	25.4	8.4	18.1	0.0	45.3	77.2	0.0	41.9
LnGrp LOS	E	D	C	E	C	A	B	A	D	E	A	D
Approach Vol, veh/h		602			648			490			316	
Approach Delay, s/veh		39.4			39.0			43.5			67.7	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	32.5	16.4	22.5	36.3	12.7	4.8	34.1
Change Period (Y+Rc), s	4.2	* 4.6	4.6	* 5.3	4.2	* 5.3	* 4.2	4.6
Max Green Setting (Gmax), s	12.3	* 32	11.8	* 21	6.1	* 38	* 5	28.1
Max Q Clear Time (g_c+I1), s	13.4	26.2	12.5	15.6	3.1	6.0	2.2	16.1
Green Ext Time (p_c), s	0.0	1.5	0.0	1.6	0.0	0.4	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	44.6
HCM 6th LOS	D

Notes

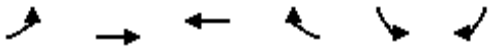
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	704	466	278	617	38	222
Future Volume (veh/h)	704	466	278	617	38	222
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	733	485	290	643	40	231
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	855	725	535	2624	126	456
Arrive On Green	0.49	0.49	0.46	1.00	0.08	0.08
Sat Flow, veh/h	1752	1485	1668	3416	1668	1485
Grp Volume(v), veh/h	733	485	290	643	40	231
Grp Sat Flow(s),veh/h/ln	1752	1485	1668	1664	1668	1485
Q Serve(g_s), s	24.3	16.4	0.5	0.0	1.5	0.0
Cycle Q Clear(g_c), s	24.3	16.4	0.5	0.0	1.5	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	855	725	535	2624	126	456
V/C Ratio(X)	0.86	0.67	0.54	0.25	0.32	0.51
Avail Cap(c_a), veh/h	1062	900	535	2624	126	457
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.62	0.62	0.94	0.94	1.00	1.00
Uniform Delay (d), s/veh	14.9	12.8	13.2	0.0	28.9	18.8
Incr Delay (d2), s/veh	7.1	3.1	1.1	0.2	1.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	5.1	2.4	0.1	0.6	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.9	15.9	14.2	0.2	30.4	19.7
LnGrp LOS	C	B	B	A	C	B
Approach Vol, veh/h	1218			933	271	
Approach Delay, s/veh	19.5			4.6	21.2	
Approach LOS	B			A	C	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	19.8	36.7				56.5	9.5
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	7.5	40.0				52.0	5.0
Max Q Clear Time (g_c+I1), s	2.5	26.3				2.0	3.5
Green Ext Time (p_c), s	0.4	5.9				5.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B



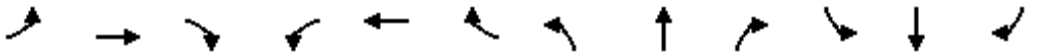
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	105	821	686	206	64	208
Future Volume (veh/h)	105	821	686	206	64	208
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	109	855	715	0	67	217
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	571	1314	2051		190	266
Arrive On Green	0.13	1.00	0.62	0.00	0.11	0.11
Sat Flow, veh/h	1668	1752	3416	1485	1668	1485
Grp Volume(v), veh/h	109	855	715	0	67	217
Grp Sat Flow(s),veh/h/ln	1668	1752	1664	1485	1668	1485
Q Serve(g_s), s	1.3	0.0	6.9	0.0	2.4	7.5
Cycle Q Clear(g_c), s	1.3	0.0	6.9	0.0	2.4	7.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	571	1314	2051		190	266
V/C Ratio(X)	0.19	0.65	0.35		0.35	0.82
Avail Cap(c_a), veh/h	702	1314	2051		190	266
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	3.4	0.0	6.2	0.0	27.0	26.0
Incr Delay (d2), s/veh	0.1	2.0	0.5	0.0	1.1	17.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.7	1.9	0.0	1.0	8.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.5	2.0	6.7	0.0	28.1	43.7
LnGrp LOS	A	A	A		C	D
Approach Vol, veh/h		964	715	A	284	
Approach Delay, s/veh		2.1	6.7		40.0	
Approach LOS		A	A		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		54.0		12.0	8.8	45.2
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		49.5		7.5	9.5	35.5
Max Q Clear Time (g_c+I1), s		2.0		9.5	3.3	8.9
Green Ext Time (p_c), s		7.9		0.0	0.1	5.2

Intersection Summary	
HCM 6th Ctrl Delay	9.3
HCM 6th LOS	A

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



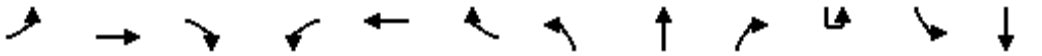
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1452	34	110	656	0	22	0	407	145	47	101
Future Volume (veh/h)	0	1452	34	110	656	0	22	0	407	145	47	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1545	36	117	698	0	23	0	433	154	50	107
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	0.94
Percent Heavy Veh, %	0	3	3	3	3	0	3	0	3	3	3	3
Cap, veh/h	0	2263	1009	123	2670	0	40	0	0	563	159	141
Arrive On Green	0.00	0.64	0.64	0.14	1.00	0.00	0.02	0.00	0.00	0.16	0.09	0.09
Sat Flow, veh/h	0	3618	1572	1767	3618	0	1767	23		3428	1763	1572
Grp Volume(v), veh/h	0	1545	36	117	698	0	23	68.6		154	50	107
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1763	0	1767	E		1714	1763	1572
Q Serve(g_s), s	0.0	32.4	0.7	7.6	0.0	0.0	1.5			4.6	3.1	7.7
Cycle Q Clear(g_c), s	0.0	32.4	0.7	7.6	0.0	0.0	1.5			4.6	3.1	7.7
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	2263	1009	123	2670	0	40			563	159	141
V/C Ratio(X)	0.00	0.68	0.04	0.95	0.26	0.00	0.58			0.27	0.32	0.76
Avail Cap(c_a), veh/h	0	2263	1009	123	2670	0	76			1360	532	474
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.84	0.84	0.00	1.00			1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	13.2	3.9	49.7	0.0	0.0	56.1			42.4	49.4	51.5
Incr Delay (d2), s/veh	0.0	1.7	0.1	58.6	0.2	0.0	12.5			0.3	1.1	8.0
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
%ile BackOfQ(50%),veh/ln	0.0	11.8	0.3	5.1	0.1	0.0	0.8			1.9	1.4	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	14.9	4.0	108.3	0.2	0.0	68.6			42.7	50.6	59.5
LnGrp LOS	A	B	A	F	A	A	E			D	D	E
Approach Vol, veh/h		1581			815						311	
Approach Delay, s/veh		14.7			15.7						49.7	
Approach LOS		B			B						D	

Timer - Assigned Phs	1		3	4	5	6		8
Phs Duration (G+Y+Rc), s	23.3		13.4	79.3	6.8	16.4		92.7
Change Period (Y+Rc), s	* 4.2		5.3	4.9	4.2	* 6		4.9
Max Green Setting (Gmax), s	* 46		8.1	47.5	5.0	* 35		60.9
Max Q Clear Time (g_c+I1), s	6.6		9.6	34.4	3.5	9.7		2.0
Green Ext Time (p_c), s	0.5		0.0	8.6	0.0	0.7		5.2

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	140	1125	0	0	532	481	266	8	497	1	36	0
Future Volume (vph)	140	1125	0	0	532	481	266	8	497	1	36	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95		0.97	
Frt	1.00	1.00			1.00	0.85	1.00	0.87	0.85		1.00	
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1752	3505			3505	1568	1665	1452	1490		3400	
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1752	3505			3505	1568	1665	1452	1490		3400	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	144	1160	0	0	548	496	274	8	512	1	37	0
RTOR Reduction (vph)	0	0	0	0	0	303	0	188	188	0	0	0
Lane Group Flow (vph)	144	1160	0	0	548	193	247	88	83	0	38	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm	Prot	Prot	
Protected Phases	7	4			8		2	2		1	1	
Permitted Phases						8			2			
Actuated Green, G (s)	14.2	63.6			45.2	45.2	22.0	22.0	22.0		3.8	
Effective Green, g (s)	14.2	63.6			45.2	45.2	22.0	22.0	22.0		3.8	
Actuated g/C Ratio	0.12	0.55			0.39	0.39	0.19	0.19	0.19		0.03	
Clearance Time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	214	1921			1365	610	315	275	282		111	
v/s Ratio Prot	0.08	c0.33			0.16		c0.15	0.06			c0.01	
v/s Ratio Perm						0.12			0.06			
v/c Ratio	0.67	0.60			0.40	0.32	0.78	0.32	0.29		0.34	
Uniform Delay, d1	48.7	17.7			25.6	24.6	44.7	40.5	40.3		54.9	
Progression Factor	0.74	0.48			1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	6.1	1.1			0.9	1.4	12.0	0.7	0.6		1.8	
Delay (s)	42.0	9.6			26.5	26.0	56.8	41.2	40.9		56.7	
Level of Service	D	A			C	C	E	D	D		E	
Approach Delay (s)		13.2			26.3			46.0				53.2
Approach LOS		B			C			D				D

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	24.1
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	138
Future Volume (vph)	138
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	142
RTOR Reduction (vph)	134
Lane Group Flow (vph)	8
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	6.7
Effective Green, g (s)	6.7
Actuated g/C Ratio	0.06
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	90
v/s Ratio Prot	
v/s Ratio Perm	c0.01
v/c Ratio	0.09
Uniform Delay, d1	51.8
Progression Factor	1.00
Incremental Delay, d2	0.4
Delay (s)	52.2
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	109	723	571	0	0	1236
Future Volume (veh/h)	109	723	571	0	0	1236
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	0	1856
Adj Flow Rate, veh/h	117	777	614	0	0	1329
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	0	0	3
Cap, veh/h	638	999	847	0	0	1609
Arrive On Green	0.36	0.36	0.46	0.00	0.00	0.46
Sat Flow, veh/h	1767	2768	1856	0	0	3711
Grp Volume(v), veh/h	117	777	614	0	0	1329
Grp Sat Flow(s),veh/h/ln	1767	1384	1856	0	0	1763
Q Serve(g_s), s	2.6	14.5	15.6	0.0	0.0	19.1
Cycle Q Clear(g_c), s	2.6	14.5	15.6	0.0	0.0	19.1
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	638	999	847	0	0	1609
V/C Ratio(X)	0.18	0.78	0.73	0.00	0.00	0.83
Avail Cap(c_a), veh/h	638	999	941	0	0	1787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.94	0.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	16.5	12.8	0.0	0.0	13.8
Incr Delay (d2), s/veh	0.6	6.0	2.4	0.0	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	4.2	5.7	0.0	0.0	6.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.3	22.4	15.2	0.0	0.0	16.8
LnGrp LOS	B	C	B	A	A	B
Approach Vol, veh/h	894		614			1329
Approach Delay, s/veh	21.2		15.2			16.8
Approach LOS	C		B			B

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	26.9	31.1	31.1
Change Period (Y+Rc), s	6.0	4.6	4.6
Max Green Setting (Gmax), s	18.0	29.4	29.4
Max Q Clear Time (g_c+I1), s	16.5	17.6	21.1
Green Ext Time (p_c), s	0.7	3.1	5.4

Intersection Summary	
HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	467	620	0	0	434	50
Future Volume (veh/h)	467	620	0	0	434	50
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)		1.00			1.00	1.00
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No				No	
Adj Sat Flow, veh/h/ln	1856	1856			1856	1856
Adj Flow Rate, veh/h	513	0			477	55
Peak Hour Factor	0.91	0.91			0.91	0.91
Percent Heavy Veh, %	3	3			3	3
Cap, veh/h	3270				0	0
Arrive On Green	0.93	0.00			0.00	0.00
Sat Flow, veh/h	3618	1572			0	
Grp Volume(v), veh/h	513	0			0.0	
Grp Sat Flow(s),veh/h/ln	1763	1572				
Q Serve(g_s), s	0.7	0.0				
Cycle Q Clear(g_c), s	0.7	0.0				
Prop In Lane		1.00				
Lane Grp Cap(c), veh/h	3270					
V/C Ratio(X)	0.16					
Avail Cap(c_a), veh/h	3270					
HCM Platoon Ratio	1.00	1.00				
Upstream Filter(I)	0.91	0.00				
Uniform Delay (d), s/veh	0.2	0.0				
Incr Delay (d2), s/veh	0.1	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.0	0.0				
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.3	0.0				
LnGrp LOS	A					
Approach Vol, veh/h	513	A				
Approach Delay, s/veh	0.3					
Approach LOS	A					

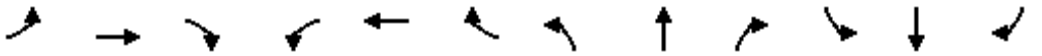
Timer - Assigned Phs	4
Phs Duration (G+Y+Rc), s	58.0
Change Period (Y+Rc), s	* 4.2
Max Green Setting (Gmax), s	* 18
Max Q Clear Time (g_c+I1), s	2.7
Green Ext Time (p_c), s	2.5

Intersection Summary	
HCM 6th Ctrl Delay	0.3
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	424	37	370	605	218	20	47	292	120	70	8
Future Volume (veh/h)	10	424	37	370	605	218	20	47	292	120	70	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.99
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	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	1856
Adj Flow Rate, veh/h	10	433	38	378	617	222	20	48	298	122	71	8
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	21	536	235	604	912	769	36	55	341	148	520	59
Arrive On Green	0.01	0.15	0.15	0.68	0.98	0.98	0.02	0.25	0.25	0.08	0.32	0.32
Sat Flow, veh/h	1767	3526	1547	1767	1856	1563	1767	218	1356	1767	1635	184
Grp Volume(v), veh/h	10	433	38	378	617	222	20	0	346	122	0	79
Grp Sat Flow(s),veh/h/ln	1767	1763	1547	1767	1856	1563	1767	0	1574	1767	0	1819
Q Serve(g_s), s	0.7	13.8	2.2	13.7	1.9	0.3	1.3	0.0	24.5	7.9	0.0	3.6
Cycle Q Clear(g_c), s	0.7	13.8	2.2	13.7	1.9	0.3	1.3	0.0	24.5	7.9	0.0	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.86	1.00		0.10
Lane Grp Cap(c), veh/h	21	536	235	604	912	769	36	0	396	148	0	579
V/C Ratio(X)	0.48	0.81	0.16	0.63	0.68	0.29	0.55	0.00	0.87	0.82	0.00	0.14
Avail Cap(c_a), veh/h	76	672	295	604	912	769	85	0	434	180	0	588
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.0	47.5	33.0	14.2	0.5	0.2	56.3	0.0	41.7	52.3	0.0	28.2
Incr Delay (d2), s/veh	15.8	12.3	1.5	1.8	3.6	0.9	12.5	0.0	16.7	21.9	0.0	0.1
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	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.8	1.0	4.0	1.2	0.3	0.7	0.0	11.2	4.3	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.8	59.8	34.5	16.1	4.1	1.1	68.8	0.0	58.4	74.2	0.0	28.3
LnGrp LOS	E	E	C	B	A	A	E	A	E	E	A	C
Approach Vol, veh/h		481			1217			366			201	
Approach Delay, s/veh		58.1			7.3			58.9			56.2	
Approach LOS		E			A			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	33.8	44.3	22.9	6.6	42.2	5.6	61.6
Change Period (Y+Rc), s	5.3	* 4.6	4.6	* 5.3	* 4.2	5.3	* 4.2	4.6
Max Green Setting (Gmax), s	11.8	* 32	31.8	* 22	* 5.6	37.5	* 5	49.6
Max Q Clear Time (g_c+I1), s	9.9	26.5	15.7	15.8	3.3	5.6	2.7	3.9
Green Ext Time (p_c), s	0.0	1.0	1.0	1.4	0.0	0.3	0.0	5.5

Intersection Summary	
HCM 6th Ctrl Delay	30.8
HCM 6th LOS	C

Notes

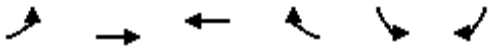
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	598	278	242	1185	71	227
Future Volume (veh/h)	598	278	242	1185	71	227
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	623	290	252	1234	74	236
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	657	555	830	2852	109	755
Arrive On Green	0.75	0.75	0.59	1.00	0.07	0.07
Sat Flow, veh/h	1752	1481	1668	3416	1668	1485
Grp Volume(v), veh/h	623	290	252	1234	74	236
Grp Sat Flow(s),veh/h/ln	1752	1481	1668	1664	1668	1485
Q Serve(g_s), s	35.7	9.3	1.1	0.0	5.0	0.0
Cycle Q Clear(g_c), s	35.7	9.3	1.1	0.0	5.0	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	657	555	830	2852	109	755
V/C Ratio(X)	0.95	0.52	0.30	0.43	0.68	0.31
Avail Cap(c_a), veh/h	1050	887	830	2852	194	830
HCM Platoon Ratio	2.00	2.00	1.33	1.33	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.72	0.72	1.00	1.00
Uniform Delay (d), s/veh	13.5	10.2	13.0	0.0	53.0	16.7
Incr Delay (d2), s/veh	23.0	3.2	0.1	0.3	7.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	2.6	2.8	0.1	2.3	3.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.5	13.4	13.1	0.3	60.1	16.9
LnGrp LOS	D	B	B	A	E	B
Approach Vol, veh/h	913			1486	310	
Approach Delay, s/veh	29.2			2.5	27.2	
Approach LOS	C			A	C	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	55.9	48.0				103.9	12.1
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	19.5	69.5				93.5	13.5
Max Q Clear Time (g_c+I1), s	3.1	37.7				2.0	7.0
Green Ext Time (p_c), s	0.6	5.8				13.1	0.6

Intersection Summary			
HCM 6th Ctrl Delay		14.3	
HCM 6th LOS		B	



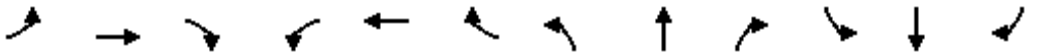
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	766	1090	324	151	368
Future Volume (veh/h)	55	766	1090	324	151	368
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	59	824	1172	0	162	396
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	343	1306	2231		295	317
Arrive On Green	0.04	0.75	0.67	0.00	0.18	0.18
Sat Flow, veh/h	1668	1752	3416	1485	1668	1485
Grp Volume(v), veh/h	59	824	1172	0	162	396
Grp Sat Flow(s),veh/h/ln	1668	1752	1664	1485	1668	1485
Q Serve(g_s), s	1.2	26.2	20.8	0.0	10.3	20.5
Cycle Q Clear(g_c), s	1.2	26.2	20.8	0.0	10.3	20.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	343	1306	2231		295	317
V/C Ratio(X)	0.17	0.63	0.53		0.55	1.25
Avail Cap(c_a), veh/h	663	1306	2231		295	317
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	7.2	7.1	9.7	0.0	43.5	45.6
Incr Delay (d2), s/veh	0.2	2.0	0.9	0.0	2.2	136.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	8.6	7.1	0.0	4.5	30.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.4	9.1	10.6	0.0	45.7	181.6
LnGrp LOS	A	A	B		D	F
Approach Vol, veh/h		883	1172	A	558	
Approach Delay, s/veh		9.0	10.6		142.2	
Approach LOS		A	B		F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		91.0		25.0	8.8	82.2
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		86.5		20.5	26.5	55.5
Max Q Clear Time (g_c+I1), s		28.2		22.5	3.2	22.8
Green Ext Time (p_c), s		7.5		0.0	0.1	10.4

Intersection Summary	
HCM 6th Ctrl Delay	38.2
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	938	42	323	1314	0	45	0	308	147	94	153
Future Volume (veh/h)	0	938	42	323	1314	0	45	0	308	147	94	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	957	43	330	1341	0	46	0	314	150	96	156
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	3	3	3	3	0	3	0	3	3	3	3
Cap, veh/h	0	1078	481	638	2500	0	59	0	0	717	219	195
Arrive On Green	0.00	0.31	0.31	0.72	1.00	0.00	0.03	0.00	0.00	0.21	0.12	0.12
Sat Flow, veh/h	0	3618	1572	1767	3618	0	1767	46		3428	1763	1572
Grp Volume(v), veh/h	0	957	43	330	1341	0	46	87.0		150	96	156
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1763	0	1767	F		1714	1763	1572
Q Serve(g_s), s	0.0	30.0	2.3	9.6	0.0	0.0	3.0			4.2	5.9	11.2
Cycle Q Clear(g_c), s	0.0	30.0	2.3	9.6	0.0	0.0	3.0			4.2	5.9	11.2
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	1078	481	638	2500	0	59			717	219	195
V/C Ratio(X)	0.00	0.89	0.09	0.52	0.54	0.00	0.78			0.21	0.44	0.80
Avail Cap(c_a), veh/h	0	1182	527	638	2500	0	76			1360	532	474
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.43	0.43	0.00	1.00			1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	38.4	28.7	11.6	0.0	0.0	55.6			37.9	47.1	49.4
Incr Delay (d2), s/veh	0.0	10.9	0.4	0.3	0.4	0.0	31.4			0.1	1.4	7.4
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
%ile BackOfQ(50%),veh/ln	0.0	14.1	0.9	2.8	0.1	0.0	1.8			1.7	2.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	49.2	29.1	12.0	0.4	0.0	87.0			38.1	48.5	56.8
LnGrp LOS	A	D	C	B	A	A	F			D	D	E
Approach Vol, veh/h		1000			1671						402	
Approach Delay, s/veh		48.4			2.6						47.8	
Approach LOS		D			A						D	

Timer - Assigned Phs	1		3	4	5	6		8
Phs Duration (G+Y+Rc), s	28.5		47.2	40.4	8.1	20.4		87.5
Change Period (Y+Rc), s	* 4.2		5.3	4.9	4.2	* 6		* 5.3
Max Green Setting (Gmax), s	* 46		16.7	38.9	5.0	* 35		* 61
Max Q Clear Time (g_c+I1), s	6.2		11.6	32.0	5.0	13.2		2.0
Green Ext Time (p_c), s	0.5		0.5	3.5	0.0	1.2		13.8

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	6	136	847	0	0	981	406	517	6	555	57	0
Future Volume (vph)	6	136	847	0	0	981	406	517	6	555	57	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5	
Lane Util. Factor		1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97	
Frpb, ped/bikes		1.00	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	
Frt		1.00	1.00			1.00	0.85	1.00	0.91	0.85	1.00	
Flt Protected		0.95	1.00			1.00	1.00	0.95	0.98	1.00	0.95	
Satd. Flow (prot)		1752	3505			3505	1548	1665	1502	1490	3400	
Flt Permitted		0.95	1.00			1.00	1.00	0.95	0.98	1.00	0.95	
Satd. Flow (perm)		1752	3505			3505	1548	1665	1502	1490	3400	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	140	873	0	0	1011	419	533	6	572	59	0
RTOR Reduction (vph)	0	0	0	0	0	0	166	0	43	187	0	0
Lane Group Flow (vph)	0	146	873	0	0	1011	253	384	329	168	59	0
Confl. Peds. (#/hr)							1					
Turn Type	Prot	Prot	NA			NA	Perm	Split	NA	Perm	Prot	
Protected Phases	7	7	4			8		2	2		1	
Permitted Phases							8			2		
Actuated Green, G (s)		11.0	56.0			40.8	40.8	28.0	28.0	28.0	4.0	
Effective Green, g (s)		11.0	56.0			40.8	40.8	28.0	28.0	28.0	4.0	
Actuated g/C Ratio		0.09	0.48			0.35	0.35	0.24	0.24	0.24	0.03	
Clearance Time (s)		4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5	
Vehicle Extension (s)		3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		166	1692			1232	544	401	362	359	117	
v/s Ratio Prot		c0.08	0.25			c0.29		c0.23	0.22		c0.02	
v/s Ratio Perm							0.16			0.11		
v/c Ratio		0.88	0.52			0.82	0.47	0.96	0.91	0.47	0.50	
Uniform Delay, d1		51.8	20.7			34.3	29.1	43.4	42.8	37.6	55.0	
Progression Factor		0.78	0.43			1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		33.6	1.0			6.2	2.8	33.7	25.5	1.0	3.4	
Delay (s)		73.8	10.0			40.5	32.0	77.1	68.3	38.6	58.4	
Level of Service		E	A			D	C	E	E	D	E	
Approach Delay (s)			19.1			38.0			61.9			55.6
Approach LOS			B			D			E			E

Intersection Summary			
HCM 2000 Control Delay	41.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	24.1
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	246
Future Volume (vph)	246
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	254
RTOR Reduction (vph)	204
Lane Group Flow (vph)	50
Confl. Peds. (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	8.1
Effective Green, g (s)	8.1
Actuated g/C Ratio	0.07
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	109
v/s Ratio Prot	
v/s Ratio Perm	c0.03
v/c Ratio	0.46
Uniform Delay, d1	51.9
Progression Factor	1.00
Incremental Delay, d2	3.1
Delay (s)	54.9
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary

Intersection: 1: Herndon Avenue & SR 99 NB Off-Ramp

Movement	NW	NW	NW	NE	SW	SW
Directions Served	L	R	R	T	T	T
Maximum Queue (ft)	64	129	107	406	271	304
Average Queue (ft)	21	74	54	177	125	149
95th Queue (ft)	54	120	93	314	230	247
Link Distance (ft)		772	772	566	1583	1583
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	290					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Grantland Avenue & Parkway Drive/SR 99 SB On-Ramp

Movement	EB	EB	EB	NB	NB
Directions Served	T	T	R	L	R
Maximum Queue (ft)	522	578	350	394	509
Average Queue (ft)	207	62	23	211	61
95th Queue (ft)	443	326	167	361	260
Link Distance (ft)	604	604			1688
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			295	295	
Storage Blk Time (%)				3	
Queuing Penalty (veh)				4	

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	30	244	227	150	235	485	53	46	276	180	247
Average Queue (ft)	6	160	140	44	167	175	28	14	131	116	54
95th Queue (ft)	25	225	219	131	251	352	50	38	229	189	155
Link Distance (ft)		1319	1319			477	477		1387		1182
Upstream Blk Time (%)						0					
Queuing Penalty (veh)						1					
Storage Bay Dist (ft)	200			100	160			100		120	
Storage Blk Time (%)		2	19		23	5			13	11	
Queuing Penalty (veh)		0	5		79	10			4	9	

Intersection: 4: SR 99 SB Ramps & Shaw Avenue

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	R	L	T	T	L	R
Maximum Queue (ft)	431	325	242	332	31	252	145
Average Queue (ft)	139	75	125	73	1	52	88
95th Queue (ft)	322	166	218	232	10	159	149
Link Distance (ft)	477	477		384	384	488	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			125				25
Storage Blk Time (%)			11	1		24	47
Queuing Penalty (veh)			34	2		53	18

Intersection: 5: Shaw Avenue & SR 99 NB Ramps

Movement	EB	EB	WB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	128	166	204	130	93	193	160
Average Queue (ft)	49	67	120	38	18	51	67
95th Queue (ft)	87	149	192	92	66	113	121
Link Distance (ft)		384	260	260	260	654	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	125						40
Storage Blk Time (%)	0	1				14	18
Queuing Penalty (veh)	1	1				30	11

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	R	R	L	L	T
Maximum Queue (ft)	536	519	250	186	172	214	137	237	224	99	130	72
Average Queue (ft)	280	258	17	67	45	54	34	117	92	33	68	32
95th Queue (ft)	457	421	92	132	120	139	103	176	162	82	118	65
Link Distance (ft)	1212	1212			1024	1024	247					656
Upstream Blk Time (%)								0				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)			150	550				150	150	380	380	
Storage Blk Time (%)		23					0	2	0			
Queuing Penalty (veh)		8					0	1	0			

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	SB
Directions Served	TR
Maximum Queue (ft)	96
Average Queue (ft)	35
95th Queue (ft)	68
Link Distance (ft)	656
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	T	T	T	R	L	LTR	R	UL	L	R
Maximum Queue (ft)	164	274	284	233	211	200	193	264	189	24	86	70
Average Queue (ft)	78	130	142	149	119	87	109	181	132	2	34	33
95th Queue (ft)	148	231	234	220	208	166	187	240	184	12	67	62
Link Distance (ft)		1024	1024	1607	1607			535	535		544	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300					150	220			200		100
Storage Blk Time (%)					3	1		2			0	
Queuing Penalty (veh)					16	3		2			0	

Zone Summary

Zone wide Queuing Penalty: 293

Intersection: 1: Herndon Avenue & SR 99 NB Off-Ramp

Movement	NW	NW	NW	NE	SW	SW
Directions Served	L	R	R	T	T	T
Maximum Queue (ft)	87	215	177	313	309	438
Average Queue (ft)	37	81	75	113	113	220
95th Queue (ft)	73	140	131	216	211	360
Link Distance (ft)		772	772	566	1583	1583
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	290					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Grantland Avenue & Parkway Drive/SR 99 SB On-Ramp

Movement	EB	NB	NB
Directions Served	T	L	R
Maximum Queue (ft)	196	255	69
Average Queue (ft)	67	155	21
95th Queue (ft)	148	237	48
Link Distance (ft)	604		1688
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		295	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	51	264	226	149	234	490	502	111	338	179	202
Average Queue (ft)	9	161	106	16	207	337	82	14	133	74	39
95th Queue (ft)	32	252	199	63	284	551	293	55	244	133	108
Link Distance (ft)		1318	1318			477	477		1389		1182
Upstream Blk Time (%)						5	0				
Queuing Penalty (veh)						30	2				
Storage Bay Dist (ft)	200			100	160			100		120	
Storage Blk Time (%)		5	11		24	17		0	17	2	0
Queuing Penalty (veh)		1	4		145	64		1	3	2	1

Intersection: 4: SR 99 SB Ramps & Shaw Avenue

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	R	L	T	T	L	R
Maximum Queue (ft)	458	77	244	393	342	304	145
Average Queue (ft)	145	40	139	168	56	95	89
95th Queue (ft)	337	77	247	360	185	216	153
Link Distance (ft)	477	477		384	384	488	
Upstream Blk Time (%)	0			0			
Queuing Penalty (veh)	0			3			
Storage Bay Dist (ft)			125				25
Storage Blk Time (%)			10	11		54	39
Queuing Penalty (veh)			62	27		123	28

Intersection: 5: Shaw Avenue & SR 99 NB Ramps

Movement	EB	EB	WB	WB	WB	B35	B35	SB	SB
Directions Served	L	T	T	T	R	T	T	L	R
Maximum Queue (ft)	88	377	347	325	74	460	382	706	160
Average Queue (ft)	40	118	252	179	17	73	47	333	151
95th Queue (ft)	79	285	383	325	60	288	227	664	182
Link Distance (ft)		384	260	260	260	1251	1251	654	
Upstream Blk Time (%)		0	15	2				5	
Queuing Penalty (veh)		0	0	0				0	
Storage Bay Dist (ft)	125								40
Storage Blk Time (%)		4						59	46
Queuing Penalty (veh)		2						218	70

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	R	R	L	L	T
Maximum Queue (ft)	372	358	54	643	226	272	238	222	130	121	137	220
Average Queue (ft)	235	201	15	296	107	121	58	93	51	37	79	69
95th Queue (ft)	337	305	44	508	205	220	138	156	117	102	135	145
Link Distance (ft)	1212	1212			1024	1024	247					656
Upstream Blk Time (%)							0					
Queuing Penalty (veh)							0					
Storage Bay Dist (ft)			150	550				150	150	380	380	
Storage Blk Time (%)		15		2			1	2				
Queuing Penalty (veh)		6		16			4	1				

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	SB
Directions Served	TR
Maximum Queue (ft)	202
Average Queue (ft)	81
95th Queue (ft)	153
Link Distance (ft)	656
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	T	T	T	R	L	LTR	R	L	L	R
Maximum Queue (ft)	184	229	254	660	666	200	339	342	282	111	305	220
Average Queue (ft)	109	90	105	362	357	166	194	234	158	16	77	118
95th Queue (ft)	182	168	197	568	568	264	284	319	252	70	197	214
Link Distance (ft)		1024	1024	1584	1584			535	535		544	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300					150	220			200		100
Storage Blk Time (%)					29	1	2	13			4	24
Queuing Penalty (veh)					118	3	13	35			10	14

Zone Summary

Zone wide Queuing Penalty: 1004

Appendix H: Existing plus Project (Buildout) Traffic Conditions



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	60	460	871	0	0	1111
Future Volume (veh/h)	60	460	871	0	0	1111
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	0	1856
Adj Flow Rate, veh/h	67	517	979	0	0	1248
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	0	0	3
Cap, veh/h	459	719	1075	0	0	2043
Arrive On Green	0.26	0.26	0.58	0.00	0.00	0.58
Sat Flow, veh/h	1767	2768	1856	0	0	3711
Grp Volume(v), veh/h	67	517	979	0	0	1248
Grp Sat Flow(s),veh/h/ln	1767	1384	1856	0	0	1763
Q Serve(g_s), s	1.9	11.2	31.0	0.0	0.0	15.2
Cycle Q Clear(g_c), s	1.9	11.2	31.0	0.0	0.0	15.2
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	459	719	1075	0	0	2043
V/C Ratio(X)	0.15	0.72	0.91	0.00	0.00	0.61
Avail Cap(c_a), veh/h	459	719	1220	0	0	2318
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.77	0.00	0.00	1.00
Uniform Delay (d), s/veh	18.8	22.2	12.3	0.0	0.0	9.0
Incr Delay (d2), s/veh	0.7	6.1	7.6	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.6	11.8	0.0	0.0	4.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.5	28.3	19.9	0.0	0.0	9.4
LnGrp LOS	B	C	B	A	A	A
Approach Vol, veh/h	584		979			1248
Approach Delay, s/veh	27.3		19.9			9.4
Approach LOS	C		B			A

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	23.1	42.9	42.9
Change Period (Y+Rc), s	6.0	4.6	4.6
Max Green Setting (Gmax), s	12.0	43.4	43.4
Max Q Clear Time (g_c+I1), s	13.2	33.0	17.2
Green Ext Time (p_c), s	0.0	5.3	10.4

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	696	401	0	0	591	135
Future Volume (veh/h)	696	401	0	0	591	135
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)		1.00			1.00	1.00
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No				No	
Adj Sat Flow, veh/h/ln	1856	1856			1856	1856
Adj Flow Rate, veh/h	829	0			704	161
Peak Hour Factor	0.84	0.84			0.84	0.84
Percent Heavy Veh, %	3	3			3	3
Cap, veh/h	3301				0	0
Arrive On Green	0.94	0.00			0.00	0.00
Sat Flow, veh/h	3618	1572			0	
Grp Volume(v), veh/h	829	0			0.0	
Grp Sat Flow(s),veh/h/ln	1763	1572				
Q Serve(g_s), s	1.3	0.0				
Cycle Q Clear(g_c), s	1.3	0.0				
Prop In Lane		1.00				
Lane Grp Cap(c), veh/h	3301					
V/C Ratio(X)	0.25					
Avail Cap(c_a), veh/h	3301					
HCM Platoon Ratio	1.00	1.00				
Upstream Filter(I)	0.85	0.00				
Uniform Delay (d), s/veh	0.2	0.0				
Incr Delay (d2), s/veh	0.2	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.1	0.0				
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.3	0.0				
LnGrp LOS	A					
Approach Vol, veh/h	829	A				
Approach Delay, s/veh	0.3					
Approach LOS	A					

Timer - Assigned Phs	4
Phs Duration (G+Y+Rc), s	66.0
Change Period (Y+Rc), s	* 4.2
Max Green Setting (Gmax), s	* 22
Max Q Clear Time (g_c+I1), s	3.3
Green Ext Time (p_c), s	4.8

Intersection Summary	
HCM 6th Ctrl Delay	0.3
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	636	28	209	371	70	32	33	410	224	73	10
Future Volume (veh/h)	5	636	28	209	371	70	32	33	410	224	73	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
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	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	1856
Adj Flow Rate, veh/h	5	656	29	215	382	72	33	34	423	231	75	10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	12	750	334	230	647	547	636	37	463	240	133	18
Arrive On Green	0.01	0.21	0.21	0.13	0.35	0.35	0.36	0.32	0.32	0.14	0.08	0.08
Sat Flow, veh/h	1767	3526	1569	1767	1856	1570	1767	118	1471	1767	1599	213
Grp Volume(v), veh/h	5	656	29	215	382	72	33	0	457	231	0	85
Grp Sat Flow(s),veh/h/ln	1767	1763	1569	1767	1856	1570	1767	0	1589	1767	0	1813
Q Serve(g_s), s	0.3	16.3	1.3	10.9	15.3	1.8	1.1	0.0	25.1	11.8	0.0	4.1
Cycle Q Clear(g_c), s	0.3	16.3	1.3	10.9	15.3	1.8	1.1	0.0	25.1	11.8	0.0	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.93	1.00		0.12
Lane Grp Cap(c), veh/h	12	750	334	230	647	547	636	0	501	240	0	151
V/C Ratio(X)	0.43	0.87	0.09	0.93	0.59	0.13	0.05	0.00	0.91	0.96	0.00	0.56
Avail Cap(c_a), veh/h	97	801	357	230	647	547	636	0	561	240	0	750
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	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.9	34.5	28.6	39.0	24.2	8.3	18.9	0.0	29.8	38.9	0.0	40.0
Incr Delay (d2), s/veh	23.6	10.2	0.1	41.5	1.4	0.1	0.0	0.0	18.2	47.7	0.0	3.3
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	0.0
%ile BackOfQ(50%),veh/ln	0.2	7.6	0.5	7.3	6.7	1.0	0.4	0.0	11.6	8.0	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.5	44.7	28.7	80.6	25.7	8.4	19.0	0.0	48.1	86.6	0.0	43.2
LnGrp LOS	E	D	C	F	C	A	B	A	D	F	A	D
Approach Vol, veh/h		690			669			490			316	
Approach Delay, s/veh		44.2			41.4			46.1			75.0	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	33.2	16.4	24.6	36.8	12.8	4.8	36.2
Change Period (Y+Rc), s	4.2	* 4.6	4.6	* 5.3	4.2	* 5.3	* 4.2	4.6
Max Green Setting (Gmax), s	12.3	* 32	11.8	* 21	6.1	* 38	* 5	28.1
Max Q Clear Time (g_c+I1), s	13.8	27.1	12.9	18.3	3.1	6.1	2.3	17.3
Green Ext Time (p_c), s	0.0	1.3	0.0	0.9	0.0	0.4	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	48.3
HCM 6th LOS	D

Notes

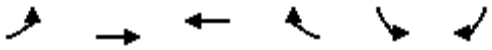
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	734	521	278	638	38	222
Future Volume (veh/h)	734	521	278	638	38	222
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	765	543	290	665	40	231
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	883	749	505	2624	126	432
Arrive On Green	0.50	0.50	0.43	1.00	0.08	0.08
Sat Flow, veh/h	1752	1485	1668	3416	1668	1485
Grp Volume(v), veh/h	765	543	290	665	40	231
Grp Sat Flow(s),veh/h/ln	1752	1485	1668	1664	1668	1485
Q Serve(g_s), s	25.4	18.9	1.2	0.0	1.5	0.0
Cycle Q Clear(g_c), s	25.4	18.9	1.2	0.0	1.5	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	883	749	505	2624	126	432
V/C Ratio(X)	0.87	0.73	0.57	0.25	0.32	0.53
Avail Cap(c_a), veh/h	1048	888	505	2624	126	433
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	0.93	0.93	1.00	1.00
Uniform Delay (d), s/veh	14.4	12.8	14.4	0.0	28.9	19.6
Incr Delay (d2), s/veh	6.6	3.5	1.5	0.2	1.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	5.8	2.6	0.1	0.6	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.0	16.2	15.9	0.2	30.4	20.9
LnGrp LOS	C	B	B	A	C	C
Approach Vol, veh/h	1308			955	271	
Approach Delay, s/veh	19.0			5.0	22.3	
Approach LOS	B			A	C	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	18.7	37.8				56.5	9.5
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	8.0	39.5				52.0	5.0
Max Q Clear Time (g_c+I1), s	3.2	27.4				2.0	3.5
Green Ext Time (p_c), s	0.4	5.9				5.2	0.1

Intersection Summary			
HCM 6th Ctrl Delay		14.1	
HCM 6th LOS		B	



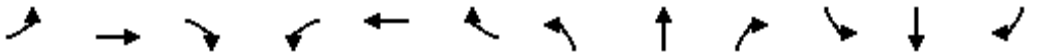
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	105	851	694	206	64	221
Future Volume (veh/h)	105	851	694	206	64	221
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	109	886	723	0	67	230
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	571	1322	2067		182	259
Arrive On Green	0.13	1.00	0.62	0.00	0.11	0.11
Sat Flow, veh/h	1668	1752	3416	1485	1668	1485
Grp Volume(v), veh/h	109	886	723	0	67	230
Grp Sat Flow(s),veh/h/ln	1668	1752	1664	1485	1668	1485
Q Serve(g_s), s	1.3	0.0	6.9	0.0	2.5	7.2
Cycle Q Clear(g_c), s	1.3	0.0	6.9	0.0	2.5	7.2
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	571	1322	2067		182	259
V/C Ratio(X)	0.19	0.67	0.35		0.37	0.89
Avail Cap(c_a), veh/h	727	1322	2067		182	259
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	3.3	0.0	6.1	0.0	27.3	26.6
Incr Delay (d2), s/veh	0.1	2.0	0.5	0.0	1.2	28.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.8	1.9	0.0	1.0	9.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.4	2.0	6.5	0.0	28.5	55.4
LnGrp LOS	A	A	A		C	E
Approach Vol, veh/h		995	723	A	297	
Approach Delay, s/veh		2.2	6.5		49.3	
Approach LOS		A	A		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		54.3		11.7	8.8	45.5
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		49.8		7.2	10.5	34.8
Max Q Clear Time (g_c+I1), s		2.0		9.2	3.3	8.9
Green Ext Time (p_c), s		8.5		0.0	0.1	5.2

Intersection Summary	
HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



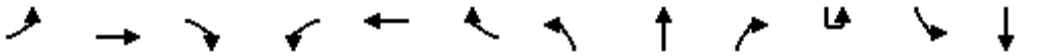
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1452	34	110	657	0	22	0	407	145	47	101
Future Volume (veh/h)	0	1452	34	110	657	0	22	0	407	145	47	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1545	36	117	699	0	23	0	433	154	50	107
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	0.94
Percent Heavy Veh, %	0	3	3	3	3	0	3	0	3	3	3	3
Cap, veh/h	0	2263	1009	123	2670	0	40	0	0	563	159	141
Arrive On Green	0.00	0.64	0.64	0.14	1.00	0.00	0.02	0.00	0.00	0.16	0.09	0.09
Sat Flow, veh/h	0	3618	1572	1767	3618	0	1767	23		3428	1763	1572
Grp Volume(v), veh/h	0	1545	36	117	699	0	23	68.6		154	50	107
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1763	0	1767	E		1714	1763	1572
Q Serve(g_s), s	0.0	32.4	0.7	7.6	0.0	0.0	1.5			4.6	3.1	7.7
Cycle Q Clear(g_c), s	0.0	32.4	0.7	7.6	0.0	0.0	1.5			4.6	3.1	7.7
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	2263	1009	123	2670	0	40			563	159	141
V/C Ratio(X)	0.00	0.68	0.04	0.95	0.26	0.00	0.58			0.27	0.32	0.76
Avail Cap(c_a), veh/h	0	2263	1009	123	2670	0	76			1360	532	474
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.84	0.84	0.00	1.00			1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	13.2	3.9	49.7	0.0	0.0	56.1			42.4	49.4	51.5
Incr Delay (d2), s/veh	0.0	1.7	0.1	58.6	0.2	0.0	12.5			0.3	1.1	8.0
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
%ile BackOfQ(50%),veh/ln	0.0	11.8	0.3	5.1	0.1	0.0	0.8			1.9	1.4	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	14.9	4.0	108.3	0.2	0.0	68.6			42.7	50.6	59.5
LnGrp LOS	A	B	A	F	A	A	E			D	D	E
Approach Vol, veh/h		1581			816						311	
Approach Delay, s/veh		14.7			15.7						49.7	
Approach LOS		B			B						D	

Timer - Assigned Phs	1		3	4	5	6		8
Phs Duration (G+Y+Rc), s	23.3		13.4	79.3	6.8	16.4		92.7
Change Period (Y+Rc), s	* 4.2		5.3	4.9	4.2	* 6		4.9
Max Green Setting (Gmax), s	* 46		8.1	47.5	5.0	* 35		60.9
Max Q Clear Time (g_c+I1), s	6.6		9.6	34.4	3.5	9.7		2.0
Green Ext Time (p_c), s	0.5		0.0	8.6	0.0	0.7		5.2

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	140	1125	0	0	532	481	266	8	497	1	36	0
Future Volume (vph)	140	1125	0	0	532	481	266	8	497	1	36	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95		0.97	
Frt	1.00	1.00			1.00	0.85	1.00	0.87	0.85		1.00	
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1752	3505			3505	1568	1665	1452	1490		3400	
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1752	3505			3505	1568	1665	1452	1490		3400	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	144	1160	0	0	548	496	274	8	512	1	37	0
RTOR Reduction (vph)	0	0	0	0	0	303	0	188	188	0	0	0
Lane Group Flow (vph)	144	1160	0	0	548	193	247	88	83	0	38	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm	Prot	Prot	
Protected Phases	7	4			8		2	2		1	1	
Permitted Phases						8			2			
Actuated Green, G (s)	14.2	63.6			45.2	45.2	22.0	22.0	22.0		3.8	
Effective Green, g (s)	14.2	63.6			45.2	45.2	22.0	22.0	22.0		3.8	
Actuated g/C Ratio	0.12	0.55			0.39	0.39	0.19	0.19	0.19		0.03	
Clearance Time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	214	1921			1365	610	315	275	282		111	
v/s Ratio Prot	0.08	c0.33			0.16		c0.15	0.06			c0.01	
v/s Ratio Perm						0.12			0.06			
v/c Ratio	0.67	0.60			0.40	0.32	0.78	0.32	0.29		0.34	
Uniform Delay, d1	48.7	17.7			25.6	24.6	44.7	40.5	40.3		54.9	
Progression Factor	0.74	0.48			1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	6.1	1.1			0.9	1.4	12.0	0.7	0.6		1.8	
Delay (s)	42.0	9.6			26.5	26.0	56.8	41.2	40.9		56.7	
Level of Service	D	A			C	C	E	D	D		E	
Approach Delay (s)		13.2			26.3			46.0				53.2
Approach LOS		B			C			D				D

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	24.1
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	139
Future Volume (vph)	139
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	143
RTOR Reduction (vph)	135
Lane Group Flow (vph)	8
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	6.7
Effective Green, g (s)	6.7
Actuated g/C Ratio	0.06
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	90
v/s Ratio Prot	
v/s Ratio Perm	c0.01
v/c Ratio	0.09
Uniform Delay, d1	51.8
Progression Factor	1.00
Incremental Delay, d2	0.4
Delay (s)	52.2
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	109	723	600	0	0	1292
Future Volume (veh/h)	109	723	600	0	0	1292
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	0	1856
Adj Flow Rate, veh/h	117	777	645	0	0	1389
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	0	0	3
Cap, veh/h	618	968	867	0	0	1648
Arrive On Green	0.35	0.35	0.47	0.00	0.00	0.47
Sat Flow, veh/h	1767	2768	1856	0	0	3711
Grp Volume(v), veh/h	117	777	645	0	0	1389
Grp Sat Flow(s),veh/h/ln	1767	1384	1856	0	0	1763
Q Serve(g_s), s	2.7	14.7	16.5	0.0	0.0	20.1
Cycle Q Clear(g_c), s	2.7	14.7	16.5	0.0	0.0	20.1
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	618	968	867	0	0	1648
V/C Ratio(X)	0.19	0.80	0.74	0.00	0.00	0.84
Avail Cap(c_a), veh/h	618	968	941	0	0	1787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.93	0.00	0.00	1.00
Uniform Delay (d), s/veh	13.1	17.0	12.6	0.0	0.0	13.6
Incr Delay (d2), s/veh	0.7	7.0	2.8	0.0	0.0	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	4.4	6.1	0.0	0.0	7.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.8	24.1	15.4	0.0	0.0	17.2
LnGrp LOS	B	C	B	A	A	B
Approach Vol, veh/h	894		645			1389
Approach Delay, s/veh	22.7		15.4			17.2
Approach LOS	C		B			B

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	26.3	31.7	31.7
Change Period (Y+Rc), s	6.0	4.6	4.6
Max Green Setting (Gmax), s	18.0	29.4	29.4
Max Q Clear Time (g_c+I1), s	16.7	18.5	22.1
Green Ext Time (p_c), s	0.6	3.2	5.0

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	467	676	0	0	463	50
Future Volume (veh/h)	467	676	0	0	463	50
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)		1.00			1.00	1.00
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No				No	
Adj Sat Flow, veh/h/ln	1856	1856			1856	1856
Adj Flow Rate, veh/h	513	0			509	55
Peak Hour Factor	0.91	0.91			0.91	0.91
Percent Heavy Veh, %	3	3			3	3
Cap, veh/h	3270				0	0
Arrive On Green	0.93	0.00			0.00	0.00
Sat Flow, veh/h	3618	1572			0	
Grp Volume(v), veh/h	513	0			0.0	
Grp Sat Flow(s),veh/h/ln	1763	1572				
Q Serve(g_s), s	0.7	0.0				
Cycle Q Clear(g_c), s	0.7	0.0				
Prop In Lane		1.00				
Lane Grp Cap(c), veh/h	3270					
V/C Ratio(X)	0.16					
Avail Cap(c_a), veh/h	3270					
HCM Platoon Ratio	1.00	1.00				
Upstream Filter(I)	0.90	0.00				
Uniform Delay (d), s/veh	0.2	0.0				
Incr Delay (d2), s/veh	0.1	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.0	0.0				
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.3	0.0				
LnGrp LOS	A					
Approach Vol, veh/h	513	A				
Approach Delay, s/veh	0.3					
Approach LOS	A					

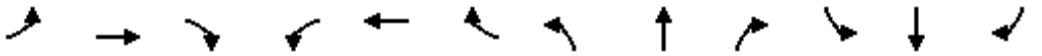
Timer - Assigned Phs	4
Phs Duration (G+Y+Rc), s	58.0
Change Period (Y+Rc), s	* 4.2
Max Green Setting (Gmax), s	* 18
Max Q Clear Time (g_c+I1), s	2.7
Green Ext Time (p_c), s	2.5

Intersection Summary	
HCM 6th Ctrl Delay	0.3
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	477	37	370	674	218	20	47	292	120	70	8
Future Volume (veh/h)	10	477	37	370	674	218	20	47	292	120	70	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.99
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	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	1856
Adj Flow Rate, veh/h	10	487	38	378	688	222	20	48	298	122	71	8
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	21	586	257	580	913	769	36	55	341	148	520	59
Arrive On Green	0.01	0.17	0.17	0.66	0.98	0.98	0.02	0.25	0.25	0.08	0.32	0.32
Sat Flow, veh/h	1767	3526	1549	1767	1856	1563	1767	218	1356	1767	1635	184
Grp Volume(v), veh/h	10	487	38	378	688	222	20	0	346	122	0	79
Grp Sat Flow(s),veh/h/ln	1767	1763	1549	1767	1856	1563	1767	0	1574	1767	0	1819
Q Serve(g_s), s	0.7	15.5	2.1	14.9	2.7	0.3	1.3	0.0	24.5	7.9	0.0	3.6
Cycle Q Clear(g_c), s	0.7	15.5	2.1	14.9	2.7	0.3	1.3	0.0	24.5	7.9	0.0	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.86	1.00		0.10
Lane Grp Cap(c), veh/h	21	586	257	580	913	769	36	0	396	148	0	579
V/C Ratio(X)	0.48	0.83	0.15	0.65	0.75	0.29	0.55	0.00	0.87	0.82	0.00	0.14
Avail Cap(c_a), veh/h	76	726	319	580	913	769	85	0	434	175	0	583
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.88	0.88	0.88	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.0	46.8	31.8	16.0	0.5	0.2	56.3	0.0	41.7	52.3	0.0	28.2
Incr Delay (d2), s/veh	15.8	13.0	1.2	2.3	5.1	0.8	12.5	0.0	16.7	23.0	0.0	0.1
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	0.0
%ile BackOfQ(50%),veh/ln	0.4	7.6	1.0	4.4	1.6	0.3	0.7	0.0	11.2	4.3	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.8	59.8	33.0	18.3	5.6	1.1	68.8	0.0	58.4	75.3	0.0	28.3
LnGrp LOS	E	E	C	B	A	A	E	A	E	E	A	C
Approach Vol, veh/h		535			1288			366			201	
Approach Delay, s/veh		58.1			8.5			58.9			56.8	
Approach LOS		E			A			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	33.8	42.7	24.6	6.6	42.2	5.6	61.6
Change Period (Y+Rc), s	5.3	* 4.6	4.6	* 5.3	* 4.2	5.3	* 4.2	4.6
Max Green Setting (Gmax), s	11.5	* 32	30.3	* 24	* 5.6	37.2	* 5	49.9
Max Q Clear Time (g_c+I1), s	9.9	26.5	16.9	17.5	3.3	5.6	2.7	4.7
Green Ext Time (p_c), s	0.0	1.0	1.0	1.6	0.0	0.3	0.0	6.4

Intersection Summary	
HCM 6th Ctrl Delay	31.4
HCM 6th LOS	C

Notes

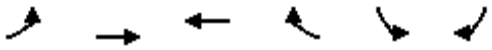
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	622	307	242	1254	71	227
Future Volume (veh/h)	622	307	242	1254	71	227
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	648	320	252	1306	74	236
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	681	575	809	2854	109	735
Arrive On Green	0.78	0.78	0.86	1.00	0.07	0.07
Sat Flow, veh/h	1752	1481	1668	3416	1668	1485
Grp Volume(v), veh/h	648	320	252	1306	74	236
Grp Sat Flow(s),veh/h/ln	1752	1481	1668	1664	1668	1485
Q Serve(g_s), s	36.8	9.8	0.0	0.0	5.0	0.0
Cycle Q Clear(g_c), s	36.8	9.8	0.0	0.0	5.0	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	681	575	809	2854	109	735
V/C Ratio(X)	0.95	0.56	0.31	0.46	0.68	0.32
Avail Cap(c_a), veh/h	1095	925	809	2854	180	798
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.67	0.67	1.00	1.00
Uniform Delay (d), s/veh	12.0	9.0	4.3	0.0	53.1	17.6
Incr Delay (d2), s/veh	22.9	3.5	0.1	0.4	7.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	2.7	1.0	0.1	2.3	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.9	12.5	4.4	0.4	60.3	17.8
LnGrp LOS	C	B	A	A	E	B
Approach Vol, veh/h	968			1558	310	
Approach Delay, s/veh	27.5			1.0	28.0	
Approach LOS	C			A	C	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	54.4	49.6				104.0	12.0
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	17.5	72.5				94.5	12.5
Max Q Clear Time (g_c+I1), s	2.0	38.8				2.0	7.0
Green Ext Time (p_c), s	0.6	6.3				14.5	0.5

Intersection Summary			
HCM 6th Ctrl Delay		13.0	
HCM 6th LOS		B	



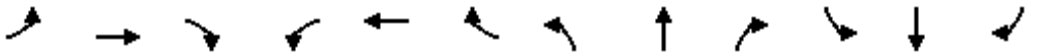
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	790	1126	324	151	401
Future Volume (veh/h)	55	790	1126	324	151	401
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	59	849	1211	0	162	431
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	337	1321	2260		280	304
Arrive On Green	0.04	0.75	0.68	0.00	0.17	0.17
Sat Flow, veh/h	1668	1752	3416	1485	1668	1485
Grp Volume(v), veh/h	59	849	1211	0	162	431
Grp Sat Flow(s),veh/h/ln	1668	1752	1664	1485	1668	1485
Q Serve(g_s), s	1.1	26.8	21.3	0.0	10.4	19.5
Cycle Q Clear(g_c), s	1.1	26.8	21.3	0.0	10.4	19.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	337	1321	2260		280	304
V/C Ratio(X)	0.17	0.64	0.54		0.58	1.42
Avail Cap(c_a), veh/h	672	1321	2260		280	304
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	7.0	6.8	9.4	0.0	44.5	46.1
Incr Delay (d2), s/veh	0.2	2.1	0.9	0.0	2.9	206.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	8.7	7.2	0.0	4.6	35.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.2	8.8	10.3	0.0	47.4	252.4
LnGrp LOS	A	A	B		D	F
Approach Vol, veh/h		908	1211	A	593	
Approach Delay, s/veh		8.7	10.3		196.4	
Approach LOS		A	B		F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		92.0		24.0	8.8	83.2
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		87.5		19.5	27.5	55.5
Max Q Clear Time (g_c+I1), s		28.8		21.5	3.1	23.3
Green Ext Time (p_c), s		8.0		0.0	0.1	10.9

Intersection Summary		
HCM 6th Ctrl Delay		50.5
HCM 6th LOS		D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	938	42	323	1315	0	45	0	308	147	94	153
Future Volume (veh/h)	0	938	42	323	1315	0	45	0	308	147	94	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	957	43	330	1342	0	46	0	314	150	96	156
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	3	3	3	3	0	3	0	3	3	3	3
Cap, veh/h	0	1078	481	638	2500	0	59	0	0	717	219	195
Arrive On Green	0.00	0.31	0.31	0.72	1.00	0.00	0.03	0.00	0.00	0.21	0.12	0.12
Sat Flow, veh/h	0	3618	1572	1767	3618	0	1767	46		3428	1763	1572
Grp Volume(v), veh/h	0	957	43	330	1342	0	46	87.0		150	96	156
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1763	0	1767	F		1714	1763	1572
Q Serve(g_s), s	0.0	30.0	2.3	9.6	0.0	0.0	3.0			4.2	5.9	11.2
Cycle Q Clear(g_c), s	0.0	30.0	2.3	9.6	0.0	0.0	3.0			4.2	5.9	11.2
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	1078	481	638	2500	0	59			717	219	195
V/C Ratio(X)	0.00	0.89	0.09	0.52	0.54	0.00	0.78			0.21	0.44	0.80
Avail Cap(c_a), veh/h	0	1182	527	638	2500	0	76			1360	532	474
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.43	0.43	0.00	1.00			1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	38.4	28.7	11.6	0.0	0.0	55.6			37.9	47.1	49.4
Incr Delay (d2), s/veh	0.0	10.9	0.4	0.3	0.4	0.0	31.4			0.1	1.4	7.4
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
%ile BackOfQ(50%),veh/ln	0.0	14.1	0.9	2.8	0.1	0.0	1.8			1.7	2.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	49.2	29.1	12.0	0.4	0.0	87.0			38.1	48.5	56.8
LnGrp LOS	A	D	C	B	A	A	F			D	D	E
Approach Vol, veh/h		1000			1672						402	
Approach Delay, s/veh		48.4			2.6						47.8	
Approach LOS		D			A						D	

Timer - Assigned Phs	1		3	4	5	6		8
Phs Duration (G+Y+Rc), s	28.5		47.2	40.4	8.1	20.4		87.5
Change Period (Y+Rc), s	* 4.2		5.3	4.9	4.2	* 6		* 5.3
Max Green Setting (Gmax), s	* 46		16.7	38.9	5.0	* 35		* 61
Max Q Clear Time (g_c+I1), s	6.2		11.6	32.0	5.0	13.2		2.0
Green Ext Time (p_c), s	0.5		0.5	3.5	0.0	1.2		13.8

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	6	136	847	0	0	982	406	517	6	555	57	0
Future Volume (vph)	6	136	847	0	0	982	406	517	6	555	57	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5	
Lane Util. Factor		1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97	
Frpb, ped/bikes		1.00	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	
Frt		1.00	1.00			1.00	0.85	1.00	0.91	0.85	1.00	
Flt Protected		0.95	1.00			1.00	1.00	0.95	0.98	1.00	0.95	
Satd. Flow (prot)		1752	3505			3505	1548	1665	1502	1490	3400	
Flt Permitted		0.95	1.00			1.00	1.00	0.95	0.98	1.00	0.95	
Satd. Flow (perm)		1752	3505			3505	1548	1665	1502	1490	3400	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	140	873	0	0	1012	419	533	6	572	59	0
RTOR Reduction (vph)	0	0	0	0	0	0	166	0	43	187	0	0
Lane Group Flow (vph)	0	146	873	0	0	1012	253	384	329	168	59	0
Confl. Peds. (#/hr)							1					
Turn Type	Prot	Prot	NA			NA	Perm	Split	NA	Perm	Prot	
Protected Phases	7	7	4			8		2	2		1	
Permitted Phases							8			2		
Actuated Green, G (s)		11.0	56.0			40.8	40.8	28.0	28.0	28.0	4.0	
Effective Green, g (s)		11.0	56.0			40.8	40.8	28.0	28.0	28.0	4.0	
Actuated g/C Ratio		0.09	0.48			0.35	0.35	0.24	0.24	0.24	0.03	
Clearance Time (s)		4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5	
Vehicle Extension (s)		3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		166	1692			1232	544	401	362	359	117	
v/s Ratio Prot		c0.08	0.25			c0.29		c0.23	0.22		c0.02	
v/s Ratio Perm							0.16			0.11		
v/c Ratio		0.88	0.52			0.82	0.47	0.96	0.91	0.47	0.50	
Uniform Delay, d1		51.8	20.7			34.3	29.1	43.4	42.8	37.6	55.0	
Progression Factor		0.78	0.43			1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		33.6	1.0			6.2	2.8	33.7	25.5	1.0	3.4	
Delay (s)		73.8	10.0			40.5	32.0	77.1	68.3	38.6	58.4	
Level of Service		E	A			D	C	E	E	D	E	
Approach Delay (s)			19.1			38.0			61.9			55.6
Approach LOS			B			D			E			E

Intersection Summary			
HCM 2000 Control Delay	41.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	24.1
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	246
Future Volume (vph)	246
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	254
RTOR Reduction (vph)	204
Lane Group Flow (vph)	50
Confl. Peds. (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	8.1
Effective Green, g (s)	8.1
Actuated g/C Ratio	0.07
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	109
v/s Ratio Prot	
v/s Ratio Perm	c0.03
v/c Ratio	0.46
Uniform Delay, d1	51.9
Progression Factor	1.00
Incremental Delay, d2	3.1
Delay (s)	54.9
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary

Intersection: 1: Herndon Avenue & SR 99 NB Off-Ramp

Movement	NW	NW	NW	NE	SW	SW
Directions Served	L	R	R	T	T	T
Maximum Queue (ft)	81	170	154	386	194	263
Average Queue (ft)	29	75	54	149	105	125
95th Queue (ft)	66	128	96	284	171	214
Link Distance (ft)		772	772	566	1583	1583
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	290					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Grantland Avenue & Parkway Drive/SR 99 SB On-Ramp

Movement	EB	EB	NB	NB
Directions Served	T	T	L	R
Maximum Queue (ft)	604	599	394	488
Average Queue (ft)	225	60	221	48
95th Queue (ft)	451	316	356	184
Link Distance (ft)	604	604		1688
Upstream Blk Time (%)	0	0		
Queuing Penalty (veh)	1	0		
Storage Bay Dist (ft)			295	
Storage Blk Time (%)		0	3	
Queuing Penalty (veh)		0	4	

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	29	370	345	150	235	384	75	199	271	180	220
Average Queue (ft)	1	184	167	32	128	163	24	27	145	120	55
95th Queue (ft)	10	309	297	120	210	304	52	86	246	189	151
Link Distance (ft)		1319	1319			477	477		1387		1182
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200			100	160			100		120	
Storage Blk Time (%)		12	19		8	7			19	13	0
Queuing Penalty (veh)		1	5		31	14			6	11	0

Intersection: 4: SR 99 SB Ramps & Shaw Avenue

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	R	L	T	T	L	R
Maximum Queue (ft)	466	354	243	295	290	102	137
Average Queue (ft)	211	109	124	75	26	37	70
95th Queue (ft)	392	235	213	188	129	79	117
Link Distance (ft)	477	477		384	384	488	
Upstream Blk Time (%)	0						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)			125				25
Storage Blk Time (%)			10	0		25	37
Queuing Penalty (veh)			32	1		55	14

Intersection: 5: Shaw Avenue & SR 99 NB Ramps

Movement	EB	EB	WB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	94	194	198	178	88	109	150
Average Queue (ft)	42	79	100	39	12	48	71
95th Queue (ft)	75	181	159	117	53	91	122
Link Distance (ft)		384	260	260	260	654	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	125						40
Storage Blk Time (%)		2				18	16
Queuing Penalty (veh)		2				39	10

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	R	R	L	L	T
Maximum Queue (ft)	530	594	250	194	130	142	231	228	218	124	160	96
Average Queue (ft)	290	272	53	72	28	33	43	125	89	51	83	42
95th Queue (ft)	468	452	197	145	86	95	135	202	178	111	140	90
Link Distance (ft)	1212	1212			1024	1024	247					656
Upstream Blk Time (%)							0	0				
Queuing Penalty (veh)							0	0				
Storage Bay Dist (ft)			150	550				150	150	380	380	
Storage Blk Time (%)		20					1	6	0			
Queuing Penalty (veh)		7					4	1	0			

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	SB
Directions Served	TR
Maximum Queue (ft)	68
Average Queue (ft)	32
95th Queue (ft)	55
Link Distance (ft)	656
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	T	T	T	R	L	LTR	R	UL	L	R
Maximum Queue (ft)	196	250	266	218	242	200	258	312	323	24	66	77
Average Queue (ft)	85	126	145	145	111	85	131	194	152	1	28	36
95th Queue (ft)	162	236	259	213	198	168	230	282	255	8	64	64
Link Distance (ft)		1024	1024	1607	1607			535	535		544	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300					150	220			200		100
Storage Blk Time (%)					3	1	0	4				
Queuing Penalty (veh)					13	4	0	6				

Zone Summary

Zone wide Queuing Penalty: 263

Intersection: 1: Herndon Avenue & SR 99 NB Off-Ramp

Movement	NW	NW	NW	NE	SW	SW
Directions Served	L	R	R	T	T	T
Maximum Queue (ft)	86	138	126	368	328	407
Average Queue (ft)	46	76	65	171	103	202
95th Queue (ft)	80	122	100	291	201	332
Link Distance (ft)		772	772	566	1583	1583
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	290					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Grantland Avenue & Parkway Drive/SR 99 SB On-Ramp

Movement	EB	EB	NB	NB
Directions Served	T	T	L	R
Maximum Queue (ft)	196	52	262	62
Average Queue (ft)	92	2	159	18
95th Queue (ft)	172	17	246	47
Link Distance (ft)	604	604		1688
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			295	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	51	354	340	150	235	542	447	198	404	140	148
Average Queue (ft)	13	180	156	29	209	340	61	31	183	76	48
95th Queue (ft)	39	291	256	88	273	544	218	110	337	138	110
Link Distance (ft)		1318	1318			477	477		1389		1182
Upstream Blk Time (%)						3					
Queuing Penalty (veh)						20					
Storage Bay Dist (ft)	200			100	160			100		120	
Storage Blk Time (%)		10	19		23	26			30	2	2
Queuing Penalty (veh)		1	7		154	97			6	2	2

Intersection: 4: SR 99 SB Ramps & Shaw Avenue

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	R	L	T	T	L	R
Maximum Queue (ft)	477	138	244	408	384	352	145
Average Queue (ft)	154	46	145	178	57	82	83
95th Queue (ft)	361	96	264	391	206	201	145
Link Distance (ft)	477	477		384	384	488	
Upstream Blk Time (%)	0			1	0		
Queuing Penalty (veh)	0			11	0		
Storage Bay Dist (ft)			125				25
Storage Blk Time (%)			13	7		47	37
Queuing Penalty (veh)			84	17		106	26

Intersection: 5: Shaw Avenue & SR 99 NB Ramps

Movement	EB	EB	WB	WB	WB	B35	B35	SB	SB
Directions Served	L	T	T	T	R	T	T	L	R
Maximum Queue (ft)	91	384	346	276	121	137	33	623	160
Average Queue (ft)	33	131	253	173	10	24	1	288	144
95th Queue (ft)	75	296	379	315	53	90	11	560	189
Link Distance (ft)		384	260	260	260	1251	1251	654	
Upstream Blk Time (%)		0	9	1					
Queuing Penalty (veh)		0	0	0					
Storage Bay Dist (ft)	125								40
Storage Blk Time (%)		5						62	53
Queuing Penalty (veh)		3						250	80

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	R	R	L	L	T
Maximum Queue (ft)	498	502	249	384	336	370	174	163	136	103	117	175
Average Queue (ft)	242	221	28	194	87	103	40	71	32	36	64	73
95th Queue (ft)	364	350	102	310	211	231	93	125	89	83	109	132
Link Distance (ft)	1212	1212			1024	1024	247					656
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	550				150	150	380	380	
Storage Blk Time (%)		15					0	0	0			
Queuing Penalty (veh)		6					1	0	0			

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	SB
Directions Served	TR
Maximum Queue (ft)	205
Average Queue (ft)	73
95th Queue (ft)	149
Link Distance (ft)	656
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	T	T	T	R	L	LTR	R	L	L	R
Maximum Queue (ft)	234	222	195	541	572	200	340	384	231	24	125	160
Average Queue (ft)	122	88	97	283	276	167	194	240	160	2	48	93
95th Queue (ft)	222	185	186	417	434	260	278	324	237	11	101	154
Link Distance (ft)		1024	1024	1584	1584			535	535		544	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300					150	220			200		100
Storage Blk Time (%)					23	2	1	17			3	10
Queuing Penalty (veh)					93	11	5	44			9	5

Zone Summary

Zone wide Queuing Penalty: 1042

Appendix I: Near Term plus Project (Buildout) Traffic Conditions



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	60	490	1082	0	0	1354
Future Volume (veh/h)	60	490	1082	0	0	1354
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	0	1856
Adj Flow Rate, veh/h	67	551	1216	0	0	1521
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	0	0	3
Cap, veh/h	391	612	1276	0	0	2424
Arrive On Green	0.22	0.22	0.69	0.00	0.00	0.69
Sat Flow, veh/h	1767	2768	1856	0	0	3711
Grp Volume(v), veh/h	67	551	1216	0	0	1521
Grp Sat Flow(s),veh/h/ln	1767	1384	1856	0	0	1763
Q Serve(g_s), s	3.6	22.5	68.9	0.0	0.0	27.5
Cycle Q Clear(g_c), s	3.6	22.5	68.9	0.0	0.0	27.5
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	391	612	1276	0	0	2424
V/C Ratio(X)	0.17	0.90	0.95	0.00	0.00	0.63
Avail Cap(c_a), veh/h	391	612	1363	0	0	2589
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.63	0.00	0.00	1.00
Uniform Delay (d), s/veh	36.6	43.9	16.4	0.0	0.0	10.0
Incr Delay (d2), s/veh	1.0	18.8	10.1	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	8.9	28.2	0.0	0.0	9.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.5	62.7	26.6	0.0	0.0	10.4
LnGrp LOS	D	E	C	A	A	B
Approach Vol, veh/h	618		1216			1521
Approach Delay, s/veh	60.0		26.6			10.4
Approach LOS	E		C			B

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	31.6	84.4	84.4
Change Period (Y+Rc), s	6.0	4.6	4.6
Max Green Setting (Gmax), s	20.2	85.2	85.2
Max Q Clear Time (g_c+I1), s	24.5	70.9	29.5
Green Ext Time (p_c), s	0.0	8.9	18.1

Intersection Summary	
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	772	566	0	0	800	136
Future Volume (veh/h)	772	566	0	0	800	136
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)		1.00			1.00	1.00
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No				No	
Adj Sat Flow, veh/h/ln	1856	1856			1856	1856
Adj Flow Rate, veh/h	919	0			952	162
Peak Hour Factor	0.84	0.84			0.84	0.84
Percent Heavy Veh, %	3	3			3	3
Cap, veh/h	3398				0	0
Arrive On Green	0.96	0.00			0.00	0.00
Sat Flow, veh/h	3618	1572			0	
Grp Volume(v), veh/h	919	0			0.0	
Grp Sat Flow(s),veh/h/ln	1763	1572				
Q Serve(g_s), s	1.5	0.0				
Cycle Q Clear(g_c), s	1.5	0.0				
Prop In Lane		1.00				
Lane Grp Cap(c), veh/h	3398					
V/C Ratio(X)	0.27					
Avail Cap(c_a), veh/h	3398					
HCM Platoon Ratio	1.00	1.00				
Upstream Filter(I)	0.79	0.00				
Uniform Delay (d), s/veh	0.1	0.0				
Incr Delay (d2), s/veh	0.2	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.1	0.0				
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.3	0.0				
LnGrp LOS	A					
Approach Vol, veh/h	919	A				
Approach Delay, s/veh	0.3					
Approach LOS	A					

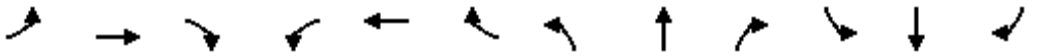
Timer - Assigned Phs	4
Phs Duration (G+Y+Rc), s	116.0
Change Period (Y+Rc), s	* 4.2
Max Green Setting (Gmax), s	* 36
Max Q Clear Time (g_c+I1), s	3.5
Green Ext Time (p_c), s	6.3

Intersection Summary	
HCM 6th Ctrl Delay	0.3
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	872	36	249	579	83	51	33	491	262	73	23
Future Volume (veh/h)	5	872	36	249	579	83	51	33	491	262	73	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	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	1856
Adj Flow Rate, veh/h	5	899	37	257	597	86	53	34	506	270	75	24
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	11	927	413	812	1346	1140	68	28	410	274	528	169
Arrive On Green	0.01	0.26	0.26	0.15	0.24	0.24	0.04	0.28	0.28	0.16	0.39	0.39
Sat Flow, veh/h	1767	3526	1570	1767	1856	1571	1767	100	1486	1767	1346	431
Grp Volume(v), veh/h	5	899	37	257	597	86	53	0	540	270	0	99
Grp Sat Flow(s),veh/h/ln	1767	1763	1570	1767	1856	1571	1767	0	1586	1767	0	1776
Q Serve(g_s), s	0.3	29.3	2.6	15.0	31.8	4.9	3.4	0.0	32.0	17.7	0.0	4.2
Cycle Q Clear(g_c), s	0.3	29.3	2.6	15.0	31.8	4.9	3.4	0.0	32.0	17.7	0.0	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.94	1.00		0.24
Lane Grp Cap(c), veh/h	11	927	413	812	1346	1140	68	0	438	274	0	697
V/C Ratio(X)	0.44	0.97	0.09	0.32	0.44	0.08	0.78	0.00	1.23	0.98	0.00	0.14
Avail Cap(c_a), veh/h	76	927	413	812	1346	1140	139	0	438	274	0	697
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.4	42.3	52.2	33.0	24.2	14.0	55.3	0.0	42.0	48.9	0.0	22.7
Incr Delay (d2), s/veh	24.7	23.1	0.4	0.2	1.0	0.1	17.0	0.0	123.8	49.9	0.0	0.1
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	0.0
%ile BackOfQ(50%),veh/ln	0.2	15.1	0.8	7.1	16.1	1.6	1.8	0.0	27.3	11.3	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.1	65.4	52.6	33.2	25.2	14.1	72.2	0.0	165.8	98.8	0.0	22.8
LnGrp LOS	F	E	D	C	C	B	E	A	F	F	A	C
Approach Vol, veh/h		941			940			593			369	
Approach Delay, s/veh		65.0			26.4			157.5			78.4	
Approach LOS		E			C			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.2	37.3	58.9	35.8	8.7	50.8	4.9	89.7
Change Period (Y+Rc), s	* 4.2	* 5.3	4.6	* 5.3	* 4.2	5.3	* 4.2	4.6
Max Green Setting (Gmax), s	* 18	* 32	17.2	* 31	* 9.1	40.2	* 5	43.4
Max Q Clear Time (g_c+I1), s	19.7	34.0	17.0	31.3	5.4	6.2	2.3	33.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.5	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	73.2
HCM 6th LOS	E

Notes

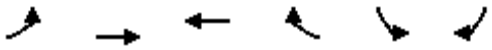
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1041	590	288	850	73	225
Future Volume (veh/h)	1041	590	288	850	73	225
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	1084	615	300	885	76	234
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	1151	975	359	2863	104	336
Arrive On Green	0.66	0.66	0.33	1.00	0.06	0.06
Sat Flow, veh/h	1752	1485	1668	3416	1668	1485
Grp Volume(v), veh/h	1084	615	300	885	76	234
Grp Sat Flow(s),veh/h/ln	1752	1485	1668	1664	1668	1485
Q Serve(g_s), s	64.6	28.1	12.7	0.0	5.2	0.0
Cycle Q Clear(g_c), s	64.6	28.1	12.7	0.0	5.2	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1151	975	359	2863	104	336
V/C Ratio(X)	0.94	0.63	0.84	0.31	0.73	0.70
Avail Cap(c_a), veh/h	1231	1043	359	2863	108	340
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.48	0.48	0.89	0.89	1.00	1.00
Uniform Delay (d), s/veh	17.9	11.6	34.7	0.0	53.4	41.2
Incr Delay (d2), s/veh	9.0	1.5	14.3	0.3	21.4	6.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.5	8.7	7.7	0.1	2.8	6.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.9	13.1	48.9	0.3	74.9	47.2
LnGrp LOS	C	B	D	A	E	D
Approach Vol, veh/h	1699			1185	310	
Approach Delay, s/veh	21.9			12.6	54.0	
Approach LOS	C			B	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	23.5	80.7				104.3	11.7
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	13.5	81.5				99.5	7.5
Max Q Clear Time (g_c+I1), s	14.7	66.6				2.0	7.2
Green Ext Time (p_c), s	0.0	9.7				7.7	0.0

Intersection Summary			
HCM 6th Ctrl Delay		21.6	
HCM 6th LOS		C	



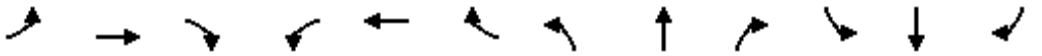
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	142	1142	885	210	77	263
Future Volume (veh/h)	142	1142	885	210	77	263
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	148	1190	922	0	80	274
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	505	1457	2498		151	198
Arrive On Green	0.09	1.00	0.75	0.00	0.09	0.09
Sat Flow, veh/h	1668	1752	3416	1485	1668	1485
Grp Volume(v), veh/h	148	1190	922	0	80	274
Grp Sat Flow(s),veh/h/ln	1668	1752	1664	1485	1668	1485
Q Serve(g_s), s	2.3	0.0	11.1	0.0	5.3	10.5
Cycle Q Clear(g_c), s	2.3	0.0	11.1	0.0	5.3	10.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	505	1457	2498		151	198
V/C Ratio(X)	0.29	0.82	0.37		0.53	1.39
Avail Cap(c_a), veh/h	697	1457	2498		151	198
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.46	0.46	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	3.1	0.0	5.0	0.0	50.4	50.3
Incr Delay (d2), s/veh	0.1	2.5	0.4	0.0	3.5	201.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.0	3.3	0.0	2.4	23.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.3	2.5	5.4	0.0	53.9	251.7
LnGrp LOS	A	A	A		D	F
Approach Vol, veh/h		1338	922	A	354	
Approach Delay, s/veh		2.5	5.4		207.0	
Approach LOS		A	A		F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		101.0		15.0	9.5	91.5
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		96.5		10.5	18.3	73.7
Max Q Clear Time (g_c+I1), s		2.0		12.5	4.3	13.1
Green Ext Time (p_c), s		18.1		0.0	0.3	8.1

Intersection Summary	
HCM 6th Ctrl Delay	31.2
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



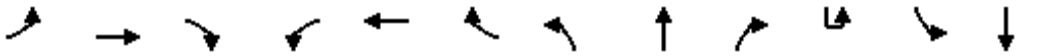
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1587	34	110	711	0	22	0	418	145	54	105
Future Volume (veh/h)	0	1587	34	110	711	0	22	0	418	145	54	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1688	36	117	756	0	23	0	445	154	57	112
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	0.94
Percent Heavy Veh, %	0	3	3	3	3	0	3	0	3	3	3	3
Cap, veh/h	0	2293	1023	102	2657	0	40	0	0	575	165	147
Arrive On Green	0.00	0.65	0.65	0.12	1.00	0.00	0.02	0.00	0.00	0.17	0.09	0.09
Sat Flow, veh/h	0	3618	1572	1767	3618	0	1767	23		3428	1763	1572
Grp Volume(v), veh/h	0	1688	36	117	756	0	23	68.6		154	57	112
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1763	0	1767	E		1714	1763	1572
Q Serve(g_s), s	0.0	37.3	0.7	6.7	0.0	0.0	1.5			4.5	3.5	8.1
Cycle Q Clear(g_c), s	0.0	37.3	0.7	6.7	0.0	0.0	1.5			4.5	3.5	8.1
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	2293	1023	102	2657	0	40			575	165	147
V/C Ratio(X)	0.00	0.74	0.04	1.15	0.28	0.00	0.58			0.27	0.35	0.76
Avail Cap(c_a), veh/h	0	2293	1023	102	2657	0	76			1360	532	474
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.82	0.82	0.00	1.00			1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	13.6	3.7	51.3	0.0	0.0	56.1			42.1	49.2	51.3
Incr Delay (d2), s/veh	0.0	2.2	0.1	125.3	0.2	0.0	12.5			0.2	1.2	7.9
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
%ile BackOfQ(50%),veh/ln	0.0	13.5	0.3	6.3	0.1	0.0	0.8			1.9	1.5	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	15.8	3.7	176.6	0.2	0.0	68.6			42.3	50.5	59.2
LnGrp LOS	A	B	A	F	A	A	E			D	D	E
Approach Vol, veh/h		1724			873						323	
Approach Delay, s/veh		15.5			23.9						49.6	
Approach LOS		B			C						D	

Timer - Assigned Phs	1		3	4	5	6		8
Phs Duration (G+Y+Rc), s	23.7		12.0	80.3	6.8	16.9		92.3
Change Period (Y+Rc), s	* 4.2		5.3	4.9	4.2	* 6		4.9
Max Green Setting (Gmax), s	* 46		6.7	48.9	5.0	* 35		60.9
Max Q Clear Time (g_c+I1), s	6.5		8.7	39.3	3.5	10.1		2.0
Green Ext Time (p_c), s	0.5		0.0	7.2	0.0	0.8		5.8

Intersection Summary	
HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	144	1220	0	0	576	483	278	8	497	1	38	0
Future Volume (vph)	144	1220	0	0	576	483	278	8	497	1	38	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95		0.97	
Frt	1.00	1.00			1.00	0.85	1.00	0.87	0.85		1.00	
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.99	1.00		0.95	
Satd. Flow (prot)	1752	3505			3505	1568	1665	1453	1490		3400	
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.99	1.00		0.95	
Satd. Flow (perm)	1752	3505			3505	1568	1665	1453	1490		3400	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	148	1258	0	0	594	498	287	8	512	1	39	0
RTOR Reduction (vph)	0	0	0	0	0	305	0	168	168	0	0	0
Lane Group Flow (vph)	148	1258	0	0	594	193	258	110	103	0	40	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm	Prot	Prot	
Protected Phases	7	4			8		2	2		1	1	
Permitted Phases						8			2			
Actuated Green, G (s)	14.2	63.4			45.0	45.0	22.3	22.3	22.3		3.8	
Effective Green, g (s)	14.2	63.4			45.0	45.0	22.3	22.3	22.3		3.8	
Actuated g/C Ratio	0.12	0.55			0.39	0.39	0.19	0.19	0.19		0.03	
Clearance Time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	214	1915			1359	608	320	279	286		111	
v/s Ratio Prot	0.08	c0.36			0.17		c0.15	0.08			c0.01	
v/s Ratio Perm						0.12			0.07			
v/c Ratio	0.69	0.66			0.44	0.32	0.81	0.39	0.36		0.36	
Uniform Delay, d1	48.8	18.6			26.2	24.8	44.8	40.9	40.7		54.9	
Progression Factor	0.70	0.45			1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	6.2	1.2			1.0	1.4	13.7	0.9	0.8		2.0	
Delay (s)	40.6	9.5			27.2	26.2	58.5	41.9	41.4		56.9	
Level of Service	D	A			C	C	E	D	D		E	
Approach Delay (s)		12.8			26.7			47.1				53.3
Approach LOS		B			C			D				D

Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	24.1
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	141
Future Volume (vph)	141
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	145
RTOR Reduction (vph)	137
Lane Group Flow (vph)	8
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	6.6
Effective Green, g (s)	6.6
Actuated g/C Ratio	0.06
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	89
v/s Ratio Prot	
v/s Ratio Perm	c0.01
v/c Ratio	0.09
Uniform Delay, d1	51.9
Progression Factor	1.00
Incremental Delay, d2	0.5
Delay (s)	52.3
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	109	819	780	0	0	1544
Future Volume (veh/h)	109	819	780	0	0	1544
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	0	1856
Adj Flow Rate, veh/h	117	881	839	0	0	1660
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	0	0	3
Cap, veh/h	672	1052	981	0	0	1864
Arrive On Green	0.38	0.38	0.53	0.00	0.00	0.53
Sat Flow, veh/h	1767	2768	1856	0	0	3711
Grp Volume(v), veh/h	117	881	839	0	0	1660
Grp Sat Flow(s),veh/h/ln	1767	1384	1856	0	0	1763
Q Serve(g_s), s	5.1	33.6	45.1	0.0	0.0	48.7
Cycle Q Clear(g_c), s	5.1	33.6	45.1	0.0	0.0	48.7
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	672	1052	981	0	0	1864
V/C Ratio(X)	0.17	0.84	0.86	0.00	0.00	0.89
Avail Cap(c_a), veh/h	672	1052	1062	0	0	2018
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.92	0.00	0.00	1.00
Uniform Delay (d), s/veh	23.9	32.7	23.5	0.0	0.0	24.4
Incr Delay (d2), s/veh	0.6	8.0	6.1	0.0	0.0	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	11.5	20.2	0.0	0.0	20.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.4	40.7	29.7	0.0	0.0	29.5
LnGrp LOS	C	D	C	A	A	C
Approach Vol, veh/h	998		839			1660
Approach Delay, s/veh	38.8		29.7			29.5
Approach LOS	D		C			C

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	50.1	65.9	65.9
Change Period (Y+Rc), s	6.0	4.6	4.6
Max Green Setting (Gmax), s	39.0	66.4	66.4
Max Q Clear Time (g_c+I1), s	35.6	47.1	50.7
Green Ext Time (p_c), s	1.5	6.0	10.7

Intersection Summary	
HCM 6th Ctrl Delay	32.2
HCM 6th LOS	C



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	522	869	0	0	640	50
Future Volume (veh/h)	522	869	0	0	640	50
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)		1.00			1.00	1.00
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No				No	
Adj Sat Flow, veh/h/ln	1856	1856			1856	1856
Adj Flow Rate, veh/h	574	0			703	55
Peak Hour Factor	0.91	0.91			0.91	0.91
Percent Heavy Veh, %	3	3			3	3
Cap, veh/h	3398				0	0
Arrive On Green	0.96	0.00			0.00	0.00
Sat Flow, veh/h	3618	1572			0	
Grp Volume(v), veh/h	574	0			0.0	
Grp Sat Flow(s),veh/h/ln	1763	1572				
Q Serve(g_s), s	0.8	0.0				
Cycle Q Clear(g_c), s	0.8	0.0				
Prop In Lane		1.00				
Lane Grp Cap(c), veh/h	3398					
V/C Ratio(X)	0.17					
Avail Cap(c_a), veh/h	3398					
HCM Platoon Ratio	1.00	1.00				
Upstream Filter(I)	0.92	0.00				
Uniform Delay (d), s/veh	0.1	0.0				
Incr Delay (d2), s/veh	0.1	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.0	0.0				
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.2	0.0				
LnGrp LOS	A					
Approach Vol, veh/h	574	A				
Approach Delay, s/veh	0.2					
Approach LOS	A					

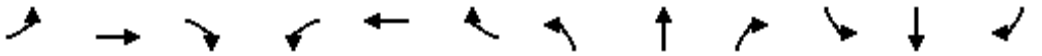
Timer - Assigned Phs	4
Phs Duration (G+Y+Rc), s	116.0
Change Period (Y+Rc), s	* 4.2
Max Green Setting (Gmax), s	* 33
Max Q Clear Time (g_c+I1), s	2.8
Green Ext Time (p_c), s	3.5

Intersection Summary	
HCM 6th Ctrl Delay	0.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	697	56	467	942	255	35	47	346	143	70	11
Future Volume (veh/h)	10	697	56	467	942	255	35	47	346	143	70	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.99
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	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	1856
Adj Flow Rate, veh/h	10	711	57	477	961	260	36	48	353	146	71	11
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	73	771	340	477	841	708	52	51	376	134	498	77
Arrive On Green	0.04	0.22	0.22	0.27	0.45	0.45	0.03	0.27	0.27	0.08	0.32	0.32
Sat Flow, veh/h	1767	3526	1555	1767	1856	1562	1767	188	1383	1767	1565	243
Grp Volume(v), veh/h	10	711	57	477	961	260	36	0	401	146	0	82
Grp Sat Flow(s),veh/h/ln	1767	1763	1555	1767	1856	1562	1767	0	1572	1767	0	1808
Q Serve(g_s), s	0.6	22.9	3.0	31.3	52.6	9.1	2.3	0.0	28.9	8.8	0.0	3.8
Cycle Q Clear(g_c), s	0.6	22.9	3.0	31.3	52.6	9.1	2.3	0.0	28.9	8.8	0.0	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.88	1.00		0.13
Lane Grp Cap(c), veh/h	73	771	340	477	841	708	52	0	427	134	0	575
V/C Ratio(X)	0.14	0.92	0.17	1.00	1.14	0.37	0.69	0.00	0.94	1.09	0.00	0.14
Avail Cap(c_a), veh/h	76	787	347	477	841	708	102	0	434	134	0	575
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	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.75	0.75	0.75	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.6	44.3	27.0	42.3	31.7	10.8	55.8	0.0	41.3	53.6	0.0	28.3
Incr Delay (d2), s/veh	0.8	18.1	1.1	35.7	75.0	1.1	14.9	0.0	28.3	103.6	0.0	0.1
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	0.0
%ile BackOfQ(50%),veh/ln	0.3	11.6	1.4	18.1	39.8	3.2	1.3	0.0	14.3	7.7	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.5	62.5	28.1	78.1	106.7	11.9	70.6	0.0	69.6	157.2	0.0	28.4
LnGrp LOS	D	E	C	F	F	B	E	A	E	F	A	C
Approach Vol, veh/h		778			1698			437			228	
Approach Delay, s/veh		59.9			84.1			69.7			110.9	
Approach LOS		E			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	36.8	35.5	30.7	7.6	42.2	9.0	57.2
Change Period (Y+Rc), s	* 4.2	* 5.3	4.2	* 5.3	* 4.2	5.3	4.2	* 4.6
Max Green Setting (Gmax), s	* 8.8	* 32	31.0	* 26	* 6.7	33.4	5.0	* 53
Max Q Clear Time (g_c+I1), s	10.8	30.9	33.3	24.9	4.3	5.8	2.6	54.6
Green Ext Time (p_c), s	0.0	0.3	0.0	0.5	0.0	0.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	78.0
HCM 6th LOS	E

Notes

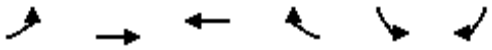
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	873	365	253	1559	131	230
Future Volume (veh/h)	873	365	253	1559	131	230
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	909	380	264	1624	136	240
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	979	828	462	2735	168	482
Arrive On Green	0.56	0.56	0.45	1.00	0.10	0.10
Sat Flow, veh/h	1752	1482	1668	3416	1668	1485
Grp Volume(v), veh/h	909	380	264	1624	136	240
Grp Sat Flow(s),veh/h/ln	1752	1482	1668	1664	1668	1485
Q Serve(g_s), s	55.2	17.6	5.8	0.0	9.3	0.0
Cycle Q Clear(g_c), s	55.2	17.6	5.8	0.0	9.3	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	979	828	462	2735	168	482
V/C Ratio(X)	0.93	0.46	0.57	0.59	0.81	0.50
Avail Cap(c_a), veh/h	1110	939	462	2735	209	518
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.37	0.37	1.00	1.00
Uniform Delay (d), s/veh	23.5	15.2	25.1	0.0	51.1	31.5
Incr Delay (d2), s/veh	12.0	1.3	0.6	0.4	17.2	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.2	6.0	4.4	0.1	4.7	5.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.5	16.4	25.7	0.4	68.2	32.3
LnGrp LOS	D	B	C	A	E	C
Approach Vol, veh/h	1289			1888	376	
Approach Delay, s/veh	29.9			3.9	45.3	
Approach LOS	C			A	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	30.5	69.3				99.8	16.2
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	14.5	73.5				92.5	14.5
Max Q Clear Time (g_c+I1), s	7.8	57.2				2.0	11.3
Green Ext Time (p_c), s	0.4	7.6				22.8	0.4

Intersection Summary			
HCM 6th Ctrl Delay		17.7	
HCM 6th LOS		B	



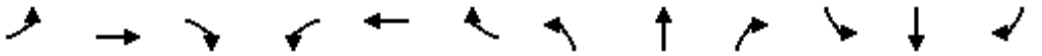
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	91	1030	1402	327	158	476
Future Volume (veh/h)	91	1030	1402	327	158	476
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	98	1108	1508	0	170	512
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	526	1402	1648		204	577
Arrive On Green	0.35	1.00	0.50	0.00	0.12	0.12
Sat Flow, veh/h	1668	1752	3416	1485	1668	1485
Grp Volume(v), veh/h	98	1108	1508	0	170	512
Grp Sat Flow(s),veh/h/ln	1668	1752	1664	1485	1668	1485
Q Serve(g_s), s	0.0	0.0	48.5	0.0	11.6	6.5
Cycle Q Clear(g_c), s	0.0	0.0	48.5	0.0	11.6	6.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	526	1402	1648		204	577
V/C Ratio(X)	0.19	0.79	0.91		0.83	0.89
Avail Cap(c_a), veh/h	526	1402	1736		223	594
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.62	0.62	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	0.0	27.0	0.0	49.8	33.1
Incr Delay (d2), s/veh	0.1	2.9	9.4	0.0	21.7	15.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.1	20.3	0.0	6.1	20.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.9	2.9	36.4	0.0	71.5	48.1
LnGrp LOS	C	A	D		E	D
Approach Vol, veh/h		1206	1508	A	682	
Approach Delay, s/veh		4.9	36.4		53.9	
Approach LOS		A	D		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		97.3		18.7	35.4	61.9
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		91.5		15.5	26.5	60.5
Max Q Clear Time (g_c+I1), s		2.0		13.6	2.0	50.5
Green Ext Time (p_c), s		14.7		0.6	0.2	6.9

Intersection Summary		
HCM 6th Ctrl Delay		28.7
HCM 6th LOS		C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1051	42	323	1461	0	45	0	313	147	102	164
Future Volume (veh/h)	0	1051	42	323	1461	0	45	0	313	147	102	164
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1072	43	330	1491	0	46	0	319	150	104	167
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	3	3	3	3	0	3	0	3	3	3	3
Cap, veh/h	0	1152	514	588	2473	0	59	0	0	743	232	207
Arrive On Green	0.00	0.33	0.33	0.67	1.00	0.00	0.03	0.00	0.00	0.22	0.13	0.13
Sat Flow, veh/h	0	3618	1572	1767	3618	0	1767	46		3428	1763	1572
Grp Volume(v), veh/h	0	1072	43	330	1491	0	46	87.0		150	104	167
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1763	0	1767	F		1714	1763	1572
Q Serve(g_s), s	0.0	34.1	2.2	11.6	0.0	0.0	3.0			4.2	6.3	12.0
Cycle Q Clear(g_c), s	0.0	34.1	2.2	11.6	0.0	0.0	3.0			4.2	6.3	12.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	1152	514	588	2473	0	59			743	232	207
V/C Ratio(X)	0.00	0.93	0.08	0.56	0.60	0.00	0.78			0.20	0.45	0.81
Avail Cap(c_a), veh/h	0	1182	527	588	2473	0	76			1360	532	474
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.29	0.29	0.00	1.00			1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	37.8	27.0	14.9	0.0	0.0	55.6			37.2	46.5	48.9
Incr Delay (d2), s/veh	0.0	14.4	0.3	0.4	0.3	0.0	31.4			0.1	1.4	7.3
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
%ile BackOfQ(50%),veh/ln	0.0	16.4	0.9	3.4	0.1	0.0	1.8			1.7	2.7	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	52.1	27.4	15.3	0.3	0.0	87.0			37.4	47.8	56.2
LnGrp LOS	A	D	C	B	A	A	F			D	D	E
Approach Vol, veh/h		1115			1821						421	
Approach Delay, s/veh		51.2			3.0						47.4	
Approach LOS		D			A						D	

Timer - Assigned Phs	1		3	4	5	6		8				
Phs Duration (G+Y+Rc), s	29.3		43.9	42.8	8.1	21.3		86.7				
Change Period (Y+Rc), s	* 4.2		5.3	4.9	4.2	* 6		* 5.3				
Max Green Setting (Gmax), s	* 46		16.7	38.9	5.0	* 35		* 61				
Max Q Clear Time (g_c+I1), s	6.2		13.6	36.1	5.0	14.0		2.0				
Green Ext Time (p_c), s	0.5		0.3	1.8	0.0	1.3		16.7				

Intersection Summary	
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



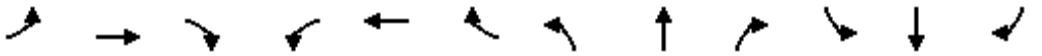
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	6	139	919	0	0	1096	407	547	6	555	61	0
Future Volume (vph)	6	139	919	0	0	1096	407	547	6	555	61	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5	
Lane Util. Factor		1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97	
Frpb, ped/bikes		1.00	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	
Frt		1.00	1.00			1.00	0.85	1.00	0.92	0.85	1.00	
Flt Protected		0.95	1.00			1.00	1.00	0.95	0.98	1.00	0.95	
Satd. Flow (prot)		1752	3505			3505	1548	1665	1509	1490	3400	
Flt Permitted		0.95	1.00			1.00	1.00	0.95	0.98	1.00	0.95	
Satd. Flow (perm)		1752	3505			3505	1548	1665	1509	1490	3400	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	143	947	0	0	1130	420	564	6	572	63	0
RTOR Reduction (vph)	0	0	0	0	0	0	154	0	36	165	0	0
Lane Group Flow (vph)	0	149	947	0	0	1130	266	395	345	201	63	0
Confl. Peds. (#/hr)							1					
Turn Type	Prot	Prot	NA			NA	Perm	Split	NA	Perm	Prot	
Protected Phases	7	7	4			8		2	2		1	
Permitted Phases							8			2		
Actuated Green, G (s)		11.1	55.5			40.2	40.2	28.7	28.7	28.7	4.0	
Effective Green, g (s)		11.1	55.5			40.2	40.2	28.7	28.7	28.7	4.0	
Actuated g/C Ratio		0.10	0.48			0.35	0.35	0.25	0.25	0.25	0.03	
Clearance Time (s)		4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5	
Vehicle Extension (s)		3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		167	1676			1214	536	411	373	368	117	
v/s Ratio Prot		c0.09	0.27			c0.32		c0.24	0.23		c0.02	
v/s Ratio Perm							0.17			0.14		
v/c Ratio		0.89	0.57			0.93	0.50	0.96	0.92	0.55	0.54	
Uniform Delay, d1		51.9	21.6			36.6	29.9	43.1	42.6	38.0	55.1	
Progression Factor		0.74	0.42			1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		35.5	1.2			13.8	3.3	34.2	28.2	1.7	4.7	
Delay (s)		73.9	10.3			50.4	33.2	77.3	70.8	39.7	59.8	
Level of Service		E	B			D	C	E	E	D	E	
Approach Delay (s)			19.0			45.7			63.1			59.8
Approach LOS			B			D			E			E

Intersection Summary			
HCM 2000 Control Delay	44.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	24.1
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	248
Future Volume (vph)	248
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	256
RTOR Reduction (vph)	195
Lane Group Flow (vph)	61
Confl. Peds. (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	7.9
Effective Green, g (s)	7.9
Actuated g/C Ratio	0.07
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	106
v/s Ratio Prot	
v/s Ratio Perm	c0.04
v/c Ratio	0.58
Uniform Delay, d1	52.4
Progression Factor	1.00
Incremental Delay, d2	7.4
Delay (s)	59.9
Level of Service	E
Approach Delay (s)	
Approach LOS	

Intersection Summary



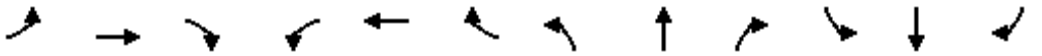
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	872	36	249	579	83	51	33	491	262	73	23
Future Volume (veh/h)	5	872	36	249	579	83	51	33	491	262	73	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
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	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	1856
Adj Flow Rate, veh/h	5	899	37	257	597	86	53	34	506	270	75	24
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	248	1168	520	262	623	528	489	392	565	277	114	37
Arrive On Green	0.14	0.33	0.33	0.30	0.67	0.67	0.28	0.21	0.21	0.16	0.09	0.09
Sat Flow, veh/h	1767	3526	1570	1767	1856	1570	1767	1856	1570	1767	1340	429
Grp Volume(v), veh/h	5	899	37	257	597	86	53	34	506	270	0	99
Grp Sat Flow(s),veh/h/ln	1767	1763	1570	1767	1856	1570	1767	1856	1570	1767	0	1769
Q Serve(g_s), s	0.3	27.5	0.9	17.3	35.5	2.4	2.7	1.8	21.4	18.3	0.0	6.5
Cycle Q Clear(g_c), s	0.3	27.5	0.9	17.3	35.5	2.4	2.7	1.8	21.4	18.3	0.0	6.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	248	1168	520	262	623	528	489	392	565	277	0	151
V/C Ratio(X)	0.02	0.77	0.07	0.98	0.96	0.16	0.11	0.09	0.90	0.98	0.00	0.66
Avail Cap(c_a), veh/h	248	1168	520	262	721	610	489	495	652	277	0	603
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.5	36.0	6.0	42.0	18.9	13.5	32.4	38.0	15.7	50.4	0.0	53.2
Incr Delay (d2), s/veh	0.0	4.9	0.3	48.6	26.1	0.6	0.1	0.1	13.8	47.1	0.0	4.8
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	0.0
%ile BackOfQ(50%),veh/ln	0.1	12.1	0.8	9.8	12.4	0.9	1.2	0.8	9.2	11.4	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	40.9	6.3	90.6	45.0	14.1	32.5	38.1	29.5	97.5	0.0	58.0
LnGrp LOS	D	D	A	F	D	B	C	D	C	F	A	E
Approach Vol, veh/h		941			940			593			369	
Approach Delay, s/veh		39.6			54.7			30.2			86.9	
Approach LOS		D			D			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	29.9	22.0	45.1	37.4	15.5	22.1	44.9
Change Period (Y+Rc), s	4.2	* 4.6	* 4.2	5.3	4.2	* 5.3	5.3	* 4.6
Max Green Setting (Gmax), s	18.8	* 32	* 18	33.1	9.2	* 41	5.0	* 47
Max Q Clear Time (g_c+I1), s	20.3	23.4	19.3	29.5	4.7	8.5	2.3	37.5
Green Ext Time (p_c), s	0.0	1.4	0.0	1.9	0.0	0.5	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	48.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	697	56	467	942	255	35	47	346	143	70	11
Future Volume (veh/h)	10	697	56	467	942	255	35	47	346	143	70	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.96	1.00		0.96
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	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	1856
Adj Flow Rate, veh/h	10	711	57	477	961	260	36	48	353	146	71	11
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	297	792	349	724	875	737	138	260	855	130	197	31
Arrive On Green	0.17	0.22	0.22	0.54	0.63	0.63	0.08	0.14	0.14	0.07	0.13	0.13
Sat Flow, veh/h	1767	3526	1555	1767	1856	1562	1767	1856	1508	1767	1560	242
Grp Volume(v), veh/h	10	711	57	477	961	260	36	48	353	146	0	82
Grp Sat Flow(s),veh/h/ln	1767	1763	1555	1767	1856	1562	1767	1856	1508	1767	0	1802
Q Serve(g_s), s	0.6	23.5	3.5	23.0	56.6	6.9	2.3	2.7	4.0	8.8	0.0	5.0
Cycle Q Clear(g_c), s	0.6	23.5	3.5	23.0	56.6	6.9	2.3	2.7	4.0	8.8	0.0	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	297	792	349	724	875	737	138	260	855	130	0	228
V/C Ratio(X)	0.03	0.90	0.16	0.66	1.10	0.35	0.26	0.18	0.41	1.13	0.00	0.36
Avail Cap(c_a), veh/h	297	846	373	724	875	737	138	495	1046	130	0	500
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.75	0.75	0.75	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.7	45.2	37.5	21.4	22.4	7.1	52.1	45.6	6.5	55.6	0.0	48.0
Incr Delay (d2), s/veh	0.0	15.1	1.0	1.7	57.4	1.0	1.0	0.3	0.3	117.1	0.0	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	0.0
%ile BackOfQ(50%),veh/ln	0.2	11.6	1.4	8.5	33.4	3.1	1.1	1.3	2.7	8.0	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.8	60.3	38.5	23.0	79.8	8.1	53.1	45.9	6.8	172.7	0.0	48.9
LnGrp LOS	D	E	D	C	F	A	D	D	A	F	A	D
Approach Vol, veh/h		778			1698			437			228	
Approach Delay, s/veh		58.4			52.8			14.9			128.2	
Approach LOS		E			D			B			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	21.4	53.4	32.2	13.9	20.5	24.4	61.2
Change Period (Y+Rc), s	* 4.2	4.6	4.2	* 5.3	4.6	* 5.3	4.2	* 4.6
Max Green Setting (Gmax), s	* 8.8	32.0	32.1	* 29	6.8	* 33	5.0	* 57
Max Q Clear Time (g_c+I1), s	10.8	6.0	25.0	25.5	4.3	7.0	2.6	58.6
Green Ext Time (p_c), s	0.0	1.6	1.0	1.4	0.0	0.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	54.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection: 1: Herndon Avenue & SR 99 NB Off-Ramp

Movement	NW	NW	NW	NE	SW	SW
Directions Served	L	R	R	T	T	T
Maximum Queue (ft)	270	196	199	572	1635	1617
Average Queue (ft)	123	115	94	320	1088	1117
95th Queue (ft)	246	173	166	580	1899	1906
Link Distance (ft)		772	772	566	1583	1583
Upstream Blk Time (%)				1	16	23
Queuing Penalty (veh)				14	0	0
Storage Bay Dist (ft)	290					
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Intersection: 2: Grantland Avenue & Parkway Drive/SR 99 SB On-Ramp

Movement	EB	EB	EB	NB	NB
Directions Served	T	T	R	L	R
Maximum Queue (ft)	626	665	350	395	1382
Average Queue (ft)	598	577	151	333	315
95th Queue (ft)	709	833	437	462	1013
Link Distance (ft)	604	604			1688
Upstream Blk Time (%)	35	31			
Queuing Penalty (veh)	246	218			
Storage Bay Dist (ft)			295	295	
Storage Blk Time (%)		8		21	
Queuing Penalty (veh)		44		29	

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	299	608	571	150	235	487	383	115	544	370	180	471
Average Queue (ft)	16	382	349	35	150	266	35	36	83	200	147	150
95th Queue (ft)	104	510	501	131	261	560	185	71	339	369	210	360
Link Distance (ft)		1319	1319			465	465		1387			1182
Upstream Blk Time (%)						4						
Queuing Penalty (veh)						19						
Storage Bay Dist (ft)	200			100	160			100		250	120	
Storage Blk Time (%)		53	38	0	16	19		1		12	29	1
Queuing Penalty (veh)		3	14	0	94	47		3		10	27	2

Intersection: 4: SR 99 SB Ramps & Shaw Avenue

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	R	L	T	T	L	R
Maximum Queue (ft)	487	510	245	450	414	377	145
Average Queue (ft)	337	166	221	313	59	161	123
95th Queue (ft)	535	405	287	518	267	327	170
Link Distance (ft)	465	465		384	384	488	
Upstream Blk Time (%)	5	0		19	5		
Queuing Penalty (veh)	43	4		107	27		
Storage Bay Dist (ft)			125				25
Storage Blk Time (%)			55	8		60	63
Queuing Penalty (veh)			233	24		134	46

Intersection: 5: Shaw Avenue & SR 99 NB Ramps

Movement	EB	EB	WB	WB	WB	B35	B35	SB	SB
Directions Served	L	T	T	T	R	T	T	L	R
Maximum Queue (ft)	244	341	361	325	86	748	749	518	160
Average Queue (ft)	74	111	284	171	16	248	190	169	128
95th Queue (ft)	170	260	420	325	59	628	549	341	193
Link Distance (ft)		384	260	260	260	1251	1251	654	
Upstream Blk Time (%)			39	8					
Queuing Penalty (veh)			0	0					
Storage Bay Dist (ft)	125								40
Storage Blk Time (%)	2	3						46	54
Queuing Penalty (veh)	26	4						120	42

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	R	R	L	L	T
Maximum Queue (ft)	548	538	250	132	193	169	273	246	218	132	140	113
Average Queue (ft)	324	302	33	70	29	36	108	154	123	61	89	49
95th Queue (ft)	497	473	153	116	96	97	251	225	181	124	149	96
Link Distance (ft)	1212	1212			1024	1024	247					656
Upstream Blk Time (%)							0	0				
Queuing Penalty (veh)							0	0				
Storage Bay Dist (ft)			150	550				150	150	380	380	
Storage Blk Time (%)		25					4	5	1			
Queuing Penalty (veh)		9					15	1	0			

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	SB
Directions Served	TR
Maximum Queue (ft)	71
Average Queue (ft)	30
95th Queue (ft)	57
Link Distance (ft)	656
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	T	T	T	R	L	LTR	R	UL	L	R
Maximum Queue (ft)	174	247	249	266	297	200	236	299	246	25	67	73
Average Queue (ft)	79	130	151	163	135	99	129	194	146	4	26	35
95th Queue (ft)	142	231	253	253	239	193	197	265	217	16	60	66
Link Distance (ft)		1024	1024	1607	1607			535	535		544	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300					150	220			200		100
Storage Blk Time (%)					6	0	0	3				
Queuing Penalty (veh)					29	1	0	5				

Zone Summary

Zone wide Queuing Penalty: 1641

Intersection: 1: Herndon Avenue & SR 99 NB Off-Ramp

Movement	NW	NW	NW	NE	SW	SW
Directions Served	L	R	R	T	T	T
Maximum Queue (ft)	171	250	253	578	467	587
Average Queue (ft)	44	134	119	340	273	375
95th Queue (ft)	108	220	205	602	431	557
Link Distance (ft)		772	772	566	1583	1583
Upstream Blk Time (%)				1		
Queuing Penalty (veh)				7		
Storage Bay Dist (ft)	290					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Grantland Avenue & Parkway Drive/SR 99 SB On-Ramp

Movement	EB	EB	EB	NB	NB
Directions Served	T	T	R	L	R
Maximum Queue (ft)	463	604	350	394	510
Average Queue (ft)	180	38	12	325	140
95th Queue (ft)	396	252	115	428	476
Link Distance (ft)	604	604			1688
Upstream Blk Time (%)		0			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)			295	295	
Storage Blk Time (%)				11	
Queuing Penalty (veh)				5	

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	299	455	445	150	235	498	465	90	280	322	179	413
Average Queue (ft)	28	264	218	41	222	455	54	21	40	128	114	92
95th Queue (ft)	148	395	353	133	280	540	214	60	123	271	180	248
Link Distance (ft)		1318	1318			465	465		1389			1182
Upstream Blk Time (%)						18	0					
Queuing Penalty (veh)						154	1					
Storage Bay Dist (ft)	200			100	160			100		250	120	
Storage Blk Time (%)		28	27		29	29		0	0	4	17	4
Queuing Penalty (veh)		3	15		271	136		0	0	3	14	6

Intersection: 4: SR 99 SB Ramps & Shaw Avenue

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	R	L	T	T	L	R
Maximum Queue (ft)	490	534	245	430	438	551	145
Average Queue (ft)	348	121	216	358	230	232	116
95th Queue (ft)	567	367	307	505	492	504	179
Link Distance (ft)	465	465		384	384	488	
Upstream Blk Time (%)	6	4		13	4	9	
Queuing Penalty (veh)	34	21		123	35	0	
Storage Bay Dist (ft)			125				25
Storage Blk Time (%)			11	42		67	47
Queuing Penalty (veh)			82	107		155	62

Intersection: 5: Shaw Avenue & SR 99 NB Ramps

Movement	EB	EB	WB	WB	WB	B35	B35	SB	SB
Directions Served	L	T	T	T	R	T	T	L	R
Maximum Queue (ft)	244	398	372	354	179	1314	1314	717	160
Average Queue (ft)	69	155	336	312	25	1208	1187	620	159
95th Queue (ft)	173	339	360	351	98	1607	1649	874	163
Link Distance (ft)		384	260	260	260	1251	1251	654	
Upstream Blk Time (%)		0	75	28		69	55	54	
Queuing Penalty (veh)		3	0	0		0	0	0	
Storage Bay Dist (ft)	125								40
Storage Blk Time (%)	0	8						72	47
Queuing Penalty (veh)	0	8						342	74

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	R	R	L	L	T
Maximum Queue (ft)	477	472	250	327	217	328	184	182	149	140	172	122
Average Queue (ft)	274	244	50	184	88	101	65	92	60	43	69	77
95th Queue (ft)	429	409	182	298	190	221	138	158	131	102	135	129
Link Distance (ft)	1212	1212			1024	1024	247					656
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	550				150	150	380	380	
Storage Blk Time (%)		23					0	1	0			
Queuing Penalty (veh)		10					1	1	0			

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	SB
Directions Served	TR
Maximum Queue (ft)	133
Average Queue (ft)	71
95th Queue (ft)	120
Link Distance (ft)	656
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	T	T	T	R	L	LTR	R	L	L	R
Maximum Queue (ft)	188	203	179	676	699	200	340	381	406	116	149	191
Average Queue (ft)	113	85	99	427	445	178	230	280	200	4	58	94
95th Queue (ft)	172	154	164	660	670	255	345	377	329	38	122	161
Link Distance (ft)		1024	1024	1584	1584			535	535		544	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300					150	220			200		100
Storage Blk Time (%)					40	3	7	27			2	10
Queuing Penalty (veh)					163	17	36	73			7	6

Zone Summary

Zone wide Queuing Penalty: 1975

Appendix J: Cumulative Year 2035 No Project Traffic Conditions



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	60	490	1143	0	0	1329
Future Volume (veh/h)	60	490	1143	0	0	1329
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	0	1856
Adj Flow Rate, veh/h	65	533	1242	0	0	1445
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	0	0	3
Cap, veh/h	387	607	1297	0	0	2465
Arrive On Green	0.22	0.22	0.70	0.00	0.00	0.70
Sat Flow, veh/h	1767	2768	1856	0	0	3711
Grp Volume(v), veh/h	65	533	1242	0	0	1445
Grp Sat Flow(s),veh/h/ln	1767	1384	1856	0	0	1763
Q Serve(g_s), s	3.9	24.2	79.2	0.0	0.0	27.2
Cycle Q Clear(g_c), s	3.9	24.2	79.2	0.0	0.0	27.2
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	387	607	1297	0	0	2465
V/C Ratio(X)	0.17	0.88	0.96	0.00	0.00	0.59
Avail Cap(c_a), veh/h	387	607	1382	0	0	2625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.64	0.00	0.00	1.00
Uniform Delay (d), s/veh	41.1	49.1	17.8	0.0	0.0	10.0
Incr Delay (d2), s/veh	0.9	16.5	10.7	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	9.4	33.1	0.0	0.0	9.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.1	65.5	28.5	0.0	0.0	10.3
LnGrp LOS	D	E	C	A	A	B
Approach Vol, veh/h	598		1242			1445
Approach Delay, s/veh	63.0		28.5			10.3
Approach LOS	E		C			B

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	34.5	95.5	95.5
Change Period (Y+Rc), s	6.0	4.6	4.6
Max Green Setting (Gmax), s	22.6	96.8	96.8
Max Q Clear Time (g_c+I1), s	26.2	81.2	29.2
Green Ext Time (p_c), s	0.0	9.7	17.0

Intersection Summary	
HCM 6th Ctrl Delay	26.8
HCM 6th LOS	C



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	845	541	0	0	695	136
Future Volume (veh/h)	845	541	0	0	695	136
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)		1.00			1.00	1.00
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No				No	
Adj Sat Flow, veh/h/ln	1856	1856			1856	1856
Adj Flow Rate, veh/h	918	0			755	148
Peak Hour Factor	0.92	0.92			0.92	0.92
Percent Heavy Veh, %	3	3			3	3
Cap, veh/h	3412				0	0
Arrive On Green	0.97	0.00			0.00	0.00
Sat Flow, veh/h	3618	1572			0	
Grp Volume(v), veh/h	918	0			0.0	
Grp Sat Flow(s),veh/h/ln	1763	1572				
Q Serve(g_s), s	1.5	0.0				
Cycle Q Clear(g_c), s	1.5	0.0				
Prop In Lane		1.00				
Lane Grp Cap(c), veh/h	3412					
V/C Ratio(X)	0.27					
Avail Cap(c_a), veh/h	3412					
HCM Platoon Ratio	1.00	1.00				
Upstream Filter(I)	0.82	0.00				
Uniform Delay (d), s/veh	0.1	0.0				
Incr Delay (d2), s/veh	0.2	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.1	0.0				
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.3	0.0				
LnGrp LOS	A					
Approach Vol, veh/h	918	A				
Approach Delay, s/veh	0.3					
Approach LOS	A					

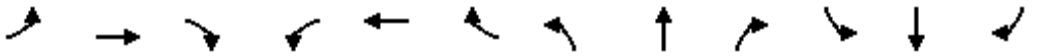
Timer - Assigned Phs	4
Phs Duration (G+Y+Rc), s	130.0
Change Period (Y+Rc), s	* 4.2
Max Green Setting (Gmax), s	* 46
Max Q Clear Time (g_c+I1), s	3.5
Green Ext Time (p_c), s	6.5

Intersection Summary	
HCM 6th Ctrl Delay	0.3
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



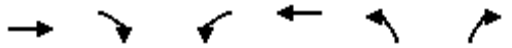
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1102	89	300	695	83	94	33	541	262	73	23
Future Volume (veh/h)	8	1102	89	300	695	83	94	33	541	262	73	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	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	1856
Adj Flow Rate, veh/h	8	1136	92	309	716	86	97	34	558	270	75	24
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	17	1060	472	722	1314	1113	120	22	368	258	436	140
Arrive On Green	0.01	0.30	0.30	0.27	0.47	0.47	0.07	0.25	0.25	0.15	0.32	0.32
Sat Flow, veh/h	1767	3526	1570	1767	1856	1571	1767	91	1494	1767	1345	430
Grp Volume(v), veh/h	8	1136	92	309	716	86	97	0	592	270	0	99
Grp Sat Flow(s),veh/h/ln	1767	1763	1570	1767	1856	1571	1767	0	1585	1767	0	1776
Q Serve(g_s), s	0.6	39.1	6.5	18.7	35.5	3.9	7.0	0.0	32.0	19.0	0.0	5.2
Cycle Q Clear(g_c), s	0.6	39.1	6.5	18.7	35.5	3.9	7.0	0.0	32.0	19.0	0.0	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.94	1.00		0.24
Lane Grp Cap(c), veh/h	17	1060	472	722	1314	1113	120	0	390	258	0	576
V/C Ratio(X)	0.47	1.07	0.19	0.43	0.54	0.08	0.81	0.00	1.52	1.05	0.00	0.17
Avail Cap(c_a), veh/h	68	1060	472	722	1314	1113	201	0	390	258	0	576
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.0	45.5	45.2	34.7	19.3	11.0	59.7	0.0	49.0	55.5	0.0	31.4
Incr Delay (d2), s/veh	18.7	48.8	0.9	0.4	1.5	0.1	11.8	0.0	245.8	68.4	0.0	0.1
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	0.0
%ile BackOfQ(50%),veh/ln	0.3	23.6	2.7	8.5	16.9	1.3	3.5	0.0	39.1	13.2	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.7	94.3	46.1	35.1	20.8	11.1	71.6	0.0	294.8	123.9	0.0	31.6
LnGrp LOS	F	F	D	D	C	B	E	A	F	F	A	C
Approach Vol, veh/h		1236			1111			689			369	
Approach Delay, s/veh		90.6			24.0			263.4			99.1	
Approach LOS		F			C			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.2	37.3	58.0	44.4	13.1	47.4	5.5	97.0
Change Period (Y+Rc), s	* 4.2	* 5.3	4.6	* 5.3	* 4.2	5.3	* 4.2	4.6
Max Green Setting (Gmax), s	* 19	* 32	21.6	* 39	* 15	35.5	* 5	56.4
Max Q Clear Time (g_c+I1), s	21.0	34.0	20.7	41.1	9.0	7.2	2.6	37.5
Green Ext Time (p_c), s	0.0	0.0	0.1	0.0	0.1	0.4	0.0	5.1

Intersection Summary	
HCM 6th Ctrl Delay	104.8
HCM 6th LOS	F

Notes

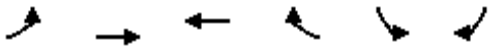
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1216	734	592	950	73	298
Future Volume (veh/h)	1216	734	592	950	73	298
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	1267	765	617	990	76	310
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	1071	908	460	2957	71	423
Arrive On Green	0.61	0.61	0.48	1.00	0.04	0.04
Sat Flow, veh/h	1752	1485	1668	3416	1668	1485
Grp Volume(v), veh/h	1267	765	617	990	76	310
Grp Sat Flow(s),veh/h/ln	1752	1485	1668	1664	1668	1485
Q Serve(g_s), s	79.5	53.7	31.5	0.0	5.5	0.0
Cycle Q Clear(g_c), s	79.5	53.7	31.5	0.0	5.5	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1071	908	460	2957	71	423
V/C Ratio(X)	1.18	0.84	1.34	0.33	1.08	0.73
Avail Cap(c_a), veh/h	1071	908	460	2957	71	423
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.56	0.56	1.00	1.00
Uniform Delay (d), s/veh	25.2	20.2	31.6	0.0	62.2	42.0
Incr Delay (d2), s/veh	83.2	0.9	162.2	0.2	129.7	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	54.8	17.5	29.1	0.1	4.9	9.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	108.4	21.2	193.8	0.2	192.0	48.5
LnGrp LOS	F	C	F	A	F	D
Approach Vol, veh/h	2032			1607	386	
Approach Delay, s/veh	75.6			74.5	76.8	
Approach LOS	E			E	E	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	36.0	84.0				120.0	10.0
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	31.5	79.5				115.5	5.5
Max Q Clear Time (g_c+I1), s	33.5	81.5				2.0	7.5
Green Ext Time (p_c), s	0.0	0.0				9.1	0.0

Intersection Summary			
HCM 6th Ctrl Delay		75.3	
HCM 6th LOS		E	



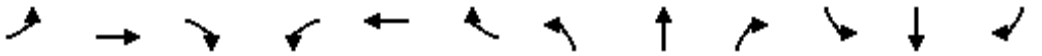
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	188	1354	946	293	189	560
Future Volume (veh/h)	188	1354	946	293	189	560
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	196	1410	985	0	197	583
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	803	1418	1142		203	821
Arrive On Green	0.57	1.00	0.34	0.00	0.12	0.12
Sat Flow, veh/h	1668	1752	3416	1485	1668	1485
Grp Volume(v), veh/h	196	1410	985	0	197	583
Grp Sat Flow(s),veh/h/ln	1668	1752	1664	1485	1668	1485
Q Serve(g_s), s	0.1	0.0	35.9	0.0	15.3	0.0
Cycle Q Clear(g_c), s	0.1	0.0	35.9	0.0	15.3	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	803	1418	1142		203	821
V/C Ratio(X)	0.24	0.99	0.86		0.97	0.71
Avail Cap(c_a), veh/h	803	1418	1439		203	821
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	15.3	0.0	39.9	0.0	56.9	21.4
Incr Delay (d2), s/veh	0.0	6.0	8.7	0.0	54.8	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	2.4	15.8	0.0	9.6	21.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.3	6.0	48.5	0.0	111.7	24.2
LnGrp LOS	B	A	D		F	C
Approach Vol, veh/h		1606	985	A	780	
Approach Delay, s/veh		7.2	48.5		46.3	
Approach LOS		A	D		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		109.7		20.3	60.6	49.1
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		105.2		15.8	44.5	56.2
Max Q Clear Time (g_c+I1), s		2.0		17.3	2.1	37.9
Green Ext Time (p_c), s		33.6		0.0	0.6	6.7

Intersection Summary		
HCM 6th Ctrl Delay		28.3
HCM 6th LOS		C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



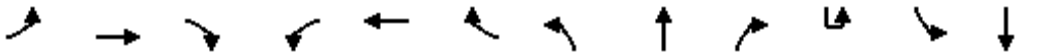
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1647	34	110	704	0	22	0	418	294	95	205
Future Volume (veh/h)	0	1647	34	110	704	0	22	0	418	294	95	205
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1752	36	117	749	0	23	0	445	313	101	218
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	0.94
Percent Heavy Veh, %	0	3	3	3	3	0	3	0	3	3	3	3
Cap, veh/h	0	2042	911	102	2407	0	40	0	0	819	290	259
Arrive On Green	0.00	0.58	0.58	0.12	1.00	0.00	0.02	0.00	0.00	0.24	0.16	0.16
Sat Flow, veh/h	0	3618	1572	1767	3618	0	1767	23		3428	1763	1572
Grp Volume(v), veh/h	0	1752	36	117	749	0	23	68.6		313	101	218
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1763	0	1767	E		1714	1763	1572
Q Serve(g_s), s	0.0	48.2	0.9	6.7	0.0	0.0	1.5			8.9	5.9	15.6
Cycle Q Clear(g_c), s	0.0	48.2	0.9	6.7	0.0	0.0	1.5			8.9	5.9	15.6
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	2042	911	102	2407	0	40			819	290	259
V/C Ratio(X)	0.00	0.86	0.04	1.15	0.31	0.00	0.58			0.38	0.35	0.84
Avail Cap(c_a), veh/h	0	2042	911	102	2407	0	76			1360	532	474
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.70	0.70	0.00	1.00			1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.4	6.1	51.3	0.0	0.0	56.1			37.0	42.9	47.0
Incr Delay (d2), s/veh	0.0	4.9	0.1	119.2	0.2	0.0	12.5			0.3	0.7	7.3
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
%ile BackOfQ(50%),veh/ln	0.0	19.2	0.4	6.1	0.1	0.0	0.8			3.6	2.5	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.3	6.1	170.5	0.2	0.0	68.6			37.3	43.7	54.3
LnGrp LOS	A	C	A	F	A	A	E			D	D	D
Approach Vol, veh/h		1788			866						632	
Approach Delay, s/veh		25.0			23.2						44.2	
Approach LOS		C			C						D	

Timer - Assigned Phs	1		3	4	5	6		8
Phs Duration (G+Y+Rc), s	31.9		12.0	72.1	6.8	25.1		84.1
Change Period (Y+Rc), s	* 4.2		5.3	4.9	4.2	* 6		4.9
Max Green Setting (Gmax), s	* 46		6.7	48.9	5.0	* 35		60.9
Max Q Clear Time (g_c+I1), s	10.9		8.7	50.2	3.5	17.6		2.0
Green Ext Time (p_c), s	1.0		0.0	0.0	0.0	1.5		5.7

Intersection Summary	
HCM 6th Ctrl Delay	28.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	144	1209	0	0	570	483	278	8	497	1	92	0
Future Volume (vph)	144	1209	0	0	570	483	278	8	497	1	92	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95		0.97	
Frt	1.00	1.00			1.00	0.85	1.00	0.87	0.85		1.00	
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.99	1.00		0.95	
Satd. Flow (prot)	1752	3505			3505	1568	1665	1453	1490		3400	
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.99	1.00		0.95	
Satd. Flow (perm)	1752	3505			3505	1568	1665	1453	1490		3400	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	148	1246	0	0	588	498	287	8	512	1	95	0
RTOR Reduction (vph)	0	0	0	0	0	325	0	197	218	0	0	0
Lane Group Flow (vph)	148	1246	0	0	588	173	258	81	53	0	96	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm	Prot	Prot	
Protected Phases	7	4			8		2	2		1	1	
Permitted Phases						8			2			
Actuated Green, G (s)	14.0	58.4			40.2	40.2	21.4	21.4	21.4		7.2	
Effective Green, g (s)	14.0	58.4			40.2	40.2	21.4	21.4	21.4		7.2	
Actuated g/C Ratio	0.12	0.50			0.35	0.35	0.18	0.18	0.18		0.06	
Clearance Time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	211	1764			1214	543	307	268	274		211	
v/s Ratio Prot	0.08	c0.36			0.17		c0.15	0.06			c0.03	
v/s Ratio Perm						0.11			0.04			
v/c Ratio	0.70	0.71			0.48	0.32	0.84	0.30	0.19		0.45	
Uniform Delay, d1	49.0	22.2			29.8	27.8	45.7	40.9	40.0		52.5	
Progression Factor	0.76	0.58			1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	6.2	1.5			1.4	1.5	18.3	0.6	0.3		1.6	
Delay (s)	43.7	14.3			31.1	29.4	64.0	41.5	40.4		54.1	
Level of Service	D	B			C	C	E	D	D		D	
Approach Delay (s)		17.4			30.3			48.3				52.7
Approach LOS		B			C			D				D

Intersection Summary			
HCM 2000 Control Delay	32.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	24.1
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	351
Future Volume (vph)	351
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	362
RTOR Reduction (vph)	319
Lane Group Flow (vph)	43
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	9.1
Effective Green, g (s)	9.1
Actuated g/C Ratio	0.08
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	123
v/s Ratio Prot	
v/s Ratio Perm	c0.03
v/c Ratio	0.35
Uniform Delay, d1	50.7
Progression Factor	1.00
Incremental Delay, d2	1.7
Delay (s)	52.4
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	109	819	733	0	0	1429
Future Volume (veh/h)	109	819	733	0	0	1429
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	0	1856
Adj Flow Rate, veh/h	117	881	788	0	0	1537
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	0	0	3
Cap, veh/h	577	904	922	0	0	1752
Arrive On Green	0.33	0.33	0.50	0.00	0.00	0.50
Sat Flow, veh/h	1767	2768	1856	0	0	3711
Grp Volume(v), veh/h	117	881	788	0	0	1537
Grp Sat Flow(s),veh/h/ln	1767	1384	1856	0	0	1763
Q Serve(g_s), s	2.9	18.9	22.3	0.0	0.0	23.3
Cycle Q Clear(g_c), s	2.9	18.9	22.3	0.0	0.0	23.3
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	577	904	922	0	0	1752
V/C Ratio(X)	0.20	0.97	0.85	0.00	0.00	0.88
Avail Cap(c_a), veh/h	577	904	965	0	0	1833
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.88	0.00	0.00	1.00
Uniform Delay (d), s/veh	14.6	20.0	13.2	0.0	0.0	13.5
Incr Delay (d2), s/veh	0.8	24.5	6.6	0.0	0.0	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	7.7	8.9	0.0	0.0	8.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.4	44.4	19.8	0.0	0.0	18.5
LnGrp LOS	B	D	B	A	A	B
Approach Vol, veh/h	998		788			1537
Approach Delay, s/veh	41.0		19.8			18.5
Approach LOS	D		B			B

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	25.6	34.4	34.4
Change Period (Y+Rc), s	6.0	4.6	4.6
Max Green Setting (Gmax), s	18.2	31.2	31.2
Max Q Clear Time (g_c+I1), s	20.9	24.3	25.3
Green Ext Time (p_c), s	0.0	3.0	4.5

Intersection Summary	
HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	699	787	0	0	580	50
Future Volume (veh/h)	699	787	0	0	580	50
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)		1.00			1.00	1.00
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No				No	
Adj Sat Flow, veh/h/ln	1856	1856			1856	1856
Adj Flow Rate, veh/h	760	0			630	54
Peak Hour Factor	0.92	0.92			0.92	0.92
Percent Heavy Veh, %	3	3			3	3
Cap, veh/h	3279				0	0
Arrive On Green	0.93	0.00			0.00	0.00
Sat Flow, veh/h	3618	1572			0	
Grp Volume(v), veh/h	760	0			0.0	
Grp Sat Flow(s),veh/h/ln	1763	1572				
Q Serve(g_s), s	1.2	0.0				
Cycle Q Clear(g_c), s	1.2	0.0				
Prop In Lane		1.00				
Lane Grp Cap(c), veh/h	3279					
V/C Ratio(X)	0.23					
Avail Cap(c_a), veh/h	3279					
HCM Platoon Ratio	1.00	1.00				
Upstream Filter(I)	0.81	0.00				
Uniform Delay (d), s/veh	0.2	0.0				
Incr Delay (d2), s/veh	0.1	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.1	0.0				
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.3	0.0				
LnGrp LOS	A					
Approach Vol, veh/h	760	A				
Approach Delay, s/veh	0.3					
Approach LOS	A					

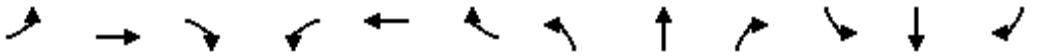
Timer - Assigned Phs	4
Phs Duration (G+Y+Rc), s	60.0
Change Period (Y+Rc), s	* 4.2
Max Green Setting (Gmax), s	* 20
Max Q Clear Time (g_c+I1), s	3.2
Green Ext Time (p_c), s	4.1

Intersection Summary	
HCM 6th Ctrl Delay	0.3
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



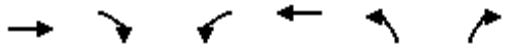
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	875	138	467	1110	255	51	79	792	143	70	11
Future Volume (veh/h)	10	875	138	467	1110	255	51	79	792	143	70	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.96
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	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	1856
Adj Flow Rate, veh/h	10	893	141	477	1133	260	52	81	808	146	71	11
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	63	999	442	389	877	739	422	43	431	111	186	29
Arrive On Green	0.04	0.28	0.28	0.15	0.32	0.32	0.24	0.30	0.30	0.06	0.12	0.12
Sat Flow, veh/h	1767	3526	1559	1767	1856	1563	1767	143	1424	1767	1559	242
Grp Volume(v), veh/h	10	893	141	477	1133	260	52	0	889	146	0	82
Grp Sat Flow(s),veh/h/ln	1767	1763	1559	1767	1856	1563	1767	0	1567	1767	0	1801
Q Serve(g_s), s	0.8	34.0	10.0	30.8	66.2	13.6	3.2	0.0	42.4	8.8	0.0	5.9
Cycle Q Clear(g_c), s	0.8	34.0	10.0	30.8	66.2	13.6	3.2	0.0	42.4	8.8	0.0	5.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.91	1.00		0.13
Lane Grp Cap(c), veh/h	63	999	442	389	877	739	422	0	475	111	0	214
V/C Ratio(X)	0.16	0.89	0.32	1.23	1.29	0.35	0.12	0.00	1.87	1.31	0.00	0.38
Avail Cap(c_a), veh/h	63	1100	487	389	877	739	422	0	475	111	0	524
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.67	0.67	0.67	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	65.5	48.2	39.5	59.7	47.8	18.2	41.8	0.0	48.8	65.6	0.0	56.9
Incr Delay (d2), s/veh	1.2	12.1	1.9	116.1	136.9	0.9	0.1	0.0	401.0	191.5	0.0	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	0.0
%ile BackOfQ(50%),veh/ln	0.4	16.2	4.1	26.7	64.8	5.5	1.4	0.0	69.2	9.8	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.6	60.3	41.4	175.8	184.7	19.1	41.9	0.0	449.8	257.1	0.0	58.0
LnGrp LOS	E	E	D	F	F	B	D	A	F	F	A	E
Approach Vol, veh/h		1044			1870			941			228	
Approach Delay, s/veh		57.8			159.4			427.2			185.5	
Approach LOS		E			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	47.0	35.0	45.0	38.0	22.0	9.2	70.8
Change Period (Y+Rc), s	* 4.2	4.6	4.2	* 5.3	4.6	* 5.3	4.2	* 4.6
Max Green Setting (Gmax), s	* 8.8	42.4	26.8	* 44	9.8	* 41	5.0	* 66
Max Q Clear Time (g_c+I1), s	10.8	44.4	32.8	36.0	5.2	7.9	2.8	68.2
Green Ext Time (p_c), s	0.0	0.0	0.0	3.6	0.0	0.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	196.6
HCM 6th LOS	F

Notes

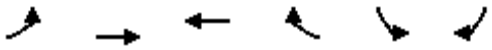
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1447	427	378	1727	148	474
Future Volume (veh/h)	1447	427	378	1727	148	474
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	1507	445	394	1799	154	494
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	1207	1022	284	2865	125	318
Arrive On Green	0.69	0.69	0.19	1.00	0.08	0.08
Sat Flow, veh/h	1752	1482	1668	3416	1668	1485
Grp Volume(v), veh/h	1507	445	394	1799	154	494
Grp Sat Flow(s),veh/h/ln	1752	1482	1668	1664	1668	1485
Q Serve(g_s), s	96.5	18.7	19.5	0.0	10.5	10.5
Cycle Q Clear(g_c), s	96.5	18.7	19.5	0.0	10.5	10.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1207	1022	284	2865	125	318
V/C Ratio(X)	1.25	0.44	1.39	0.63	1.23	1.55
Avail Cap(c_a), veh/h	1207	1022	284	2865	125	318
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.00	1.00
Upstream Filter(I)	0.24	0.24	0.21	0.21	1.00	1.00
Uniform Delay (d), s/veh	21.8	9.7	51.3	0.0	64.8	55.0
Incr Delay (d2), s/veh	113.4	0.3	179.4	0.2	155.2	263.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	72.9	5.8	23.1	0.1	9.9	34.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	135.1	10.0	230.6	0.2	219.9	318.8
LnGrp LOS	F	A	F	A	F	F
Approach Vol, veh/h	1952			2193	648	
Approach Delay, s/veh	106.6			41.6	295.3	
Approach LOS	F			D	F	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	24.0	101.0				125.0	15.0
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	19.5	96.5				120.5	10.5
Max Q Clear Time (g_c+I1), s	21.5	98.5				2.0	12.5
Green Ext Time (p_c), s	0.0	0.0				30.0	0.0

Intersection Summary							
HCM 6th Ctrl Delay			102.4				
HCM 6th LOS			F				



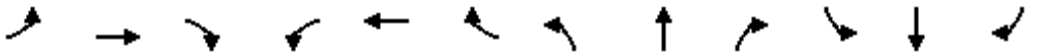
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	104	1752	1560	500	173	515
Future Volume (veh/h)	104	1752	1560	500	173	515
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	112	1884	1677	0	186	554
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	503	1445	1758		185	557
Arrive On Green	0.53	1.00	0.53	0.00	0.11	0.11
Sat Flow, veh/h	1668	1752	3416	1485	1668	1485
Grp Volume(v), veh/h	112	1884	1677	0	186	554
Grp Sat Flow(s),veh/h/ln	1668	1752	1664	1485	1668	1485
Q Serve(g_s), s	0.0	0.0	67.1	0.0	15.5	15.0
Cycle Q Clear(g_c), s	0.0	0.0	67.1	0.0	15.5	15.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	503	1445	1758		185	557
V/C Ratio(X)	0.22	1.30	0.95		1.01	0.99
Avail Cap(c_a), veh/h	503	1445	1785		185	557
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	0.0	31.4	0.0	62.3	43.6
Incr Delay (d2), s/veh	0.0	137.1	13.0	0.0	68.0	36.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	55.0	28.9	0.0	10.1	31.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.0	137.1	44.5	0.0	130.3	80.0
LnGrp LOS	C	F	D		F	F
Approach Vol, veh/h		1996	1677	A	740	
Approach Delay, s/veh		130.8	44.5		92.6	
Approach LOS		F	D		F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		120.0		20.0	41.6	78.4
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		115.5		15.5	35.9	75.1
Max Q Clear Time (g_c+I1), s		2.0		17.5	2.0	69.1
Green Ext Time (p_c), s		105.2		0.0	0.3	4.8

Intersection Summary	
HCM 6th Ctrl Delay	91.6
HCM 6th LOS	F

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1038	42	323	1441	0	62	0	402	210	376	237
Future Volume (veh/h)	0	1038	42	323	1441	0	62	0	402	210	376	237
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1059	43	330	1470	0	63	0	410	214	384	242
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	3	3	3	3	0	3	0	3	3	3	3
Cap, veh/h	0	1117	498	464	2179	0	77	0	0	1051	449	279
Arrive On Green	0.00	0.32	0.32	0.35	0.82	0.00	0.04	0.00	0.00	0.31	0.22	0.22
Sat Flow, veh/h	0	3618	1572	1767	3618	0	1767	63		3428	2087	1298
Grp Volume(v), veh/h	0	1059	43	330	1470	0	63	106.9		214	323	303
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1763	0	1767	F		1714	1763	1622
Q Serve(g_s), s	0.0	37.0	2.0	20.4	21.0	0.0	4.5			5.8	22.2	22.7
Cycle Q Clear(g_c), s	0.0	37.0	2.0	20.4	21.0	0.0	4.5			5.8	22.2	22.7
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		0.80
Lane Grp Cap(c), veh/h	0	1117	498	464	2179	0	77			1051	379	349
V/C Ratio(X)	0.00	0.95	0.09	0.71	0.67	0.00	0.82			0.20	0.85	0.87
Avail Cap(c_a), veh/h	0	1130	504	464	2179	0	77			1265	490	451
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.09	0.09	0.00	1.00			1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	42.0	20.8	36.9	6.1	0.0	59.8			32.3	47.5	47.7
Incr Delay (d2), s/veh	0.0	17.0	0.3	0.5	0.2	0.0	47.1			0.1	11.0	13.3
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
%ile BackOfQ(50%),veh/ln	0.0	18.2	1.0	8.1	4.3	0.0	3.0			2.3	10.5	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	59.1	21.2	37.4	6.3	0.0	106.9			32.4	58.5	61.0
LnGrp LOS	A	E	C	D	A	A	F			C	E	E
Approach Vol, veh/h		1102			1800						840	
Approach Delay, s/veh		57.6			12.0						52.8	
Approach LOS		E			B						D	

Timer - Assigned Phs	1		3	4	5	6		8
Phs Duration (G+Y+Rc), s	42.8		38.4	44.8	9.7	33.1		83.2
Change Period (Y+Rc), s	* 4.2		5.3	4.9	* 4.2	6.0		* 5.3
Max Green Setting (Gmax), s	* 47		24.7	40.4	* 5.5	35.0		* 70
Max Q Clear Time (g_c+I1), s	7.8		22.4	39.0	6.5	24.7		23.0
Green Ext Time (p_c), s	0.7		0.2	1.0	0.0	2.4		15.5

Intersection Summary	
HCM 6th Ctrl Delay	35.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



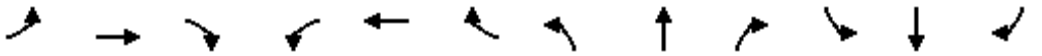
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	6	139	906	0	0	1076	410	547	6	555	129	0
Future Volume (vph)	6	139	906	0	0	1076	410	547	6	555	129	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5	
Lane Util. Factor		1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97	
Frpb, ped/bikes		1.00	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	
Frt		1.00	1.00			1.00	0.85	1.00	0.92	0.85	1.00	
Flt Protected		0.95	1.00			1.00	1.00	0.95	0.98	1.00	0.95	
Satd. Flow (prot)		1752	3505			3505	1547	1665	1509	1490	3400	
Flt Permitted		0.95	1.00			1.00	1.00	0.95	0.98	1.00	0.95	
Satd. Flow (perm)		1752	3505			3505	1547	1665	1509	1490	3400	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	143	934	0	0	1109	423	564	6	572	133	0
RTOR Reduction (vph)	0	0	0	0	0	0	145	0	34	296	0	0
Lane Group Flow (vph)	0	149	934	0	0	1109	278	395	347	70	133	0
Confl. Peds. (#/hr)							1					
Turn Type	Prot	Prot	NA			NA	Perm	Split	NA	Perm	Prot	
Protected Phases	7	7	4			8		2	2		1	
Permitted Phases							8			2		
Actuated Green, G (s)		9.8	53.6			39.6	39.6	24.0	24.0	24.0	5.0	
Effective Green, g (s)		9.8	53.6			39.6	39.6	24.0	24.0	24.0	5.0	
Actuated g/C Ratio		0.08	0.43			0.31	0.31	0.19	0.19	0.19	0.04	
Clearance Time (s)		4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5	
Vehicle Extension (s)		3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		136	1491			1101	486	317	287	283	134	
v/s Ratio Prot		c0.09	0.27			c0.32		c0.24	0.23		c0.04	
v/s Ratio Perm							0.18			0.05		
v/c Ratio		1.10	0.63			1.01	0.57	1.25	1.21	0.25	0.99	
Uniform Delay, d1		58.1	28.4			43.2	36.1	51.0	51.0	43.3	60.5	
Progression Factor		0.75	0.49			1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		95.8	1.6			28.9	4.8	134.4	122.0	0.5	75.2	
Delay (s)		139.4	15.3			72.1	41.0	185.4	173.0	43.8	135.7	
Level of Service		F	B			E	D	F	F	D	F	
Approach Delay (s)			32.4			63.5			135.9			233.4
Approach LOS			C			E			F			F

Intersection Summary			
HCM 2000 Control Delay	101.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	126.0	Sum of lost time (s)	24.1
Intersection Capacity Utilization	109.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	555
Future Volume (vph)	555
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	572
RTOR Reduction (vph)	159
Lane Group Flow (vph)	413
Confl. Peds. (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	23.5
Effective Green, g (s)	23.5
Actuated g/C Ratio	0.19
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	292
v/s Ratio Prot	
v/s Ratio Perm	c0.26
v/c Ratio	1.41
Uniform Delay, d1	51.2
Progression Factor	1.00
Incremental Delay, d2	204.9
Delay (s)	256.2
Level of Service	F
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1102	89	300	695	83	94	33	541	262	73	23
Future Volume (veh/h)	8	1102	89	300	695	83	94	33	541	262	73	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	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	1856
Adj Flow Rate, veh/h	8	1136	92	309	716	86	97	34	558	270	75	24
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	17	1136	506	451	2029	904	119	252	614	263	292	93
Arrive On Green	0.01	0.32	0.32	0.25	0.58	0.58	0.07	0.14	0.14	0.15	0.22	0.22
Sat Flow, veh/h	1767	3526	1570	1767	3526	1571	1767	1856	1569	1767	1345	431
Grp Volume(v), veh/h	8	1136	92	309	716	86	97	34	558	270	0	99
Grp Sat Flow(s),veh/h/ln	1767	1763	1570	1767	1763	1571	1767	1856	1569	1767	0	1776
Q Serve(g_s), s	0.6	45.1	4.7	22.1	15.1	3.4	7.6	2.3	13.8	20.8	0.0	6.5
Cycle Q Clear(g_c), s	0.6	45.1	4.7	22.1	15.1	3.4	7.6	2.3	13.8	20.8	0.0	6.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	17	1136	506	451	2029	904	119	252	614	263	0	385
V/C Ratio(X)	0.47	1.00	0.18	0.69	0.35	0.10	0.81	0.13	0.91	1.03	0.00	0.26
Avail Cap(c_a), veh/h	63	1136	506	451	2029	904	193	424	760	263	0	467
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	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.0	47.4	21.9	47.1	15.8	13.4	64.4	53.3	17.5	59.6	0.0	45.5
Incr Delay (d2), s/veh	19.2	26.8	0.8	4.0	0.4	0.2	12.6	0.2	13.0	63.1	0.0	0.3
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	0.0
%ile BackOfQ(50%),veh/ln	0.4	23.3	2.4	10.2	6.2	1.3	3.8	1.1	11.6	13.7	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.2	74.2	22.7	51.1	16.3	13.5	77.0	53.5	30.5	122.7	0.0	45.8
LnGrp LOS	F	F	C	D	B	B	E	D	C	F	A	D
Approach Vol, veh/h		1236			1111			689			369	
Approach Delay, s/veh		70.5			25.8			38.2			102.0	
Approach LOS		E			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	24.3	40.3	50.4	13.6	35.7	5.5	85.2
Change Period (Y+Rc), s	* 4.2	* 5.3	4.6	* 5.3	* 4.2	5.3	* 4.2	4.6
Max Green Setting (Gmax), s	* 21	* 32	23.8	* 45	* 15	36.8	* 5	64.6
Max Q Clear Time (g_c+I1), s	22.8	15.8	24.1	47.1	9.6	8.5	2.6	17.1
Green Ext Time (p_c), s	0.0	2.1	0.0	0.0	0.1	0.4	0.0	6.0

Intersection Summary	
HCM 6th Ctrl Delay	52.8
HCM 6th LOS	D

Notes

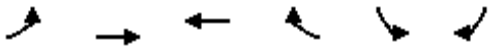
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1216	734	592	950	73	298
Future Volume (veh/h)	1216	734	592	950	73	298
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	1267	765	617	990	76	310
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	1623	724	588	2746	104	510
Arrive On Green	0.49	0.49	0.56	1.00	0.06	0.06
Sat Flow, veh/h	3416	1485	1668	3416	1668	1485
Grp Volume(v), veh/h	1267	765	617	990	76	310
Grp Sat Flow(s),veh/h/ln	1664	1485	1668	1664	1668	1485
Q Serve(g_s), s	25.2	39.0	22.5	0.0	3.6	0.0
Cycle Q Clear(g_c), s	25.2	39.0	22.5	0.0	3.6	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1623	724	588	2746	104	510
V/C Ratio(X)	0.78	1.06	1.05	0.36	0.73	0.61
Avail Cap(c_a), veh/h	1623	724	588	2746	104	510
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.39	0.39	0.55	0.55	1.00	1.00
Uniform Delay (d), s/veh	17.0	20.5	14.9	0.0	36.8	21.8
Incr Delay (d2), s/veh	1.5	37.8	41.4	0.2	22.5	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	19.3	11.4	0.1	2.1	5.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.5	58.3	56.3	0.2	59.4	23.8
LnGrp LOS	B	F	F	A	E	C
Approach Vol, veh/h	2032			1607	386	
Approach Delay, s/veh	33.5			21.7	30.8	
Approach LOS	C			C	C	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	27.0	43.5				70.5	9.5
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	22.5	39.0				66.0	5.0
Max Q Clear Time (g_c+I1), s	24.5	41.0				2.0	5.6
Green Ext Time (p_c), s	0.0	0.0				9.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	28.5
HCM 6th LOS	C



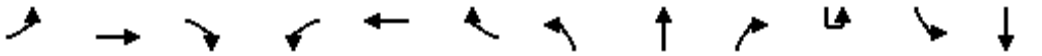
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	188	1354	946	293	189	560
Future Volume (veh/h)	188	1354	946	293	189	560
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	196	1410	985	0	197	583
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	674	2456	1154		249	719
Arrive On Green	0.22	0.49	0.35	0.00	0.15	0.15
Sat Flow, veh/h	1668	3416	3416	1485	1668	1485
Grp Volume(v), veh/h	196	1410	985	0	197	583
Grp Sat Flow(s),veh/h/ln	1668	1664	1664	1485	1668	1485
Q Serve(g_s), s	1.9	23.9	22.0	0.0	9.1	0.0
Cycle Q Clear(g_c), s	1.9	23.9	22.0	0.0	9.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	674	2456	1154		249	719
V/C Ratio(X)	0.29	0.57	0.85		0.79	0.81
Avail Cap(c_a), veh/h	674	2456	1302		282	748
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.60	0.60	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	20.6	11.3	24.2	0.0	32.8	17.5
Incr Delay (d2), s/veh	0.1	0.6	8.1	0.0	12.7	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	9.2	9.3	0.0	4.5	14.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.7	11.9	32.3	0.0	45.5	24.0
LnGrp LOS	C	B	C		D	C
Approach Vol, veh/h		1606	985	A	780	
Approach Delay, s/veh		13.0	32.3		29.4	
Approach LOS		B	C		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		63.5		16.5	31.3	32.2
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		57.5		13.5	21.7	31.3
Max Q Clear Time (g_c+I1), s		25.9		11.1	3.9	24.0
Green Ext Time (p_c), s		13.4		0.8	0.5	3.8

Intersection Summary	
HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	144	1209	0	0	570	483	278	8	497	1	92	0
Future Volume (vph)	144	1209	0	0	570	483	278	8	497	1	92	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Lane Util. Factor	1.00	0.95			0.95	1.00	0.97	0.95	0.95		0.97	
Frt	1.00	1.00			1.00	0.85	1.00	0.85	0.85		1.00	
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1752	3505			3505	1568	3400	1498	1490		3400	
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1752	3505			3505	1568	3400	1498	1490		3400	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	148	1246	0	0	588	498	287	8	512	1	95	0
RTOR Reduction (vph)	0	0	0	0	0	237	0	47	84	0	0	0
Lane Group Flow (vph)	148	1246	0	0	588	261	287	212	177	0	96	0
Turn Type	Prot	NA			NA	Perm	Prot	NA	Perm	Prot	Prot	
Protected Phases	7	4			8		5	2		1	1	
Permitted Phases						8			2			
Actuated Green, G (s)	16.6	85.8			65.0	65.0	24.4	24.6	24.6		9.2	
Effective Green, g (s)	16.6	85.8			65.0	65.0	24.4	24.6	24.6		9.2	
Actuated g/C Ratio	0.12	0.64			0.48	0.48	0.18	0.18	0.18		0.07	
Clearance Time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	215	2227			1687	754	614	272	271		231	
v/s Ratio Prot	c0.08	c0.36			0.17		c0.08	c0.14			0.03	
v/s Ratio Perm						0.17			0.12			
v/c Ratio	0.69	0.56			0.35	0.35	0.47	0.78	0.65		0.42	
Uniform Delay, d1	56.7	13.9			21.8	21.8	49.5	52.6	51.2		60.3	
Progression Factor	0.90	0.91			1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	5.9	0.7			0.6	1.3	0.6	13.5	5.5		1.2	
Delay (s)	57.0	13.3			22.4	23.0	50.1	66.1	56.8		61.5	
Level of Service	E	B			C	C	D	E	E		E	
Approach Delay (s)		18.0			22.7			57.4				60.7
Approach LOS		B			C			E				E

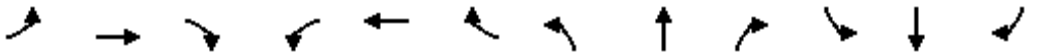
Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	351
Future Volume (vph)	351
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	362
RTOR Reduction (vph)	337
Lane Group Flow (vph)	25
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	9.4
Effective Green, g (s)	9.4
Actuated g/C Ratio	0.07
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	109
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.23
Uniform Delay, d1	59.4
Progression Factor	1.00
Incremental Delay, d2	1.1
Delay (s)	60.5
Level of Service	E
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	875	138	467	1110	255	51	79	792	143	70	11
Future Volume (veh/h)	10	875	138	467	1110	255	51	79	792	143	70	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.99
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	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	1856
Adj Flow Rate, veh/h	10	893	141	477	1133	260	52	81	808	146	71	11
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	20	1093	484	489	2028	900	67	437	796	153	450	70
Arrive On Green	0.01	0.31	0.31	0.55	1.00	1.00	0.04	0.24	0.24	0.09	0.29	0.29
Sat Flow, veh/h	1767	3526	1560	1767	3526	1564	1767	1856	1534	1767	1566	243
Grp Volume(v), veh/h	10	893	141	477	1133	260	52	81	808	146	0	82
Grp Sat Flow(s),veh/h/ln	1767	1763	1560	1767	1763	1564	1767	1856	1534	1767	0	1809
Q Serve(g_s), s	0.8	31.8	9.3	35.6	0.0	0.0	4.0	4.7	32.0	11.2	0.0	4.6
Cycle Q Clear(g_c), s	0.8	31.8	9.3	35.6	0.0	0.0	4.0	4.7	32.0	11.2	0.0	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	20	1093	484	489	2028	900	67	437	796	153	0	519
V/C Ratio(X)	0.49	0.82	0.29	0.98	0.56	0.29	0.78	0.19	1.01	0.95	0.00	0.16
Avail Cap(c_a), veh/h	65	1093	484	491	2028	900	125	437	796	153	0	519
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	66.8	43.4	35.6	29.9	0.0	0.0	64.9	41.6	23.9	61.8	0.0	36.2
Incr Delay (d2), s/veh	17.0	6.8	1.5	27.0	0.7	0.5	17.3	0.2	35.6	58.3	0.0	0.1
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	0.0
%ile BackOfQ(50%),veh/ln	0.4	14.5	3.8	14.7	0.2	0.1	2.1	2.2	32.1	7.4	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.8	50.1	37.1	56.9	0.7	0.5	82.1	41.8	59.5	120.1	0.0	36.3
LnGrp LOS	F	D	D	E	A	A	F	D	F	F	A	D
Approach Vol, veh/h		1044			1870			941			228	
Approach Delay, s/veh		48.7			15.0			59.2			90.0	
Approach LOS		D			B			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.1	36.6	41.8	47.5	9.3	44.4	5.8	83.5
Change Period (Y+Rc), s	5.3	* 4.6	* 4.2	5.3	* 4.2	5.3	* 4.2	* 5.3
Max Green Setting (Gmax), s	11.8	* 32	* 38	36.1	* 9.6	33.5	* 5	* 70
Max Q Clear Time (g_c+I1), s	13.2	34.0	37.6	33.8	6.0	6.6	2.8	2.0
Green Ext Time (p_c), s	0.0	0.0	0.0	1.3	0.0	0.3	0.0	12.8

Intersection Summary	
HCM 6th Ctrl Delay	38.0
HCM 6th LOS	D

Notes

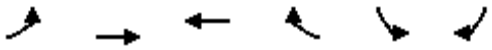
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1447	427	378	1727	148	474
Future Volume (veh/h)	1447	427	378	1727	148	474
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	1507	445	394	1799	154	494
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	2117	943	414	2680	215	393
Arrive On Green	1.00	1.00	0.27	1.00	0.13	0.13
Sat Flow, veh/h	3416	1482	1668	3416	1668	1485
Grp Volume(v), veh/h	1507	445	394	1799	154	494
Grp Sat Flow(s),veh/h/ln	1664	1482	1668	1664	1668	1485
Q Serve(g_s), s	0.0	0.0	15.4	0.0	12.1	17.5
Cycle Q Clear(g_c), s	0.0	0.0	15.4	0.0	12.1	17.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2117	943	414	2680	215	393
V/C Ratio(X)	0.71	0.47	0.95	0.67	0.72	1.26
Avail Cap(c_a), veh/h	2117	943	611	2680	215	393
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.15	0.15	0.23	0.23	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	16.2	0.0	56.9	50.0
Incr Delay (d2), s/veh	0.3	0.3	6.6	0.3	10.9	134.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	9.8	0.1	5.8	28.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.3	0.3	22.8	0.3	67.8	184.9
LnGrp LOS	A	A	C	A	E	F
Approach Vol, veh/h	1952			2193	648	
Approach Delay, s/veh	0.3			4.4	157.1	
Approach LOS	A			A	F	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	23.0	91.0				114.0	22.0
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	34.5	70.5				109.5	17.5
Max Q Clear Time (g_c+I1), s	17.4	2.0				2.0	19.5
Green Ext Time (p_c), s	1.1	23.6				29.6	0.0

Intersection Summary			
HCM 6th Ctrl Delay		23.4	
HCM 6th LOS		C	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	104	1752	1560	500	173	515
Future Volume (veh/h)	104	1752	1560	500	173	515
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	112	1884	1677	0	186	554
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	462	2680	1779		215	544
Arrive On Green	0.32	1.00	0.53	0.00	0.13	0.13
Sat Flow, veh/h	1668	3416	3416	1485	1668	1485
Grp Volume(v), veh/h	112	1884	1677	0	186	554
Grp Sat Flow(s),veh/h/ln	1668	1664	1664	1485	1668	1485
Q Serve(g_s), s	1.0	0.0	64.3	0.0	14.9	17.5
Cycle Q Clear(g_c), s	1.0	0.0	64.3	0.0	14.9	17.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	462	2680	1779		215	544
V/C Ratio(X)	0.24	0.70	0.94		0.87	1.02
Avail Cap(c_a), veh/h	462	2680	1823		215	544
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.43	0.43	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	0.0	29.7	0.0	58.1	43.1
Incr Delay (d2), s/veh	0.1	0.7	11.5	0.0	29.0	43.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.3	27.4	0.0	8.1	31.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.2	0.7	41.3	0.0	87.1	86.4
LnGrp LOS	D	A	D		F	F
Approach Vol, veh/h		1996	1677	A	740	
Approach Delay, s/veh		2.6	41.3		86.6	
Approach LOS		A	D		F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		114.0		22.0	36.8	77.2
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		109.5		17.5	30.5	74.5
Max Q Clear Time (g_c+I1), s		2.0		19.5	3.0	66.3
Green Ext Time (p_c), s		33.3		0.0	0.3	6.4

Intersection Summary	
HCM 6th Ctrl Delay	31.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	6	139	906	0	0	1076	410	547	6	555	129	0
Future Volume (vph)	6	139	906	0	0	1076	410	547	6	555	129	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5	
Lane Util. Factor		1.00	0.95			0.95	1.00	0.97	0.95	0.95	0.97	
Frpb, ped/bikes		1.00	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	
Frt		1.00	1.00			1.00	0.85	1.00	0.85	0.85	1.00	
Flt Protected		0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95	
Satd. Flow (prot)		1752	3505			3505	1548	3400	1495	1490	3400	
Flt Permitted		0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95	
Satd. Flow (perm)		1752	3505			3505	1548	3400	1495	1490	3400	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	143	934	0	0	1109	423	564	6	572	133	0
RTOR Reduction (vph)	0	0	0	0	0	0	151	0	265	265	0	0
Lane Group Flow (vph)	0	149	934	0	0	1109	272	564	27	21	133	0
Confl. Peds. (#/hr)							1					
Turn Type	Prot	Prot	NA			NA	Perm	Prot	NA	Perm	Prot	
Protected Phases	7	7	4			8		5	2		1	
Permitted Phases							8			2		
Actuated Green, G (s)		11.6	60.3			44.5	44.5	43.8	7.8	7.8	31.5	
Effective Green, g (s)		11.6	60.3			44.5	44.5	43.8	7.8	7.8	31.5	
Actuated g/C Ratio		0.10	0.52			0.39	0.39	0.38	0.07	0.07	0.27	
Clearance Time (s)		4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5	
Vehicle Extension (s)		3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		176	1837			1356	599	1294	101	101	931	
v/s Ratio Prot		c0.09	0.27			c0.32		c0.17	0.02		0.04	
v/s Ratio Perm							0.18			0.01		
v/c Ratio		0.85	0.51			0.82	0.45	0.44	0.27	0.21	0.14	
Uniform Delay, d1		50.8	17.7			31.6	26.2	26.4	50.9	50.7	31.5	
Progression Factor		0.69	0.42			1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		24.4	0.8			5.6	2.5	0.2	1.4	1.0	0.1	
Delay (s)		59.7	8.3			37.2	28.7	26.7	52.3	51.7	31.6	
Level of Service		E	A			D	C	C	D	D	C	
Approach Delay (s)			15.4			34.8			39.5			66.4
Approach LOS			B			C			D			E

Intersection Summary			
HCM 2000 Control Delay	36.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	104.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	555
Future Volume (vph)	555
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	572
RTOR Reduction (vph)	160
Lane Group Flow (vph)	412
Confl. Peds. (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	1
Actuated Green, G (s)	31.5
Effective Green, g (s)	31.5
Actuated g/C Ratio	0.27
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	429
v/s Ratio Prot	
v/s Ratio Perm	c0.26
v/c Ratio	0.96
Uniform Delay, d1	41.1
Progression Factor	1.00
Incremental Delay, d2	33.4
Delay (s)	74.5
Level of Service	E
Approach Delay (s)	
Approach LOS	

Intersection Summary

Intersection: 1: Herndon Avenue & SR 99 NB Off-Ramp

Movement	NW	NW	NW	NE	SW	SW
Directions Served	L	R	R	T	T	T
Maximum Queue (ft)	150	175	188	568	730	765
Average Queue (ft)	39	109	99	362	236	273
95th Queue (ft)	93	167	152	602	609	667
Link Distance (ft)		772	772	566	1583	1583
Upstream Blk Time (%)				0		
Queuing Penalty (veh)				3		
Storage Bay Dist (ft)	290					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Grantland Avenue & Parkway Drive/SR 99 SB On-Ramp

Movement	EB	EB	EB	NB	NB
Directions Served	T	T	R	L	R
Maximum Queue (ft)	641	671	350	394	418
Average Queue (ft)	615	619	162	257	45
95th Queue (ft)	659	657	447	390	164
Link Distance (ft)	604	604			1688
Upstream Blk Time (%)	28	21			
Queuing Penalty (veh)	189	145			
Storage Bay Dist (ft)			295	295	
Storage Blk Time (%)		2	0	7	
Queuing Penalty (veh)		11	0	9	

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	B20
Directions Served	L	T	T	R	L	T	T	R	L	T	R	T
Maximum Queue (ft)	52	486	625	150	234	387	229	44	184	1467	370	771
Average Queue (ft)	8	347	404	82	195	149	96	12	88	858	364	65
95th Queue (ft)	32	479	581	192	263	331	171	33	165	1603	406	367
Link Distance (ft)		1319	1319			465	465			1387		708
Upstream Blk Time (%)										14		1
Queuing Penalty (veh)										0		0
Storage Bay Dist (ft)	200			100	160			250	100		250	
Storage Blk Time (%)		26	59		27	1			16	0	76	
Queuing Penalty (veh)		2	52		94	2			90	0	96	

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	B19	SB	SB
Directions Served	T	L	TR
Maximum Queue (ft)	59	180	765
Average Queue (ft)	2	174	380
95th Queue (ft)	19	195	722
Link Distance (ft)	348		1170
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		120	
Storage Blk Time (%)		68	6
Queuing Penalty (veh)		65	15

Intersection: 4: SR 99 SB Ramps & Shaw Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	T	R	L	T	T	L	R
Maximum Queue (ft)	505	481	370	245	407	112	289	145
Average Queue (ft)	312	384	347	240	357	31	84	90
95th Queue (ft)	520	584	423	256	498	82	186	150
Link Distance (ft)	465	465			385	385	476	
Upstream Blk Time (%)	0	7			9			
Queuing Penalty (veh)	2	68			71			
Storage Bay Dist (ft)			250	125				25
Storage Blk Time (%)		3	39	63	0		52	39
Queuing Penalty (veh)		23	237	299	0		155	28

Intersection: 5: Shaw Avenue & SR 99 NB Ramps

Movement	EB	EB	EB	WB	WB	WB	B35	B35	SB	SB
Directions Served	L	T	T	T	T	R	T	T	L	R
Maximum Queue (ft)	237	362	353	372	324	181	1314	1314	693	160
Average Queue (ft)	93	174	189	332	207	30	1044	1022	336	158
95th Queue (ft)	165	308	327	394	323	103	1775	1770	583	165
Link Distance (ft)		385	385	260	260	260	1251	1251	654	
Upstream Blk Time (%)				79	3		55	36	1	
Queuing Penalty (veh)				0	0		0	0	0	
Storage Bay Dist (ft)	125									40
Storage Blk Time (%)	4	8							47	47
Queuing Penalty (veh)	26	15							262	88

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	B41	SB	SB
Directions Served	T	T	R	L	T	T	L	R	R	T	L	L
Maximum Queue (ft)	675	664	250	132	150	149	310	247	220	115	232	290
Average Queue (ft)	386	353	56	67	39	52	103	160	135	4	117	163
95th Queue (ft)	585	558	216	129	107	114	252	240	218	38	198	242
Link Distance (ft)	1212	1212			1024	1024	247			1114		
Upstream Blk Time (%)							1	0				
Queuing Penalty (veh)							0	0				
Storage Bay Dist (ft)			150	550				150	150		380	380
Storage Blk Time (%)		28					4	12	2			
Queuing Penalty (veh)		9					16	3	0			

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	114	119
Average Queue (ft)	62	55
95th Queue (ft)	116	100
Link Distance (ft)	656	656
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	T	T	T	R	L	L	TR	R	UL	L
Maximum Queue (ft)	191	381	406	246	255	196	170	228	242	245	120	202
Average Queue (ft)	107	186	200	150	114	83	94	125	117	115	14	70
95th Queue (ft)	170	340	350	242	228	165	158	195	198	186	64	140
Link Distance (ft)		1024	1024	1607	1607				532	532		544
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300					150	220	220			200	
Storage Blk Time (%)		2			4	0		0	1			7
Queuing Penalty (veh)		2			20	0		1	2			27

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	SB
Directions Served	R
Maximum Queue (ft)	208
Average Queue (ft)	98
95th Queue (ft)	186
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	11
Queuing Penalty (veh)	11

Zone Summary

Zone wide Queuing Penalty: 2143

Intersection: 1: Herndon Avenue & SR 99 NB Off-Ramp

Movement	NW	NW	NW	NE	SW	SW
Directions Served	L	R	R	T	T	T
Maximum Queue (ft)	149	262	233	506	545	1103
Average Queue (ft)	61	137	119	154	228	448
95th Queue (ft)	121	235	205	406	437	805
Link Distance (ft)		772	772	566	1583	1583
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	290					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Grantland Avenue & Parkway Drive/SR 99 SB On-Ramp

Movement	EB	EB	EB	NB	NB
Directions Served	T	T	R	L	R
Maximum Queue (ft)	516	459	350	394	656
Average Queue (ft)	182	28	12	322	127
95th Queue (ft)	372	180	115	437	447
Link Distance (ft)	604	604			1688
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			295	295	
Storage Blk Time (%)		0		16	
Queuing Penalty (veh)		0		8	

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	B20
Directions Served	L	T	T	R	L	T	T	R	L	T	R	T
Maximum Queue (ft)	30	601	670	150	235	479	490	45	89	1490	370	811
Average Queue (ft)	2	454	480	110	203	274	161	26	27	842	334	259
95th Queue (ft)	15	589	624	203	289	531	367	51	63	1902	435	835
Link Distance (ft)		1318	1318			465	465			1389		721
Upstream Blk Time (%)						2	0			34		18
Queuing Penalty (veh)						18	2			0		0
Storage Bay Dist (ft)	200			100	160			250	100		250	
Storage Blk Time (%)		58	69	1	37	1	0		0	2	48	
Queuing Penalty (veh)		6	96	2	206	4	0		0	19	63	

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	B19	B19	SB	SB
Directions Served	T		L	TR
Maximum Queue (ft)	364	377	176	200
Average Queue (ft)	57	24	94	63
95th Queue (ft)	245	172	169	146
Link Distance (ft)	325	325		1170
Upstream Blk Time (%)	5	2		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)			120	
Storage Blk Time (%)			10	0
Queuing Penalty (veh)			8	0

Intersection: 4: SR 99 SB Ramps & Shaw Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	T	R	L	T	T	L	R
Maximum Queue (ft)	464	481	370	245	392	365	528	145
Average Queue (ft)	324	332	176	209	224	115	425	143
95th Queue (ft)	453	479	375	279	446	276	604	149
Link Distance (ft)	465	465			385	385	476	
Upstream Blk Time (%)	0	2			3	0	29	
Queuing Penalty (veh)	0	16			26	0	0	
Storage Bay Dist (ft)			250	125				25
Storage Blk Time (%)		19	1	42	3		82	51
Queuing Penalty (veh)		81	5	360	11		389	76

Intersection: 5: Shaw Avenue & SR 99 NB Ramps

Movement	EB	EB	EB	WB	WB	WB	B35	B35	SB	SB
Directions Served	L	T	T	T	T	R	T	T	L	R
Maximum Queue (ft)	149	400	398	361	343	326	1248	325	717	160
Average Queue (ft)	70	103	115	329	285	59	196	126	682	160
95th Queue (ft)	131	254	258	349	342	180	546	308	707	161
Link Distance (ft)		385	385	260	260	260	1251	1251	654	
Upstream Blk Time (%)		0	0	27	14	1	0		67	
Queuing Penalty (veh)		5	5	0	0	0	0		0	
Storage Bay Dist (ft)	125									40
Storage Blk Time (%)	1	3							55	63
Queuing Penalty (veh)	5	3							281	110

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	R	R	L	L	T
Maximum Queue (ft)	427	362	250	670	1024	1049	183	174	202	183	199	326
Average Queue (ft)	309	271	52	430	426	419	58	97	81	48	89	193
95th Queue (ft)	411	369	180	742	970	984	131	171	164	123	159	302
Link Distance (ft)	1212	1212			1024	1024	247					656
Upstream Blk Time (%)					0	0						
Queuing Penalty (veh)					1	2						
Storage Bay Dist (ft)			150	550				150	150	380	380	
Storage Blk Time (%)		26		29	3		0	1	0			
Queuing Penalty (veh)		11		210	9		1	1	0			

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	SB
Directions Served	TR
Maximum Queue (ft)	242
Average Queue (ft)	129
95th Queue (ft)	236
Link Distance (ft)	656
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	UL	T	T	T	T	R	L	L	TR	R	L	L
Maximum Queue (ft)	195	203	227	1174	1218	200	268	274	284	197	275	607
Average Queue (ft)	88	122	126	562	561	188	150	181	121	116	228	542
95th Queue (ft)	151	199	202	1020	1045	243	221	252	220	177	395	700
Link Distance (ft)		1024	1024	1584	1584				532	532		544
Upstream Blk Time (%)												73
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	300					150	220	220			200	
Storage Blk Time (%)					44	2	0	4	0			2
Queuing Penalty (veh)					181	12	0	10	0			10

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	SB
Directions Served	R
Maximum Queue (ft)	220
Average Queue (ft)	218
95th Queue (ft)	233
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	84
Queuing Penalty (veh)	107

Zone Summary

Zone wide Queuing Penalty: 2364

Appendix K: Cumulative Year 2035 plus Project (Buildout) Traffic Conditions



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	60	490	1153	0	0	1330
Future Volume (veh/h)	60	490	1153	0	0	1330
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	0	1856
Adj Flow Rate, veh/h	65	533	1253	0	0	1446
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	0	0	3
Cap, veh/h	388	608	1307	0	0	2484
Arrive On Green	0.22	0.22	0.70	0.00	0.00	0.70
Sat Flow, veh/h	1767	2768	1856	0	0	3711
Grp Volume(v), veh/h	65	533	1253	0	0	1446
Grp Sat Flow(s),veh/h/ln	1767	1384	1856	0	0	1763
Q Serve(g_s), s	4.2	26.1	86.0	0.0	0.0	28.8
Cycle Q Clear(g_c), s	4.2	26.1	86.0	0.0	0.0	28.8
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	388	608	1307	0	0	2484
V/C Ratio(X)	0.17	0.88	0.96	0.00	0.00	0.58
Avail Cap(c_a), veh/h	388	608	1397	0	0	2654
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.63	0.00	0.00	1.00
Uniform Delay (d), s/veh	44.3	52.8	18.8	0.0	0.0	10.4
Incr Delay (d2), s/veh	0.9	16.3	10.7	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	10.1	36.2	0.0	0.0	10.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.2	69.1	29.5	0.0	0.0	10.6
LnGrp LOS	D	E	C	A	A	B
Approach Vol, veh/h	598		1253			1446
Approach Delay, s/veh	66.5		29.5			10.6
Approach LOS	E		C			B

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	36.8	103.2	103.2
Change Period (Y+Rc), s	6.0	4.6	4.6
Max Green Setting (Gmax), s	24.0	105.4	105.4
Max Q Clear Time (g_c+I1), s	28.1	88.0	30.8
Green Ext Time (p_c), s	0.0	10.7	17.2

Intersection Summary	
HCM 6th Ctrl Delay	27.9
HCM 6th LOS	C



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	845	542	0	0	705	136
Future Volume (veh/h)	845	542	0	0	705	136
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)		1.00			1.00	1.00
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No				No	
Adj Sat Flow, veh/h/ln	1856	1856			1856	1856
Adj Flow Rate, veh/h	918	0			766	148
Peak Hour Factor	0.92	0.92			0.92	0.92
Percent Heavy Veh, %	3	3			3	3
Cap, veh/h	3420				0	0
Arrive On Green	0.97	0.00			0.00	0.00
Sat Flow, veh/h	3618	1572			0	
Grp Volume(v), veh/h	918	0			0.0	
Grp Sat Flow(s),veh/h/ln	1763	1572				
Q Serve(g_s), s	1.5	0.0				
Cycle Q Clear(g_c), s	1.5	0.0				
Prop In Lane		1.00				
Lane Grp Cap(c), veh/h	3420					
V/C Ratio(X)	0.27					
Avail Cap(c_a), veh/h	3420					
HCM Platoon Ratio	1.00	1.00				
Upstream Filter(I)	0.82	0.00				
Uniform Delay (d), s/veh	0.1	0.0				
Incr Delay (d2), s/veh	0.2	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.1	0.0				
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.2	0.0				
LnGrp LOS	A					
Approach Vol, veh/h	918	A				
Approach Delay, s/veh	0.2					
Approach LOS	A					

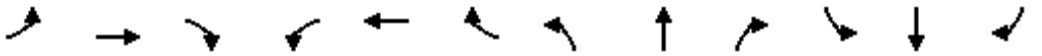
Timer - Assigned Phs	4
Phs Duration (G+Y+Rc), s	140.0
Change Period (Y+Rc), s	* 4.2
Max Green Setting (Gmax), s	* 49
Max Q Clear Time (g_c+I1), s	3.5
Green Ext Time (p_c), s	6.5

Intersection Summary	
HCM 6th Ctrl Delay	0.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1262	89	300	735	83	94	33	541	262	73	23
Future Volume (veh/h)	8	1262	89	300	735	83	94	33	541	262	73	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	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	1856
Adj Flow Rate, veh/h	8	1301	92	309	758	86	97	34	558	270	75	24
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	342	1211	539	448	757	641	119	21	341	250	411	131
Arrive On Green	0.19	0.34	0.34	0.51	0.82	0.82	0.07	0.23	0.23	0.14	0.31	0.31
Sat Flow, veh/h	1767	3526	1570	1767	1856	1571	1767	91	1493	1767	1345	430
Grp Volume(v), veh/h	8	1301	92	309	758	86	97	0	592	270	0	99
Grp Sat Flow(s),veh/h/ln	1767	1763	1570	1767	1856	1571	1767	0	1584	1767	0	1776
Q Serve(g_s), s	0.5	48.1	5.5	18.6	57.1	1.6	7.6	0.0	32.0	19.8	0.0	5.7
Cycle Q Clear(g_c), s	0.5	48.1	5.5	18.6	57.1	1.6	7.6	0.0	32.0	19.8	0.0	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.94	1.00		0.24
Lane Grp Cap(c), veh/h	342	1211	539	448	757	641	119	0	362	250	0	542
V/C Ratio(X)	0.02	1.07	0.17	0.69	1.00	0.13	0.81	0.00	1.63	1.08	0.00	0.18
Avail Cap(c_a), veh/h	342	1211	539	448	869	736	193	0	362	250	0	542
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.7	45.9	29.2	30.4	12.9	7.8	64.4	0.0	54.0	60.1	0.0	35.8
Incr Delay (d2), s/veh	0.0	48.2	0.7	4.1	31.6	0.4	12.6	0.0	297.9	79.9	0.0	0.2
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	0.0
%ile BackOfQ(50%),veh/ln	0.2	28.4	2.3	6.7	12.0	0.6	3.8	0.0	42.6	14.2	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.7	94.2	29.9	34.5	44.4	8.2	77.0	0.0	351.9	140.0	0.0	35.9
LnGrp LOS	D	F	C	C	F	A	E	A	F	F	A	D
Approach Vol, veh/h		1401			1153			689			369	
Approach Delay, s/veh		89.7			39.1			313.2			112.1	
Approach LOS		F			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.1	36.6	39.7	53.4	13.6	48.1	28.9	64.2
Change Period (Y+Rc), s	5.3	* 4.6	4.2	* 5.3	* 4.2	5.3	4.2	* 4.6
Max Green Setting (Gmax), s	19.8	* 32	21.8	* 48	* 15	35.8	5.0	* 66
Max Q Clear Time (g_c+I1), s	21.8	34.0	20.6	50.1	9.6	7.7	2.5	59.1
Green Ext Time (p_c), s	0.0	0.0	0.1	0.0	0.1	0.4	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	118.4
HCM 6th LOS	F

Notes

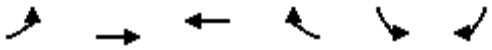
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1276	834	592	990	73	298
Future Volume (veh/h)	1276	834	592	990	73	298
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	1329	869	617	1031	76	310
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	976	827	581	2984	66	515
Arrive On Green	1.00	1.00	0.61	1.00	0.04	0.04
Sat Flow, veh/h	1752	1485	1668	3416	1668	1485
Grp Volume(v), veh/h	1329	869	617	1031	76	310
Grp Sat Flow(s),veh/h/ln	1752	1485	1668	1664	1668	1485
Q Serve(g_s), s	78.0	0.0	43.0	0.0	5.5	0.0
Cycle Q Clear(g_c), s	78.0	0.0	43.0	0.0	5.5	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	976	827	581	2984	66	515
V/C Ratio(X)	1.36	1.05	1.06	0.35	1.16	0.60
Avail Cap(c_a), veh/h	1095	928	581	2984	66	515
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.55	0.55	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	24.2	0.0	67.2	37.8
Incr Delay (d2), s/veh	163.5	26.4	45.7	0.2	160.9	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	44.3	6.1	18.1	0.1	5.3	9.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	163.5	26.4	70.0	0.2	228.1	39.8
LnGrp LOS	F	F	F	A	F	D
Approach Vol, veh/h	2198			1648	386	
Approach Delay, s/veh	109.3			26.3	76.8	
Approach LOS	F			C	E	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	43.2	86.8				130.0	10.0
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	33.5	87.5				125.5	5.5
Max Q Clear Time (g_c+I1), s	45.0	80.0				2.0	7.5
Green Ext Time (p_c), s	0.0	6.7				9.7	0.0

Intersection Summary			
HCM 6th Ctrl Delay		74.0	
HCM 6th LOS		E	



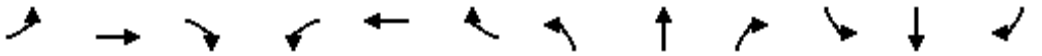
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	188	1414	963	293	189	583
Future Volume (veh/h)	188	1414	963	293	189	583
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	196	1473	1003	0	197	607
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	808	1433	1161		197	823
Arrive On Green	0.58	1.00	0.35	0.00	0.12	0.12
Sat Flow, veh/h	1668	1752	3416	1485	1668	1485
Grp Volume(v), veh/h	196	1473	1003	0	197	607
Grp Sat Flow(s),veh/h/ln	1668	1752	1664	1485	1668	1485
Q Serve(g_s), s	0.2	0.0	39.3	0.0	16.5	0.0
Cycle Q Clear(g_c), s	0.2	0.0	39.3	0.0	16.5	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	808	1433	1161		197	823
V/C Ratio(X)	0.24	1.03	0.86		1.00	0.74
Avail Cap(c_a), veh/h	808	1433	1529		197	823
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	0.0	42.5	0.0	61.8	23.5
Incr Delay (d2), s/veh	0.0	15.9	8.6	0.0	64.7	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	6.3	17.3	0.0	10.6	24.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.0	15.9	51.1	0.0	126.4	27.0
LnGrp LOS	B	F	D		F	C
Approach Vol, veh/h		1669	1003	A	804	
Approach Delay, s/veh		15.9	51.1		51.4	
Approach LOS		B	D		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		119.0		21.0	65.6	53.4
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		114.5		16.5	45.7	64.3
Max Q Clear Time (g_c+I1), s		2.0		18.5	2.2	41.3
Green Ext Time (p_c), s		41.4		0.0	0.6	7.5

Intersection Summary		
HCM 6th Ctrl Delay		34.3
HCM 6th LOS		C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



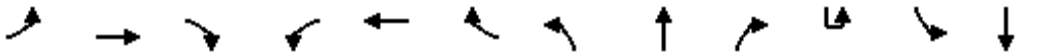
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1658	34	110	711	0	22	0	418	294	95	205
Future Volume (veh/h)	0	1658	34	110	711	0	22	0	418	294	95	205
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1764	36	117	756	0	23	0	445	313	101	218
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	0.94
Percent Heavy Veh, %	0	3	3	3	3	0	3	0	3	3	3	3
Cap, veh/h	0	2042	911	102	2407	0	40	0	0	819	290	259
Arrive On Green	0.00	0.58	0.58	0.12	1.00	0.00	0.02	0.00	0.00	0.24	0.16	0.16
Sat Flow, veh/h	0	3618	1572	1767	3618	0	1767	23		3428	1763	1572
Grp Volume(v), veh/h	0	1764	36	117	756	0	23	68.6		313	101	218
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1763	0	1767	E		1714	1763	1572
Q Serve(g_s), s	0.0	48.9	0.9	6.7	0.0	0.0	1.5			8.9	5.9	15.6
Cycle Q Clear(g_c), s	0.0	48.9	0.9	6.7	0.0	0.0	1.5			8.9	5.9	15.6
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	2042	911	102	2407	0	40			819	290	259
V/C Ratio(X)	0.00	0.86	0.04	1.15	0.31	0.00	0.58			0.38	0.35	0.84
Avail Cap(c_a), veh/h	0	2042	911	102	2407	0	76			1360	532	474
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.70	0.70	0.00	1.00			1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.5	6.1	51.3	0.0	0.0	56.1			37.0	42.9	47.0
Incr Delay (d2), s/veh	0.0	5.2	0.1	119.2	0.2	0.0	12.5			0.3	0.7	7.3
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
%ile BackOfQ(50%),veh/ln	0.0	19.5	0.4	6.1	0.1	0.0	0.8			3.6	2.5	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.7	6.1	170.5	0.2	0.0	68.6			37.3	43.7	54.3
LnGrp LOS	A	C	A	F	A	A	E			D	D	D
Approach Vol, veh/h		1800			873						632	
Approach Delay, s/veh		25.3			23.1						44.2	
Approach LOS		C			C						D	

Timer - Assigned Phs	1		3	4	5	6		8				
Phs Duration (G+Y+Rc), s	31.9		12.0	72.1	6.8	25.1		84.1				
Change Period (Y+Rc), s	* 4.2		5.3	4.9	4.2	* 6		4.9				
Max Green Setting (Gmax), s	* 46		6.7	48.9	5.0	* 35		60.9				
Max Q Clear Time (g_c+I1), s	10.9		8.7	50.9	3.5	17.6		2.0				
Green Ext Time (p_c), s	1.0		0.0	0.0	0.0	1.5		5.8				

Intersection Summary	
HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	144	1220	0	0	576	483	278	8	497	1	92	0
Future Volume (vph)	144	1220	0	0	576	483	278	8	497	1	92	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.91	0.95		0.97	
Frt	1.00	1.00			1.00	0.85	1.00	0.87	0.85		1.00	
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.99	1.00		0.95	
Satd. Flow (prot)	1752	3505			3505	1568	1665	1453	1490		3400	
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.99	1.00		0.95	
Satd. Flow (perm)	1752	3505			3505	1568	1665	1453	1490		3400	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	148	1258	0	0	594	498	287	8	512	1	95	0
RTOR Reduction (vph)	0	0	0	0	0	325	0	197	217	0	0	0
Lane Group Flow (vph)	148	1258	0	0	594	173	258	81	54	0	96	0
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm	Prot	Prot	
Protected Phases	7	4			8		2	2		1	1	
Permitted Phases						8			2			
Actuated Green, G (s)	14.0	58.5			40.3	40.3	21.3	21.3	21.3		7.1	
Effective Green, g (s)	14.0	58.5			40.3	40.3	21.3	21.3	21.3		7.1	
Actuated g/C Ratio	0.12	0.50			0.35	0.35	0.18	0.18	0.18		0.06	
Clearance Time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	211	1767			1217	544	305	266	273		208	
v/s Ratio Prot	0.08	c0.36			0.17		c0.15	0.06			c0.03	
v/s Ratio Perm						0.11			0.04			
v/c Ratio	0.70	0.71			0.49	0.32	0.85	0.31	0.20		0.46	
Uniform Delay, d1	49.0	22.2			29.7	27.8	45.8	41.0	40.1		52.6	
Progression Factor	0.76	0.57			1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	6.1	1.5			1.4	1.5	18.9	0.7	0.4		1.6	
Delay (s)	43.5	14.2			31.1	29.3	64.7	41.6	40.5		54.2	
Level of Service	D	B			C	C	E	D	D		D	
Approach Delay (s)		17.3			30.3			48.6				52.9
Approach LOS		B			C			D				D

Intersection Summary			
HCM 2000 Control Delay	32.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	24.1
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	352
Future Volume (vph)	352
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	363
RTOR Reduction (vph)	317
Lane Group Flow (vph)	46
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	9.2
Effective Green, g (s)	9.2
Actuated g/C Ratio	0.08
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	124
v/s Ratio Prot	
v/s Ratio Perm	c0.03
v/c Ratio	0.37
Uniform Delay, d1	50.7
Progression Factor	1.00
Incremental Delay, d2	1.9
Delay (s)	52.6
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	109	819	735	0	0	1440
Future Volume (veh/h)	109	819	735	0	0	1440
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	0	1856
Adj Flow Rate, veh/h	117	881	790	0	0	1548
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	0	0	3
Cap, veh/h	749	1173	928	0	0	1764
Arrive On Green	0.42	0.42	0.50	0.00	0.00	0.50
Sat Flow, veh/h	1767	2768	1856	0	0	3711
Grp Volume(v), veh/h	117	881	790	0	0	1548
Grp Sat Flow(s),veh/h/ln	1767	1384	1856	0	0	1763
Q Serve(g_s), s	5.7	37.7	51.9	0.0	0.0	54.8
Cycle Q Clear(g_c), s	5.7	37.7	51.9	0.0	0.0	54.8
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	749	1173	928	0	0	1764
V/C Ratio(X)	0.16	0.75	0.85	0.00	0.00	0.88
Avail Cap(c_a), veh/h	749	1173	1079	0	0	2050
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.88	0.00	0.00	1.00
Uniform Delay (d), s/veh	24.9	34.1	30.4	0.0	0.0	31.2
Incr Delay (d2), s/veh	0.4	4.4	5.2	0.0	0.0	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	12.6	23.8	0.0	0.0	23.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.3	38.5	35.7	0.0	0.0	35.3
LnGrp LOS	C	D	D	A	A	D
Approach Vol, veh/h	998		790			1548
Approach Delay, s/veh	37.0		35.7			35.3
Approach LOS	D		D			D

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	65.3	74.7	74.7
Change Period (Y+Rc), s	6.0	4.6	4.6
Max Green Setting (Gmax), s	48.0	81.4	81.4
Max Q Clear Time (g_c+I1), s	39.7	53.9	56.8
Green Ext Time (p_c), s	2.8	6.2	13.3

Intersection Summary	
HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	699	798	0	0	582	50
Future Volume (veh/h)	699	798	0	0	582	50
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)		1.00			1.00	1.00
Parking Bus, Adj	1.00	1.00			1.00	1.00
Work Zone On Approach	No				No	
Adj Sat Flow, veh/h/ln	1856	1856			1856	1856
Adj Flow Rate, veh/h	760	0			633	54
Peak Hour Factor	0.92	0.92			0.92	0.92
Percent Heavy Veh, %	3	3			3	3
Cap, veh/h	3420				0	0
Arrive On Green	0.97	0.00			0.00	0.00
Sat Flow, veh/h	3618	1572			0	
Grp Volume(v), veh/h	760	0			0.0	
Grp Sat Flow(s),veh/h/ln	1763	1572				
Q Serve(g_s), s	1.2	0.0				
Cycle Q Clear(g_c), s	1.2	0.0				
Prop In Lane		1.00				
Lane Grp Cap(c), veh/h	3420					
V/C Ratio(X)	0.22					
Avail Cap(c_a), veh/h	3420					
HCM Platoon Ratio	1.00	1.00				
Upstream Filter(I)	0.83	0.00				
Uniform Delay (d), s/veh	0.1	0.0				
Incr Delay (d2), s/veh	0.1	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.1	0.0				
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.2	0.0				
LnGrp LOS	A					
Approach Vol, veh/h	760	A				
Approach Delay, s/veh	0.2					
Approach LOS	A					

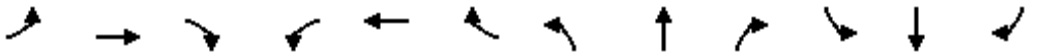
Timer - Assigned Phs	4
Phs Duration (G+Y+Rc), s	140.0
Change Period (Y+Rc), s	* 4.2
Max Green Setting (Gmax), s	* 50
Max Q Clear Time (g_c+I1), s	3.2
Green Ext Time (p_c), s	5.1

Intersection Summary	
HCM 6th Ctrl Delay	0.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



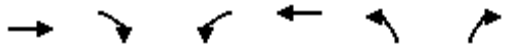
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	973	138	467	1242	255	51	79	792	143	70	11
Future Volume (veh/h)	10	973	138	467	1242	255	51	79	792	143	70	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.96
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	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	1856
Adj Flow Rate, veh/h	10	993	141	477	1267	260	52	81	808	146	71	11
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	20	1095	485	336	922	777	427	43	431	111	186	29
Arrive On Green	0.01	0.31	0.31	0.25	0.66	0.66	0.24	0.30	0.30	0.06	0.12	0.12
Sat Flow, veh/h	1767	3526	1560	1767	1856	1563	1767	143	1424	1767	1559	242
Grp Volume(v), veh/h	10	993	141	477	1267	260	52	0	889	146	0	82
Grp Sat Flow(s),veh/h/ln	1767	1763	1560	1767	1856	1563	1767	0	1567	1767	0	1801
Q Serve(g_s), s	0.8	37.8	9.6	26.6	69.6	7.6	3.2	0.0	42.4	8.8	0.0	5.9
Cycle Q Clear(g_c), s	0.8	37.8	9.6	26.6	69.6	7.6	3.2	0.0	42.4	8.8	0.0	5.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.91	1.00		0.13
Lane Grp Cap(c), veh/h	20	1095	485	336	922	777	427	0	475	111	0	214
V/C Ratio(X)	0.49	0.91	0.29	1.42	1.37	0.33	0.12	0.00	1.87	1.31	0.00	0.38
Avail Cap(c_a), veh/h	63	1176	520	336	922	777	427	0	475	111	0	524
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.61	0.61	0.61	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	68.8	46.3	36.6	52.3	23.7	7.7	41.5	0.0	48.8	65.6	0.0	56.9
Incr Delay (d2), s/veh	17.2	12.3	1.5	199.7	172.4	0.7	0.1	0.0	401.0	191.5	0.0	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	0.0
%ile BackOfQ(50%),veh/ln	0.4	18.0	3.9	29.8	68.8	3.3	1.4	0.0	69.2	9.8	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.0	58.6	38.1	252.0	196.2	8.4	41.6	0.0	449.8	257.1	0.0	58.0
LnGrp LOS	F	E	D	F	F	A	D	A	F	F	A	E
Approach Vol, veh/h		1144			2004			941			228	
Approach Delay, s/veh		56.3			185.1			427.2			185.5	
Approach LOS		E			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	47.0	31.2	48.8	38.0	22.0	5.8	74.2
Change Period (Y+Rc), s	4.2	* 4.6	4.6	* 5.3	4.2	* 5.3	* 4.2	4.6
Max Green Setting (Gmax), s	8.8	* 42	23.8	* 47	9.8	* 41	* 5	66.2
Max Q Clear Time (g_c+I1), s	10.8	44.4	28.6	39.8	5.2	7.9	2.8	71.6
Green Ext Time (p_c), s	0.0	0.0	0.0	3.7	0.0	0.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	203.8
HCM 6th LOS	F

Notes

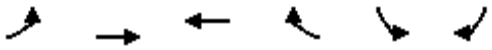
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1492	480	378	1859	148	474
Future Volume (veh/h)	1492	480	378	1859	148	474
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	1554	500	394	1936	154	494
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	1207	1022	284	2865	125	318
Arrive On Green	1.00	1.00	0.28	1.00	0.08	0.08
Sat Flow, veh/h	1752	1482	1668	3416	1668	1485
Grp Volume(v), veh/h	1554	500	394	1936	154	494
Grp Sat Flow(s),veh/h/ln	1752	1482	1668	1664	1668	1485
Q Serve(g_s), s	96.5	0.0	19.5	0.0	10.5	10.5
Cycle Q Clear(g_c), s	96.5	0.0	19.5	0.0	10.5	10.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1207	1022	284	2865	125	318
V/C Ratio(X)	1.29	0.49	1.39	0.68	1.23	1.55
Avail Cap(c_a), veh/h	1207	1022	284	2865	125	318
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.21	0.21	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	44.7	0.0	64.8	55.0
Incr Delay (d2), s/veh	130.5	0.4	176.7	0.1	155.2	263.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	43.8	0.1	21.7	0.0	9.9	34.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	130.5	0.4	221.5	0.1	219.9	318.8
LnGrp LOS	F	A	F	A	F	F
Approach Vol, veh/h	2054			2330	648	
Approach Delay, s/veh	98.8			37.5	295.3	
Approach LOS	F			D	F	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	24.0	101.0				125.0	15.0
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	19.5	96.5				120.5	10.5
Max Q Clear Time (g_c+I1), s	21.5	98.5				2.0	12.5
Green Ext Time (p_c), s	0.0	0.0				36.3	0.0

Intersection Summary			
HCM 6th Ctrl Delay		95.8	
HCM 6th LOS		F	



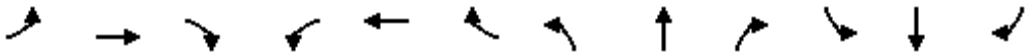
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	104	1797	1630	500	173	576
Future Volume (veh/h)	104	1797	1630	500	173	576
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	112	1932	1753	0	186	619
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	508	1445	1728		185	571
Arrive On Green	0.55	1.00	0.52	0.00	0.11	0.11
Sat Flow, veh/h	1668	1752	3416	1485	1668	1485
Grp Volume(v), veh/h	112	1932	1753	0	186	619
Grp Sat Flow(s),veh/h/ln	1668	1752	1664	1485	1668	1485
Q Serve(g_s), s	0.0	0.0	72.7	0.0	15.5	15.5
Cycle Q Clear(g_c), s	0.0	0.0	72.7	0.0	15.5	15.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	508	1445	1728		185	571
V/C Ratio(X)	0.22	1.34	1.01		1.01	1.09
Avail Cap(c_a), veh/h	508	1445	1728		185	571
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	23.0	0.0	33.7	0.0	62.3	43.1
Incr Delay (d2), s/veh	0.0	152.0	25.2	0.0	68.0	62.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	61.0	34.1	0.0	10.1	36.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.0	152.0	58.9	0.0	130.3	105.9
LnGrp LOS	C	F	F		F	F
Approach Vol, veh/h		2044	1753	A	805	
Approach Delay, s/veh		144.9	58.9		111.5	
Approach LOS		F	E		F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		120.0		20.0	42.8	77.2
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		115.5		15.5	38.3	72.7
Max Q Clear Time (g_c+I1), s		2.0		17.5	2.0	74.7
Green Ext Time (p_c), s		109.0		0.0	0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	106.3
HCM 6th LOS	F

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1051	42	323	1461	0	62	0	402	210	376	237
Future Volume (veh/h)	0	1051	42	323	1461	0	62	0	402	210	376	237
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1072	43	330	1491	0	63	0	410	214	384	242
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	3	3	3	3	0	3	0	3	3	3	3
Cap, veh/h	0	1351	603	346	2190	0	77	0	0	1051	449	279
Arrive On Green	0.00	0.38	0.38	0.20	0.62	0.00	0.04	0.00	0.00	0.31	0.22	0.22
Sat Flow, veh/h	0	3618	1572	1767	3618	0	1767	63		3428	2087	1298
Grp Volume(v), veh/h	0	1072	43	330	1491	0	63	106.9		214	323	303
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1763	0	1767	F		1714	1763	1622
Q Serve(g_s), s	0.0	34.0	2.2	23.3	35.0	0.0	4.5			5.8	22.2	22.7
Cycle Q Clear(g_c), s	0.0	34.0	2.2	23.3	35.0	0.0	4.5			5.8	22.2	22.7
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		0.80
Lane Grp Cap(c), veh/h	0	1351	603	346	2190	0	77			1051	379	349
V/C Ratio(X)	0.00	0.79	0.07	0.95	0.68	0.00	0.82			0.20	0.85	0.87
Avail Cap(c_a), veh/h	0	1351	603	346	2190	0	77			1265	490	451
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.09	0.09	0.00	1.00			1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	34.4	24.6	50.1	15.7	0.0	59.8			32.3	47.5	47.7
Incr Delay (d2), s/veh	0.0	4.9	0.2	6.6	0.2	0.0	47.1			0.1	11.0	13.3
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
%ile BackOfQ(50%),veh/ln	0.0	15.0	0.8	10.7	12.9	0.0	3.0			2.3	10.5	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	39.3	24.9	56.7	15.8	0.0	106.9			32.4	58.5	61.0
LnGrp LOS	A	D	C	E	B	A	F			C	E	E
Approach Vol, veh/h		1115			1821						840	
Approach Delay, s/veh		38.8			23.2						52.8	
Approach LOS		D			C						D	

Timer - Assigned Phs	1		3	4	5	6		8
Phs Duration (G+Y+Rc), s	42.8		30.0	53.2	9.7	33.1		83.2
Change Period (Y+Rc), s	* 4.2		5.3	4.9	* 4.2	6.0		4.9
Max Green Setting (Gmax), s	* 47		24.7	40.4	* 5.5	35.0		70.4
Max Q Clear Time (g_c+I1), s	7.8		25.3	36.0	6.5	24.7		37.0
Green Ext Time (p_c), s	0.7		0.0	2.7	0.0	2.4		14.1

Intersection Summary	
HCM 6th Ctrl Delay	35.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



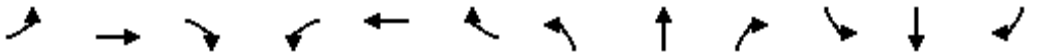
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	6	139	919	0	0	1096	410	547	6	555	129	0
Future Volume (vph)	6	139	919	0	0	1096	410	547	6	555	129	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5	
Lane Util. Factor		1.00	0.95			0.95	1.00	0.95	0.91	0.95	0.97	
Frpb, ped/bikes		1.00	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	
Frt		1.00	1.00			1.00	0.85	1.00	0.92	0.85	1.00	
Flt Protected		0.95	1.00			1.00	1.00	0.95	0.98	1.00	0.95	
Satd. Flow (prot)		1752	3505			3505	1547	1665	1509	1490	3400	
Flt Permitted		0.95	1.00			1.00	1.00	0.95	0.98	1.00	0.95	
Satd. Flow (perm)		1752	3505			3505	1547	1665	1509	1490	3400	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	143	947	0	0	1130	423	564	6	572	133	0
RTOR Reduction (vph)	0	0	0	0	0	0	142	0	34	296	0	0
Lane Group Flow (vph)	0	149	947	0	0	1130	281	395	347	70	133	0
Confl. Peds. (#/hr)							1					
Turn Type	Prot	Prot	NA			NA	Perm	Split	NA	Perm	Prot	
Protected Phases	7	7	4			8		2	2		1	
Permitted Phases							8			2		
Actuated Green, G (s)		9.8	53.6			39.6	39.6	24.0	24.0	24.0	5.0	
Effective Green, g (s)		9.8	53.6			39.6	39.6	24.0	24.0	24.0	5.0	
Actuated g/C Ratio		0.08	0.43			0.31	0.31	0.19	0.19	0.19	0.04	
Clearance Time (s)		4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5	
Vehicle Extension (s)		3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		136	1491			1101	486	317	287	283	134	
v/s Ratio Prot		c0.09	0.27			c0.32		c0.24	0.23		c0.04	
v/s Ratio Perm							0.18			0.05		
v/c Ratio		1.10	0.64			1.03	0.58	1.25	1.21	0.25	0.99	
Uniform Delay, d1		58.1	28.5			43.2	36.2	51.0	51.0	43.3	60.5	
Progression Factor		0.69	0.46			1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		93.6	1.5			34.0	5.0	134.4	122.0	0.5	75.2	
Delay (s)		133.5	14.5			77.2	41.2	185.4	173.0	43.8	135.7	
Level of Service		F	B			E	D	F	F	D	F	
Approach Delay (s)			30.7			67.4			135.9			233.4
Approach LOS			C			E			F			F

Intersection Summary			
HCM 2000 Control Delay	101.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	126.0	Sum of lost time (s)	24.1
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	555
Future Volume (vph)	555
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	572
RTOR Reduction (vph)	159
Lane Group Flow (vph)	413
Confl. Peds. (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	23.5
Effective Green, g (s)	23.5
Actuated g/C Ratio	0.19
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	292
v/s Ratio Prot	
v/s Ratio Perm	c0.26
v/c Ratio	1.41
Uniform Delay, d1	51.2
Progression Factor	1.00
Incremental Delay, d2	204.9
Delay (s)	256.2
Level of Service	F
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1262	89	300	735	83	94	33	541	262	73	23
Future Volume (veh/h)	8	1262	89	300	735	83	94	33	541	262	73	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	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	1856
Adj Flow Rate, veh/h	8	1301	92	309	758	86	97	34	558	270	75	24
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	766	1803	803	327	916	408	119	409	637	257	406	130
Arrive On Green	0.43	0.51	0.51	0.18	0.26	0.26	0.07	0.22	0.22	0.15	0.30	0.30
Sat Flow, veh/h	1767	3526	1571	1767	3526	1569	1767	1856	1570	1767	1346	431
Grp Volume(v), veh/h	8	1301	92	309	758	86	97	34	558	270	0	99
Grp Sat Flow(s),veh/h/ln	1767	1763	1571	1767	1763	1569	1767	1856	1570	1767	0	1776
Q Serve(g_s), s	0.4	41.4	4.4	25.0	29.4	6.2	7.9	2.1	32.0	21.1	0.0	6.0
Cycle Q Clear(g_c), s	0.4	41.4	4.4	25.0	29.4	6.2	7.9	2.1	32.0	21.1	0.0	6.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	766	1803	803	327	916	408	119	409	637	257	0	536
V/C Ratio(X)	0.01	0.72	0.11	0.95	0.83	0.21	0.82	0.08	0.88	1.05	0.00	0.18
Avail Cap(c_a), veh/h	766	1803	803	327	1685	750	190	409	637	257	0	536
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	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.4	27.4	18.4	58.4	50.6	42.0	66.7	44.9	43.5	62.0	0.0	37.4
Incr Delay (d2), s/veh	0.0	2.5	0.3	34.2	8.0	1.1	13.5	0.1	13.0	69.8	0.0	0.2
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	0.0
%ile BackOfQ(50%),veh/ln	0.2	17.3	1.7	14.2	13.9	2.6	4.0	1.0	25.0	14.3	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.4	30.0	18.7	92.6	58.6	43.1	80.2	44.9	56.5	131.8	0.0	37.6
LnGrp LOS	C	C	B	F	E	D	F	D	E	F	A	D
Approach Vol, veh/h		1401			1153			689			369	
Approach Delay, s/veh		29.2			66.5			59.3			106.5	
Approach LOS		C			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.4	36.6	31.0	79.6	13.9	49.1	68.3	42.3
Change Period (Y+Rc), s	5.3	* 4.6	* 4.2	5.3	* 4.2	5.3	5.3	* 4.6
Max Green Setting (Gmax), s	21.1	* 32	* 27	46.8	* 16	36.8	5.0	* 69
Max Q Clear Time (g_c+I1), s	23.1	34.0	27.0	43.4	9.9	8.0	2.4	31.4
Green Ext Time (p_c), s	0.0	0.0	0.0	2.4	0.1	0.4	0.0	6.3

Intersection Summary	
HCM 6th Ctrl Delay	54.8
HCM 6th LOS	D

Notes

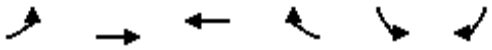
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1276	834	592	990	73	298
Future Volume (veh/h)	1276	834	592	990	73	298
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	1329	869	617	1031	76	310
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	1967	877	728	2622	126	304
Arrive On Green	0.59	0.59	0.26	1.00	0.08	0.08
Sat Flow, veh/h	3416	1485	3237	3416	1668	1485
Grp Volume(v), veh/h	1329	869	617	1031	76	310
Grp Sat Flow(s),veh/h/ln	1664	1485	1618	1664	1668	1485
Q Serve(g_s), s	17.9	38.1	4.8	0.0	2.9	5.0
Cycle Q Clear(g_c), s	17.9	38.1	4.8	0.0	2.9	5.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1967	877	728	2622	126	304
V/C Ratio(X)	0.68	0.99	0.85	0.39	0.60	1.02
Avail Cap(c_a), veh/h	1967	877	728	2622	126	304
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.51	0.51	1.00	1.00
Uniform Delay (d), s/veh	9.2	13.3	20.5	0.0	29.5	26.3
Incr Delay (d2), s/veh	0.2	7.2	5.0	0.2	7.7	57.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	11.0	4.0	0.1	1.4	9.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.4	20.5	25.5	0.2	37.3	83.3
LnGrp LOS	A	C	C	A	D	F
Approach Vol, veh/h	2198			1648	386	
Approach Delay, s/veh	13.8			9.7	74.3	
Approach LOS	B			A	E	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	13.0	43.5				56.5	9.5
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	8.5	39.0				52.0	5.0
Max Q Clear Time (g_c+I1), s	6.8	40.1				2.0	7.0
Green Ext Time (p_c), s	0.5	0.0				9.4	0.0

Intersection Summary			
HCM 6th Ctrl Delay		17.7	
HCM 6th LOS		B	



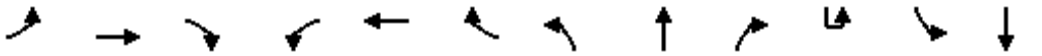
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	188	1414	963	293	189	583
Future Volume (veh/h)	188	1414	963	293	189	583
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	196	1473	1003	0	197	607
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	630	2426	1231		225	632
Arrive On Green	0.19	0.49	0.37	0.00	0.13	0.13
Sat Flow, veh/h	1668	3416	3416	1485	1668	1485
Grp Volume(v), veh/h	196	1473	1003	0	197	607
Grp Sat Flow(s),veh/h/ln	1668	1664	1664	1485	1668	1485
Q Serve(g_s), s	0.6	21.2	17.9	0.0	7.6	7.0
Cycle Q Clear(g_c), s	0.6	21.2	17.9	0.0	7.6	7.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	630	2426	1231		225	632
V/C Ratio(X)	0.31	0.61	0.81		0.88	0.96
Avail Cap(c_a), veh/h	630	2426	1462		225	632
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	18.5	10.0	18.8	0.0	28.0	18.4
Incr Delay (d2), s/veh	0.2	0.8	6.0	0.0	29.6	26.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	7.9	7.1	0.0	4.8	17.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.6	10.8	24.7	0.0	57.7	44.7
LnGrp LOS	B	B	C		E	D
Approach Vol, veh/h		1669	1003	A	804	
Approach Delay, s/veh		11.7	24.7		47.9	
Approach LOS		B	C		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		52.6		13.4	23.7	28.9
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		48.1		8.9	14.6	29.0
Max Q Clear Time (g_c+I1), s		23.2		9.6	2.6	19.9
Green Ext Time (p_c), s		12.7		0.0	0.4	4.5

Intersection Summary	
HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	144	1220	0	0	576	483	278	8	497	1	92	0
Future Volume (vph)	144	1220	0	0	576	483	278	8	497	1	92	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Lane Util. Factor	1.00	0.95			0.95	1.00	0.97	0.95	0.95		0.97	
Frt	1.00	1.00			1.00	0.85	1.00	0.85	0.85		1.00	
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1752	3505			3505	1568	3400	1498	1490		3400	
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1752	3505			3505	1568	3400	1498	1490		3400	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	148	1258	0	0	594	498	287	8	512	1	95	0
RTOR Reduction (vph)	0	0	0	0	0	229	0	61	85	0	0	0
Lane Group Flow (vph)	148	1258	0	0	594	269	287	198	176	0	96	0
Turn Type	Prot	NA			NA	Perm	Prot	NA	Perm	Prot	Prot	
Protected Phases	7	4			8		5	2		1	1	
Permitted Phases						8			2			
Actuated Green, G (s)	16.7	87.4			66.5	66.5	36.7	23.0	23.0		9.2	
Effective Green, g (s)	16.7	87.4			66.5	66.5	36.7	23.0	23.0		9.2	
Actuated g/C Ratio	0.12	0.65			0.49	0.49	0.27	0.17	0.17		0.07	
Clearance Time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0		4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	216	2269			1726	772	924	255	253		231	
v/s Ratio Prot	c0.08	c0.36			0.17		0.08	c0.13			0.03	
v/s Ratio Perm						0.17			0.12			
v/c Ratio	0.69	0.55			0.34	0.35	0.31	0.77	0.69		0.42	
Uniform Delay, d1	56.6	13.1			20.9	21.0	39.1	53.5	52.7		60.3	
Progression Factor	0.90	0.92			1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	5.7	0.6			0.5	1.2	0.2	13.7	8.0		1.2	
Delay (s)	56.9	12.7			21.5	22.2	39.3	67.2	60.7		61.5	
Level of Service	E	B			C	C	D	E	E		E	
Approach Delay (s)		17.4			21.8			55.2				57.5
Approach LOS		B			C			E				E

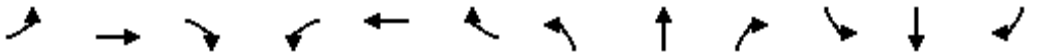
Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	352
Future Volume (vph)	352
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.2
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	363
RTOR Reduction (vph)	162
Lane Group Flow (vph)	201
Turn Type	pm+ov
Protected Phases	7
Permitted Phases	1
Actuated Green, G (s)	25.9
Effective Green, g (s)	25.9
Actuated g/C Ratio	0.19
Clearance Time (s)	4.2
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	300
v/s Ratio Prot	c0.08
v/s Ratio Perm	0.05
v/c Ratio	0.67
Uniform Delay, d1	50.6
Progression Factor	1.00
Incremental Delay, d2	5.8
Delay (s)	56.4
Level of Service	E
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	973	138	467	1242	255	51	79	792	143	70	11
Future Volume (veh/h)	10	973	138	467	1242	255	51	79	792	143	70	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.99
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	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	1856
Adj Flow Rate, veh/h	10	993	141	477	1267	260	52	81	808	146	71	11
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	427	1282	568	477	1372	607	67	424	775	153	439	68
Arrive On Green	0.24	0.36	0.36	0.54	0.78	0.78	0.04	0.23	0.23	0.09	0.28	0.28
Sat Flow, veh/h	1767	3526	1562	1767	3526	1560	1767	1856	1533	1767	1566	243
Grp Volume(v), veh/h	10	993	141	477	1267	260	52	81	808	146	0	82
Grp Sat Flow(s),veh/h/ln	1767	1763	1562	1767	1763	1560	1767	1856	1533	1767	0	1809
Q Serve(g_s), s	0.6	34.9	8.8	37.8	39.7	7.8	4.1	4.9	32.0	11.5	0.0	4.8
Cycle Q Clear(g_c), s	0.6	34.9	8.8	37.8	39.7	7.8	4.1	4.9	32.0	11.5	0.0	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	427	1282	568	477	1372	607	67	424	775	153	0	507
V/C Ratio(X)	0.02	0.77	0.25	1.00	0.92	0.43	0.78	0.19	1.04	0.96	0.00	0.16
Avail Cap(c_a), veh/h	427	1282	568	477	1846	817	124	424	775	153	0	507
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.61	0.61	0.61	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.5	39.5	31.2	32.2	13.9	10.3	66.8	43.6	33.2	63.7	0.0	38.0
Incr Delay (d2), s/veh	0.0	4.6	1.0	32.1	7.9	1.3	17.3	0.2	43.9	59.5	0.0	0.1
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	0.0
%ile BackOfQ(50%),veh/ln	0.3	15.5	3.5	16.3	7.0	2.3	2.2	2.3	37.7	7.6	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.5	44.1	32.2	64.3	21.7	11.7	84.1	43.8	77.2	123.2	0.0	38.2
LnGrp LOS	D	D	C	E	C	B	F	D	F	F	A	D
Approach Vol, veh/h		1144			2004			941			228	
Approach Delay, s/veh		42.6			30.6			74.7			92.6	
Approach LOS		D			C			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.4	36.6	42.0	56.2	9.5	44.5	39.1	59.1
Change Period (Y+Rc), s	5.3	* 4.6	* 4.2	5.3	* 4.2	5.3	5.3	* 4.6
Max Green Setting (Gmax), s	12.1	* 32	* 38	39.8	* 9.8	33.6	5.0	* 73
Max Q Clear Time (g_c+I1), s	13.5	34.0	39.8	36.9	6.1	6.8	2.6	41.7
Green Ext Time (p_c), s	0.0	0.0	0.0	1.8	0.0	0.3	0.0	12.8

Intersection Summary	
HCM 6th Ctrl Delay	46.6
HCM 6th LOS	D

Notes

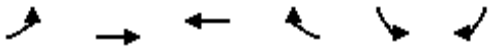
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1492	480	378	1859	148	474
Future Volume (veh/h)	1492	480	378	1859	148	474
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	1554	500	394	1936	154	494
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	2406	1072	552	2698	209	268
Arrive On Green	1.00	1.00	0.11	1.00	0.13	0.13
Sat Flow, veh/h	3416	1483	3237	3416	1668	1485
Grp Volume(v), veh/h	1554	500	394	1936	154	494
Grp Sat Flow(s),veh/h/ln	1664	1483	1618	1664	1668	1485
Q Serve(g_s), s	0.0	0.0	4.4	0.0	12.5	17.5
Cycle Q Clear(g_c), s	0.0	0.0	4.4	0.0	12.5	17.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2406	1072	552	2698	209	268
V/C Ratio(X)	0.65	0.47	0.71	0.72	0.74	1.84
Avail Cap(c_a), veh/h	2406	1072	1145	2698	209	268
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.11	0.11	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	4.6	0.0	59.0	57.3
Incr Delay (d2), s/veh	0.2	0.2	0.2	0.2	12.9	392.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.0	0.1	6.1	38.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.2	0.2	4.8	0.2	72.0	449.8
LnGrp LOS	A	A	A	A	E	F
Approach Vol, veh/h	2054			2330	648	
Approach Delay, s/veh	0.2			0.9	360.0	
Approach LOS	A			A	F	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	12.3	105.7				118.0	22.0
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	33.5	75.5				113.5	17.5
Max Q Clear Time (g_c+I1), s	6.4	2.0				2.0	19.5
Green Ext Time (p_c), s	1.4	26.3				35.9	0.0

Intersection Summary			
HCM 6th Ctrl Delay		46.9	
HCM 6th LOS		D	



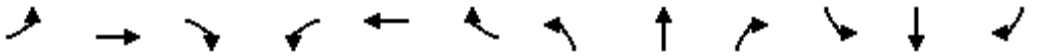
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	104	1797	1630	500	173	576
Future Volume (veh/h)	104	1797	1630	500	173	576
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	112	1932	1753	0	186	619
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	471	2727	1787		194	544
Arrive On Green	0.33	1.00	0.54	0.00	0.12	0.12
Sat Flow, veh/h	1668	3416	3416	1485	1668	1485
Grp Volume(v), veh/h	112	1932	1753	0	186	619
Grp Sat Flow(s),veh/h/ln	1668	1664	1664	1485	1668	1485
Q Serve(g_s), s	2.0	0.0	72.1	0.0	15.5	16.3
Cycle Q Clear(g_c), s	2.0	0.0	72.1	0.0	15.5	16.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	471	2727	1787		194	544
V/C Ratio(X)	0.24	0.71	0.98		0.96	1.14
Avail Cap(c_a), veh/h	471	2727	1790		194	544
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.41	0.41	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.2	0.0	31.7	0.0	61.5	44.3
Incr Delay (d2), s/veh	0.1	0.7	17.2	0.0	52.2	82.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.2	31.9	0.0	9.5	37.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.3	0.7	48.9	0.0	113.7	126.7
LnGrp LOS	D	A	D		F	F
Approach Vol, veh/h		2044	1753	A	805	
Approach Delay, s/veh		2.6	48.9		123.7	
Approach LOS		A	D		F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		119.2		20.8	39.5	79.7
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		114.7		16.3	34.9	75.3
Max Q Clear Time (g_c+I1), s		2.0		18.3	4.0	74.1
Green Ext Time (p_c), s		35.8		0.0	0.3	1.0

Intersection Summary	
HCM 6th Ctrl Delay	41.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	919	0	0	1096	410	547	6	555	129	0	561
Future Volume (vph)	145	919	0	0	1096	410	547	6	555	129	0	561
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5		4.2
Lane Util. Factor	1.00	0.95			0.95	1.00	0.97	0.95	0.95	0.97		1.00
Frpb, ped/bikes	1.00	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		1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.85	0.85	1.00		0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1752	3505			3505	1547	3400	1495	1490	3400		1568
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (perm)	1752	3505			3505	1547	3400	1495	1490	3400		1568
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	149	947	0	0	1130	423	564	6	572	133	0	578
RTOR Reduction (vph)	0	0	0	0	0	122	0	166	166	0	0	40
Lane Group Flow (vph)	149	947	0	0	1130	301	564	126	120	133	0	538
Confl. Peds. (#/hr)						1						
Turn Type	Prot	NA			NA	Perm	Prot	NA	Perm	Prot		pm+ov
Protected Phases	7	4			8		5	2		1		7
Permitted Phases						8			2			1
Actuated Green, G (s)	41.5	101.9			56.2	56.2	27.2	14.4	14.4	8.3		49.8
Effective Green, g (s)	41.5	101.9			56.2	56.2	27.2	14.4	14.4	8.3		49.8
Actuated g/C Ratio	0.30	0.73			0.40	0.40	0.19	0.10	0.10	0.06		0.36
Clearance Time (s)	4.2	4.9			4.9	4.9	6.0	6.0	6.0	4.5		4.2
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	519	2551			1407	621	660	153	153	201		557
v/s Ratio Prot	0.09	0.27			c0.32		c0.17	0.08		0.04		c0.29
v/s Ratio Perm						0.19			0.08			0.06
v/c Ratio	0.29	0.37			0.80	0.49	0.85	0.82	0.78	0.66		0.97
Uniform Delay, d1	37.9	7.1			37.0	31.2	54.5	61.6	61.3	64.5		44.3
Progression Factor	0.96	0.32			1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.2	0.3			4.9	2.7	10.5	28.7	22.6	7.9		29.4
Delay (s)	36.7	2.6			42.0	33.9	65.0	90.3	83.9	72.4		73.7
Level of Service	D	A			D	C	E	F	F	E		E
Approach Delay (s)		7.3			39.7			76.2			73.4	
Approach LOS		A			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	46.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection: 1: Herndon Avenue & SR 99 NB Off-Ramp

Movement	NW	NW	NW	NE	SW	SW
Directions Served	L	R	R	T	T	T
Maximum Queue (ft)	170	152	137	566	1617	1635
Average Queue (ft)	44	102	85	340	949	969
95th Queue (ft)	109	143	121	531	1925	1923
Link Distance (ft)		772	772	566	1583	1583
Upstream Blk Time (%)				0	21	29
Queuing Penalty (veh)				1	0	0
Storage Bay Dist (ft)	290					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Grantland Avenue & Parkway Drive/SR 99 SB On-Ramp

Movement	EB	EB	EB	NB	NB
Directions Served	T	T	R	L	R
Maximum Queue (ft)	639	678	350	385	76
Average Queue (ft)	608	601	221	234	30
95th Queue (ft)	687	793	499	346	60
Link Distance (ft)	604	604			1688
Upstream Blk Time (%)	34	26			
Queuing Penalty (veh)	235	178			
Storage Bay Dist (ft)			295	295	
Storage Blk Time (%)		2		2	
Queuing Penalty (veh)		13		3	

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	EB	EB	EB	EB	B24	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	R	T	L	T	T	R	L	T	R
Maximum Queue (ft)	299	1382	1384	150	468	404	411	425	58	121	875	370
Average Queue (ft)	28	991	1031	63	67	232	218	176	20	69	225	305
95th Queue (ft)	149	1548	1533	174	294	338	381	361	44	119	662	429
Link Distance (ft)		1319	1319		1226		453	453			1387	
Upstream Blk Time (%)		2	4									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (ft)	200			100		300			250	100		250
Storage Blk Time (%)		60	64			1	5	4		10		34
Queuing Penalty (veh)		5	57			5	15	3		55		44

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (ft)	179	452
Average Queue (ft)	157	176
95th Queue (ft)	209	401
Link Distance (ft)		1169
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	120	
Storage Blk Time (%)	31	6
Queuing Penalty (veh)	30	15

Intersection: 4: SR 99 SB Ramps & Shaw Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	R	L	L	T	T	L	R
Maximum Queue (ft)	225	460	370	184	236	245	71	217	145
Average Queue (ft)	135	180	249	137	142	65	18	73	99
95th Queue (ft)	223	355	413	192	229	150	54	152	152
Link Distance (ft)	453	453				384	384	471	
Upstream Blk Time (%)		0							
Queuing Penalty (veh)		4							
Storage Bay Dist (ft)			250	125	125			25	
Storage Blk Time (%)		1	9	8	9	0		44	54
Queuing Penalty (veh)		6	60	40	44	1		132	39

Intersection: 5: Shaw Avenue & SR 99 NB Ramps

Movement	EB	EB	EB	WB	WB	WB	B35	B35	SB	SB
Directions Served	L	T	T	T	T	R	T	T	L	R
Maximum Queue (ft)	176	221	231	362	284	123	200	197	711	160
Average Queue (ft)	103	90	104	268	175	30	43	7	408	155
95th Queue (ft)	167	177	190	383	294	88	143	65	724	181
Link Distance (ft)		384	384	261	261	261	1251	1251	648	
Upstream Blk Time (%)				14	1				8	
Queuing Penalty (veh)				0	0				0	
Storage Bay Dist (ft)	125									40
Storage Blk Time (%)	4	1							51	55
Queuing Penalty (veh)	28	2							298	103

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	R	R	L	L	T
Maximum Queue (ft)	598	578	250	173	188	168	252	246	204	167	203	153
Average Queue (ft)	404	380	36	79	48	58	75	145	123	108	143	58
95th Queue (ft)	534	526	156	136	120	126	210	209	191	170	204	125
Link Distance (ft)	1212	1212			1024	1024	247					656
Upstream Blk Time (%)							1	0				
Queuing Penalty (veh)							0	0				
Storage Bay Dist (ft)			150	550				150	150	380	380	
Storage Blk Time (%)		28					4	8	2			
Queuing Penalty (veh)		10					15	2	0			

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	SB
Directions Served	TR
Maximum Queue (ft)	131
Average Queue (ft)	58
95th Queue (ft)	100
Link Distance (ft)	656
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	T	T	T	R	L	L	TR	R	UL	L
Maximum Queue (ft)	189	295	330	284	327	200	201	209	184	182	46	260
Average Queue (ft)	94	176	194	169	154	102	97	128	105	107	9	72
95th Queue (ft)	168	303	333	278	278	204	168	199	168	178	30	161
Link Distance (ft)		1024	1024	1607	1607				532	532		544
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300					150	220	220			200	
Storage Blk Time (%)		0			10		0	0				1
Queuing Penalty (veh)		0			46		0	0				4

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	SB
Directions Served	R
Maximum Queue (ft)	220
Average Queue (ft)	90
95th Queue (ft)	173
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	9
Queuing Penalty (veh)	9

Zone Summary

Zone wide Queuing Penalty: 1502

Intersection: 1: Herndon Avenue & SR 99 NB Off-Ramp

Movement	NW	NW	NW	NE	SW	SW
Directions Served	L	R	R	T	T	T
Maximum Queue (ft)	174	325	324	584	641	931
Average Queue (ft)	72	163	156	289	262	419
95th Queue (ft)	142	271	262	618	561	746
Link Distance (ft)		772	772	566	1583	1583
Upstream Blk Time (%)				3		
Queuing Penalty (veh)				18		
Storage Bay Dist (ft)	290					
Storage Blk Time (%)		1				
Queuing Penalty (veh)		1				

Intersection: 2: Grantland Avenue & Parkway Drive/SR 99 SB On-Ramp

Movement	EB	EB	EB	NB	NB
Directions Served	T	T	R	L	R
Maximum Queue (ft)	518	499	350	395	620
Average Queue (ft)	236	83	69	322	216
95th Queue (ft)	510	360	298	458	612
Link Distance (ft)	604	604			1688
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			295	295	
Storage Blk Time (%)				20	
Queuing Penalty (veh)				10	

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	B20
Directions Served	L	T	T	R	L	T	T	R	L	T	R	T
Maximum Queue (ft)	299	850	913	150	372	405	400	85	87	1501	370	832
Average Queue (ft)	50	578	610	94	236	200	134	26	35	1260	370	451
95th Queue (ft)	212	890	916	194	352	356	301	64	73	1810	372	1076
Link Distance (ft)		1318	1318			453	453			1389		721
Upstream Blk Time (%)										52		45
Queuing Penalty (veh)										0		0
Storage Bay Dist (ft)	200			100	300			250	100		250	
Storage Blk Time (%)		60	66	0	4	2	0		0	8	68	
Queuing Penalty (veh)		6	91	1	24	8	0		0	65	88	

Intersection: 3: Polk Avenue/Island Waterpark Drive & Shaw Avenue

Movement	B19	B19	SB	SB
Directions Served	T		L	TR
Maximum Queue (ft)	364	388	179	319
Average Queue (ft)	167	151	122	93
95th Queue (ft)	445	437	194	249
Link Distance (ft)	325	325		1169
Upstream Blk Time (%)	41	38		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)			120	
Storage Blk Time (%)			19	2
Queuing Penalty (veh)			15	2

Intersection: 4: SR 99 SB Ramps & Shaw Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	R	L	L	T	T	L	R
Maximum Queue (ft)	464	464	370	185	242	267	138	510	145
Average Queue (ft)	279	286	155	126	138	100	66	483	144
95th Queue (ft)	399	411	329	179	198	192	121	563	149
Link Distance (ft)	453	453				384	384	471	
Upstream Blk Time (%)	0	1						57	
Queuing Penalty (veh)	3	5						0	
Storage Bay Dist (ft)			250	125	125				25
Storage Blk Time (%)		12	1	7	15	2		83	55
Queuing Penalty (veh)		57	5	67	140	7		392	81

Intersection: 5: Shaw Avenue & SR 99 NB Ramps

Movement	EB	EB	EB	WB	WB	WB	B35	B35	SB	SB
Directions Served	L	T	T	T	T	R	T	T	L	R
Maximum Queue (ft)	138	200	173	373	349	326	1290	1314	711	160
Average Queue (ft)	64	73	61	329	308	72	825	809	673	160
95th Queue (ft)	113	152	137	375	365	214	1616	1634	734	161
Link Distance (ft)		384	384	261	261	261	1251	1251	648	
Upstream Blk Time (%)				39	28	1	13	17	72	
Queuing Penalty (veh)				0	0	0	0	0	0	
Storage Bay Dist (ft)	125									40
Storage Blk Time (%)	1	1							56	58
Queuing Penalty (veh)	10	1							321	100

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	R	R	L	L	T
Maximum Queue (ft)	574	536	250	381	276	318	187	231	224	146	181	452
Average Queue (ft)	360	322	76	230	153	163	74	110	78	68	99	273
95th Queue (ft)	461	443	248	360	220	238	158	180	162	134	161	396
Link Distance (ft)	1212	1212			1024	1024	247					656
Upstream Blk Time (%)								0				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)			150	550				150	150	380	380	
Storage Blk Time (%)		35					1	1	0			3
Queuing Penalty (veh)		15					5	0	0			6

Intersection: 6: Parkway Drive/SR 99 SB Off-Ramp & Ashlan Avenue

Movement	SB
Directions Served	TR
Maximum Queue (ft)	359
Average Queue (ft)	175
95th Queue (ft)	320
Link Distance (ft)	656
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	T	T	T	R	L	L	TR	R	L	L
Maximum Queue (ft)	222	122	114	707	719	200	280	340	552	424	274	559
Average Queue (ft)	102	49	51	459	476	176	244	284	256	166	131	374
95th Queue (ft)	188	105	106	641	681	262	325	403	550	338	325	657
Link Distance (ft)		1024	1024	1584	1584				532	532		544
Upstream Blk Time (%)									1			7
Queuing Penalty (veh)									0			0
Storage Bay Dist (ft)	300					150	220	220			200	
Storage Blk Time (%)					42	2	26	37				11
Queuing Penalty (veh)					174	9	72	105				70

Intersection: 7: SR 99 NB Off-Ramp/Golden State Boulevard & Ashlan Avenue

Movement	SB
Directions Served	R
Maximum Queue (ft)	220
Average Queue (ft)	215
95th Queue (ft)	233
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	58
Queuing Penalty (veh)	74

Zone Summary

Zone wide Queuing Penalty: 2048