

PUBLIC REVIEW DRAFT
INITIAL STUDY/
NEGATIVE DECLARATION

FOR THE

MAIN STREET/MARKET STREET
PRECISE ROAD PLAN
Stockton, CA

February 2025

Prepared for:

City of Stockton
Public Works Department
22 E. Weber Avenue, Room 301
Stockton, CA 95202

Prepared by:

BaseCamp Environmental, Inc.
802 W. Lodi Avenue
Lodi, CA 95240



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802 W. Lodi Avenue
Lodi, CA 95240
209-224-8213
www.basecampenv.com

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LIST OF ACRONYMS AND ABBREVIATIONS USED IN THIS DOCUMENT

AB	Assembly Bill
APN	Assessor's Parcel Number
ARB	California Air Resources Board
BMP	Best Management Practice
Cal Fire	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
Cal Water	California Water Service
CAP	Climate Action Plan
CEQA	California Environmental Quality Act
CO	carbon monoxide
CO ₂ e	carbon dioxide equivalent
dB	decibel
EIR	Environmental Impact Report
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
IS/ND	Initial Study/Negative Declaration
L _{dn}	Day-Night Average Level
LOS	Level of Service
MS4	municipal separate storm sewer system
NAHC	Native American Heritage Commission
NO _x	nitrogen oxides
PM ₁₀	particulate matter 10 microns or less in diameter
PM _{2.5}	particulate matter 2.5 microns or less in diameter
RCEM	Road Construction Emissions Model
ROG	reactive organic gases
RRFB	rectangular rapid-flashing beacon
SB	Senate Bill
SJCOG	San Joaquin Council of Governments
SJMSCP	San Joaquin County Multi-Species Open Space and Habitat Conservation Plan
SJRTD	San Joaquin Regional Transit District
SJVAPCD	San Joaquin Valley Air Pollution Control District
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
VMT	vehicle miles traveled

NEGATIVE DECLARATION

A. General Project Information

Project Title:	Main Street/Market Street Precise Road Plan
Lead Agency Name and Address:	City of Stockton Public Works Department 22 E. Weber Avenue, Room 301 Stockton, CA 95202
Contact Person and Phone Number:	Travis Pazin, 209-937-5654
Project Location:	Main Street from Hunter Street to Broadway Avenue and Market Street from Center Street to Main Street in east-central Stockton.
Project Sponsor Name and Address:	City of Stockton
General Plan Designation:	Not applicable
Zoning:	Not applicable
Project Description:	<p>The project proposes to adopt a Precise Road Plan for an approximately 2.75-mile segment of Main Street from Hunter Street to Broadway Avenue and an approximately 1.25-mile segment of Market Street from Center Street to Main Street. The Precise Road Plan would guide future reconfiguration of these segments to be Complete Streets.</p> <p>“Complete Streets” give as much importance to public transit, bicycle, and pedestrian transportation as to vehicle traffic movement. In general, vehicle lanes on these segments would be reduced by one lane, with the additional space made available for bicycle lanes. Pedestrian ramps at specific intersections would be installed or improved to conform with the Americans with Disabilities Act. Roundabouts are proposed at the Main Street/Market Street and Main Street/Filbert Street intersections. Selected sidewalk, streetlight, signalization, and pavement improvements would</p>

be made as appropriate. Proposed improvements are expected to be accommodated entirely within existing street rights-of-way.

Surrounding Land Uses and Setting: The street segments to be covered by the Precise Road Plan are in a developed urban area of east-central Stockton. The predominant land use adjacent to Main Street is commercial, with other land uses including light industrial, residential (single-family and multifamily), churches, schools, a library, and a Post Office. Land uses along Market Street are residential (mostly single-family) and commercial.

Other Public Agencies Whose Approval is Required: State Water Resources Control Board (Construction General Permit)

Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, has consultation begun? Consultation requested by and initiated with Confederated Villages of Lisjan.

B. Environmental Factors Potentially Affected

The environmental factors checked below may be significantly affected by this project, involving at least one impact that is a “Potentially Significant Impact” prior to mitigation, as described in the checklist and narrative on the following pages, and in the Summary Table at the end of Chapter 1.0.

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture/Forestry Resources	<input type="checkbox"/> Air Quality
<input type="checkbox"/> Biological Resources	<input type="checkbox"/> Cultural Resources	<input type="checkbox"/> Energy
<input type="checkbox"/> Geology/Soils	<input type="checkbox"/> Greenhouse Gas Emissions	<input type="checkbox"/> Hazards/Hazardous Materials
<input type="checkbox"/> Hydrology/Water Quality	<input type="checkbox"/> Land Use	<input type="checkbox"/> Mineral Resources
<input type="checkbox"/> Noise	<input type="checkbox"/> Population/Housing	<input type="checkbox"/> Public Services
<input type="checkbox"/> Recreation	<input type="checkbox"/> Transportation	<input type="checkbox"/> Tribal Cultural Resources
<input type="checkbox"/> Utilities/Service Systems	<input type="checkbox"/> Wildfire	<input type="checkbox"/> Mandatory Findings of Significance

C. Lead Agency Determination

On the basis of this initial evaluation:

- ✓ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project and/or mitigation measures that would reduce potential effects to a less than significant level have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

CITY OF STOCKTON
PUBLIC WORKS DEPARTMENT

Travis Pazin, Associate Civil Engineer

Date

1.0 INTRODUCTION

1.1 Project Brief

This document is an Initial Study/Negative Declaration (IS/ND) for the Main Street/Market Street Precise Road Plan (project). The project site is located along segments of Main Street and Market Street in the City of Stockton, San Joaquin County, California (Figures 1-1 through 1-4). The City of Stockton (City) is the project proponent. The IS/ND has been prepared in compliance with the requirements of the California Environmental Quality Act (CEQA). For the purposes of this CEQA analysis, the City is the Lead Agency for the project.

The project proposes to adopt a Precise Road Plan that would guide the reconfiguration of an approximately 2.75-mile segment of Main Street from Hunter Street to SR 99, along with the reconfiguration of an approximately 1.25-mile segment of Market Street from Center Street to Main Street. The reconfigurations would occur in accordance with a Complete Streets program, in which streets are designed and operated to enable safe access for users of all ages and abilities, including pedestrians, bicyclists, motorists, and transit riders. For this Precise Road Plan, the reconfigurations would involve reducing the number of vehicle lanes, adding bicycle lanes, and improving pedestrian facilities. The project would require approval by the Stockton City Council with a recommendation from the Stockton Planning Commission.

1.2 Purpose of Initial Study

CEQA requires that public agencies document and consider the potential environmental effects of the agency's actions that meet CEQA's definition of a project. Briefly summarized, a "project" is an action that may cause direct or indirect physical changes in the environment. A project includes the agency's direct activities and activities that involve public agency approvals or funding. The State CEQA Guidelines (California Code of Regulations Title 14, Division 6, Chapter 3) provides guidance for an agency's implementation of CEQA.

Provided that a project is not exempt from CEQA, the first step in the agency's consideration of its potential environmental effects is the preparation of an Initial Study. The purpose of an Initial Study is to determine whether the project would involve "significant" environmental effects, as defined by CEQA, and to describe feasible mitigation measures that would avoid identified significant effects or reduce them to a level that is less than significant. If the Initial Study does not identify significant effects, then the agency ordinarily prepares a Negative Declaration. If the Initial Study concludes that significant effects would occur but also identifies mitigation measures that would reduce these significant effects to a level that is less than significant, then the agency may prepare a Mitigated Negative Declaration. If a project would involve significant effects that cannot be feasibly mitigated, then the agency must prepare an Environmental Impact Report

(EIR). The agency may also decide to proceed directly with the preparation of an EIR without first preparing an Initial Study.

The proposed project is a “project” as defined by CEQA and is not exempt from CEQA consideration. The City has determined that the project may have potentially significant environmental effects and therefore requires preparation of an Initial Study. This Initial Study describes the proposed project and its environmental setting, discusses the potential environmental effects of the project, and identifies feasible mitigation measures that would eliminate any potentially significant environmental effects of the project or reduce them to a level that would be less than significant. The Initial Study considers the project’s potential for significant environmental effects in the following subject areas:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire
- Mandatory Findings of Significance (including Cumulative Impacts)

This Initial Study concludes that the project would not have potentially significant environmental impacts, either by itself or with the application of regulations, ordinances, and standards. No mitigation measures would be required. As a result, the City has prepared a Negative Declaration and has issued a Notice of Intent to adopt the IS/ND for the project. The Notice of Intent, inside the cover of this document, shows the time available for public comment on the IS/ND.

1.3 Project Background

Precise Road Plan

A Precise Road Plan is a detailed plan for future improvements of a roadway and/or transportation corridor. The Precise Road Plan identifies future right-of-way requirements, roadway alignments, lane configurations, accommodation for alternative transportation modes, access restrictions, and intersection controls for all or portions of the subject alignment. The city has multiple Precise Road Plans, all of which must conform to the Stockton General Plan.

Main Street

Main Street is an east-west street that traverses central and eastern Stockton. It connects downtown Stockton with eastern Stockton and unincorporated areas east of State Route

(SR) 99. Main Street is classified in the City of Stockton General Plan as an “arterial,” which is a roadway that connects the regional roadway network (i.e., freeways and highways) to the local roadway network. Arterials typically carry a high volume of traffic, ranging from 20,000 to 50,000 vehicles per day; some minor arterials serve fewer than 20,000 vehicles per day.

The segment of Main Street that is the subject of the proposed Precise Road Plan has its western end at the intersection with Hunter Street and its eastern end at the intersection with Broadway Avenue. From Hunter Street to Wilson Way, Main Street is a one-way, two-lane street with all traffic going west.¹ Existing traffic signals are at the intersections with California Street, American Street, Stanislaus Street, Airport Way, and Wilson Way. From Wilson Way to Market Street, Main Street is a one-way, three-lane street with traffic going west. Near the intersection with Market Street, Main Street decreases to two lanes. An existing traffic signal is at the intersection with Market Street. From Market Street to the SR 99 overpass, Main Street is a two-way, four-lane street. Existing traffic signals are at the intersections with D Street, Filbert Street, Golden Gate Avenue, and Netherton Avenue. Along all these segments of Main Street, on-street vehicle parking is allowed.

Market Street

Market Street is also an east-west street that traverses central and eastern Stockton, although it is divided into two segments by the SR 4 freeway (Crosstown Freeway). Market Street extends from downtown Stockton east to its intersection with Main Street and continues eastward to its end at B Street near State Route 4. The segment east of State Route 4 begins at C Street and ends at Filbert Street. Market Street is classified in the Stockton General Plan as a minor arterial west of State Route 4 and as a local street east of State Route 4.

The segment of Market Street that is the subject of the proposed Precise Road Plan has its western end at the intersection with Center Street and its eastern end at the intersection with Main Street. On this segment, Market Street is a one-way, two-lane street with all traffic going east. As noted, a traffic signal is at the intersection with Main Street. Traffic signals are also at the intersections with California Street, American Street, Stanislaus Street, Airport Way, and Wilson Way. Vehicle street parking is allowed on Market Street.

Both the Main Street and Market Street segments currently have no designated bikeways of any type; bicyclists must use the street. Sidewalks of varying widths and conditions are along both segments; a few locations have no sidewalk. Some sidewalks have street trees and utility poles and boxes that partially obstruct pedestrian use. Crosswalks are lacking at some intersections. Many intersections have curbs that do not conform to the standards established by the Americans with Disabilities Act (ADA), part of the intent of which is to make mobility easier for persons with physical disabilities. Street lighting does not exist on some portions of the project site; other portions have street lighting that does not conform to current City standards.

¹ It should be noted that Main Street is divided into two segments by the San Joaquin County Superior Court building. The segment that is part of the proposed Precise Road Plan ends at Hunter Street adjacent to the courthouse. Main Street starts again at El Dorado Street, on the other side of the courthouse property.

Complete Streets

The California Complete Streets Act of 2008 requires cities and counties, when updating their general plans, to ensure that local streets meet the needs of all users. A “Complete Street” is a street that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit vehicles, truckers, and motorists, appropriate to the function and context of the street. In practice, a Complete Streets program seeks to invest in street facilities such that public transit, bicycle, and pedestrian transportation are given as much importance as vehicle traffic movement.

The Stockton General Plan states that the city will consider whether and when to transition to a Complete Streets approach, based on a street’s location, land use context, and function within the citywide circulation network. The General Plan also contains Action TR-1.1D, which encourages the city to update existing Precise Road Plans in part to reflect a shift in priority from vehicular travel to travel by all modes through Complete Streets.

The objective of the project is to improve the appearance of, and to provide more mobility options within, the segments of Main Street and Market Street subject to the proposed Precise Road Plan in accordance with Complete Streets principles. The end results of the project are to make these segments more inviting for use by bicyclists and pedestrians and to improve mobility and accessibility for persons with physical disabilities. In turn, this would encourage the use of alternatives to motor vehicle transportation, thereby reducing vehicle use and its associated adverse environmental impacts, such as air pollutant and greenhouse gas (GHG) emissions.

1.4 Environmental Evaluation Checklist Terminology

The project’s potential environmental effects are evaluated in the Environmental Evaluation Checklist presented in Chapter 3.0 of this IS/ND. The checklist includes a list of environmental considerations against which the project is evaluated. For each question, the City determines whether the project would involve 1) a Potentially Significant Impact, 2) a Less Than Significant Impact with Mitigation Incorporated, 3) a Less Than Significant Impact, or 4) No Impact.

- A Potentially Significant Impact occurs when there is substantial evidence that the project would involve a substantial adverse change to the physical environment, i.e., the environmental effect may be significant, and feasible mitigation measures have not been defined that would reduce the impact to a level that would be less than significant. If there is a Potentially Significant Impact entry in the Initial Study, then an EIR is required. No Potentially Significant Impacts have been identified in this IS/ND.
- An environmental effect that is Less Than Significant with Mitigation Incorporated is a Potentially Significant Impact that can be avoided or reduced to a level that is less than significant with the application of defined mitigation measures. No such impacts have been identified in this IS/ND.

- A Less Than Significant Impact occurs when the project would involve an environmental impact, but the impact would not cause a substantial adverse change to the physical environment such that mitigation would be required. This IS/ND identifies numerous impacts that are considered Less Than Significant.
- A determination of No Impact is self-explanatory. This IS/ND identifies several areas of environmental concern in which the project would have No Impact on the physical environment.

This IS/ND identifies certain potential environmental effects that would be reduced or eliminated by implementation of existing provisions of law and standards of practice related to land use planning and environmental protection. Where appropriate, such provisions, considered part of the existing regulatory environment, are identified and considered in the environmental impact analysis, and the degree to which they would reduce potential environmental effects is discussed.

1.5 Summary of Environmental Effects and Mitigation Measures

Table 1-1, which follows Figures 1-1 through 1-4, summarizes the results of the Environmental Evaluation Checklist and associated narrative discussion in Chapter 3.0 of this IS/ND. The potential environmental impacts of the proposed project are listed in the left-most column of this table. The level of significance of each impact is indicated in the second column. Feasible mitigation measures that avoid or minimize the impacts, if necessary, are shown in the third column, and the significance of the impact after the mitigation measures are applied is shown in the fourth column. As has been noted, no significant effects requiring mitigation measures have been identified for this project.

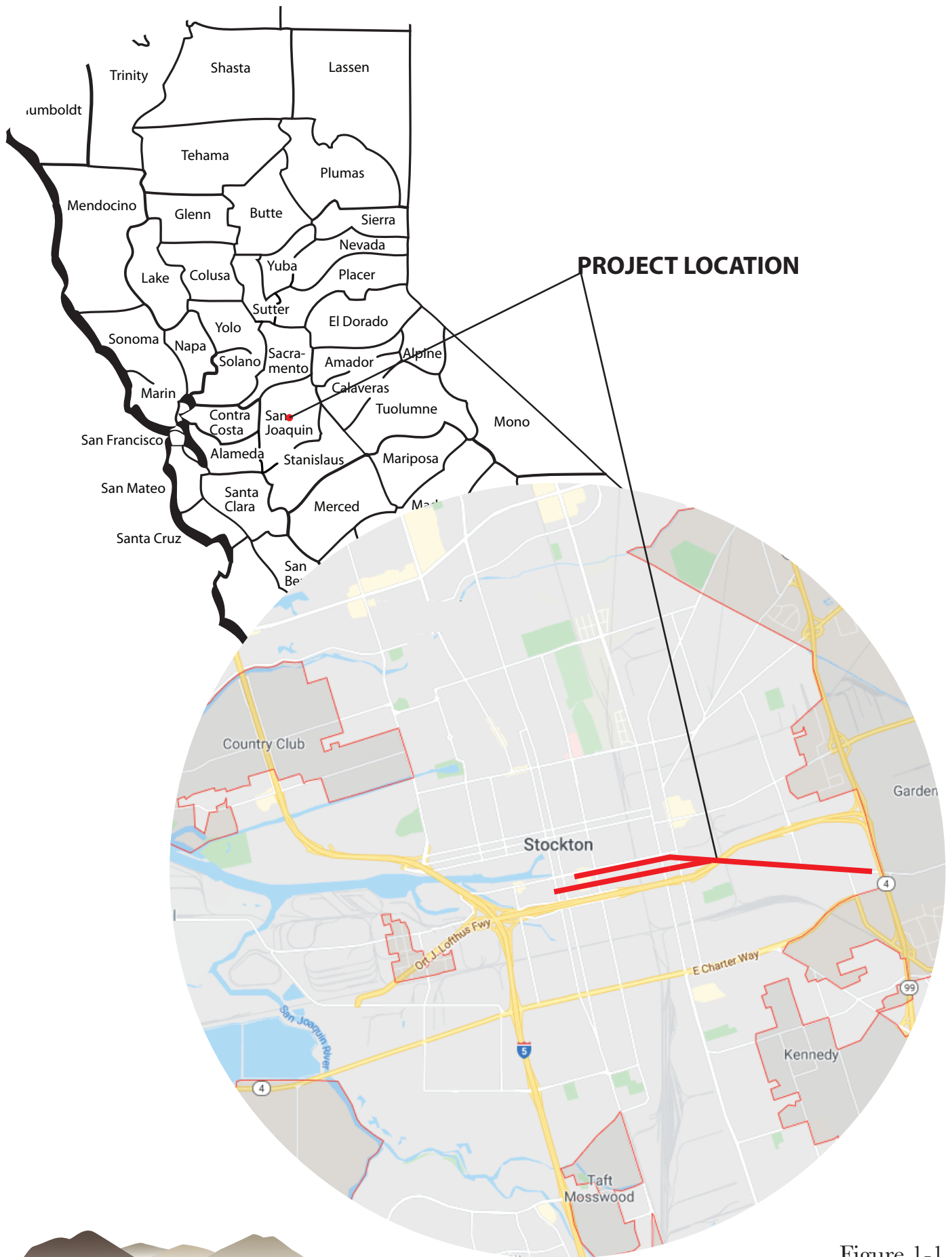
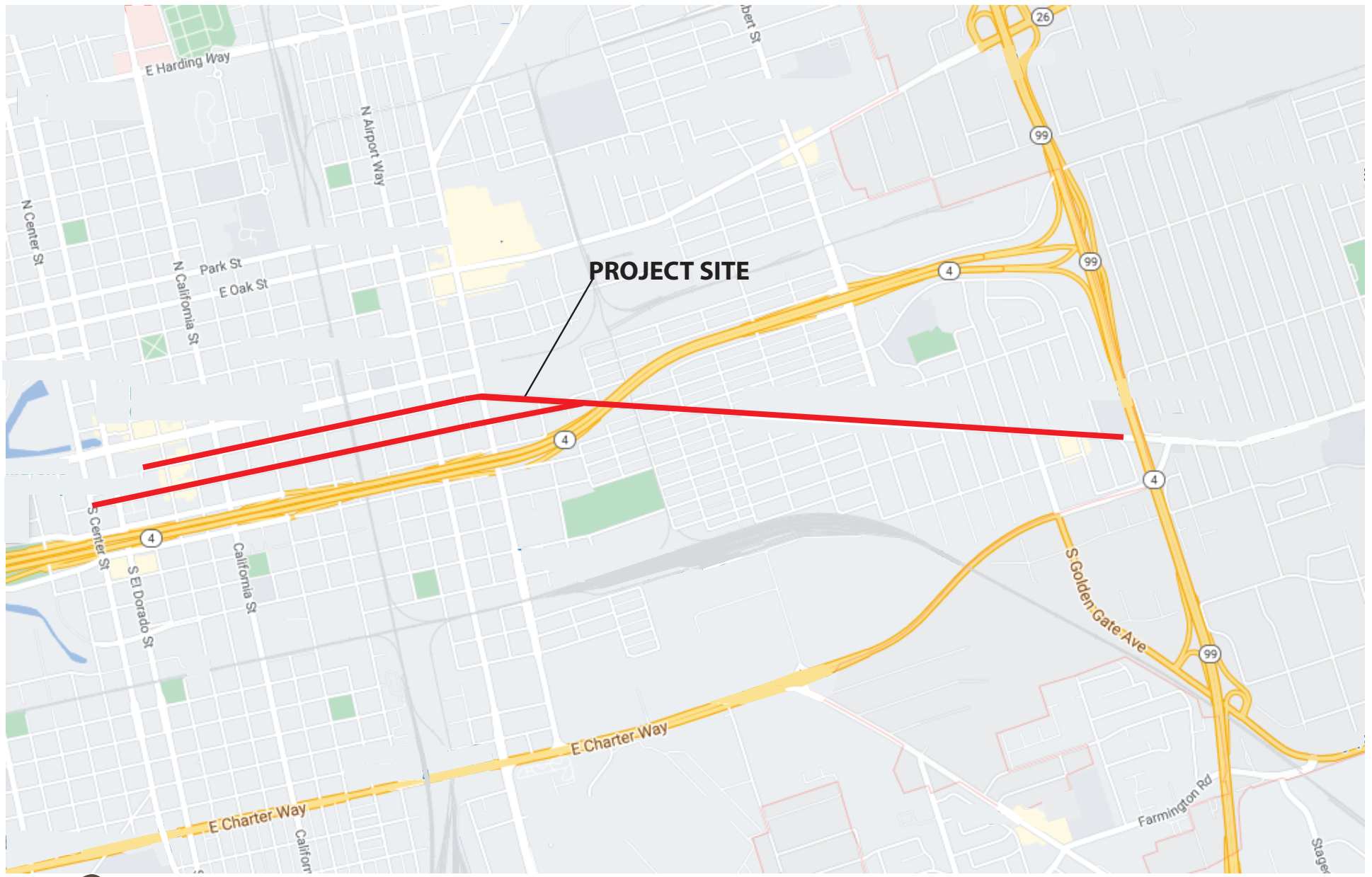
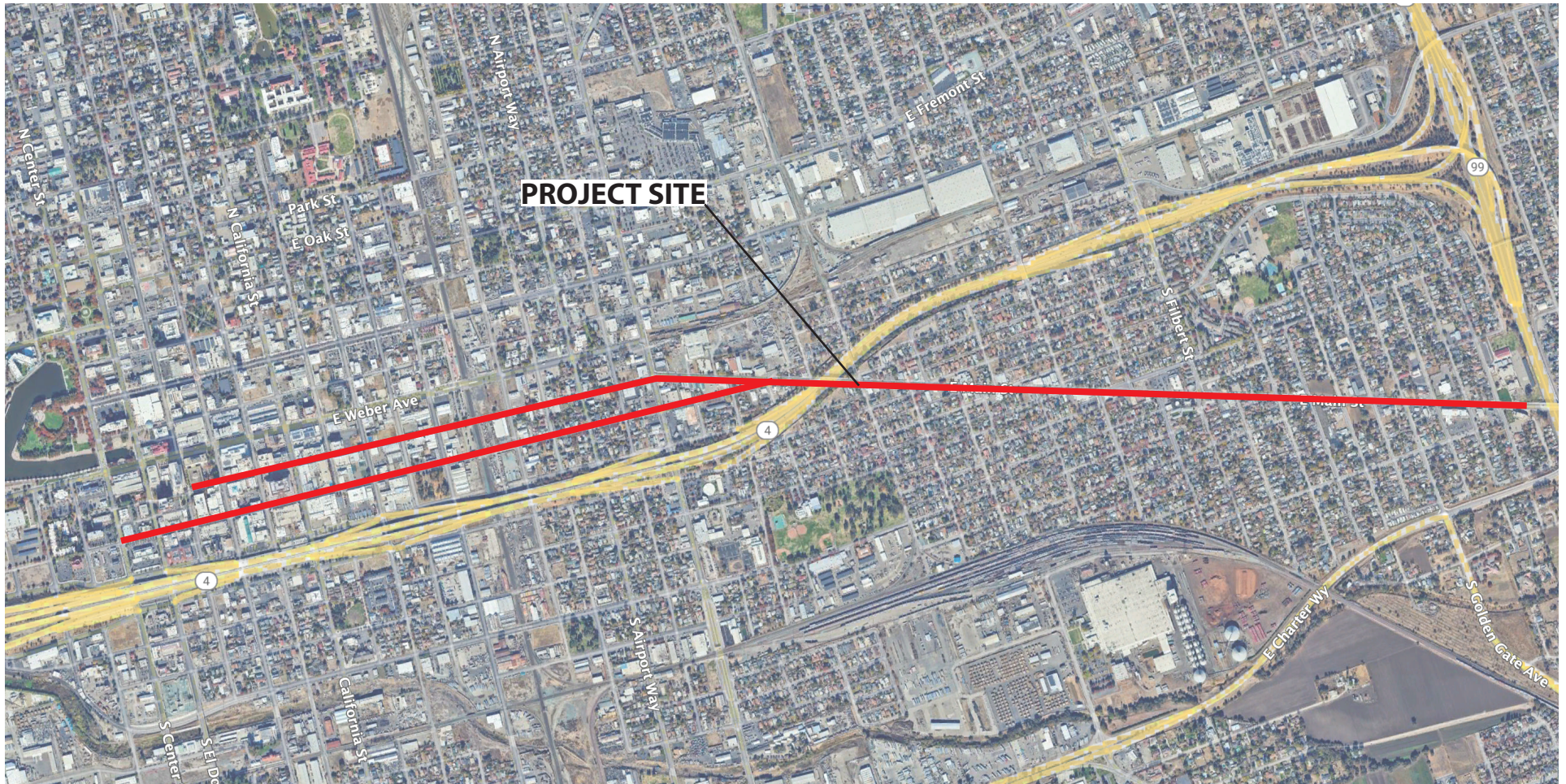


Figure 1-1
REGIONAL LOCATION MAP







SOURCE: Google Earth



Figure 1-4
AERIAL PHOTO

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
3.1 AESTHETICS			
a) Scenic Vistas	NI	None required	-
b) Scenic Resources and Highways	NI	None required	-
c) Visual Character and Quality	LS	None required	-
d) Light and Glare	LS	None required	-
3.2 AGRICULTURE AND FORESTRY RESOURCES			
a) Agricultural Land Conversion	NI	None required	-
b) Conflict with Agricultural Zoning or Williamson Act Contract	NI	None required	-
c, d) Forest Lands	NI	None required	-
e) Indirect Conversion of Farmland or Forest Land	NI	None required	-
3.3 AIR QUALITY			
a) Air Quality Plan Consistency	LS	None required	-
b) Cumulative Emissions	LS	None required	-
d) Exposure of Sensitive Receptors	LS	None required	-
e) Odors and Other Emissions	LS	None required	-
3.4 BIOLOGICAL RESOURCES			
a) Special-Status Species	LS	None required	-
b) Riparian and Sensitive Habitats,	NI	None required	-

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
c) State and Federally Protected Wetlands	NI	None required	-
d) Fish and Wildlife Movement	LS	None required	-
e) Local Biological Resource Requirements	LS	None required	-
f) Conflict with Habitat Conservation Plans	NI	None required	-
3.5 CULTURAL RESOURCES			
a) Historical Resources	LS	None required	-
b) Archaeological Resources	LS	None required	-
c) Human Burials	LS	None required	-
3.6 ENERGY			
a) Project Energy Consumption	LS	None required	-
b) Consistency with Energy Plans	LS	None required	-
3.7 GEOLOGY AND SOILS			
a-i) Fault Rupture Hazards	NI	None required	-
a-ii) Seismic Ground Shaking	LS	None required	-
a-iii) Seismic-Related Ground Failure	LS	None required	-
a-iv) Landslides	NI	None required	-
b) Soil Erosion	LS	None required	-
c) Geologic Instability	NI	None required	-
d) Expansive Soils	LS	None required	-

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
e) Adequacy of Soils for Sewage Disposal	NI	None required	-
f) Paleontological Resources	LS	None required	-
3.8 GREENHOUSE GAS EMISSIONS			
a, b) Project GHG Emissions and Consistency with GHG Reduction Plans	LS	None required	-
3.9 HAZARDS AND HAZARDOUS MATERIALS			
a) Hazardous Material Transportation, Use, and Storage	NI	None required	-
b) Upset and Accident Conditions	LS	None required	-
c) Release of Hazardous Materials near Schools	LS	None required	-
d) Hazardous Material Sites	LS	None required	-
e) Public Airports	NI	None required	-
f) Emergency Response and Evacuations	LS	None required	-
g) Wildland Fire Hazards	NI	None required	-
3.10 HYDROLOGY AND WATER QUALITY			
a) Water Quality	LS	None required	-
b) Groundwater Supplies and Recharge	NI	None required	-
c-i, ii) Drainage Patterns	NI	None required	-
c-iii) Runoff	NI	None required	-
c-iv) Flooding Hazards	NI	None required	-

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
d) Release of Pollutants in Flood, Tsunami, or Seiche Zones	NI	None required	-
e) Conflicts with Water Quality or Groundwater Management Plans	LS	None required	-
3.11 LAND USE AND PLANNING			
a) Division of Established Community	LS	None required	-
b) Conflicts with Land Use Plans, Policies and Regulations	LS	None required	-
3.12 MINERAL RESOURCES			
a, b) Availability of Mineral Resources	NI	None required	-
3.13 NOISE			
a) Generation of Noise Exceeding Local Standards	LS	None required	-
b) Exposure to Groundborne Vibrations	LS	None required	-
c) Public Airport and Private Airstrip Noise	NI	None required	-
3.14 POPULATION AND HOUSING			
a) Unplanned Population Growth	NI	None required	-
b) Displacement of Housing or People	NI	None required	-
3.15 PUBLIC SERVICES			
a-i) Fire Protection	NI	None required	-
a-ii) Police Protection	NI	None required	-
a-iii) Schools	NI	None required	-

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
a-iv) Parks	NI	None required	-
a-v) Other Public Facilities	NI	None required	-
3.16 RECREATION			
a, b) Recreational Facilities	NI	None required	-
3.17 TRANSPORTATION			
a) Conflicts with Transportation Programs/Plans	LS	None required	-
b) Conflict with CEQA Guidelines Section 15064.3(b)	NI	None required	-
c) Traffic Hazards	LS	None required	-
d) Emergency Access	LS	None required	-
3.18 TRIBAL CULTURAL RESOURCES			
a, b) Tribal Cultural Resources	LS	None required	-
3.19 UTILITIES AND SERVICE SYSTEMS			
a) Relocation or Construction of Utility Facilities	LS	None required	-
b) Water Supplies	NI	None required	-
c) Wastewater Treatment Capacity	NI	None required	-
d, e) Solid Waste Services	NI	None required	-
3.20 WILDFIRE			
a) Emergency Response Plans and Emergency Evacuation Plans	NI	None required	-

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
b) Exposure of Project Occupants to Wildfire Hazards	NI	None required	-
c) Installation and Maintenance of Infrastructure	NI	None required	-
d) Risks from Runoff, Post-Fire Slope Instability, or Drainage Changes	NI	None required	-
3.21 MANDATORY FINDINGS OF SIGNIFICANCE			
a) Findings on Biological and Cultural Resources	LS	None required	-
b) Findings on Cumulatively Considerable Impacts	LS	None required	-
c) Findings on Adverse Effects on Human Beings	LS	None required	-

Notes: NI = No Impact; LS = Less Than Significant

2.0 PROJECT DESCRIPTION

2.1 Project Location

The project site is located on Main Street and Market Street in the eastern portion of the City of Stockton, San Joaquin County, California (see Figures 1-1 through 1-4). Specifically, the project site is the segment of Main Street from Hunter Street to SR 99, and the segment of Market Street from Center Street to Main Street. The project site is shown on the U.S. Geological Survey's Stockton East and Stockton West 7.5-minute quadrangle maps within an unsectioned area of the Campo de los Franceses land grant at Township 1 North, Range 6 East, Mt. Diablo Base and Meridian. The latitude of the project site at the intersection of Main Street and Wilson Way is approximately 37° 57' 21" North, and the longitude is approximately 121° 16' 17" West.

2.2 Project Details

The project proposes to adopt a Precise Road Plan detailing planned improvements to the subject street sections. The Precise Road Plan would cover improvements to Main Street between its intersection with Hunter Street on the west to its intersection with Broadway Avenue on the east – approximately 2.75 miles. The Precise Road Plan also would also detail planned improvements to Market Street from its intersection with Center Street to its intersection with Main Street – approximately 1.25 miles (Figure 2-1). Planned improvements defined in the Precise Road Plan would encompass the entire existing right-of-way of the two existing City streets, including the adjacent sidewalk areas. The project would require acquisition of small portions of 11 adjacent parcels needed to accommodate new cul-de-sacs, curb returns and sidewalks that would extend outside the existing right-of-way; these parcels would range from 15 SF to 2,938 SF in size.

- Addition of a new cul-de-sac on Market Street east of its intersection with Main Street, an existing paved area (2,809 SF)
- Addition of a new cul-de-sac on Washington Street east of its intersection with South B Street, a vacant site (2,938 SF)
- Addition of a new cul-de-sac on Lafayette Street east of its intersection with C Street and Main Street, a vacant site (2,475 SF to be acquired, 7,637 SF to be abandoned and 725 SF to be acquired but then abandoned)
- Widen curb return and sidewalk radius at Filbert and Main Street roundabout, an outdoor storage and landscape area (155 SF and 318 SF)
- Increase radius of curb return and sidewalk at Shasta Avenue and Main Street, a vacant paved area (15 SF)

- Increase radius of curb return and sidewalk at David Avenue and Main Street, a vacant area (58 SF)
- Increase radius of curb return and sidewalk at four corners of Wilson Way and Market Street, existing vacant paved areas (total 44 SF)

The proposed improvements described in the Precise Road Plan would reconfigure these street segments in accordance with the Complete Streets program, as generally described in Chapter 1.0, Introduction. Specifically, the improvements described in the Plan would implement a “road diet,” in which the number of motor vehicle lanes would be reduced. The additional space made available by the road diet would be used for bicycle lanes, parking and pedestrian improvements. Representative sections and plan views of the proposed improvements are shown on Figures 2-1 through 2-9. More specific information on the proposed street improvements is presented below.

Main Street

Under the proposed Precise Road Plan, the reconfiguration of Main Street would occur as follows.

- *Hunter Street to Wilson Way* (Figure 2-1A, Sections A, B and C). The number of vehicle lanes on this one-way street segment would be reduced from the existing two lanes to one vehicle lane ranging in width from 12 to 13.7 feet. Curbside parallel parking areas, eight to nine feet in width, would be available on both sides of the street. One bike lane approximately six feet in width would be created within the northern half of the street. The bike lane would be separated from the vehicle lane by buffer space approximately 4.5 to 6.3 feet in width. The remaining right-of-way would be available for parkway and sidewalk, ranging in width from 8.8 to 11.2 feet, on each side of this segment. Modifications would be made to signalized intersections at San Joaquin Street, Sutter Street, California Street, American Street, Stanislaus Street, Airport Way, and Wilson Way. The project proposes the installation of bulb-outs at the Grant Street, Aurora Street, and Union Street intersections.
- *Wilson Way to Market Street* (Figure 2-1A, Section D) This one-way segment would be reduced from the existing three lanes to one 16-foot-wide lane. Curbside parallel parking areas, approximately eight to nine feet in width, would be available on both sides of the segment. One bike lane five feet in width would be created. The bike lane would be separated from the vehicle lane by a buffer space approximately 1.9-2.5 feet in width. The remaining right-of-way would be available for parkway and sidewalk, ranging in width from 9.2 to 12.3 feet, on both sides of this segment.

At the intersection of Main Street and Market Street, a roundabout would be installed (Figure 2-10). Concrete paving would be placed around the perimeter of the roundabout, while landscaping would be placed in its center. The existing traffic

signal at this intersection would be removed, as would some existing streetlights. A parklet with landscaping would be installed along the southern side of Main Street from Wilson Way to Market Street, along with smaller parklets surrounding the roundabout. A median curb would be installed on the Main Street east leg.

- *Market Street to Rendon Avenue* (Figure 2-1A, Sections F,G and H) The number of vehicle lanes would be reduced from the existing four lanes (two in each direction) to two 12-foot-wide lanes, one in each direction (see Figure 2-5). Curbside parallel parking areas, approximately eight feet in width, would be available on both sides of the segment. Two bike lanes, each five feet in width, would be created on each side of this segment. Each bike lane would be separated from the vehicle lane by buffer space ranging in width from 2.4 to 3.3 feet. The remaining right-of-way would be available for parkway and sidewalk, ranging in width from 5.3 to 12.2 feet, on both sides of this segment.

At the Filbert Street intersection, a roundabout would be installed (Figure 2-10). As with the Market Street roundabout, this roundabout would have concrete paving around its perimeter and landscaping in its center. An existing traffic signal and streetlights at this intersection would be removed. Median curbs would be installed on all legs of this intersection. Parklets with landscaping would be installed at the intersections of Lafayette Street, Sonora Street, F Street, and McDonnell Avenue. Between E Street and Sharon Avenue, a rectangular rapid flashing beacon crosswalk is proposed that would light up whenever a pedestrian crosses the street.

Rendon Avenue to Broadway Avenue (Figure 1A and 2, Section I) The number of vehicle lanes would be reduced from the existing four lanes to two 12-foot-wide lanes, one in each direction. A two-way left-turn lane would separate the two-vehicle lane. Curbside parallel parking areas, approximately eight feet in width, would be provided on both sides of this segment. Two bike lanes, each six feet in width, would be installed on each side of this segment. No buffer spaces would separate the bike lanes from the vehicle lanes. The remaining right-of-way would be available for parkway and sidewalk, ranging in width from 5.0 to 7.8 feet, on both sides of this segment. Modifications would be made to signalized intersections at Golden Gate Avenue and Netherton Avenue.

Market Street

Under the proposed Precise Road Plan, the reconfiguration of Market Street would occur as follows.

- *Center Street to Sutter Street* (Figure 2-1B, Section J). The number of vehicle lanes on this one-way street segment would be reduced from the existing two lanes to one vehicle lane 12 feet in width (see Figure 2-7). Curbside parallel parking areas, eight to nine feet in width, would be available on both sides of the street. One bike lane approximately six feet in width would be created within the northern half of the street. The bike lane would be separated from the vehicle lane by buffer space approximately 4.4 to 6.4 feet in width. The remaining right-of-way would be available for parkway and sidewalk, ranging in width from 8.3 to 10.7 feet, on each side of this segment. Modifications would be made to signalized intersections at

Center Street, El Dorado Street, Hunter Street, San Joaquin Street, and Sutter Street.

- *Sutter Street to California Street* (Figure 2-1B, Section K). This one-way segment would be reduced from the existing two lanes to one 12-foot-wide lane (see Figure 2-7). This segment would have no curbside parallel parking areas. One bike lane, six feet in width, would be created. The bike lane would be separated from the vehicle lane by a buffer space approximately 8.5 feet in width. The remaining right-of-way would be available for parkway and sidewalk, ranging in width from 10.2 to 17.1 feet, on both sides of this segment. Modifications would be made to the signalized intersection at California Street.
- *California Street to Union Street* (Figure 2-1B, Section L). This one-way segment would have the same configuration as the segment from Center Street to Sutter Street (see above). The right-of-way available for parkway and sidewalk on both sides of this segment would range in width from 9.1 to 11.3 feet. Modifications would be made to signalized intersections at American Street and Stanislaus Street.
- *Union Street to Wilson Way* (Figure 2-1B, Section J) This one-way segment would have the same configuration as the segment from Center Street to Sutter Street (see above). Modifications would be made to signalized intersections at Airport Way and Wilson Way.

Wilson Way to Main Street (Figure 2-1B, Section M). The number of vehicle lanes on this one-way street segment would be reduced from the existing two lanes to one vehicle lane 12 feet in width (see Figure 2-8). Curbside parallel parking areas, eight to nine feet in width, would be available on both sides of the street. One bike lane approximately six feet in width would be created within the northern half of the street. The bike lane would be separated from the vehicle lane by buffer space approximately 1.9 to 2.5 feet in width. The remaining right-of-way would be available for parkway and sidewalk, ranging in width from 9.2 to 12.3 feet, on each side of this segment. This segment would terminate at the proposed roundabout at the intersection with Main Street.

Other Project Features

The lane reduction and bike lane creation would be accomplished by restriping the street. Repaving or resurfacing of the street is anticipated along the bike lanes, which would be delineated with thermoplastic green and white dashed striping. Bike boxes and lateral shifts on the bike lanes would be painted and striped per the Federal Highway Administration Separated Bike Lane Planning Guide.

Work in the sidewalk areas, in general, would be limited to repairs of existing sidewalk sections that are in poor condition or that represent a potential safety hazard. It would also include gap closures at specific areas. Specific existing intersection pedestrian ramps would be altered so that they are ADA-compliant. At other intersections, new curb cuts ramps that are ADA-compliant would be installed.

In areas that currently have no street lighting or have streetlights that do not conform to City standards, it is anticipated that street lighting in accordance with Stockton Municipal Code standards would be installed (see Section 3.1, Aesthetics, for a description of these

standards). Along Main Street, 24 existing streetlights would be removed and replaced, and 56 new streetlights would be installed. Along Market Street, 10 existing streetlights would be removed and replaced, and 29 new streetlights would be installed.

All construction work would be conducted within the existing rights-of-way of Main Street and Market Street. The project would require the acquisition of minor amounts of additional street right-of-way, as detailed on page 2-1. Existing sidewalk areas have been documented to have obstacles such as utility boxes and poles; some poles may be relocated or removed as part of street improvements. In addition, existing overhead utilities may need to be relocated underground. Further coordination with utility agencies shall occur during preparation of construction documents.

Funding and Public Outreach

Preparation of the Precise Road Plan would be funded using sales tax revenues available through Measure K, which was approved by San Joaquin County voters. The City was awarded federal funding to design and construct improvements shown in the Precise Road Plan. Active Transportation Program funds (mix of state and federal) were awarded to improve Main and Market Streets between California Street and Sierra Nevada Street. Safe Streets and Roads for All funds (federal) were awarded to improve Main Street between Sierra Nevada Street and Sullivan Avenue, and Market Street between Sierra Nevada Street and Main Street. Prior to a decision, public outreach would be conducted to receive comments on the Precise Road Plan and proposed improvements that would be undertaken.

It is possible that the Precise Road Plan, as described in this IS/ND, will be changed in response to public comments. However, it is expected that the proposed Complete Streets reconfiguration would not be substantially altered from what is described in this document.

2.3 Permits, Entitlements, and Approvals

Discretionary project approvals would be limited to approval of the Precise Road Plan by the Stockton City Council, with a recommendation from the Stockton Planning Commission. Should the City Council approve the Precise Road Plan, City encroachment permits would be required for any work within the streets, along with City grading permits if grading work is necessary.

Other permits, entitlements, and approvals that may be required from other agencies that have jurisdiction over aspects of the project include the Construction General Permit from the State Water Resources Control Board (SWRCB). Since a segment of Main Street passes over SR 4, an encroachment permit from Caltrans would be required for this segment. Both Main Street and Market Street cross existing railroad tracks. If any modifications to these rail crossings are proposed, the California Public Utilities Commission, Rail Crossings and Engineering Branch, must review and authorize such modifications.

Because federal funds would be used, the project would be required to undergo environmental review under the National Environmental Policy Act (NEPA) through Caltrans. The Caltrans NEPA review, which is currently underway, will be conducted separately from this CEQA environmental review.

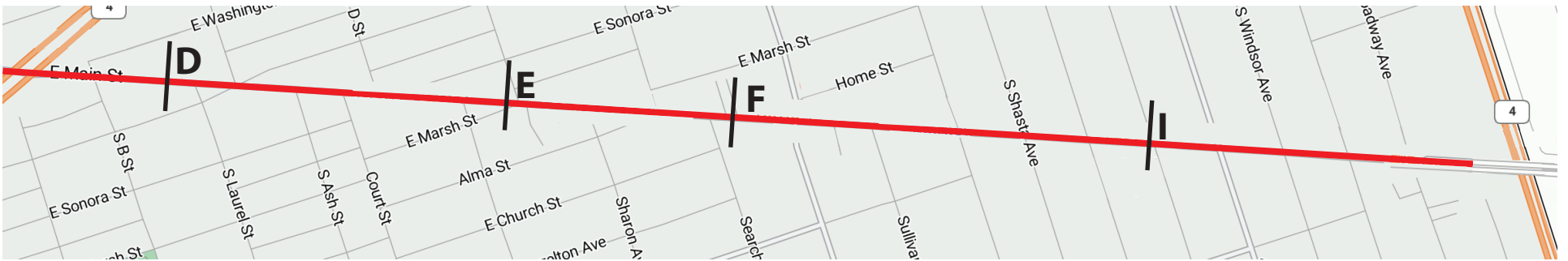
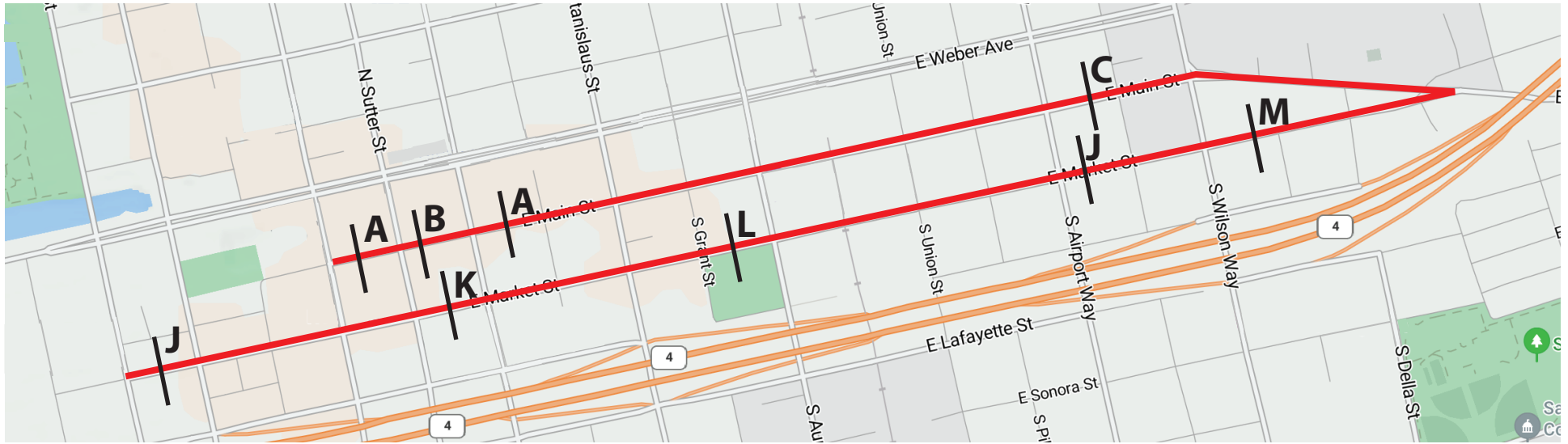
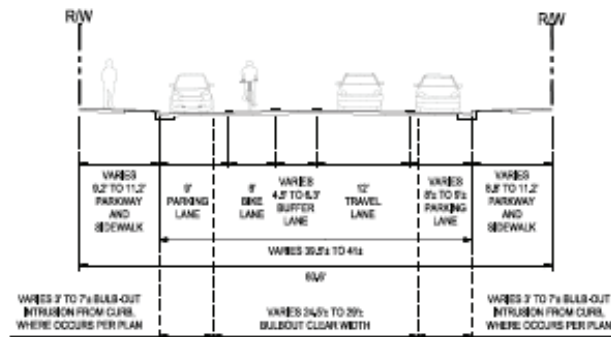


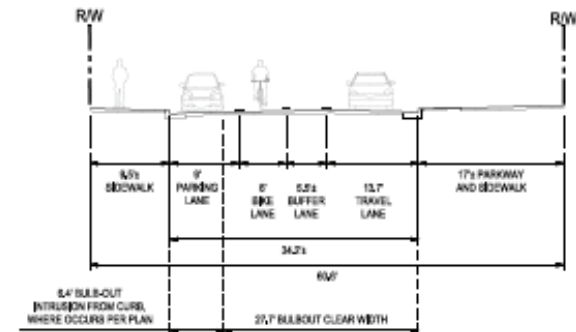




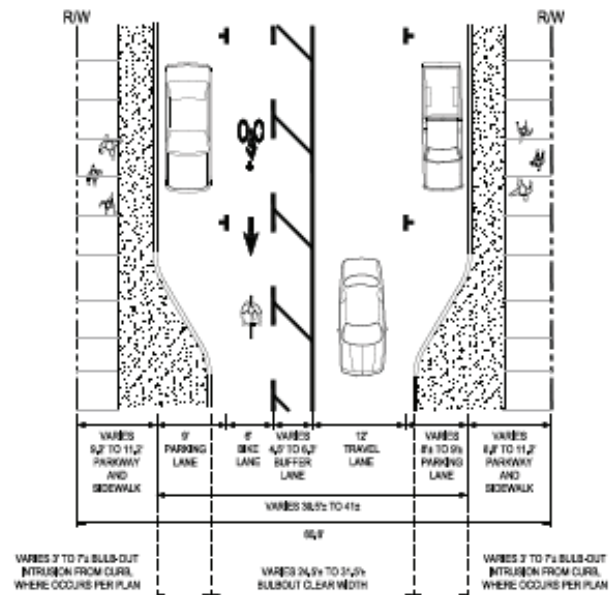
Figure 2-1B
APPROXIMATE LOCATIONS, MARKET STREET IMPROVEMENT



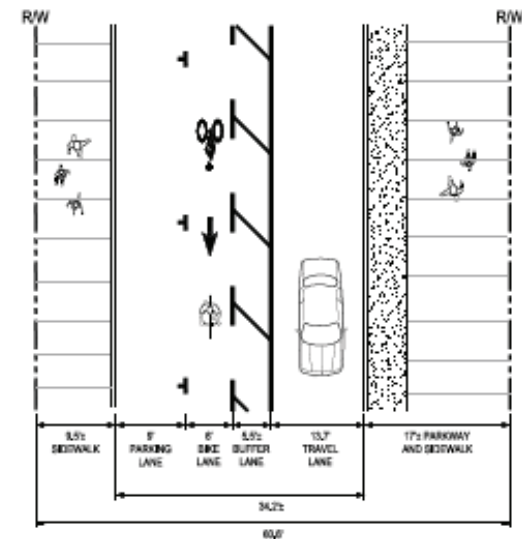
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NOT TO SCALE



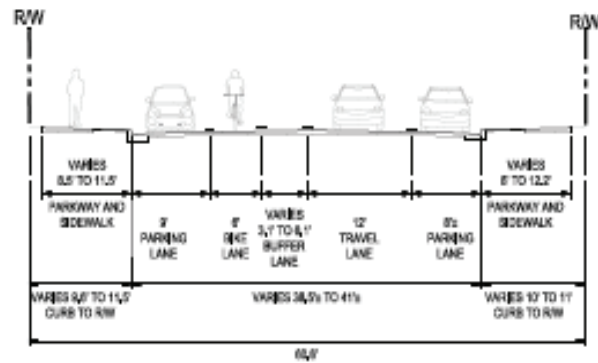
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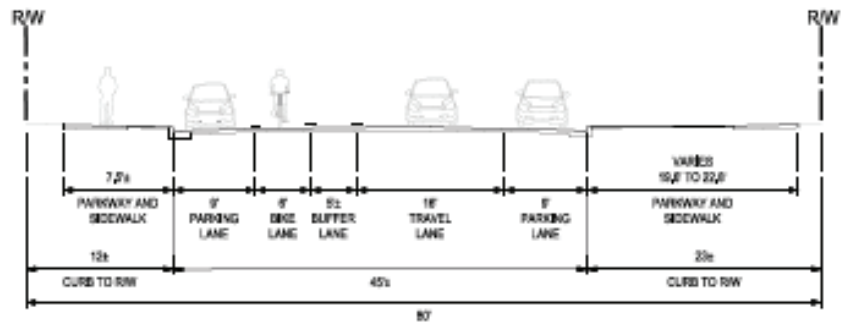
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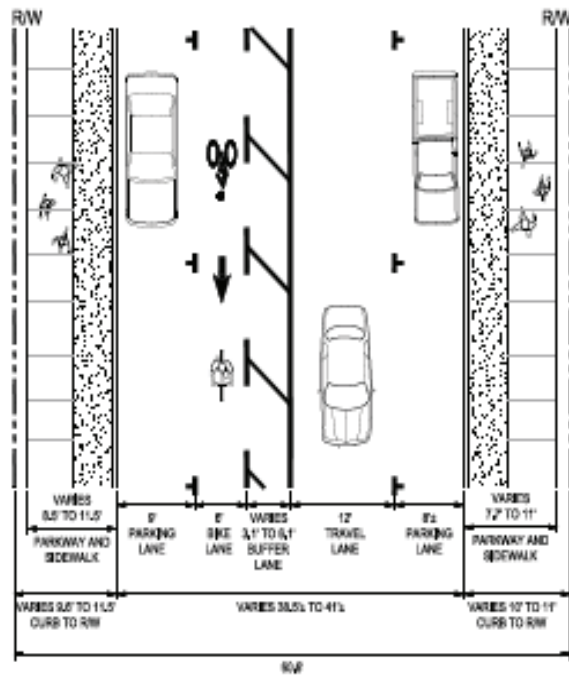
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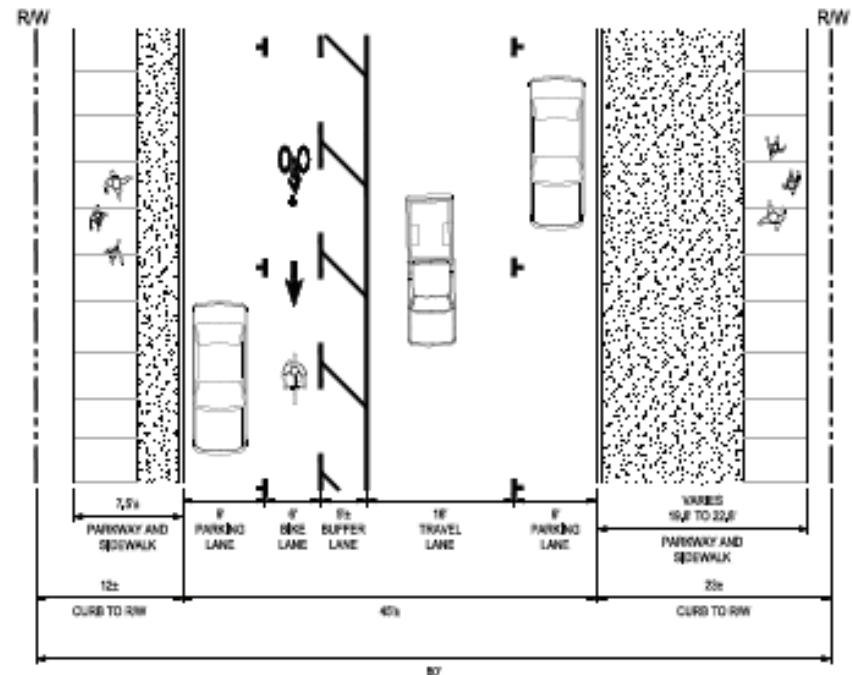
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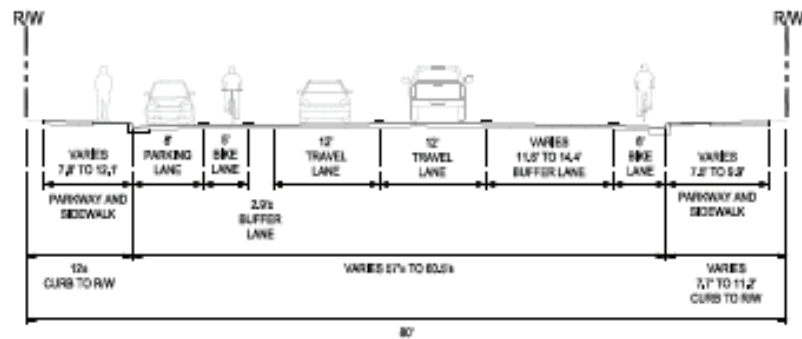
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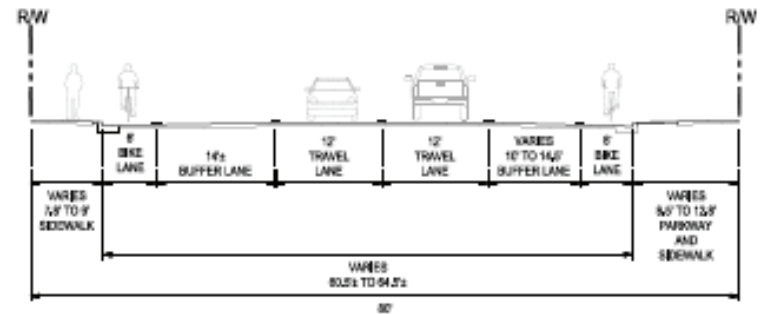
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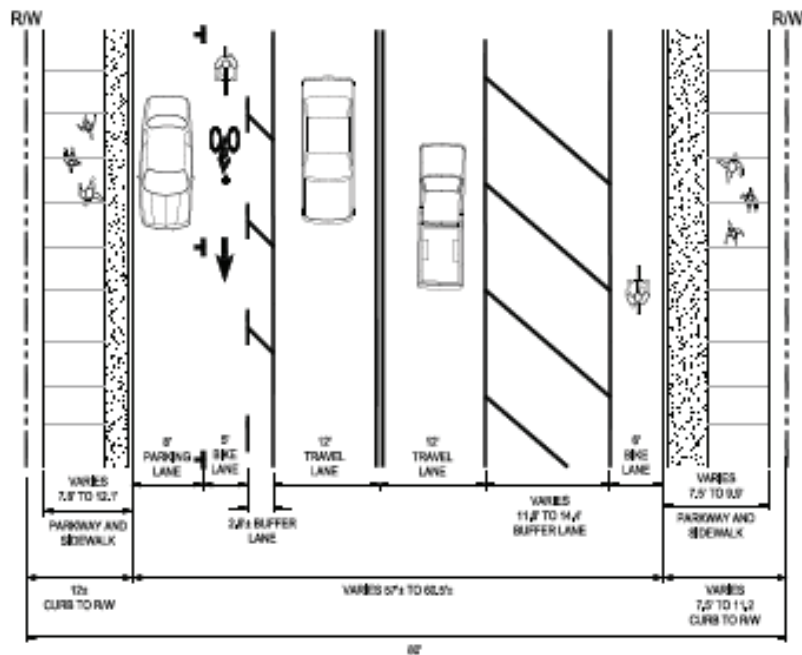
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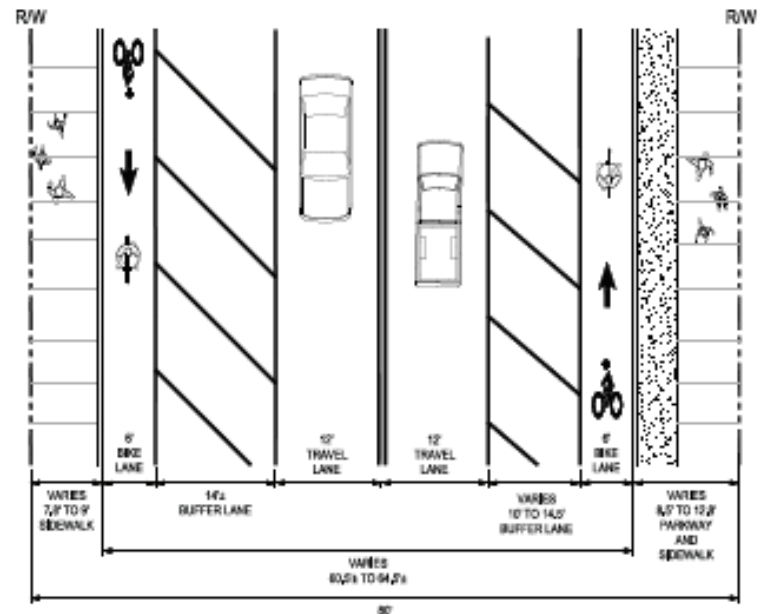
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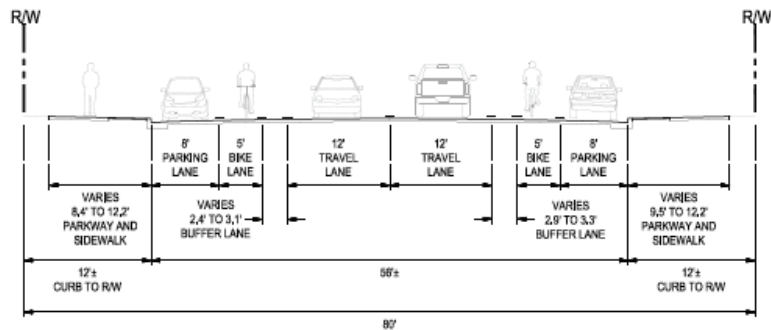
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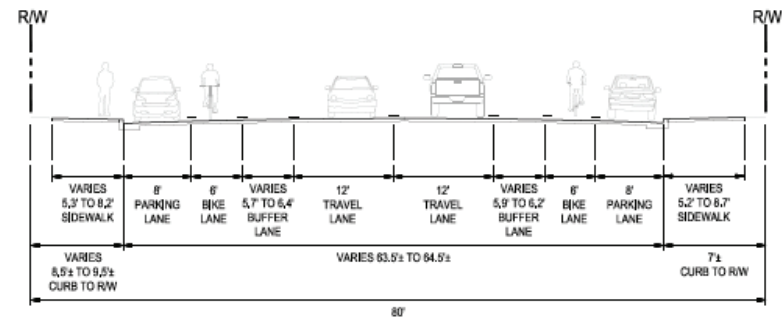


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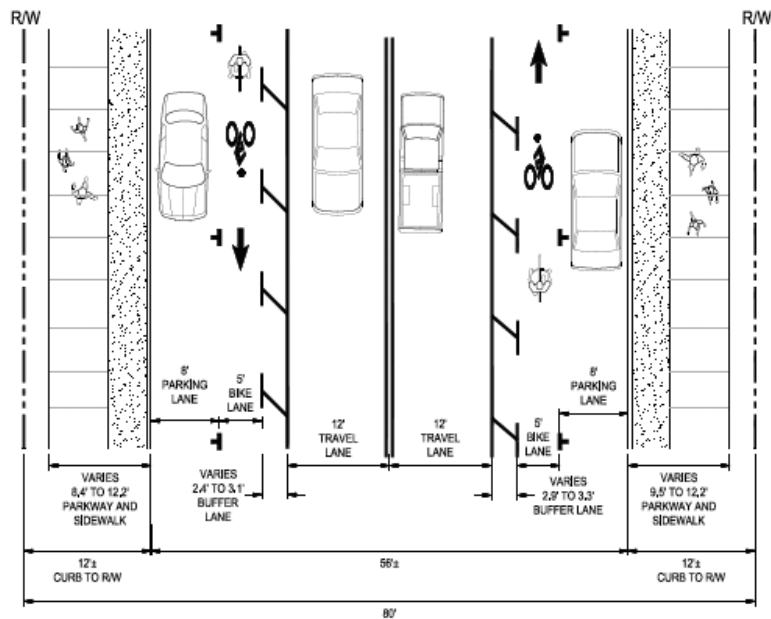
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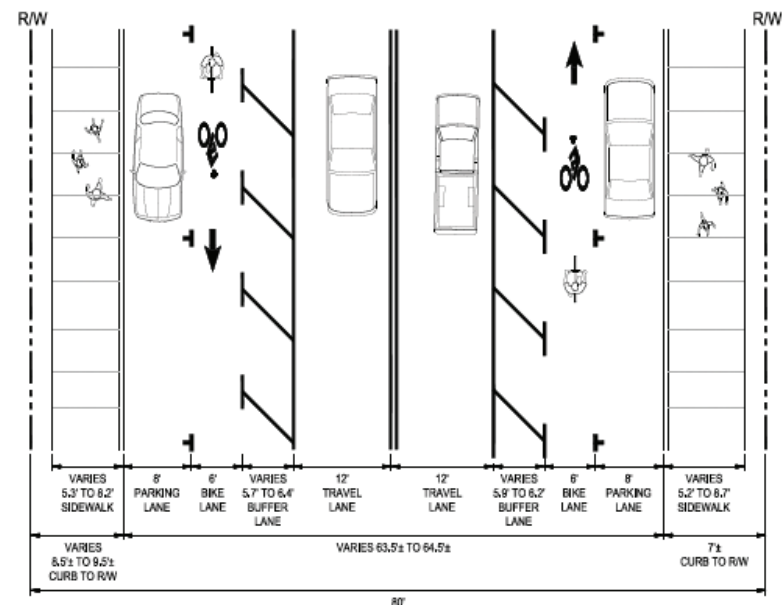
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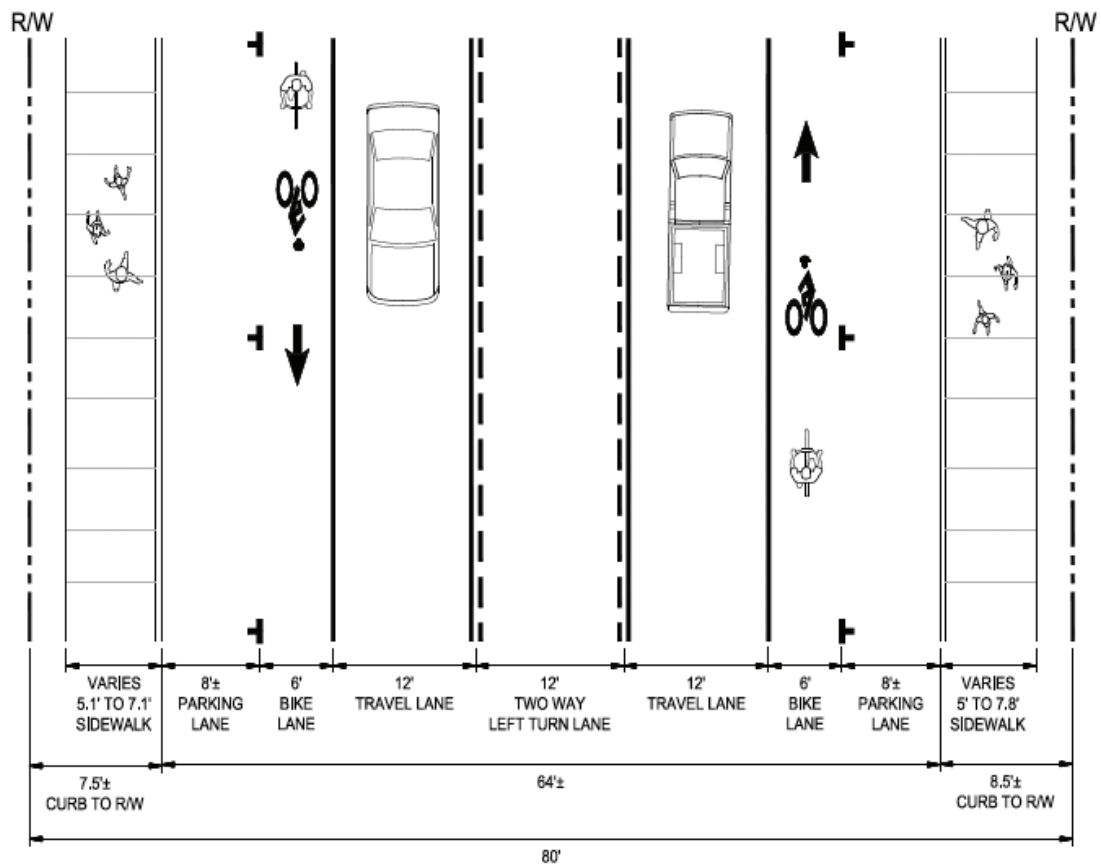
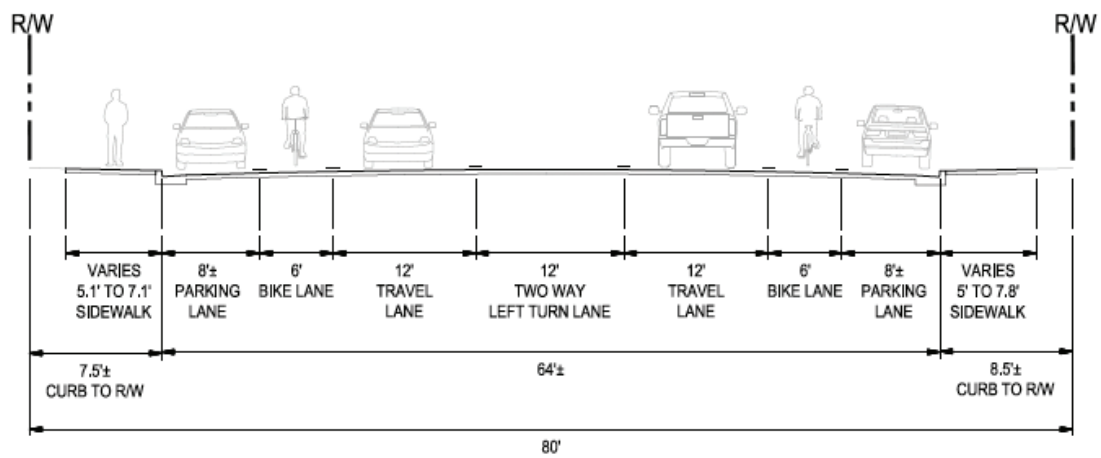
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NOT TO SCALE



H MAIN STREET - PROPOSED PLAN STA 98+00 TO 114+00

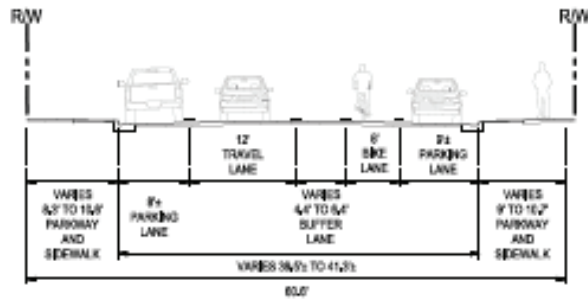
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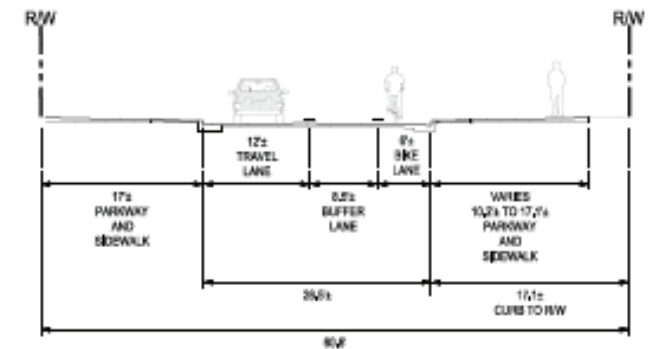
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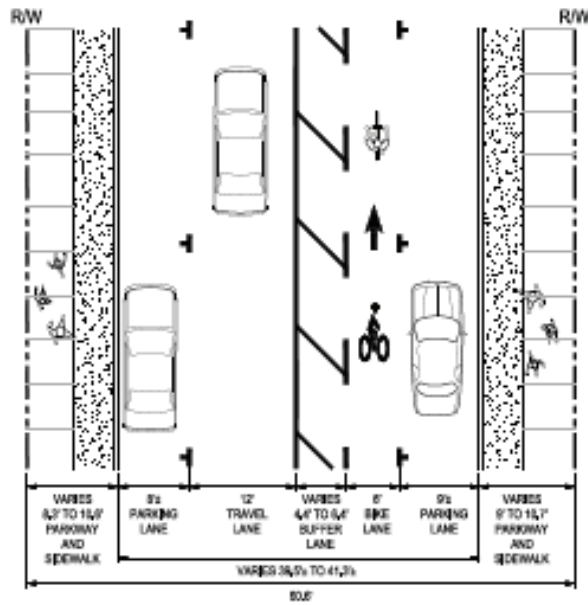
Figure 2-6
MAIN STREET SECTION I



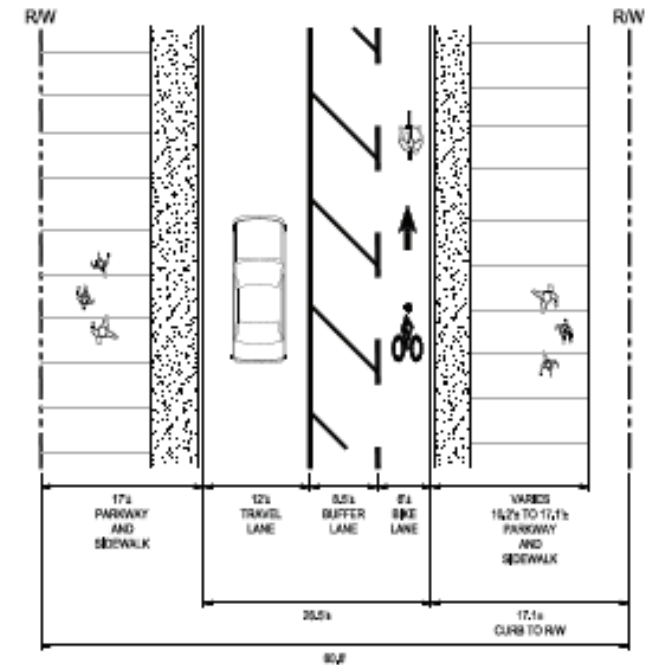
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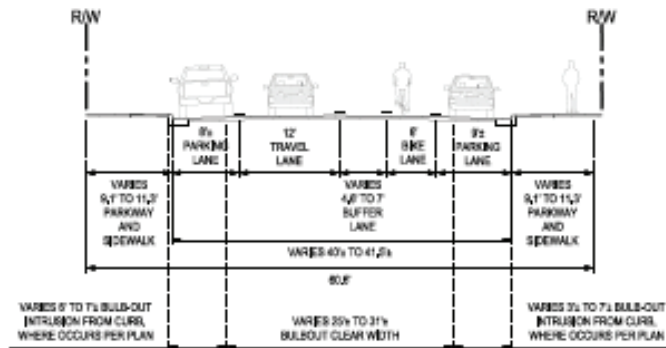
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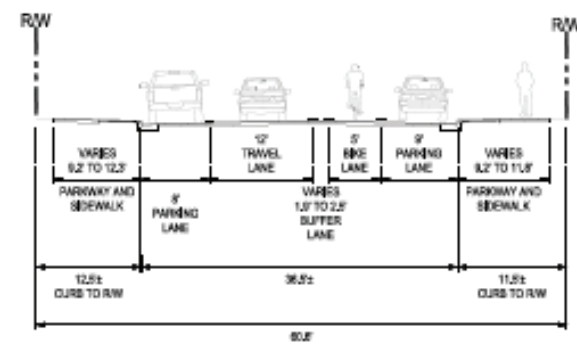
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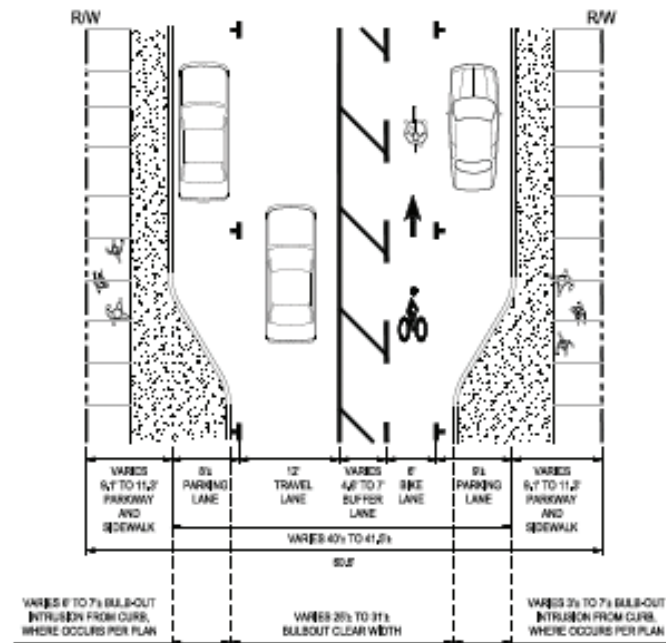
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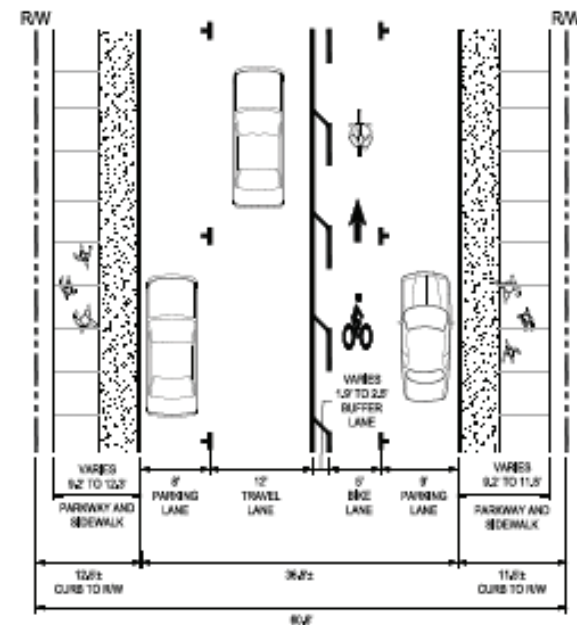
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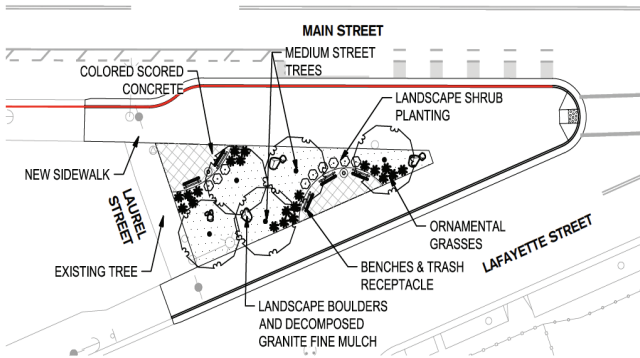
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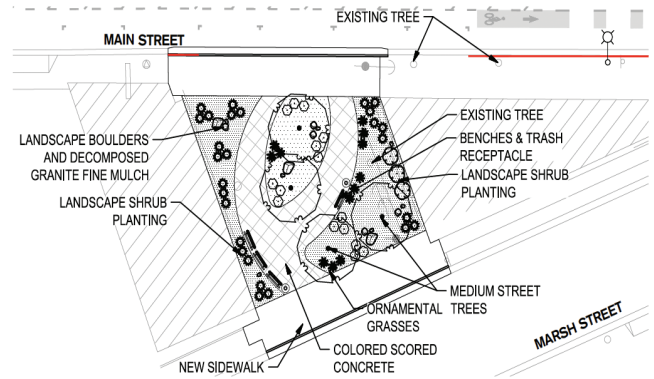
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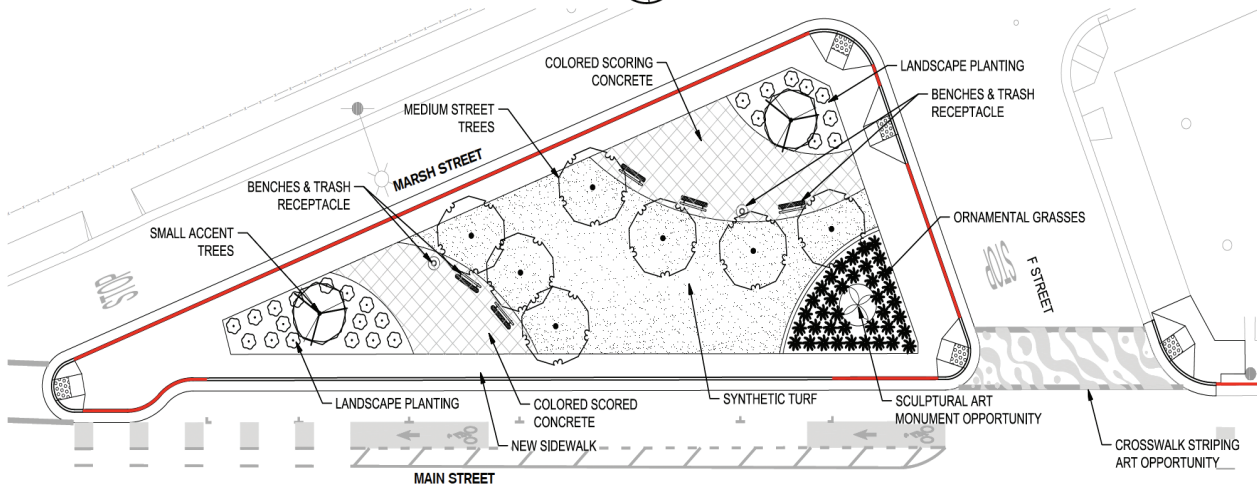
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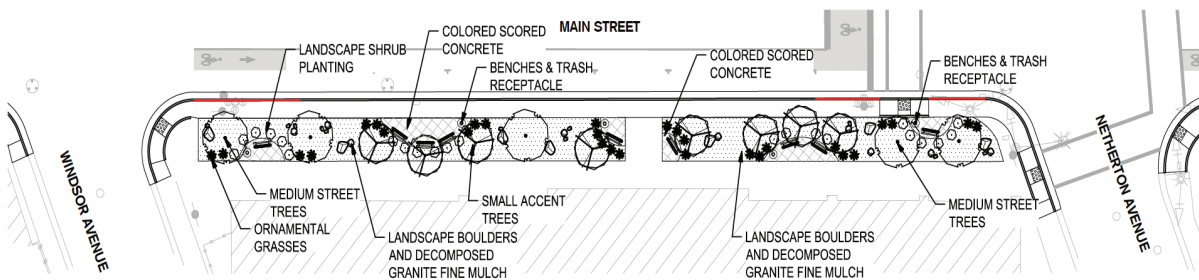
2 PARKLET DESIGN : MAIN STREET AND LAFAYETTE STREET
1" = 30'



3 PARKLET DESIGN : MAIN STREET MCDONNELL AVENUE
1" = 30'



4 PARKLET DESIGN : MAIN STREET AND F STREET
1" = 20'

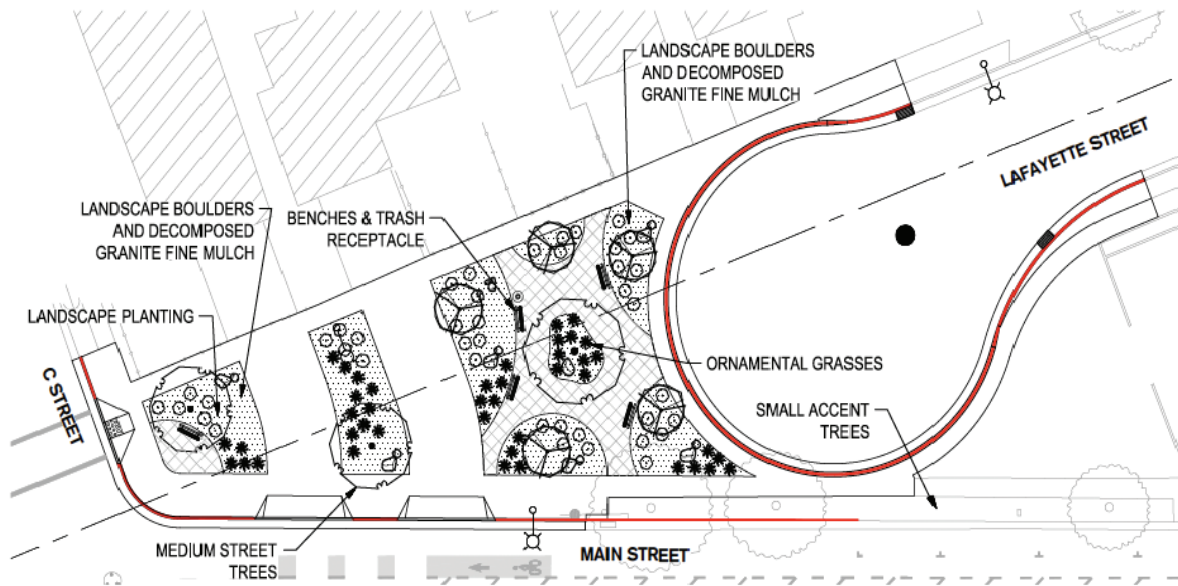


5 PARKLET DESIGN : MAIN STREET AND WINDSOR AVENUE
1" = 30'

SOURCE: Siegfried Engineering



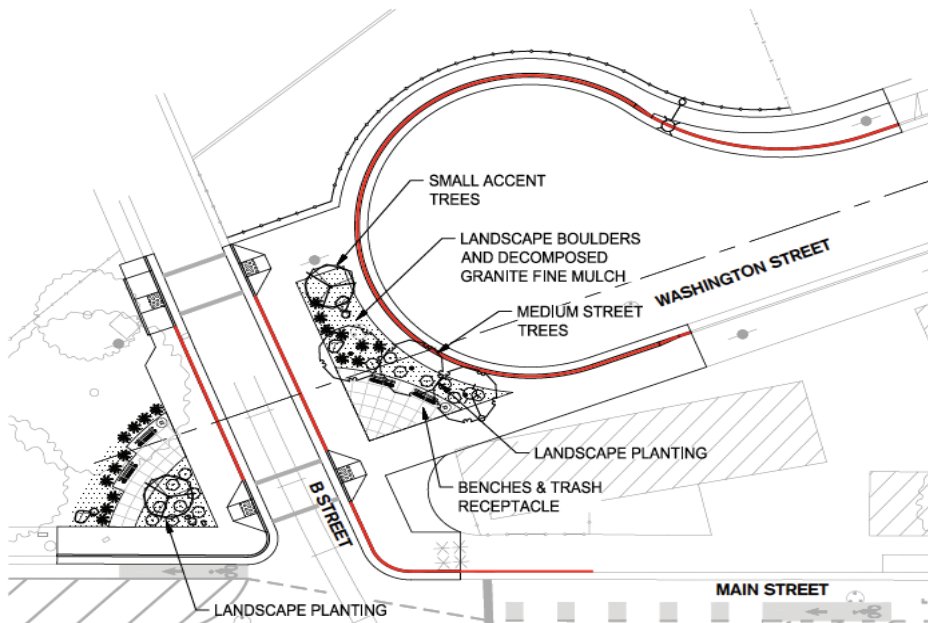
Figure 2-9A
PROPOSED PARKLETS



4

PARKLET DESIGN : MAIN STREET AND LAFAYETTE STREET

1" = 30'



3

PARKLET DESIGN : B STREET AND WASHINGTON STREET

1" = 30'



SOURCE: Siegfried Engineering



Figure 2-9B
ADDITIONAL PARKLETS

3.0 ENVIRONMENTAL CHECKLIST FORM

3.1 AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>

Environmental Setting

The project site is in a developed area of the City of Stockton, and the landscape is predominantly urban. Residential and commercial buildings are along both Main and Market Streets. Institutional and light industrial buildings are found along Main Street, with County buildings at the ending segment at Hunter Street. On Market Street, residential land uses are predominant between Union Street and Wilson Way, while commercial and institutional buildings are found from Union Street to Center Street. Buildings along both streets vary in age and appearance. Some of these buildings have adjacent parking lots with street access. There are some vacant lots along Main Street, but there are no parks or other open space areas. Market Street has fewer vacant lots and likewise has no parks or open space areas except for Independence Park between Grant and Aurora Streets.

Both Main Street and Market Street are paved streets with sidewalks along both sides generally. Both streets have segments of sidewalks that are in poor condition, and both have gaps in installed sidewalks. A limited number of street trees exist along Main Street from the Market Street intersection to Broadway Avenue. More street trees are found along Main Street between the Market Street intersection and Aurora Street. On the Market Street segment, there are plenty of street trees that provide shade, although there are few trees at each end of this segment.

Lighting at the project site is limited to street lighting along segments and parking and security lighting from adjacent land uses. Exterior lighting provided on and around development would be required to comply with outdoor lighting standards set forth in Stockton Municipal Code Sections 16.32.070 and 16.36.060(B). Section 16.32.070 states that exterior lights shall be made up of a light source, reflector, and shielding devices so that, acting together, the light beam is controlled and not directed across a property line or upward into the sky; bare bulbs are not allowed. Section 16.36.060(B) requires exterior lighting to be energy-efficient, stationary, shielded, and directed away from adjoining properties and public rights-of-way.

California Public Resources Code Section 21099 states that the aesthetic and parking impacts of residential, mixed-use residential, or employment center projects on an infill site within a transit priority area shall not be considered significant. The project is not a residential, mixed-use residential, or employment center project. Therefore, it does not meet the criteria of Section 21099, and aesthetic impacts must be analyzed.

Environmental Impacts

a) Scenic Vistas.

Scenic vistas have been defined as vantage points with a broad and expansive view of a significant landscape feature, such as a mountain range or coastline. The Envision Stockton 2040 General Plan EIR notes that the adopted General Plan does not designate scenic vistas. However, distant views of the Sierra Nevada range are available in parts of the Stockton area that are not limited by the built environment. The existing built environment at the project site severely limits distant views, and the project would not change the built environment such that distant views would be possible.

The Stockton General Plan identifies open space, agricultural fields, and riparian areas, particularly along the San Joaquin River and the Calaveras River, as significant visual features (City of Stockton 2018a). No such visual features are in the area. The project would have no impact on scenic vistas.

b) Scenic Resources and Highways.

As noted in a) above, significant visual features in the Stockton area include open space, agricultural fields, and riparian areas, none of which are in the project vicinity. According to the Caltrans list of designated scenic highways under the California Scenic Highway Program, there are only two officially designated state scenic highways within San Joaquin County: Interstate 5 from the Stanislaus County Line to Interstate 580, and Interstate 580 from Interstate 5 to the Alameda County Line (Caltrans 2019). The project site is not on either of these State Scenic Highways. The Stockton General Plan has not designated any local roadways as scenic. The project would have no impact on scenic resources.

c) Visual Character and Quality.

The subject streets are within a predominantly urban landscape. The project would not substantially change the existing landscape. The project may improve the visual character and sense of organization of the urban streetscape, as the proposed street improvements

would smooth out and delineate the paved areas, repair and replace deteriorated sidewalks, and install new street furniture, lighting and signage.

Street trees are a prominent visual feature on both street segments. It is not anticipated that existing trees would be removed due to proposed improvements; however, sidewalk repair may involve some tree removal due to tree root growth that causes damage. Should any tree require removal, this action would be subject to the provisions of Stockton Municipal Code Chapter 12.64. Among its provisions are a requirement for a permit for tree removal and protection of trees and shrubs from injury during construction work (see Section 3.4, Biological Resources). Overall, adverse project impacts on visual character and quality would be less than significant, and the project may have a beneficial impact.





d) Light and Glare.

As discussed in Chapter 1.0, Introduction, some segments of the project site lack streetlights, while other segments have streetlights that do not conform to City standards. It is expected that streetlights conforming to City standards would be installed as part of project improvements. This could mean the installation of lighting along segments of streets that currently have none, which could lead to indirect illumination of adjacent land uses. While the majority of land uses along both streets are not sensitive to changes in lighting, added street lighting in residential locations may cause increases in illumination levels that could disturb occupants of nearby residences.

Stockton Municipal Code Section 16.32.070 establishes standards to prevent spillover illumination or glare onto adjoining properties and prohibit interference with the normal operation or enjoyment of adjacent property. Exterior lights shall be made up of a light source, reflector, and shielding devices so that, acting together, the light beam is controlled and not directed across a property line or upward into the sky. Bare bulbs are not allowed. Compliance with these provisions of the Municipal Code would minimize the amount of indirect illumination that may occur, thereby reducing lighting impacts on nearby residences to a level that would be less than significant.

Project improvements would not include any features that would produce glare. Any glare resulting from the project would be negligible due to the predominance of pavement and hardscape features. Project impacts related to light and glare would be less than significant.

3.2 AGRICULTURE AND FORESTRY RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
e) Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

Environmental Setting

The project site is a street within a developed urban area. Land adjacent to the project site is not used for agricultural activities. The Important Farmland Maps, prepared by the California Department of Conservation as part of the Farmland Mapping and Monitoring Program, designate the viability of lands for farmland use, based on the physical and chemical properties of the soils. The maps categorize farmland, in decreasing order of soil quality, as "Prime Farmland," "Farmland of Statewide Importance," "Unique Farmland," and "Farmland of Local Importance." The 2018 Important Farmland Map of San Joaquin County designates the project site and vicinity as Urban and Built-Up Land (FMMP 2018).

Environmental Impacts

a) Agricultural Land Conversion.

As noted, the project site and vicinity are classified as Urban and Built-Up Land. There is no Farmland as defined in CEQA Guidelines Appendix G in the vicinity. The project would not convert Farmland and would therefore have no impact on this issue.

b) Conflict with Agricultural Zoning or Williamson Act Contract.

The project site and vicinity are zoned for urban uses, not for agricultural uses. The Williamson Act preserves agricultural land by means of a contract between the landowner and local government that keeps the contracted land in agricultural use in exchange for a lower property tax assessment. As there is no agricultural land in the vicinity, there are no lands under a Williamson Act contract. The project would have no impact on agricultural zoning or Williamson Act contracts.

c, d) Forest Lands.

The project is in a developed urban area; there are no forest lands on the project site or in the vicinity. No land in the project vicinity is zoned as forest land or timberland. The project would have no impact on forest lands.

e) Indirect Conversion of Farmland or Forest Land.

The project site is surrounded by urban development fully served by existing street and utility infrastructure. There is no agricultural land in the vicinity; as such, the project would not add infrastructure or undertake any other activity that would facilitate the conversion of agricultural land to non-agricultural uses. The project would have no impact on indirect conversion of agricultural lands.

3.3 AIR QUALITY

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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable Air Quality Attainment Plan?	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>

Environmental Setting

The project site is within the San Joaquin Valley Air Basin. The San Joaquin Valley Air Pollution Control District (SJVAPCD), which includes San Joaquin County, has jurisdiction over most air quality matters in the Air Basin; vehicle emissions are the responsibility of the California Air Resources Board (ARB). The SJVAPCD is tasked with developing and implementing plans, programs and regulations that would enable the Air Basin to attain ambient air quality standards set under both the federal and California Clean Air Acts. Under their respective Clean Air Acts, both the State of California and the federal government have established ambient air quality standards for six criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. California has four additional criteria pollutants under its Clean Air Act; none of these pollutants would be generated in the project area.

Table 3-1 shows the current attainment status of the Air Basin relative to the federal and State ambient air quality standards for criteria pollutants. Except for ozone and particulate matter, the Air Basin is in attainment of, or unclassified for, all federal and State ambient air quality standards.

TABLE 3-1
SAN JOAQUIN VALLEY AIR BASIN ATTAINMENT STATUS

Pollutant	Designation/Classification	
	Federal Primary Standards	State Standards
Ozone - One hour	No Federal Standard	Nonattainment/Severe
Ozone - Eight hour	Nonattainment/Extreme	Nonattainment
PM ₁₀	Attainment	Nonattainment
PM _{2.5}	Nonattainment	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Lead (Particulate)	No Designation/Classification	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

Source: SJVAPCD 2023.

Ozone is not emitted directly into the air but is formed when reactive organic gases (ROG) and nitrogen oxides (NO_x) react in the atmosphere in the presence of sunlight. To attain federal ambient air quality standards for ozone, the SJVAPCD currently has a 2022 Plan for the 2015 8-Hour Ozone Standard and the 2023 Maintenance Plan and Redesignation Request for the Revoked 1-Hour Ozone Standard.

Particulate matter is a mixture of solid and liquid particles suspended in air, including dust, pollen, soot, smoke, and liquid droplets. In San Joaquin County, particulate matter is generated by a mix of rural and urban sources, including agricultural operations, industrial emissions, dust suspended by vehicle traffic, and secondary aerosols formed by reactions in the atmosphere. Two types of particulate matter are of concern: particulate matter 10 micrometers or less in diameter (PM₁₀), and particulate matter 2.5 micrometers or less in diameter (PM_{2.5}). The SJVAPCD currently has a 2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards to attain federal ambient air quality standards for PM_{2.5} and the 2007 PM₁₀ Maintenance Plan to maintain its current PM₁₀ attainment status.

CO is an odorless, colorless gas that is toxic in high concentrations. It is formed by the incomplete combustion of fuels and is emitted directly into the air, unlike ozone. The main source of CO in the San Joaquin Valley is on-road motor vehicles (SJVAPCD 2015). The San Joaquin Valley Air Basin is in attainment/unclassified status for carbon monoxide (CO); as such, the SJVAPCD has no CO attainment plans. However, high CO concentrations may

occur in areas of limited geographic size referred to as “hotspots,” which are ordinarily associated with heavy traffic volumes and congestion.

In addition to the criteria pollutants, the California Air Resources Board has identified other air pollutants as toxic air contaminants (TACs) - pollutants that are carcinogenic (i.e., cause cancer) or that may cause other adverse short-term or long-term health effects. Diesel particulate matter, considered a carcinogen, is the most common TAC, as it is a product of combustion in diesel engines. It is present at some concentration in all developed areas of the state. Other TACs are less common and are typically associated with industrial operations.

As noted, the SJVAPCD is tasked with implementing regulations designed to attain ambient air quality standards. SJVAPCD regulations that are potentially applicable to the project are summarized below.

Regulation VIII (Fugitive Dust PM₁₀ Prohibitions)

Rules 8011-8081 are designed to reduce PM₁₀ emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and track out, landfill operations, etc.

Rule 4101 (Visible Emissions)

This rule prohibits emissions of visible air contaminants to the atmosphere and applies to any source operation that emits or may emit air contaminants.

Rule 9510 (Indirect Source Review)

Rule 9510, also known as the Indirect Source Rule, is intended to reduce or mitigate construction and operational emissions of NO_x and PM₁₀ generated by new development, either directly and/or by payment of off-site mitigation fees. Construction emissions of NO_x and PM₁₀ exhaust must be reduced by 20% and 45%, respectively. Operational emissions of NO_x and PM₁₀ must be reduced by 33.3% and 50%, respectively. Rule 9510 applies to any transportation or transit development project where construction exhaust emissions equal or exceed two (2.0) tons of NO_x or two (2.0) tons of PM₁₀. This project may emit two or more tons of NO_x.

Environmental Impacts

In 2015, the SJVAPCD adopted a revised Guide for Assessing and Mitigating Air Quality Impacts. The Guide defines an analysis methodology, thresholds of significance, and mitigation measures for the assessment of air quality impacts for projects within SJVAPCD's jurisdiction (SJVAPCD 2015). Table 3-2 shows the CEQA thresholds for significance for pollutant emissions within the SJVAPCD. The significance thresholds apply to construction emissions and to operational emissions.

TABLE 3-2
 SJVAPCD SIGNIFICANCE THRESHOLDS
 AND PROJECT CONSTRUCTION EMISSIONS

Pollutant	SJVAPCD Significance Threshold	Total Construction Emissions (tons)
ROG	100	0.40
NO _x	10	3.92
CO	10	4.15
SO _x	27	0.01
PM ₁₀	15	0.43
PM _{2.5}	15	0.21

Sources: Road Construction Emissions Model ver. 9.0.0, SJVAPCD 2015.

The project's construction emissions were estimated using the Road Construction Emissions Model (RCEM), which was originally developed to estimate emissions generated by road construction work. The RCEM results for the project are available in Appendix A of this IS/ND, and a summary of the results is provided in Table 3-2. For the purposes of this analysis, all construction is assumed to occur over a one-year period; more likely, improvements would occur on the streets in segments over a period of several years, depending on availability of funding. The assumption used in this analysis may be considered a "worst case" condition for air quality impacts.

a) Air Quality Plan Consistency.

As indicated by Table 3-2, none of the project construction emissions exceed the SJVAPCD significance thresholds. As the significance thresholds were established in part to ensure consistency with the objectives of the air quality plans adopted by the SJVAPCD, project construction emissions would be consistent with these plans.

Operational emissions would be related to vehicle traffic volumes on the project site. Traffic volumes depend on numerous factors that generally occur independent of street configuration. It is possible that existing vehicle traffic on both streets may choose to use alternative streets after the project is completed, because of the reduced number of lanes. However, the reaction to Precise Road Plan implementation is speculative and thus beyond the scope of CEQA analysis.

The purpose of the project is to implement a Complete Streets program for segments of Main Street and Market Street, which would entail a reduction in vehicle lanes, installation of bike lanes, and improved pedestrian facilities. The project is expected to result in a decrease in vehicle miles traveled (VMT), mainly from the reduction in vehicle through lanes and increased availability of bicycle and pedestrian facilities. While the exact VMT decrease cannot be determined, it is expected that a decrease in emissions generated by vehicle traffic would result. This would be consistent with the objectives of adopted air quality plans.

While project construction emissions would not be significant, the project would still be required to comply with applicable SJVAPCD rules and regulations, which would further reduce potential air quality impacts. As noted, SJVAPCD Regulation VIII contains measures to reduce fugitive dust emissions during construction. Dust emission control measures include the following:

- Air emissions related to the project shall be limited to 20% opacity (opaqueness, lack of transparency) or less, as defined in SJVAPCD Rule 8011. The dust control measures specified below shall be applied as required to maintain the Visible Dust Emissions standard.
- The contractor shall pre-water all land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and phase earthmoving.
- The contractor shall apply water, chemical/organic stabilizer/suppressant, or vegetative ground cover to all disturbed areas, including unpaved roads, throughout the period of soil disturbance.
- The contractor shall restrict vehicular access to the disturbance area during periods of inactivity.
- The contractor shall apply water or chemical/organic stabilizers/suppressants, construct wind barriers and/or cover exposed potentially dust-generating materials.
- When materials are transported off-site, the contractor shall stabilize and cover all materials to be transported and maintain six inches of freeboard space from the top of the container.
- The contractor shall remove carryout and trackout of soil materials on a daily basis unless it extends more than 50 feet from site; carryout and trackout extending more than 50 feet from the site shall be removed immediately. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden. If the project would involve more than 150 construction vehicle trips per day onto the public street, additional restrictions specified in Section 5.8 of SJVAPCD Rule 8041 would apply.

Dust control provisions are also routinely included in site improvement plans and specifications, along with construction contracts. In addition, the project would be subject to SJVAPCD Rule 9510, as NO_x emissions would exceed two tons. Rule 9510 requires reductions in NO_x and particulate matter emissions from project construction, either directly or through payment of off-site mitigation fees. Implementation of these actions would further reduce project emission impacts already considered less than significant.

b) Cumulative Emissions.

As noted in a) above, project construction emissions would not exceed SJVAPCD significance thresholds. Future attainment of federal and State ambient air quality standards is a function of successful implementation of the SJVAPCD's attainment plans.

Consequently, the application of significance thresholds for criteria pollutants is relevant to the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality. Pursuant to the SJVAPCD's guidance, if project-specific emissions would be less than the thresholds of significance for criteria pollutants, the project would not be expected to result in a cumulatively considerable net increase of any criteria pollutant for which the SJVAPCD is in nonattainment under applicable federal or State ambient air quality standards. As project construction emissions would not exceed SJVAPCD significance thresholds, the cumulative impacts of these emissions would be less than significant.

As noted in a) above, the project is expected to lead to a decrease in emissions from vehicle traffic. Because of this, the project would not contribute to cumulative increases in air pollutant emissions. Project impacts would be less than significant.

c) Exposure of Sensitive Receptors.

"Sensitive receptors" refer to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). Land uses where sensitive individuals are most likely to spend time also may be called sensitive receptors; these include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (SJVAPCD 2015). Emissions of pollutants, including TACs, in sufficient concentrations could have adverse health impacts on nearby sensitive receptors.

Residences are located along portions of the project site, as well as several schools including Roosevelt Elementary School and charter schools. These sensitive receptors would be exposed to emissions from construction activities, mainly from dust. However, these emissions would be temporary and would cease once construction work is completed. Also, as described in a) above, the project would be required to incorporate measures that would reduce fugitive dust emissions from construction activities. Impacts of exposure of sensitive receptors to construction emissions would be less than significant.

CO in high concentrations can have adverse health impacts, as previously described. The Guide for Assessing and Mitigating Air Quality Impacts indicates that a project would create no violations of the CO standards if neither of the following criteria are met (SJVAPCD 2015):

- A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or
- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity (See Section 3.17, Transportation, for an explanation of LOS).

A comprehensive study of traffic at intersections and roadway segments of the proposed improvement sections was conducted by TJKM under existing and with-project conditions. Existing intersections and roadway segments function at high level of service, typically between LOS A and LOS C. The project would cause only one intersection (#23) to function

at an LOS worse than D; delay at this two-way stop intersection would increase by approximately 10 seconds, but the intersection would not meet signal warrants for signalization, indicating that potential future congestion with the project would not be severe. Therefore, no traffic-related CO hotspots are expected to occur as a result of the project.

As discussed in a) above, the project is expected to lead to a general reduction in pollutant emissions that is associated with reduced VMT. Because of this, sensitive receptors adjacent to the project site would experience reduced vehicle pollutant levels, including emissions from diesel engines. This would reduce future potential health risks from those anticipated with current emission levels. Overall, project impacts on sensitive receptors would be less than significant.

d) Odors and Other Emissions.

The project is not expected to generate significant odors, other than from construction activities. Such emissions would be localized and would dissipate rapidly outside the project site. As noted above, the nearest sensitive receptors would be adjacent residences and two schools, which would be exposed only temporarily to construction emissions.

Potential health effects on sensitive receptors occur with long-term exposure to pollutants. This includes diesel particulate matter, a TAC generated by diesel construction equipment. However, as noted, construction impacts would cease with the completion of project work, and length of exposure time would be short. Project impacts related to odors and other emissions are considered less than significant.

3.4 BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

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



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



Environmental Setting

The project site is located on two City streets with adjacent sidewalks and utility lines and facilities in a developed urban area. There are no natural spaces or streams on or adjacent to the project site. A few street trees are distributed along Main and Market Streets, and ornamental trees and landscaping are on some adjacent parcels. Otherwise, extant vegetation consists mainly of grasses and weeds on vacant lots. More mature trees are found along SR 4 and in residential areas away from the project site.

The City participates in the San Joaquin County Multi-Species Open Space and Habitat Conservation Plan (SJMSCP). The SJMSCP, managed by the San Joaquin Council of Governments (SJCOG), is a comprehensive program for assessing and mitigating the biological impacts of converting open space or biologically sensitive lands to urban development in San Joaquin County. It provides three compensation methods: preservation of existing sensitive lands, creation of new comparable habitat on the project site, or payment of fees that would be used to acquire preserve lands outside the project site. It also identifies and requires covered projects to abide by Incidental Take Minimization Measures, which are protection measures that avoid direct impacts of development on special-status species (SJCOG 2000). The project site is in the SJMSCP Category A, Exempt, No Pay Zone, and would be exempt from SJMSCP fees. Category A is assigned to predominantly developed sites that are located within the existing urban area and that do not involve substantial habitat values.

Environmental Impacts

a) Special-Status Species.

Special-status species include plant and/or wildlife species that are legally protected under the federal Endangered Species Act, the California Endangered Species Act, or other laws and regulations, or are considered rare enough by the scientific community and trustee agencies to warrant special consideration. A search of the IPaC database of the U.S. Fish and Wildlife Service, the results of which are in Appendix B of this IS/ND, indicates the potential occurrence of nine federally listed species in the project vicinity. However, all these species require a form of aquatic habitat or specialized habitat (e.g., valley elderberry longhorn beetle requires elderberry shrubs) that do not exist on the project site.

A search of the California Natural Diversity Database maintained by the California Department of Fish and Wildlife, the results of which are also available in Appendix B, indicates occurrence of 31 wildlife species and 11 plant species that are of State concern within the area of the USGS Stockton West topographic map. The project site, as it is within an urban area, lacks suitable habitat for almost all these species.

One listed species with the potential to occur in the vicinity is Swainson's hawk, a bird species listed as threatened under the California Endangered Species Act and known to occur in the San Joaquin Valley. However, the project site is urban and developed, and it lacks nearby fields for foraging required by Swainson's hawk. Therefore, it is unlikely Swainson's hawk would be found in the area. Incidental Take Minimization Measures in the SJMSCP would minimize impacts on Swainson's hawk if SJCOG determines a need for the project to implement such measures.

Another special-status species typically found in the Stockton area is burrowing owl, designated a State Species of Special Concern. The vacant lots in the vicinity could provide potential nesting habitat, which consists of ground squirrel burrows. However, the SJMSCP contains Incidental Take Minimization Measures for burrowing owl, which would reduce potential impacts on this species if determined necessary. Project impacts on special-status species would be less than significant.

b) Riparian and Sensitive Habitats.

As there are no streams on or near the project site, there is no riparian habitat in the vicinity. The project vicinity is a developed urban area, so no other sensitive habitats were identified. The project would have no impact on riparian or sensitive habitats.

c) State and Federally Protected Wetlands.

As noted, there are no streams on or near the project site, which is in a developed urban area. A query of the National Wetlands Inventory, available in Appendix B of this IS/ND, showed that no wetlands or other Waters of the U.S. were identified on or near the project site. The project would have no impact on state or federally protected wetlands.

d) Fish and Wildlife Movement.

As noted, there are no streams on or near the project site. Given the surrounding urban development, it is unlikely that the project site would be used as a wildlife corridor. There are a limited number of street trees on the project site. While unlikely, it is possible that a migratory bird protected by the Migratory Bird Treaty Act or the California Fish and Game Code could establish a nest in a street tree that could be removed as part of project construction. Disruption of active nests or nesting behaviors of migratory birds by project construction would be a potentially significant impact. Incidental Take Minimization Measures in the SJMSCP would minimize impacts on protected migratory birds if SJCOG determines a need for the project to implement such measures. Implementation of applicable SJMSCP provisions would reduce impacts on protected migratory birds and their nests to a level that would be less than significant.

e) Local Biological Resource Requirements.

Stockton Municipal Code Chapter 16.130 addresses Heritage Trees, which are any valley oak, coast live oak, and interior live oak tree with a trunk diameter of 16 inches or more, measured at 24 inches above actual grade. Except for an emergency, removal of any Heritage Tree requires a City permit, regardless of location on a property or condition of the tree(s). Any Heritage Tree that is removed or effectively removed shall be replaced on a three-for-one basis, with size and location of the replacements at the discretion of the Community Development Director.

The project has not identified any Heritage Trees, or any other trees, that may be removed. If a Heritage Tree requires removal, the provisions of Stockton Municipal Code Chapter 16.130 would apply. Compliance with this chapter of the Stockton Municipal Code would minimize project impacts related to local biological resource requirements to a level that would be less than significant.

f) Conflict with Habitat Conservation Plans.

As noted, the City participates in the SJMSCP. The project would comply with applicable provisions and measures of the SJMSCP as determined by SJCOG. No other habitat conservation plans apply to the project site. The project would have no impact related to habitat conservation plans.

3.5 CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Stockton has more than 1,900 recorded cultural resources, ranging from prehistoric habitation sites to mid-20th century developments (City of Stockton 2018b). The project site is generally considered to be in the ethnographic territory of the Northern Valley Yokuts. Section 3.18, Tribal Cultural Resources, discusses the Yokuts in more detail, along with potential project impacts on tribal cultural resources.

Euro-American contact began with infrequent excursions by Spanish explorers traveling through the Sacramento and San Joaquin Valleys in the late 1700s to early 1800s. The

Spanish, and later Mexican, governments of California tried to encourage settlement by awarding large plots of land, called ranchos, to prominent men. The project site was part of one such grant, Charles M. Weber's El Campo de los Franceses. In 1850, Weber founded Stockton, which incorporated that same year.

Stockton Municipal Code Section 16.36.050 states that if a historical or archaeological resource or human remains may be impacted by a development project requiring a discretionary land use permit, the Secretary of the Cultural Heritage Board shall be notified, any survey needed to determine the significance of the resource shall be conducted, and the proper environmental documents shall be prepared. In addition:

- A. Historical Resources. Resources that have been identified as a landmark or part of a historic district in compliance with Chapter 16.220 (Cultural Resources) shall require a certificate of appropriateness (Section 16.220.060) if any exterior changes to the resource are proposed.
- B. Archaeological Resources. In the event that archaeological resources are discovered during any construction, construction activities shall cease, and the Community Development Department (Department) shall be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist, and disposition of artifacts may occur in compliance with State and federal law.
- C. Human Remains. In the event human remains are discovered during any construction, construction activities shall cease, and the County Coroner and Director shall be notified immediately in compliance with CEQA Guidelines 15064.5(d). A qualified archaeologist shall be contacted to evaluate the situation. If the human remains are of Native American origin, the Coroner shall notify the NAHC [Native American Heritage Commission] within 24 hours of this identification. The NAHC will identify the most likely descendent of the Native American to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Environmental Impacts

a) Historical Resources.

The Envision Stockton 2040 General Plan EIR identified City-designated cultural resources. None were identified at the project site. Inquiries into the databases of the National Register of Historic Places and the California Register of Historical Resources found no historical resources recorded at the project site.

A search of records in the California Historical Resources Information System was conducted by the Central California Information Center. The results of the search, available in Appendix C of this document, found only one record of a historical resource at the project site – a segment of track of the Central California Traction Railroad, which crosses Main Street along B Street. The record indicates that this segment of track was constructed in 1907-1910. The track itself would remain in place and would not be removed or altered by the

project. This track segment is surrounded by existing urban development, and this context would only minimally change with implementation of the project, so the existing historical value of the track segment would only be minimally affected. Also, any proposed alteration of the rail crossing would require the review and authorization of the California Public Utilities Commission.

In addition, the Central California Information Center identified 39 buildings adjacent to Main Street and Market Street that may be considered historical structures because their construction occurred before 1970. Project work would, however, be confined primarily to the existing right-of-way together with minor vacant areas of right-of-way acquisition along both streets. No buildings would be demolished or altered by the project. As noted, the City has not identified any historical resources in this area, and the existing urban context of the project site would be minimally changed by the project, so the potential historical value of these structures would likewise be minimally affected. Project impact on historical resources would be less than significant.

b) Archaeological Resources.

The Central California Information Center found no record of any archaeological resources on the project site. Given past development of the project site and vicinity, it is unlikely that any intact archaeological resources would exist. However, it is conceivable that excavation associated with the project could unearth archaeological materials that are currently unknown. Procedures to address archaeological discoveries if they should occur are set forth in Stockton Municipal Code Section 16.36.050. Implementation of this Municipal Code section would reduce cultural resource impacts to a level that would be less than significant.

c) Human Burials.

Given development of the project site and vicinity, it is unlikely that any intact human burials would be encountered. However, should any human remains be encountered during project construction, construction activities could have a potentially significant adverse impact, especially if the remains are of Native American origin.

CEQA Guidelines Section 15064(e) sets forth procedures to be followed should any human remains be uncovered, with special requirements for burials determined to be Native American. Also, Stockton Municipal Code Section 16.36.050 has provisions related to the discovery and disposition of human remains. Compliance with these regulations would reduce impacts related to human burials to a level that would be less than significant. Refer to Section 3.18, Tribal Cultural Resources, for a discussion of potential impacts on Native American burials.

3.6 ENERGY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>

Environmental Setting

Electricity is a major energy source for residences and businesses in California. In San Joaquin County, electricity consumption in 2022 totaled approximately 5,608 million kilowatt-hours, of which approximately 3,483 million kilowatt-hours were consumed by non-residential uses and the remainder by residential uses (CEC 2023a). In 2022, natural gas consumption in San Joaquin County totaled approximately 186 million therms, of which approximately 96 million therms were consumed by non-residential uses and the remainder by residential uses (CEC 2018b).

Motor vehicle use also accounts for substantial energy usage. The SJCOG estimated countywide daily VMT was 17,015,116 miles in 2016, which led to the consumption of approximately 1.29 million gallons of gasoline and diesel fuel per day (SJCOG 2022a).

Environmental Impacts

a) Project Energy Consumption.

Project construction would involve fuel consumption and use of other non-renewable resources. Construction equipment used for such improvements typically runs on diesel fuel or gasoline. The same fuels typically are used for vehicles that transport equipment and workers to and from a construction site. Construction-related fuel consumption would be finite, short-term, and consistent with construction activities of a similar character. This energy use would not be considered wasteful, inefficient, or unnecessary.

Electricity may be used for equipment operation during construction activities. It is expected that more electrical construction equipment would be used in the future, since it generates no air pollutants. Electrical consumption by this equipment would be consistent with construction activities of a similar character; therefore, the use of electricity in construction activities would not be considered wasteful, inefficient, or unnecessary, especially since fossil fuel consumption would be reduced.

Project operations are expected to use little energy. The main energy use associated with project operations would be new or upgraded streetlights. As discussed in Section 3.1,

Aesthetics, the Stockton Municipal Code requires energy-efficient exterior lighting. Streetlights installed as part of the project are expected to increase electricity consumption, but not in a manner considered wasteful, inefficient, or unnecessary.

As noted in Section 3.3, Air Quality, the project is expected to reduce VMT by encouraging use of alternatives to motor vehicle transportation. This would reduce consumption of gasoline and diesel fuel. Overall, project construction and operations would not involve the wasteful, inefficient, or unnecessary consumption of energy resources. Project impacts related to energy consumption are considered less than significant.

b) Consistency with Energy Plans.

The City does not have adopted plans for renewable energy or energy efficiency. However, as discussed in a) above, the project is not expected to lead to wasteful, inefficient, or unnecessary consumption of energy, and it is anticipated to reduce VMT, which would reduce vehicle fuel consumption. Project impacts related to energy plans would be less than significant.

3.7 GEOLOGY AND SOILS

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	✓	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

systems where sewers are not available for the disposal of wastewater?

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



Environmental Setting

The project site is in the San Joaquin Valley in central California near the Sacramento-San Joaquin River Delta. The San Joaquin Valley is filled with thick sedimentary rock sequences that were deposited as much as 130 million years ago. The sediments that form the Valley floor were derived largely from erosion of the Sierra Nevada. The Geologic Map of the San Francisco-San Jose Quadrangle designates the underlying geology of the project site as the Modesto Formation (Wagner et al. 1991). The Modesto Formation, ranging in depth from 10 to 200 feet, consists primarily of sand, silt, and clay seams deposited by rivers (ESA 2016).

The topography of the project site is essentially flat. Elevations range from approximately 20 to 30 feet above mean sea level, with lower elevations from east to west. Both Main Street and Market Street are paved, and most of the vicinity is developed and paved. Custom soil surveys downloaded from the Natural Resources Conservation Service website indicates there are three soil types underlying the project site, as shown on Figure 3-1 (SCS 1992; NRCS 2020a, 2020b):

- Galt-Urban land complex, 0 to 1 percent slopes (designated as 162 on Figure 3-1). This nearly level unit, approximately 50 percent Galt clay and 35 percent Urban land, is on basin rims and in basins. Galt clay is moderately deep to a hardpan and is moderately well drained. Permeability and runoff of Galt clay are slow, and the water erosion hazard is slight. The shrink-swell potential is high. The soil material under Urban land is similar to that of Galt clay.
- Jacktone-Urban land complex, 0 to 2 percent slopes (designated as 181 on Figure 3-1). This nearly level unit, approximately 50 percent Jacktone clay and 35 percent Urban land, is in basins. Jacktone clay is moderately deep to a hardpan and is poorly drained. Permeability and runoff of Jacktone clay are slow, and the water erosion hazard is slight. The shrink-swell potential is high. The soil material under Urban land is similar to that of Jacktone clay.
- Yellowlark gravelly loam, 2 to 5 percent slopes (designated as 280 on Figure 3-1). This moderately well-drained, nearly level soil is on stream terraces. The soil is deep to a hardpan. Permeability is moderately slow in the upper part and very slow near the hardpan. Runoff is very slow, and the water erosion hazard is slight. The shrink-swell potential ranges from low to high, depending on soil depth.

There are no active or potentially active faults in the Stockton vicinity. The Stockton Fault is a south-dipping reverse fault that trends east-west across the Stockton area, but it has not been classified as an active fault by the California Geological Survey. The nearest active fault is the Greenville Fault, approximately 22 miles west-southwest of Stockton (City of Stockton 2018b). Portions of the Concord-Green Valley and Hayward fault zones, 35 and 50

miles west of Stockton, and the Calaveras fault zone, approximately 40 miles southwest of Stockton, have also been rated as active within the last 200 years. The project site, along with the rest of San Joaquin County, is subject to seismic shaking from these fault zones, as well as the San Andreas Fault farther to the west (San Joaquin County 2016).

Paleontological resources are fossils or groups of fossils that are unique, unusual, rare, uncommon, or important, and those that add to an existing body of knowledge in specific areas. Only a handful of specimens are within the Planning Area of the Stockton General Plan, and those have been identified as relatively recent (City of Stockton 2016).

Environmental Impacts

a-i) Fault Rupture Hazards.

As noted, there are no active or potentially active faults within or near the project site. The project site is not within or near a designated Alquist-Priolo Earthquake Fault Zone (California Geological Survey 2015). The project would have no impact related to fault rupture.

a-ii) Seismic Ground Shaking.

The project site is potentially subject to seismic shaking from active faults outside San Joaquin County. Street improvements are unlikely to sustain significant damage from ground shaking. Potential risk to human life would come from damage to adjacent buildings, not from the street improvements themselves. Seismic ground shaking impacts would be less than significant.

a-iii) Seismic-Related Ground Failure.

Geologic hazards include such phenomena as liquefaction and subsidence. Liquefaction generally occurs in areas where moist, fine-grained, cohesionless sediment or fill materials are subjected to strong seismic ground shaking. Under certain circumstances, seismic ground shaking can temporarily transform an otherwise solid, granular material to a fluid state. Neither the California Geological Survey nor the U.S. Geological Survey has mapped any liquefaction hazard zones in the Stockton area (City of Stockton 2018b).

Subsidence is the sinking of a large area of ground surface in which the material is displaced vertically downward, with little or no horizontal movement. Subsidence is not anticipated outside of the Sacramento-San Joaquin Delta area, of which the project site is not a part. Impacts related to ground failure would be less than significant.

a-iv) Landslides.

The project site is in a topographically flat area; as such, landslides would not occur. The project would have no impact related to landslides.

b) Soil Erosion.

The construction and grading associated with site preparation and construction of the project would temporarily increase the exposure of soils on the project site to water and wind erosion. If construction activities would disturb at least one acre of land area, the project would need to obtain a Construction General Permit from the SWRCB. The Construction General Permit would require preparation of a Storm Water Pollution Prevention Plan (SWPPP) by a Qualified SWPPP Developer. The SWPPP would include implementation of Best Management Practices (BMPs) to avoid or minimize adverse water quality impacts from erosion and sedimentation. BMPs fall within the categories of Temporary Soil Stabilization, Temporary Sediment Control, Wind Erosion Control, Tracking Control, Non-Storm Water Management, and Waste Management and Materials Pollution Control.

In addition, the City has a Storm Water Management Plan (SWMP) that requires implementation of construction Best Management Practices (BMPs) for erosion control, including limitations on disturbance and temporary soil stabilization through the use of mulch, seeding, soil stabilizers, and fiber rolls and blankets (see Section 3.10, Hydrology and Water Quality, for more information on the SWMP). Also, dust control measures noted in Section 3.3, Air Quality, would reduce potential wind erosion impacts of the project. With implementation of these measures, project impacts related to erosion would be less than significant.

c) Geologic Instability.

Existing soil and geological conditions are like those throughout most of Stockton. The project site and vicinity are topographically flat, so no landslides or lateral spreading would occur. As noted in a-iii) above, subsidence and liquefaction are unlikely to occur. As the project involves a street and adjacent sidewalk, collapse is also unlikely to occur. The project would have no impact related to geological instability.

d) Expansive Soils.

Project construction work would occur in areas with expansive (shrink-swell) soils. Expansive soils typically have high amounts of clay. Project work would follow Caltrans Standard Specifications and City of Stockton Standard Specifications, both of which set forth standards that limit the amount of clay in the subbase and in construction materials. Compliance with these Standard Specifications would minimize the potential for expansive soils to affect street construction, making potential impacts less than significant.

e) Adequacy of Soils for Sewage Disposal.

The project proposes a Precise Road Plan that would guide the reconfiguration and improvement of Main Street and Market Street. Proposed street improvements would not generate wastewater; therefore, no onsite sewage disposal systems would be required. The project would have no impact related to soil adequacy for sewage disposal.

f) Paleontological Resources.

As noted, only a handful of paleontological specimens have been found within the Stockton area. However, records of vertebrate fossils have been related to the Modesto Formation, which underlies the project site. Given project site development and the lack of resources identified in the Stockton area, it is unlikely that intact paleontological resources would be encountered. However, it is conceivable that currently unknown paleontological resources could be uncovered during project construction. The Stockton General Plan EIR states that the Stockton Municipal Code requires appropriate evaluation of unanticipated archaeological deposits discovered in the course of ground disturbance. Although not explicitly stated, this provision also would apply to paleontological resources (City of Stockton 2018b). Implementation of this provision of the Stockton Municipal Code would reduce paleontological resource impacts to a level that would be less than significant.

3.8 GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

A greenhouse gas (GHG) is a gas that absorbs and emits radiation within the thermal infrared range, trapping heat in the earth’s atmosphere. There are several types of GHGs, which are both naturally occurring and generated by human activity. Increased atmospheric concentrations of GHGs are considered a primary contributor to global climate change, which is a subject of concern for the State of California. Potential climate change impacts occurring in the San Joaquin Valley include more intense and frequent heat waves, higher frequency of catastrophic floods, more intense and frequent drought, and more severe and frequent wildfires (Westerling et al. 2018).

GHG emissions in California in 2021, the most recent year for which data are available, were estimated at approximately 381.3 million metric tons carbon dioxide equivalent (CO₂e), which is below the 2020 GHG reduction target of 431 million metric tons carbon dioxide equivalent (CO₂e), which is below the 2020 GHG limit of 431 million metric tons CO₂e as set by AB 32 (see below).. Transportation was the largest contributor to GHG emissions in California, with 38.2% of total emissions. Other significant sources include industrial activities, with 19.4% of total emissions, and electric power generation, both in-state and imported, with approximately 16.4% of total emissions (ARB 2023). Total GHG emissions

from Stockton in 2005 were an estimated 2,360,932 metric tons CO₂e. Of the total emissions, approximately 48% percent came from on-road transportation and 33% came from building energy use (City of Stockton 2014).

The State of California has implemented GHG emission reduction strategies through AB 32, the Global Warming Solutions Act of 2006, which requires total statewide GHG emissions to reach 1990 levels by 2020, or an approximately 29% reduction from 2004 levels. For the target year of 2020, state GHG emissions were 369.2 million metric tons CO₂e, which was 61.8 million metric tons CO₂e below the AB 32 target (ARB 2022a).

In 2016, Senate Bill (SB) 32 became law. SB 32 extends the GHG reduction objectives of AB 32 by mandating statewide reductions in GHG emissions to levels that are 40% below 1990 levels by the year 2030. The State has adopted an updated Scoping Plan that sets forth strategies for achieving the SB 32 target, which is 260 million metric tons CO₂e. The updated Scoping Plan continues many of the programs that were part of the previous Scoping Plans, including the cap-and-trade program, low-carbon fuel standards, renewable energy, and methane reduction strategies, along with a proposed 20% reduction in GHG emissions from refineries. It also addresses for the first time GHG emissions from the natural and working lands of California, including the agriculture and forestry sectors (ARB 2017).

In 2022, ARB adopted an update to the Scoping Plan. The 2022 Scoping Plan assesses progress towards achieving the SB 32 2030 reduction target and lays out a path to achieve carbon neutrality no later than 2045. Proposed strategies to achieve these reductions include rapid movement to zero-emission transportation, phasing out fossil fuel use for heating homes and buildings, restricting use of chemicals and refrigerants that are thousands of times more powerful at trapping heat than carbon dioxide, expanded development of renewable energy sources, increased use of natural and working lands for incorporating and storing carbon, and greater employment of carbon removal technology (ARB 2022b).

The City of Stockton adopted a Climate Action Plan (CAP) in 2014. The CAP sets a GHG emission reduction target of 10% below 2005 GHG emission levels by 2020, or approximately 20.6% below 2020 “business as usual” GHG emissions (i.e., 2020 GHG emissions that are unmitigated), which is the level by which the State has set its emission reduction goal. Approximately 83% of the reductions needed to achieve the City’s GHG reduction goal are achieved through state-level programs, and 17% are achieved through City-level programs. The largest GHG reductions identified are in building energy (both energy efficiency and renewable energy), transportation, and waste (City of Stockton 2014). The CAP did not set any GHG emission reduction targets beyond 2020. Although the CAP stated that the City would conduct planning for the post-2020 period, the CAP to date has not been updated. While the CAP’s emission reduction targets are no longer applicable, GHG emission reduction measures in the adopted CAP remain valid.

Environmental Impacts

a, b) Project GHG Emissions and Consistency with GHG Reduction Plans.

GHG emissions from project construction were estimated using the RCEM; results are available in Appendix A of this IS/ND. Construction GHG emissions were estimated at approximately 940 metric tons CO₂e for the assumed construction period (see Section 3.3, Air Quality).

SJVAPCD has not established quantitative significance thresholds for GHG emissions. However, nearby air districts such as the Bay Area Air Quality Management District and the Sacramento Metropolitan Air Quality Management District have established a quantitative threshold of 1,100 metric tons CO₂e to determine significance of project emissions for CEQA purposes (BAAQMD 2017, SMAQMD 2021). This threshold applies to both construction and operational emissions. CEQA Guidelines Section 15064.7 allows for the use of significance thresholds established by other agencies. The construction GHG emissions of the proposed project are below the threshold of 1,100 metric tons CO₂e. Based on this threshold, project construction GHG emissions are less than significant. Additionally, construction GHG emissions would be limited due to the length of time of construction activity, and these emissions would cease once work is completed.

As discussed in Section 3.3, operational emissions associated with the project would be related to vehicle traffic volumes on the project site, which would be generated independent of the project. The purpose of the project is to implement a Complete Streets program, which would entail a reduction in vehicle lanes, installation of bike lanes, and improved pedestrian facilities. The result of the Complete Streets implementation is expected to be a decrease in VMT, which would lead to a decrease in GHG emissions generated by vehicle traffic. This decrease in emissions would be consistent with the objectives of adopted State and City GHG reduction plans. Project impacts related to GHG emissions and reduction plans would be less than significant.

3.9 HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Hazardous material sites of all statuses are recorded in the GeoTracker database, maintained by the SWRCB, and the EnviroStor database, maintained by the Department of Toxic Substances Control. A search of both databases revealed records for five active Leaking Underground Storage Tank sites along Main Street (SWRCB 2020, 2024; DTSC 2020, 2022, 2024):

- American Medical Response West on 2060 E. Main Street.
- Buggy Bath Car Wash on 2085 E. Main Street.
- E & R Freeman on 3138 E. Main Street.
- Top Filling Station on 101 S. Wilson Way.
- Roek Construction on 102 S. Wilson Way.

In addition, one hazardous material site has been identified along Market Street – the Riteway Cleaners site on 700 East Market Street (DTSC 2022). A cleanup site at the corner of Main and Grant Streets is also on record (SWRCB 2024). Reports on these sites are available in Appendix D of this IS/ND. No other active hazardous materials sites have been recorded near the project site; many sites previously recorded are no longer active cleanup sites.

Various federal and State laws and regulations cover the transportation, storage, and disposal of hazardous materials. The Unified Hazardous Waste and Hazardous Management Regulatory Program, enacted in 1993, is a state and local effort to consolidate, coordinate, and make consistent existing programs regulating hazardous waste and managing hazardous materials. The Unified Program is implemented at the local level by a Certified Unified Program Agency. The San Joaquin County Environmental Health Department was approved by the State as the Certified Unified Program Agency for the County and its incorporated cities. The County Environmental Health Department has the primary responsibility to enforce most regulations regarding hazardous materials in the area, while the Stockton Fire

Department Hazardous Materials Team acts as first responder to hazardous material incidents.

Environmental Impacts

a) Hazardous Material Transportation, Use, and Storage.

The project proposes improvements to an existing street. Once the improvements are completed, the project would not require the use or storage of any materials considered hazardous on the project site. Transportation of hazardous materials may occur on Main Street; however, this transport is part of existing conditions independent of the project, and the hazardous materials transported are in relatively small amounts for adjacent commercial and light industrial uses. The project would not generate an increase in the transport of these materials. The project would have no impact on the transportation, use, or storage of hazardous materials.

b) Upset and Accident Conditions.

Construction activities on the project site may involve the use of hazardous materials typical for such activities, such as fuels and solvents, and thus create a potential for hazardous material spills. Construction and maintenance vehicles would transport and use fuels in ordinary quantities. Fuel spills, if any occur, would be minimal and would not typically have significant adverse effects. In accordance with SWPPP requirements (see Section 3.7, Geology and Soils), contractors have absorbent materials at construction sites to clean up minor spills.

Main Street has traffic stripes and pavement markings of yellow thermoplastic. Depending on their date of installation, this material may contain lead in the paint, and the removal of the plastic markers during project construction may leave a thermoplastic residue. Removal of thermoplastic would be required to comply with Caltrans Standard Specification 14-11.12, adopted as part of the City's standard specifications, that provides procedures for managing the removal of traffic stripes and pavement markings. These would include preparation and implementation of a Lead Compliance Plan if hazardous amounts of lead are determined to be in the yellow thermoplastic. Compliance with these specifications would lead to at most a minimal release of lead into the environment due to removal of traffic strips and pavement markings.

As noted in a) above, no hazardous materials would be used or stored at the project site once construction work is completed. Project impacts related to potential upset or accident conditions would be less than significant.

c) Release of Hazardous Materials near Schools.

Schools within one-quarter mile of the project site include Roosevelt Elementary School and charter schools. As noted in a) above, the project would not use or store hazardous materials when completed. As noted in b) above, spills of hazardous materials could occur during project construction; however, spills would be minimal and would not typically have significant adverse effects. Any spills would be cleaned up when they occur, and the hazardous materials used during project construction are not considered acutely hazardous.

Construction work occurring near the schools would not be prolonged and would cease once work is completed. Project impacts on releases of hazardous materials near schools would be less than significant.

d) Hazardous Material Sites.

The Riteway Cleaners site on Market Street is currently occupied by a dry-cleaning facility and has been since approximately 1945. Dry cleaning operations typically facilitate the generation of hazardous wastes, which may include spent solvent, solvent-contaminated rags, separator water, solid lints and residues, and used filter cartridges. A Preliminary Assessment Report on the site, prepared for the EPA in 2010 and available in Appendix D, stated there were no residences, schools, or daycare facilities located on or within 200 feet of the Riteway site that could prompt an emergency response action. In addition, no sensitive environments were located on the site and the surface of the site was entirely covered in asphalt or buildings (EPA 2010). No known investigations of this site have been conducted since 2010. Records maintained by the San Joaquin County Environmental Health Department indicate no significant issues with the existing dry-cleaning operation. It is unlikely that the Riteway Cleaners site would have an impact related to future construction along Market Street.

As noted, five active Leaking Underground Storage Tank sites have been recorded in the project vicinity (see Appendix D):

- American Medical Response West (2060 E. Main Street) – The site historically operated as an ambulance medical response facility, and before that as a retail fueling facility with an unknown number of underground storage tanks. Soil and groundwater samples collected at the site in 2015 indicated petroleum hydrocarbons in both.
- Buggy Bath Car Wash (2085 E. Main Street) – The site currently has a car wash but previously had an ARCO gasoline station. Unidentified contaminants have been reported on this site.
- E & R Freeman (3138 E. Main Street) – An unauthorized release from an underground storage tank system occurred at the site. Contaminants of concern included gasoline, diesel, other chlorinated hydrocarbons, benzene, toluene, and xylene, among others. Cleanup work is currently in progress.
- Top Filling Station (101 S. Wilson Way) – Contamination found at the site after two underground storage tanks were removed in 1988. Contaminants of concern included gasoline, other chlorinated hydrocarbons, benzene, toluene, and xylene, among others. Soil vapor extraction installed; operation suspended in 2013. Groundwater extraction system installed; activity ended in 2016. Verification monitoring is currently in progress.
- Roek Construction (102 S. Wilson Way) - Contamination found at the site after four underground storage tanks were reportedly removed in 1978. Contaminant of concern was gasoline. Vapor and groundwater monitoring wells were installed, and site monitoring is in progress.

In addition, the GeoTracker database has on record a cleanup site at the corner of Main Street and Grant Street. Contaminants of concern at this site include chlorinated hydrocarbons, petroleum, solvent or non-petroleum hydrocarbon, and waste oils and other motor vehicle fluids. Soil and groundwater were the media of concern. The case for this site was opened in 1997, and a Site Assessment was conducted in 2014. However, this site has been designated “Inactive” since 2015 (SWRCB 2024).

Construction work could potentially encounter soil contamination near these locations. This may cause adverse health effects on workers and affect nearby land uses, particularly any residences in the vicinity. The City includes a section in all its project special provisions regarding Hazardous Waste and Containment. The City follows Caltrans Standard Specifications Section 14-11, which states that work shall stop immediately in any area where hazardous substances are discovered, and the project engineer shall be notified. The section also sets forth procedures for the handling and disposal of any encountered hazardous materials. Implementation of the requirements of Section 14-11 would reduce impacts related to hazardous material sites to a level that would be less than significant.

e) Public Airports.

The nearest public airport, Stockton Metropolitan Airport, is approximately four miles to the south. The project site is not within any of the airport’s safety zones, and it is outside the Airport Influence Area, as indicated in the Land Use Compatibility Plan for the airport (Coffman Associates 2016). The project would not place residents or businesses in an area potentially subject to hazards from airport operations. The project would have no impact related to public airports.

f) Emergency Response and Evacuations.

Project construction could involve short-term impacts on traffic and circulation. Construction activity would likely restrict the use of lanes temporarily on both streets, which connect downtown and eastern Stockton. While project construction would not block access for emergency vehicles, it may increase the response time for such vehicles, as well as disrupt evacuations. In addition, access to adjacent land uses may be restricted, which would increase the difficulty for emergency vehicles to reach these land uses.

Circulation effects of project construction would be addressed by preparation and implementation of a Traffic Control Plan, as required by the conditions of the encroachment permit that would be issued by the City. Implementation of encroachment permit conditions would ensure that emergency vehicle access would be maintained during project construction.

Once the project is completed, traffic flow and access would be restored for all vehicles, including emergency vehicles. The number of vehicle lanes would be reduced; however, access to adjacent land uses for emergency vehicles would be retained. The two-way segment of Main Street has been designated a main evacuation route (San Joaquin OES 2010). However, it is expected that the entire street, including parking areas, would be available for use in evacuations. The same would be true for the one-way segments of Main Street and Market Street. Project impacts after completion would be less than significant.

g) Wildland Fire Hazards.

The project site is within a developed urban area. There are no wildlands on or near the project site. Moreover, the proposed street improvements are unlikely to be damaged by fires. The project would have no impact related to wildland fire hazards. Section 3.20, Wildfire, discusses this issue in more detail.

3.10 HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river runoff or through the addition of impervious surfaces, in a manner which would:				
i) Result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>

Environmental Setting

The project vicinity is a developed area that is covered mostly with impervious surfaces. There are no surface streams or other bodies of water on or near the project site. The nearest surface water is Mormon Slough, approximately three-quarters mile to the south.

The project site is within the Eastern San Joaquin County Groundwater Subbasin of the San Joaquin Valley Groundwater Basin. According to the most recent information available, groundwater in the project area is approximately 30-40 feet below ground surface (San Joaquin County FCD 2016). Recharge to the groundwater system in the Stockton area primarily is from percolation of irrigation return water, precipitation, seepage from reservoirs and rivers, and urban runoff.

In 2014, the California Legislature passed the Sustainable Groundwater Management Act, part of which requires Groundwater Sustainability Plans for critically overdrafted basins to be adopted by January 31, 2020. The Eastern San Joaquin County Groundwater Subbasin is designated a critically overdrafted basin, and a Groundwater Sustainability Plan for the Subbasin was submitted to the California Department of Water Resources on January 29, 2020. The goal of the Groundwater Sustainability Plan is to achieve sustainable groundwater management of the Subbasin on a long-term average basis by increasing recharge and/or reducing groundwater pumping, while avoiding undesirable results such as degraded water quality and declining groundwater levels. The Subbasin will achieve sustainability by implementing water supply projects such as direct and in-lieu recharge, intra-basin water transfers, demand conservation, water recycling, and stormwater reuse (ESJGA 2019).

Potential flooding hazards are designated on maps prepared by the Federal Emergency Management Agency (FEMA). FEMA maps focus on areas potentially subject to inundation by a 100-year flood (i.e., a flood of such magnitude that occurs on average once every 100 years). According to FEMA Map Panels 06077C0460F and 06077C0480F, the project site is in Zone X (FEMA 2009a, 2009b). Zone X indicates the project site is at reduced risk from a 100-year flood due to a levee.

SB 5 and related State legislation requires future development to consider the 200-year flood event (i.e., a flood of such magnitude that occurs on average once every 200 years) within certain Central Valley geographies, with a focus on areas subject to a 200-year flood of three feet or more in depth. Based on information in the Stockton General Plan, the project site would not be subject to a 200-year flood at a depth of three feet or greater (City of Stockton 2018a).

Environmental Impacts

a) Water Quality.

As noted above, there are no streams or other bodies of water on or near the project site. Project construction, with associated ground disturbance, could lead to the conveyance of sediments in storm water. As described in Section 3.7, Geology and Soils, construction that causes one acre of ground disturbance or more is required to obtain a Construction General Permit, which contains provisions designed to reduce impacts on water quality such as preparation and implementation of a SWPPP.

Storm water regulation is established in the area-wide municipal separate storm sewer system (MS4) permit system, administered by the SWRCB. The City of Stockton has adopted and currently implements its MS4 program in accordance with Central Valley Regional Water Quality Control Board Order No. R5-2016-0040-2. As part of its MS4 program, the City has

adopted a SWMP (see Section 3.7, Geology and Soils). The SWMP addresses the storm water quality effects of development, including construction and post-construction activity. It consists of a variety of programs, including controls on illicit discharges, public education, controls on City operations, and water quality monitoring (City of Stockton 2009). Project design is required to be consistent with the City's MS4 program, so the project is not expected to significantly affect water quality once it is completed.

The project would be constructed in an area that is already developed and paved, with storm drainage systems in place. Because of this, minimal percolation would occur, so the project is not expected to contribute adversely to groundwater quality. Project impacts on surface and groundwater quality would be less than significant.

b) Groundwater Supplies and Recharge.

The project would not require the use of water upon the completion of construction work; therefore, it would not place demands on groundwater supplies used by the City or other agencies. The project site and vicinity would remain developed and paved after project completion, so the project would not change existing recharge conditions, which are minimal. The project would have no impact on groundwater supplies or recharge.

c-i, ii) Drainage Patterns.

As noted in b) above, existing conditions regarding development and paving on the project site and vicinity would not change after project completion, with only minimal new curb and gutter constructed. Existing drainage patterns, which consist mainly of runoff entering curbs, gutters, and drainage inlets, would not change substantially, other than by improvement of drainage flows by their concentration into gutters. The project would have no impact on drainage patterns.

c-iii) Runoff.

As noted in c-i, ii) above, existing conditions regarding development and paving on the project site and vicinity would not change substantially after project completion. Therefore, runoff volumes would not change with the project. The project would have no impact on runoff.

c-iv) Flooding Hazards.

As noted, the FEMA maps for the project site designate the site within Zone X, which indicates the project site is at reduced risk from a 100-year flood due to a levee. FEMA generally designates areas at risk from a 100-year flood within Zone A, or a variant thereof, as Special Flood Hazard Areas. Since the project site is not within Zone A, it is not considered by FEMA standards to be within a Special Flood Hazard Area. Also as noted, the project site is not within a designated 200-year floodplain that would flood at least three feet in depth. The project would not change existing flood risks, especially since there would be no change in runoff volumes, as noted in c-iii) above. The project would have no impact related to flooding hazards.







d) Release of Pollutants in Flood, Tsunami, or Seiche Zones.

As described in c-iv) above, the project site is not within a 100-year floodplain or a 200-year floodplain that would flood to a depth of at least three feet. The project is not near any large bodies of water, so it would not be subject to seiches or tsunamis. The project would not introduce any hazardous materials, and flood flows are unlikely to occur. The project would have no impact related to the release of pollutants in flood, tsunami, or seiche zones.

e) Conflicts with Water Quality or Groundwater Management Plans.

As noted in a) above, the project would be subject to the City's MS4 permit program, which is designed to minimize impacts on water quality. As noted in a) and b) above, the project would not affect groundwater resources or supplies, so the project would not affect implementation of the Groundwater Sustainability Plan for the Eastern San Joaquin Subbasin nor hinder the attainment of its objectives. Project impacts related to water quality or groundwater management plans would be less than significant.

3.11 LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?			✓	
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			✓	

Environmental Setting

The project site is within a developed urban area of east-central Stockton. The vicinity currently contains a mix of land uses. Predominant land uses are commercial and residential, both single-family and multifamily. There are also institutional and public land uses along or near Main Street, including Roosevelt Elementary School, Stallworth Charter School, the Fair Oaks Library, and the Main Street Post Office, along with several churches. County buildings and the Bob Hope Theatre are on the segment preceding the end at Hunter Street. Limited light industrial land uses are also found along Main Street. Residential land uses predominate on the segment of Market Street between Aurora Street and Wilson Way. More commercial and office development, some of which has multifamily residential units, is found between Aurora Street and Center Street.

The project site is within the Stockton city limits, the Planning Area of the Stockton General Plan, and the City's Urban Service Boundary. The Stockton General Plan predominantly designates lands adjacent to the project site as Commercial. Other designations include Industrial and Medium Density Residential. The City of Stockton has designated zones on

adjacent properties in accordance with its Zoning Ordinance. Zoning of lands adjacent to the project site is predominantly CG - General Commercial. Other zoning includes IL - Industrial, Limited, and RM - Medium Density Residential.

The State has enacted legislation that seeks to address the adverse environmental impacts of projects that disproportionately affect minority and/or lower income communities, particularly those already burdened with environmental problems. The California Office of Environmental Health Hazard Assessment has developed the California Communities Environmental Health Screening Tool (CalEnviroScreen) to identify “environmental justice” or “disadvantaged” communities. CalEnviroScreen measures pollution and population characteristics using 20 indicators such as air and drinking water quality, waste sites, toxic emissions, asthma rates, and poverty. It applies a formula to each U.S. Census tract in California to generate a score that rates the level of cumulative impacts on each area. A census tract that scores in the top 25% is considered a disadvantaged community.

According to CalEnviroScreen, the scores for all the census tracts within which the project site is located are within the top 25% (OEHHA 2020). Therefore, the project site is within an area of disadvantaged communities. Various Stockton General Plan policies address issues of environmental justice and disadvantaged communities.

Environmental Impacts

a) Division of Established Community.

The project is a Precise Road Plan that would guide the reconfiguration of segments of Main Street and Market Street. The proposed improvements would be consistent with the Complete Streets program, which encourages transportation alternatives to motor vehicles, as opposed to the existing configuration which emphasizes vehicle traffic movement. The Complete Streets approach is expected to lead to a greater connection between the land uses and people in the area by encouraging walking and bicycling. Adverse project impacts on division of established communities would be less than significant and may be beneficial.

b) Conflicts with Land Use Plans, Policies, and Regulations.

The project would not alter the existing General Plan or zoning designations of adjacent lands. The project is within a developed urban area of Stockton; as such, there are few environmental resources that would be affected by the project. In addition, project work would occur primarily within the existing right-of-way; incidental work would occur within the additional right-of-way to be acquired, but this work would not result in any substantial change in either the streetscape or adjoining land uses.

This IS/ND discusses potential impacts on the environment. No significant impacts have been identified that require mitigation measures or are significant and unavoidable. This IS/ND has identified existing land use plans, policies, and ordinances potentially applicable to the project. These plans, policies, and ordinances either do not apply to the project, or the project would comply with them, thereby eliminating potential conflict.

As noted in Chapter 1.0, Introduction, the Stockton General Plan contains Action TR-1.1D, which encourages the City to update existing Precise Road Plans in part to reflect a shift in

priority from vehicular travel to travel by all modes through Complete Streets. As mentioned, Complete Streets are designed to reduce the use of motor vehicle travel, which in turn would reduce adverse environmental impacts associated with such travel. The project would implement this General Plan action.

As noted, the project site is within an area of disadvantaged communities. The project is designed to reduce VMT on Main and Market Streets, which would reduce the air pollution and noise impacts of traffic. This, in turn, would reduce the environmental burdens on the disadvantaged communities within which the project site is located. Also, the provision of bike lanes would increase safety of bicyclists, thereby encouraging use of a more affordable mode of transportation than motor vehicles. The proposed repair of sidewalks would increase the safety of pedestrians from the disadvantaged communities using these sidewalks. In summary, the project would have no adverse impacts that would affect disadvantaged communities in the area, and it would provide some benefits.

Overall, project impacts related to land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect would be less than significant.

3.12 MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Mineral resources within San Joaquin County are primarily sand, gravel, and other construction material deposits in the alluvial portion of the valley floor. Sand and gravel deposits have been identified along the Stanislaus River in San Joaquin and Stanislaus Counties from Ripon to the Stanislaus/Tuolumne County line (DMG 1977). Portland cement concrete aggregate deposits also have been identified within San Joaquin County; however, none are located on the project site (DMG 1988).

Oil and natural gas deposits have been identified throughout the Central Valley. Most of the deposits in the Stockton area are of natural gas. The project site does not contain oil or natural gas fields. The nearest such field is the Stockton natural gas field, which has been abandoned. The nearest active field is the French Camp natural gas field approximately three miles south of the project site (DOGGR 2023).

Environmental Impacts

a, b) Availability of Mineral Resources.

As described above, there are no identified mineral resources areas nor active mining operations on or near the project site. Therefore, the project would not affect the availability of, or access to, any known or locally designated mineral resources. The project would have no impact on mineral resources.

3.13 NOISE

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The main source of noise in the project vicinity is motor vehicle traffic on Main Street and Market Street, including truck traffic associated with adjacent commercial and industrial land uses. The main concern regarding noise generators is their impact on noise-sensitive land uses. Noise-sensitive land uses are defined in Stockton Municipal Code Section 16.60.040 as residences, childcare and educational facilities, libraries and museums, lodging, and medical services. As noted, there are residences along both streets, and two schools and a library are in the project vicinity.

Stockton Municipal Code Section 16.60.040 establishes the City's standards on acceptable noise levels for noise-sensitive land uses affected by transportation-related sources. Table 3-3 shows these standards, presented in decibels (dB) per the Day-Night Average Level (L_{dn}). The L_{dn} is based upon the average hourly ambient noise level over a 24-hour day, with a +10-dB weighting applied to noise occurring between 10:00 p.m. and 7:00 a.m. The nighttime weighting is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures.

Groundborne vibration is typically associated with transportation facilities, although it is unusual for vibrations from sources such as buses and trucks to be perceptible, even in locations close to major roads. Construction equipment is another potential source. Caltrans has prescribed a methodology for evaluating groundborne vibration impacts from construction related to potential damage to structures, based on transient sources (e.g., blasting, drop balls) or continuous/frequent intermittent sources such as vibratory compaction equipment (Caltrans 2013). Measurements of groundborne vibrations are presented in peak particle velocity, with the unit of measure being inches per second. Table 3-4 presents thresholds for impacts related to groundborne vibration, based on the Caltrans methodology.

TABLE 3-3
CITY OF STOCKTON TRANSPORTATION-RELATED NOISE STANDARDS

Noise-Sensitive Land Use Type	Maximum Allowable Noise Exposure (L _{dn} dB)	
	Outdoor Activity Areas	Indoor Spaces
Residential (all types)	65	45
Child care	-	45
Educational facilities	-	45

Source: Stockton Municipal Code Section 16.60.040.

TABLE 3-4
GROUNDBORNE VIBRATION THRESHOLDS

Guidelines for:	Maximum Peak Particle Velocity (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
<i>Structure and Condition</i>		
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5
<i>Human Response</i>		
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.1
Severe	2.0	0.4

Source: Caltrans 2013.

Environmental Impacts

a) Generation of Noise Exceeding Local Standards.

Table 3-5 shows noise levels that could be generated by construction equipment. Construction activities near residences, schools, and libraries could generate noise at levels that exceed City noise standards for these land uses. The City includes a Noise Control section in the special provisions of all public works projects that contractors must follow. This section is based on Caltrans standards, which prohibits noise from exceeding 86 dBA L_{max} at 50 feet from the job site from 9:00 p.m. to 6:00 a.m. Moreover, an ARB rule limits idling time for commercial vehicles greater than 10,000 gross vehicle weight to no more than five minutes, which restricts another potential noise source. Implementation of these rules and standards would reduce construction noise impacts to a level that would be less than significant.

TABLE 3-5
CONSTRUCTION EQUIPMENT NOISE

Type of Equipment	Maximum Level, dB at 50 feet
Backhoe	78
Compactor	83
Compressor (air)	78
Concrete Saw	90
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Pneumatic Tools	85

Source: FHWA 2006.

The main source of noise on the project site is vehicle traffic on Main and Market Streets. As discussed previously, the purpose of the Complete Streets program is to reduce VMT, which would likely lead to a reduction in noise generated by traffic. Therefore, the project would not have an adverse impact on ambient noise in the project vicinity after construction work is completed.

b) Exposure to Groundborne Vibrations.

The project may generate groundborne vibrations from construction equipment use. As noted, land uses sensitive to noise are located near the project site. These land uses would also be sensitive to groundborne vibrations. Groundborne vibrations from project construction would cease once work is completed; nevertheless, groundborne vibrations could significantly affect sensitive land uses. Vibration levels from various types of construction equipment are shown in Table 3-6.

TABLE 3-6
VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

<u>Equipment</u>	<u>Peak Particle Velocity at 25 feet (in/sec)</u>
Large bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

Source: City of Stockton 2017b.

Based on Caltrans standards provided in Table 3-4 above, the construction equipment likely to be used would generate groundborne vibrations that are less than thresholds for structural damage or human perception. After construction work is completed, no groundborne vibrations are expected above those generated by current traffic. Project impacts related to groundborne vibration would be less than significant.

c) Public Airport and Private Airstrip Noise.

As noted in Section 3.9, Hazards and Hazardous Materials, the nearest public airport is Stockton Metropolitan Airport, approximately four miles to the south. The project site is outside the noise contours delineated in the Airport Land Use Compatibility Plan for the airport (Coffman Associates 2016). There are no private airstrips in the project vicinity. The project would not lead to the placement of residents or employees who could potentially be exposed to noise from any source. The project would have no impact related to airport or airstrip noise.

3.14 POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The 2020 U.S. Census indicates that the population of Stockton is 312,682, an increase of approximately 7.2% from its 2010 U.S. Census population of 291,707. As of the 2020 U.S. Census, Stockton had 104,720 housing units (U.S. Census Bureau 2020). Based on estimates from the California Department of Finance, single-family detached units (typical houses) accounted for approximately 64.9% of total housing units in Stockton, with apartments in complexes of five or more units accounting for approximately 17.9% of total units (California Department of Finance 2024).

Environmental Impacts

a) Unplanned Population Growth.

The project proposes the adoption of a Precise Road Plan that would guide the reconfiguration of segments of Main Street and Market Street. It would not directly construct additional housing or businesses, nor would it indirectly encourage development that may lead to population growth beyond that anticipated in the Stockton General Plan. The project vicinity is already substantially developed, and any future development would occur in accordance with the Stockton General Plan. The project would have no impact related to unplanned population growth.
















b) Displacement of Housing or People.

Future work associated with the project would focus on the existing street and right-of-way. It would not require the removal of any existing housing in the area. No housing or residents currently in the housing would be displaced because of any work associated with the project. The project would have no impact related to displacement.

3.15 PUBLIC SERVICES

Would the project:

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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i) Fire protection?				✓
ii) Police protection?				✓
iii) Schools?				✓
iv) Parks?				✓
v) Other public facilities?				✓

Environmental Setting

Fire protection services are provided to the project site and vicinity by the Stockton Fire Department, and police protection services are provided by the Stockton Police Department. Parks within the City of Stockton are managed by the City's Community Services Department.

The project site is within the boundaries of the Stockton Unified School District. Roosevelt Elementary School, part of the Stockton Unified School District, is located near the project site. The Stockton-San Joaquin County Public Library system provides library services to the City; the Fair Oaks branch is adjacent to Main Street. The Superior Court of California, County of San Joaquin, has a courthouse in Stockton on 180 East Weber Avenue, at the end of the Main Street segment at Hunter Street.

Environmental Impacts

a-i) Fire Protection.

As noted in Section 3.14, Population and Housing, the project would not construct residences or other development that would encourage population growth in the area. Because of this, it would not create additional demand for fire protection services. No new or expanded fire protection facilities that could have environmental impacts would be required. The project would have no impact on this issue.

a-ii) Police Protection.

The project would not create additional demand for police protection services. No new or expanded police protection facilities that could have environmental impacts would be required. The project would have no impact on this issue.

a-iii) Schools.

The project would not create additional demand for school services. No new or expanded school facilities that could have environmental impacts would be required. The project would have no impact on this issue.







a-iv) Parks.

The project would not create additional demand for parks. No new or expanded facilities that could have environmental impacts would be required. The project would have no impact on this issue.

a-v) Other Public Facilities.

The project would not create additional demand for other public facilities. No new or expanded facilities that could have environmental impacts would be required. The project would have no impact on this issue.

3.16 RECREATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?				✓
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?				✓

Environmental Setting

As noted in Section 3.15, Public Services, the City of Stockton provides park and recreational services within its City limits, managed by its Community Services Department. The City owns and operates 66 parks, along with accessible open space, special purpose facilities, and trails.

Environmental Impacts

a, b) Recreational Facilities.

As noted in Section 3.14, Population and Housing, the project would not construct residences or other development that would encourage population growth in the area. Because of this, it would not create additional demand for recreational facilities, nor would it increase the use of existing facilities. No new or expanded facilities that could have environmental impacts would be required. The project would have no impact on this issue.

3.17 TRANSPORTATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
b) Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
c) Substantially increase hazards to a geometric design feature (e g., sharp curves or dangerous intersections) or incompatible uses (e g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>

Environmental Setting

As discussed in Chapter 1.0, Introduction, Main Street is an east-west street that traverses central and eastern Stockton. It connects downtown Stockton with the unincorporated area east of SR 99. It is a one-way, two-lane street between Hunter Street and Wilson Way; a one-way, three-lane street between Wilson Way and Market Street; and a two-way, four-lane street between Market Street and Broadway Avenue. Main Street is classified in the City of Stockton General Plan as an arterial. According to a transportation study prepared for the Envision Stockton 2040 General Plan EIR, the average daily traffic on Main Street between Netherton Avenue and Golden Gate Avenue is 15,020 (City of Stockton 2018b). No data are available for the other segments of Main Street that are part of the project site.

Market Street, as also noted in Chapter 1.0, is an east-west street that traverses central and eastern Stockton, although it is divided into two segments by the SR 4 freeway. The segment that includes the project site extends from downtown Stockton to B Street, intersecting with Main Street along the way. Market Street is classified in the City of Stockton General Plan as a local street east of SR 4 and as a minor arterial west of SR 4.

The San Joaquin Regional Transit District (SJRTD) is the primary provider of public transportation service in the Stockton metropolitan area, offering fixed-route and flexible fixed-route services in the Stockton metropolitan area. In addition, SJRTD provides curb-to-curb paratransit (“dial-a-ride”) bus service for passengers who, due to their disability or age, are unable to access fixed route services. Currently, Bus Route 525 provides service along Main Street, including the segment that is part of the project site. As noted in Chapter 1.0, the project site currently has no bike routes, and sidewalks are of varying widths and conditions.

Traffic conditions have been customarily analyzed based on LOS. LOS measures the quality of traffic movement on roadways and through intersections. LOS is represented by letter designations from A to F, with A representing the best movement conditions and F representing the worst. According to the Envision Stockton 2040 General Plan EIR transportation study, the LOS on the one studied segment of Main Street was A (City of Stockton 2018b).

The State of California has recently added Section 15064.3 to the CEQA Guidelines, which is meant to incorporate SB 743 into CEQA analysis. SB 743 was enacted in 2013 with the intent to balance congestion management needs and the mitigation of the environmental impacts of traffic with statewide GHG emission reduction goals. SB 743 requires an alternative mechanism for evaluating transportation impacts and amending the CEQA guidelines to provide a transportation impact analysis framework that prioritizes reducing GHG emissions, replacing the prior focus of minimizing automobile delay. Section 15064.3(b) states that VMT is the preferred method for evaluating transportation impacts, rather than LOS. The VMT metric measures the total miles traveled by vehicles associated with a project. Unlike LOS, VMT accounts for the total environmental impacts of a project on transportation, including use of non-vehicle travel modes. As noted in Section 3.6, Energy, estimated countywide daily VMT was 17, 015,116 miles in 2016.

Environmental Impacts

a) Conflicts with Transportation Programs and Plans.

The project proposes a Precise Road Plan for segments of Main Street and Market Street that would guide their reconfiguration as Complete Streets, entailing a road diet, addition of bike lanes, and repairs to sidewalks. An analysis of a similar project indicated that LOS on the affected street would decrease (ESA 2016). The extent to which LOS on Main and Market Streets would be affected is not known.

However, improving the livability of streets, such as through the Complete Streets program, inherently impacts operations for automobile users, but it creates a more desirable, safer environment for other users. LOS results reflect impact on automobile users only and do not account for the positive safety implications for multimodal users. Nor do the results account for the diversion of automobiles to other routes which would provide less delay and shorter travel time (ESA 2016). In addition, as noted, LOS is no longer used to determine the transportation environmental impacts of a project – VMT is now the accepted metric.

The project would be consistent with Stockton General Plan Action TR-1.1D, which calls on updating existing Precise Road Plans to reflect a shift in priority from vehicular travel to travel by all modes through Complete Streets, among other matters. The project also would be consistent with the 2022 Regional Transportation Plan/Sustainable Communities Strategy adopted by SJCOG (SJCOG 2022b). The Regional Transportation Plan/Sustainable Communities Strategy links transportation and land use strategies with the intent of meeting specified per capita GHG reduction targets. This would be accomplished by reducing VMT, which this project is expected to do.

The project also seeks to encourage the use of alternate modes of travel, such as public transit, bicycling, and walking. This also would be consistent with the Stockton General Plan and the Regional Transportation Plan/Sustainable Communities Strategy. It also would be consistent with the Stockton Bicycle Master Plan, which seeks to develop a more extensive bicycle network that includes bike lanes along Main Street (City of Stockton 2017a). Project impacts related to transportation programs and plans would be less than significant.

b) Conflict with CEQA Guidelines Section 15064.3(b).

Section 15064.3(b) states that VMT is the preferred method for evaluating transportation impacts, rather than the commonly used LOS. Section 15064.3(b) sets forth the criteria for analyzing transportation impacts using the preferred VMT metric. Among these criteria are that projects that decrease VMT in the project area compared to existing conditions should be presumed to cause a less-than-significant transportation impact.

According to Caltrans guidance, projects that are not likely to lead to a “measurable and substantial” increase in vehicle travel include reduction in the number of through lanes and addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way (Caltrans 2020). The proposed project would include both these project types. As noted, the project is expected to reduce VMT through improvements to street facilities that would encourage public transit, bicycle, and pedestrian use. Therefore, the project would not conflict with the intent of CEQA Guidelines Section 15064.3(b), which is the reduction of VMT. The project would have no impact on this issue.

c) Traffic Hazards.

The project would encourage the reconfiguration of segments of Main and Market Streets through a road diet, which would reduce the number of lanes in each direction by one lane along the entire segments covered by the Precise Road Plan. This would reduce the vehicle capacity of both streets. Also, existing traffic signals would be removed at two intersections – Main Street/Market Street and Main Street/Filbert Street.

However, the project would likely lead to a reduction in vehicle speeds, which would reduce the likelihood and severity of collisions and thereby increase safety for motorists, bicyclists, and pedestrians. The traffic signals to be removed at the two intersections would be replaced by roundabouts, which compel drivers to slow down, making less likely the most severe types of intersection crashes - right-angle, left-turn, and head-on collisions.

The project proposes to install bicycle lanes, which would encourage more bicycle use and increase the safety of bicyclists, who currently must share the street with both moving and







parked motor vehicles without designated bike lanes. It also would lead to the upgrade of sidewalks, which would remove some existing obstacles for pedestrians and improve pedestrian safety. As noted in Chapter 2.0, Project Description, a rectangular rapid flashing beacon crosswalk would be installed at one crosswalk, which would make pedestrians crossing the street more noticeable to drivers, thereby reducing the probability of pedestrians being struck. Vehicle traffic composition on both streets is not expected to significantly change with the project. Project impacts related to traffic hazards would be less than significant.

d) Emergency Access.

While project implementation would reduce the number of vehicle lanes, access for emergency vehicles to adjacent land uses would be maintained after construction work is completed. However, as discussed in Section 3.9, Hazards and Hazardous Materials, project construction may temporarily increase the response time for such vehicles, plus access to adjacent land uses may be restricted. Implementation of a required Traffic Control Plan, as described in Section 3.9, Hazards and Hazardous Materials, would reduce impacts related to emergency access during construction to a level that would be less than significant.

3.18 TRIBAL CULTURAL RESOURCES

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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or			✓	
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.			✓	

Environmental Setting

As noted in Section 3.5, Cultural Resources, the project site is generally considered to be in the ethnographic territory of the Northern Valley Yokuts. Their territory included most of the northern San Joaquin Valley and stopped between the Mokelumne and Calaveras rivers, which divided their land from that of the Plains Miwok. At the core of their land ran the San

Joaquin River, which was fed by several other local streams and rivers, including the Fresno, Chowchilla, Merced, Tuolumne, Stanislaus, and Calaveras. This portion of the valley was mostly a wetland, dominated by marshes and pockets of tall grass. The Northern Valley Yokuts tribe, the Chulamni, had a village near Stockton named Yatchcumne or Yachik. Another village appears in mission records - Tauquimne, in the eastern end of the San Joaquin-Sacramento Delta near Bear Creek.

Early impacts of disease and missionization destroyed much of the Northern Valley Yokuts culture before it could be documented, resulting in a dearth of information about them (City of Stockton 2018b). Despite this, the Yokuts tribe continues to exist today; the Nototomne/North Valley Yokut Tribe, Inc., represents the Northern Valley Yokuts in the region.

In 2014, the California Legislature enacted AB 52. AB 52 modifies CEQA procedures regarding consultation with Native American tribes on cultural resource issues. AB 52 established a category called “tribal cultural resources,” which not only includes physical resources but also site features, places, cultural landscapes, and sacred places and objects of value to a tribe, and which are on or eligible for a State or local historic register. AB 52 establishes notification requirements and consultation procedures between a CEQA lead agency and a tribe when a tribal cultural resource is involved.

Environmental Impacts

a, b) Tribal Cultural Resources.

The NAHC conducted a search of its Sacred Lands File. The results indicated that potential lands sacred to a tribe or tribes may be located on the project site. At the recommendation of the NAHC, the City sent letters to the Northern Valley Yokuts and the Confederated Villages of Lisjan inviting the tribe to consult on the project in accordance with AB 52. The Confederated Villages of Lisjan were the only tribe to respond. At a telephone teleconference, the tribal representative requested to stay informed on project developments.

While there is no recorded evidence of known cultural resources on the project site, there is a potential for unknown resources, which may be associated with Native American tribes, to be uncovered during project construction. The City has procedures to be followed should any human remains be uncovered, with special requirements for burials determined to be Native American. Stockton Municipal Code Section 16.36.050, described in Section 3.5, Cultural Resources, sets forth procedures for the treatment and disposition of uncovered resources, including tribal cultural resources. With implementation of these Municipal Code provisions, impacts on tribal cultural resources would be less than significant.

3.19 UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
c) Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

Environmental Setting

The City of Stockton provides wastewater and storm drainage services and facilities to the project site and vicinity. Water service in the area is provided by California Water Service (Cal Water), a private company. Solid waste collection service to residences and businesses is provided by Waste Management. Energy services, including electricity and natural gas, are provided by Pacific Gas and Electric Company. Telephone service is provided by AT&T, while cellular telephone service is provided by several companies.

Environmental Impacts

a) Relocation or Construction of Utility Facilities.

Project construction may require the replacement or relocation of utility lines. These lines are located primarily within the existing street right-of-way; no new right-of-way would be acquired for utility relocation. As the right-of-way is already developed, the replacement or relocation of utility lines would not have any new environmental impact. Project impacts related to relocation or construction of utility facilities would be less than significant.

b) Water Supplies.

The project would not place demands on the water supplies of Cal Water; therefore, no new supplies would need to be obtained. The project would have no impact on water supplies.

c) Wastewater Treatment Capacity.

The project would not generate wastewater; therefore, it would not create a demand for additional wastewater collection or treatment. The project would not place demands on the City's wastewater treatment capacity. The project would have no impact on this issue.

d, e) Solid Waste Services.

The project would not generate solid waste; therefore, it would not generate a demand for solid waste collection or disposal. The project would not place demands on the capacity of landfills where the City's solid waste is disposed. The project would have no impact on solid waste services or regulations pertaining to solid waste.

3.20 WILDFIRE

If located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

Environmental Setting

Wildland fires are an annual hazard in San Joaquin County. Wildland fires burn natural vegetation on undeveloped lands and include rangeland, brush, and grass fires. Long, hot, and dry summers with temperatures often exceeding 100°F add to the County's fire hazard. Human activities are the major causes of wildland fires, while lightning causes the remaining

wildland fires. High hazard areas for wildland fires are the grass-covered areas in the east and the southwest foothills of the County (San Joaquin County 2016).

The California Department of Forestry and Fire Protection (Cal Fire) has a Fire and Resource Assessment Program that identifies fire threat based on a combination of two factors: 1) fire frequency, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). These two factors are combined in determining the following Fire Hazard Severity Zones: Moderate, High, Very High, Extreme. These zones apply to areas designated as State Responsibility Areas – areas in which the State has primary firefighting responsibility. The project site is not within a State Responsibility Area and therefore has not been placed in a Fire Hazard Severity Zone. The area surrounding the project site is likewise not in any designated fire hazard zone (Cal Fire 2007a, 2007b).

Environmental Impacts

a) Emergency Response Plans and Emergency Evacuation Plans.

The project site is not part of a State Responsibility Area, and Cal Fire maps indicate the site is not designated within a Very High Fire Hazard Severity Zone or a zone of higher severity. The project is in a developed urban area with no significant open spaces. The project would have no impact related to wildfire emergency response plans or emergency evacuation plans.

b) Exposure of Project Occupants to Wildfire Hazards.

The project site is a paved street with sidewalks in an urban area. Cal Fire maps indicate that the project site is in a low-risk wildfire area. The project would have no impact related to exposure of project occupants to wildfire hazards.

c) Installation and Maintenance of Infrastructure.

The project would lead to the reconfiguration of Main Street and improvement of adjacent facilities, which may include utility lines and facilities. As noted, the project site is in an urban area with no heightened risk of wildfire. The installation of these improvements would not exacerbate the wildfire risk on the project site. The project would have no impact related to infrastructural exacerbation of wildfire hazards.

d) Risks from Runoff, Post-Fire Slope Instability, or Drainage Changes.

The project site is in a topographically flat area at the bottom of the San Joaquin Valley. There are no streams or other channels that cross the site. As such, it is not expected that people or structures would be exposed to significant risks from changes resulting from fires in steeper areas, including downslope or downstream flooding or landslides. The project would have no impact related to risks from runoff, post-fire slope instability, or drainage changes.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) Findings on Biological and Cultural Resources.

The biological resource impacts of the revised project were described in Section 3.4, Biological Resources. Cultural resource impacts were described in Section 3.5, Cultural Resources, and Section 3.18, Tribal Cultural Resources. Impacts on these issues were considered less than significant with implementation of applicable plans, regulations, and provisions of the Stockton Municipal Code, as described in these technical sections.

b) Findings on Cumulatively Considerable Impacts.

A cumulative impact is an environmental impact that may result from the combination of two or more environmental impacts associated with the proposed project with each other, or the combination of one or more project impacts with related environmental impacts caused by other projects. As described in this IS/ND, the project would have no impact on environmental issues or would have impacts that are less than significant. Therefore, the project would not make a considerable contribution to potential cumulative impacts.

A similar project has been completed by the City on Miner Avenue between Center Street and the Union Pacific Railroad underpass in central Stockton, northwest of the proposed project site. Like the proposed project, Miner Avenue was reconfigured as a Complete Street, including vehicle lane reductions and addition of bicycle lanes. An Initial Study/Mitigated Negative Declaration prepared for the Miner Avenue project concluded that the project would either have no environmental impacts or would have impacts that would be less than

significant on most issues. All potentially significant environmental impacts identified in the Miner Avenue document could be mitigated to a level that would be less than significant with appropriate measures (ESA 2016). Given this and that both the Miner Avenue project and the proposed project have the intent of reducing VMT, the combined environmental effects of these projects would not result in a cumulatively considerable adverse effect.

c) Findings on Adverse Effects on Human Beings.

Potential adverse project effects on human beings were discussed in Section 3.3, Air Quality; Section 3.7, Geology and Soils (seismic hazards); Section 3.9, Hazards and Hazardous Materials; Section 3.10, Hydrology and Water Quality (flooding); Section 3.17, Transportation (traffic hazards); and Section 3.20, Wildfire. Potential adverse effects identified in those sections either would be less than significant or would be reduced to levels considered less than significant through compliance with applicable laws, regulations, and City ordinances and standards.

4.0 REFERENCES

4.1 DOCUMENT PREPARERS

This IS/ND was prepared by BaseCamp Environmental, Inc. for use by and under the supervision of the City of Stockton Public Works Department. The following persons were involved in preparation of the IS/ND:

BaseCamp Environmental, Inc.

Charlie Simpson, Principal
Terry Farmer, AICP, Senior Environmental Planner
Krista Simpson, Associate Environmental Planner/Graphics
Rayanna Beck, Research and Document Production

Siegfried Engineering (Project Engineers)

Paul Schneider, P.E., Principal
Nathan Berend, P.E., M.S., Civil Engineer

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4.3 PERSONS CONSULTED

Dino Khloth, P.E. Senior Associate Civil Engineer, Siegfried Engineering (formerly).

Paul Schneider. Siegfried Engineering.

5.0 NOTES RELATED TO EVALUATION OF ENVIRONMENTAL IMPACTS

- 1) A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
- 4) “Less Than Significant with Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level. Mitigation measures from “Earlier Analyses,” as described in (5) below, may be cross-referenced.
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [CEQA Guidelines Section 15063(c)(3)(D)]. In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used: Identify and state where they are available for review.
 - b) Impacts Adequately Addressed: Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures: For effects that are “Less than Significant with Mitigation Incorporated,” describe the mitigation measures, which ones were incorporated or refined from the earlier document, and the extent to which they address site-

specific conditions for the project.

- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significance.

APPENDIX A

AIR QUALITY MODELING RESULTS

Road Construction Emissions Model, Version 9.0.1

Daily Emission Estimates for -> Main Street PRP														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	1.04	10.87	6.61	200.23	0.23	200.00	41.79	0.19	41.60	0.02	2,260.30	0.60	0.02	2,282.32
Grading/Excavation	4.28	43.31	31.68	200.96	0.96	200.00	42.43	0.83	41.60	0.10	9,790.87	2.88	0.11	9,896.54
Drainage/Utilities/Sub-Grade	2.67	28.87	18.91	200.58	0.58	200.00	42.11	0.51	41.60	0.06	5,734.76	1.19	0.06	5,781.01
Paving	1.35	18.45	9.31	0.34	0.34	0.00	0.29	0.29	0.00	0.03	2,892.36	0.76	0.03	2,920.68
Maximum (pounds/day)	4.28	43.31	31.68	200.96	0.96	200.00	42.43	0.83	41.60	0.10	9,790.87	2.88	0.11	9,896.54
Total (tons/construction project)	0.29	3.10	2.11	16.90	0.07	16.83	3.56	0.06	3.50	0.01	651.76	0.17	0.01	658.18
Notes: Project Start Year -> 2026														
Project Length (months) -> 9														
Total Project Area (acres) -> 23														
Maximum Area Disturbed/Day (acres) -> 0														
Water Truck Used? -> No														
Total Material Imported/Exported Volume (yd³/day)														
Daily VMT (miles/day)														
Phase Soil Asphalt Soil Hauling Asphalt Hauling Worker Commute Water Truck														
Grubbing/Land Clearing 0 0 0 0 400 0														
Grading/Excavation 0 20 0 30 1,000 0														
Drainage/Utilities/Sub-Grade 0 0 0 0 760 0														
Paving 0 0 0 0 600 0														
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.														
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.														
CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.														
Total Emission Estimates by Phase for -> Main Street PRP														
Project Phases	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
(Tons for all except CO2e. Metric tonnes for CO2e)														
Grubbing/Land Clearing	0.01	0.11	0.07	1.98	0.00	1.98	0.41	0.00	0.41	0.00	22.38	0.01	0.00	20.50
Grading/Excavation	0.17	1.72	1.25	7.96	0.04	7.92	1.68	0.03	1.65	0.00	387.72	0.11	0.00	355.53
Drainage/Utilities/Sub-Grade	0.09	1.00	0.66	6.95	0.02	6.93	1.46	0.02	1.44	0.00	198.71	0.04	0.00	181.72
Paving	0.02	0.27	0.14	0.01	0.01	0.00	0.00	0.00	0.00	0.00	42.95	0.01	0.00	39.35
Maximum (tons/phase)	0.17	1.72	1.25	7.96	0.04	7.92	1.68	0.03	1.65	0.00	387.72	0.11	0.00	355.53
Total (tons/construction project)	0.29	3.10	2.11	16.90	0.07	16.83	3.56	0.06	3.50	0.01	651.76	0.17	0.01	597.10
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.														
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.														
CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.														
The CO2e emissions are reported as metric tons per phase.														

Road Construction Emissions Model, Version 9.0.1

Daily Emission Estimates for -> Market Street PRP														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.85	9.72	5.73	200.19	0.19	200.00	41.77	0.17	41.60	0.02	2,030.19	0.58	0.02	2,050.83
Grading/Excavation	4.09	42.09	30.79	200.93	0.93	200.00	42.41	0.81	41.60	0.10	9,546.92	2.87	0.11	9,650.97
Drainage/Utilities/Sub-Grade	2.48	27.60	18.02	200.54	0.54	200.00	42.08	0.48	41.60	0.06	5,472.61	1.17	0.05	5,517.22
Paving	1.16	17.27	8.42	0.31	0.31	0.00	0.26	0.26	0.00	0.03	2,658.15	0.75	0.03	2,685.04
Maximum (pounds/day)	4.09	42.09	30.79	200.93	0.93	200.00	42.41	0.81	41.60	0.10	9,546.92	2.87	0.11	9,650.97
Total (tons/construction project)	0.12	1.32	0.90	7.51	0.03	7.48	1.58	0.02	1.56	0.00	278.78	0.08	0.00	281.57
Notes: Project Start Year -> 2027														
Project Length (months) -> 4														
Total Project Area (acres) -> 7														
Maximum Area Disturbed/Day (acres) -> 0														
Water Truck Used? -> No														
Total Material Imported/Exported Volume (yd³/day)														
Daily VMT (miles/day)														
Phase Soil Asphalt Soil Hauling Asphalt Hauling Worker Commute Water Truck														
Grubbing/Land Clearing 0 0 0 0 280 0														
Grading/Excavation 0 20 0 30 880 0														
Drainage/Utilities/Sub-Grade 0 0 0 0 600 0														
Paving 0 0 0 0 480 0														
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.														
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.														
CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.														
Total Emission Estimates by Phase for -> Market Street PRP														
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.00	0.04	0.03	0.88	0.00	0.88	0.18	0.00	0.18	0.00	8.93	0.00	0.00	8.19
Grading/Excavation	0.07	0.74	0.54	3.54	0.02	3.52	0.75	0.01	0.73	0.00	168.03	0.05	0.00	154.09
Drainage/Utilities/Sub-Grade	0.04	0.43	0.28	3.09	0.01	3.08	0.65	0.01	0.64	0.00	84.28	0.02	0.00	77.08
Paving	0.01	0.11	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.54	0.00	0.00	16.08
Maximum (tons/phase)	0.07	0.74	0.54	3.54	0.02	3.52	0.75	0.01	0.73	0.00	168.03	0.05	0.00	154.09
Total (tons/construction project)	0.12	1.32	0.90	7.51	0.03	7.48	1.58	0.02	1.56	0.00	278.78	0.08	0.00	255.44
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.														
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.														
CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.														
The CO2e emissions are reported as metric tons per phase.														

APPENDIX B
BIOLOGICAL RESOURCE MATERIALS

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

San Joaquin County, California



Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📠 (916) 414-6713

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME

STATUS

Riparian Brush Rabbit *Sylvilagus bachmani riparius*
 No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/6189>

Endangered

Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
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Vernal Pool Fairy Shrimp *Branchinecta lynchi*

Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/498>

Vernal Pool Tadpole Shrimp *Lepidurus packardii*

Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/2246>

Flowering Plants

NAME

STATUS

Palmate-bracted Bird's Beak *Cordylanthus palmatus*

Endangered

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/1616>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Lawrence's Goldfinch <i>Carduelis lawrencei</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Long-billed Curlew <i>Numenius americanus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5511	Breeds elsewhere
Nuttall's Woodpecker <i>Picoides nuttallii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20

Oak Titmouse *Baeolophus inornatus*

Breeds Mar 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9656>

Song Sparrow *Melospiza melodia*

Breeds Feb 20 to Sep 5

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee *Pipilo maculatus clementae*

Breeds Apr 15 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/4243>

Yellow-billed Magpie *Pica nuttalli*

Breeds Apr 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9726>

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of

presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

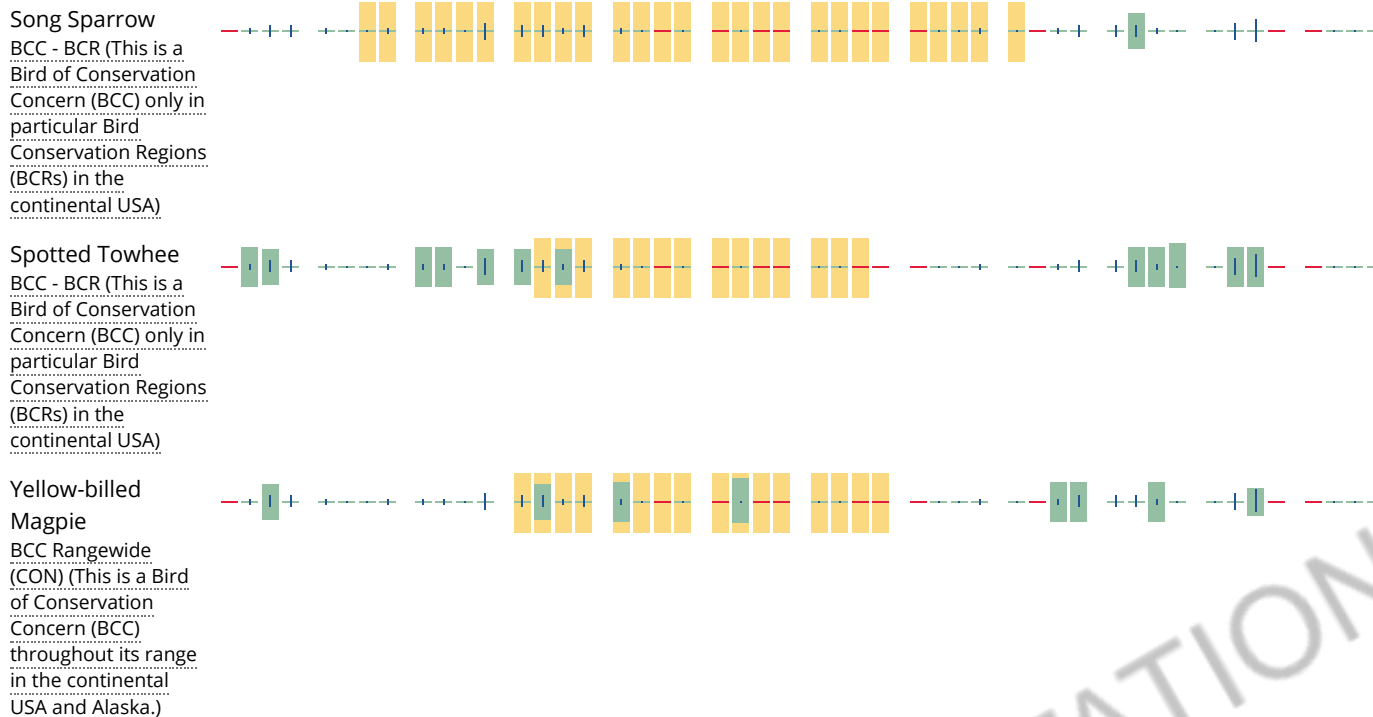
No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look

carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercfid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Element_Type	Scientific_Name	Common_Name	Element_Code	Federal_Status	State_Status	CDFW_Status	CA_Rare_P	Quad_Code	Quad_Name	Data_Status	Taxonomic_Sort
Animals - Amphibians	Ambystoma californiense	California tiger salamander	AAAAA01180	Threatened	Threatened	WL	-	3712183	STOCKTON WEST	Mapped	Animals - Amphibians - Ambystomatidae - Ambystoma californiense
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3712183	STOCKTON WEST	Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3712183	STOCKTON WEST	Mapped and Unprocessed	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3712183	STOCKTON WEST	Mapped	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3712183	STOCKTON WEST	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3712183	STOCKTON WEST	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Charadrius montanus	mountain plover	ABNNB03100	None	None	SSC	-	3712183	STOCKTON WEST	Unprocessed	Animals - Birds - Charadriidae - Charadrius montanus
Animals - Birds	Pica nuttalli	yellow-billed magpie	ABPAU09020	None	None	-	-	3712183	STOCKTON WEST	Unprocessed	Animals - Birds - Corvidae - Pica nuttalli
Animals - Birds	Progne subis	purple martin	ABPAU01010	None	None	SSC	-	3712183	STOCKTON WEST	Unprocessed	Animals - Birds - Hirundinidae - Progne subis
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBX00020	None	Threatened	SSC	-	3712183	STOCKTON WEST	Mapped	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3712183	STOCKTON WEST	Unprocessed	Animals - Birds - Icteridae - Icteria virens
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3712183	STOCKTON WEST	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Asio flammeus	short-eared owl	ABNSB13040	None	None	SSC	-	3712183	STOCKTON WEST	Unprocessed	Animals - Birds - Strigidae - Asio flammeus
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3712183	STOCKTON WEST	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3712183	STOCKTON WEST	Mapped	Animals - Birds - Vireonidae - Vireo bellii pusillus
Animals - Fish	Acipenser transmontanus	white sturgeon	AFCAA01050	None	None	SSC	-	3712183	STOCKTON WEST	Unprocessed	Animals - Fish - Acipenseridae - Acipenser transmontanus
Animals - Fish	Lavinia exilicauda exilicauda	Sacramento hitch	AFCJB19012	None	None	SSC	-	3712183	STOCKTON WEST	Unprocessed	Animals - Fish - Cyprinidae - Lavinia exilicauda exilicauda
Animals - Fish	Pogonichthys macrolepidotus	Sacramento splittail	AFCJB34020	None	None	SSC	-	3712183	STOCKTON WEST	Unprocessed	Animals - Fish - Cyprinidae - Pogonichthys macrolepidotus
Animals - Fish	Hypomesus transpacificus	Delta smelt	AFCHB01040	Threatened	Endangered	-	-	3712183	STOCKTON WEST	Mapped and Unprocessed	Animals - Fish - Osmeridae - Hypomesus transpacificus
Animals - Fish	Spirinchus thaleichthys	longfin smelt	AFCHB03010	Candidate	Threatened	-	-	3712183	STOCKTON WEST	Mapped	Animals - Fish - Osmeridae - Spirinchus thaleichthys
Animals - Fish	Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC	-	3712183	STOCKTON WEST	Unprocessed	Animals - Fish - Petromyzontidae - Entosphenus tridentatus
Animals - Fish	Lampetra ayresii	river lamprey	AFBAA02030	None	None	SSC	-	3712183	STOCKTON WEST	Unprocessed	Animals - Fish - Petromyzontidae - Lampetra ayresii
Animals - Fish	Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3712183	STOCKTON WEST	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 11
Animals - Fish	Oncorhynchus tshawytscha pop. 13	chinook salmon - Central Valley	AFCHA0205N	None	None	SSC	-	3712183	STOCKTON WEST	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 13
Animals - Fish	Oncorhynchus tshawytscha pop. 30	chinook salmon - upper Klamath	AFCHA02056	None	Candidate End:	SSC	-	3712183	STOCKTON WEST	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 30
Animals - Fish	Oncorhynchus tshawytscha pop. 6	chinook salmon - Central Valley	AFCHA0205A	Threatened	Threatened	-	-	3712183	STOCKTON WEST	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 6
Animals - Mollusks	Anodonta californiensis	California floater	IMBIV04020	None	None	-	-	3712183	STOCKTON WEST	Unprocessed	Animals - Mollusks - Unionidae - Anodonta californiensis
Animals - Mollusks	Gonidea angulata	western ridged mussel	IMBIV19010	None	None	-	-	3712183	STOCKTON WEST	Unprocessed	Animals - Mollusks - Unionidae - Gonidea angulata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAA0202030	None	None	SSC	-	3712183	STOCKTON WEST	Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Thamnophis gigas	giant gartersnake	ARADB36150	Threatened	Threatened	-	-	3712183	STOCKTON WEST	Mapped	Animals - Reptiles - Natricidae - Thamnophis gigas
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3712183	STOCKTON WEST	Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Plants - Vascular	Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	None	None	-	1B.2	3712183	STOCKTON WEST	Mapped	Plants - Vascular - Alismataceae - Sagittaria sanfordii
Plants - Vascular	Blepharizonia plumosa	big tarplant	PDAST1C011	None	None	-	1B.1	3712183	STOCKTON WEST	Mapped	Plants - Vascular - Asteraceae - Blepharizonia plumosa
Plants - Vascular	Symphyotrichum lentum	Suisun Marsh aster	PDAST8470	None	None	-	1B.2	3712183	STOCKTON WEST	Mapped	Plants - Vascular - Asteraceae - Symphyotrichum lentum
Plants - Vascular	Brasenia schreberi	watershield	PDCAB01010	None	None	-	2B.3	3712183	STOCKTON WEST	Mapped	Plants - Vascular - Cabombaceae - Brasenia schreberi
Plants - Vascular	Atriplex cordulata var. cordulata	heartscale	PDCH04080	None	None	-	1B.2	3712183	STOCKTON WEST	Mapped	Plants - Vascular - Chenopodiaceae - Atriplex cordulata var. cordulata
Plants - Vascular	Extriplex joaquinana	San Joaquin spearscale	PDCH041F3	None	None	-	1B.2	3712183	STOCKTON WEST	Mapped	Plants - Vascular - Chenopodiaceae - Extriplex joaquinana
Plants - Vascular	Astragalus tener var. tener	alkali milk-vetch	PDFAB0F8R1	None	None	-	1B.2	3712183	STOCKTON WEST	Mapped	Plants - Vascular - Fabaceae - Astragalus tener var. tener
Plants - Vascular	Lathyrus jepsonii var. jepsonii	Delta tule pea	PDFAB250D2	None	None	-	1B.2	3712183	STOCKTON WEST	Mapped	Plants - Vascular - Fabaceae - Lathyrus jepsonii var. jepsonii
Plants - Vascular	Trifolium hydrophilum	saline clover	PDFAB400R5	None	None	-	1B.2	3712183	STOCKTON WEST	Mapped	Plants - Vascular - Fabaceae - Trifolium hydrophilum
Plants - Vascular	Hibiscus lasiocarpus var. occidentalis	woolly rose-mallow	PDMAL0H0R3	None	None	-	1B.2	3712183	STOCKTON WEST	Mapped	Plants - Vascular - Malvaceae - Hibiscus lasiocarpus var. occidentalis
Plants - Vascular	Chloropyron palmatum	palmete-bracted bird's-beak	PDSCROJ0J0	Endangered	Endangered	-	1B.1	3712183	STOCKTON WEST	Mapped	Plants - Vascular - Orobanchaceae - Chloropyron palmatum



U.S. Fish and Wildlife Service

National Wetlands Inventory

Main Street PRP



March 26, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

APPENDIX C
CULTURAL RESOURCE RECORDS SEARCH



CENTRAL CALIFORNIA INFORMATION CENTER

California Historical Resources Information System

Department of Anthropology – California State University, Stanislaus

One University Circle, Turlock, California 95382

(209) 667-3307

Alpine, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus & Tuolumne Counties

Date: 4/28/2020

Records Search File#: 11372L

Project: Main Street Precise Road
Plan, Stockton, California

Terry L. Farmer, AICP
Senior Environmental Planner
BaseCamp Environmental, Inc.
115 South School Street, Suite 14
Lodi, CA 95240
209-224-8213

tfarmer@basecampenv.com

Dear Mr. Farmer:

We have conducted a records search as per your request for the above-referenced project area located on the Stockton East and Stockton West USGS 7.5-minute quadrangle maps in San Joaquin County.

Search of our files includes review of our maps for the specific project area and the immediate vicinity of the project area, and review of the following:

National Register of Historic Places (NRHP)
California Register of Historical Resources (CRHR)
California Inventory of Historic Resources (1976)
California Historical Landmarks
California Points of Historical Interest listing
Office of Historic Preservation Built Environment Resource Directory (BERD) and the
Archaeological Determinations of Eligibility (ADOE)
Survey of Surveys (1989)
Caltrans State and Local Bridges Inventory
General Land Office Plats
Other pertinent historic data available at the CCalIC for each specific county

The following details the results of the records search:

Prehistoric or historic resources within or within the immediate vicinity of the project area:

- There are no recorded prehistoric or historic archaeological resources within the project or its immediate vicinity.
- One historic structure has been identified within the project area, a segment of the Central

California Traction Railroad (P-39-004457), constructed in 1907-1910.

- The General Land Office Survey Plats for T1N R6E (dated 12/5/1879) and T1N R7E (dated 6/30/1964) show the project area within the historic Mexican land grant of El Rancho del Campo de las Franceses.
- The 1883 Map of the County of San Joaquin, California and the 1913 Stockton 1:31,680-scale map show the project area on or immediately adjacent to the east of the urbanized City of Stockton.
- Seventy-four buildings on Main Street in Stockton are listed in the Office of Historic Preservation Built Environment Resource Directory (BERD). Not all of these buildings may fall along the portion of Main Street that includes your project. These resources are not mapped in GIS and it cannot be determined which buildings might be within the project corridor. Therefore, attached is the entire list from the BERD for both East and West Main Street for your use.

Resources that are known to have value to local cultural groups: None has been formally reported to the Information Center.

Previous investigations within the project area: The entire project area has not been subject to previous investigations, but ten investigations have been reported that cover small segments of the project corridor, referenced as follows:

Biorn, M.C. (Caltrans)

1984 *Archaeological Survey Report for 10-SJ-4 R17.7/R19.3 Stockton Crosstown Freeway, Wilson Way to Route 99 E.A. 335920.*

CCIC Report SJ-00719

O'Connor, D. (Caltrans)

1984 *Historic Property Survey Report, State Highway 4, San Joaquin County, Post Mile R17.5/R19.5, Stockton Crosstown Freeway (Portion), Wilson Way to Route 99, 10101-335920.*

CCIC Report SJ-02218

Stockton, City of (City of Stockton)

1979 *Historic Survey Project Agreement, Final Report; Project Period June 1, 1978 to March 31, 1979.*

CCIC Report SJ-02219

Hermenau, H. (City of Stockton)

1980 *Completion Report, Historic Survey Project Agreement No. 36-09-006, Stockton, California; Project Period April 1, 1979 to March 31, 1980.*

CCIC Report SJ-02246

Rapp, Linda (City of Stockton)

1980 *Stockton Historic Resource Inventory II: Analysis Report, June 1980.*

CCIC Report SJ-02247

Burks, J. L. (Historian)

1987 *The History of Streetcars in Stockton. The San Joaquin Historian, Vol. I (Summer 1987), No. 2:1-11.*

CCIC Report SJ-04976

Ray, B. (Caltrans)

2007 *Archaeological Survey Report, South Stockton 6-Lane Widening, City of Stockton, San Joaquin County, California, 10-SJ-99, PM 15.0/18.6.*

CCIC Report SJ-06650

Brady, J. (Caltrans)

2007 *Historic Resource Evaluation Report, Stockton 6-Lane Project, San Joaquin County California 10-SJO-99 PM 15.0/18.6 (KP 24.1/29.9) EA 10-3A1000 Volume I and II.*

CCIC Report SJ-06666

Pappas, S. and L. Westwood (ECORP Consulting, Inc.; for PG&E, Cardno ENTRIX, and Surf to Snow Environmental Resource Management)

2011 *Cultural Resources Inventory Report, Stockton "A" Reconductoring Project, San Joaquin County, California; ECORP Project No. 2011-123.*

CCIC Report SJ-07539

AECOM (AECOM; for Central Valley Independent Network)

2011 *Cultural Resources Inventory Report for the Central Valley Independent Network Fiber Optic Communications Network Project, California (Calaveras, Merced, San Joaquin, Stanislaus and Tuolumne Counties in the CCalC Area of Responsibility).*

CCIC Report SJ-08284

Recommendations/Comments: Based on existing data in our files the project area has a moderate to high sensitivity for the possible discovery of historical resources.

Please be advised that a historical resource is defined as a building, structure, object, prehistoric or historic archaeological site, or district possessing physical evidence of human activities over 45 years old. Since the entire project area has not been subject to previous investigations, there may be unidentified features involved in your project that are 45 years or older and considered as historical resources requiring further study and evaluation by a qualified professional of the appropriate discipline.

If the current project does not include ground disturbance, further study for archaeological resources is not recommended at this time. If ground disturbance is considered a part of the current project, we recommend further review for the possibility of identifying prehistoric or

historic-era archaeological resources. Note: Both prehistoric and historical archaeological resources have been found in the subsurface context within the City of Stockton.

If the proposed project contains buildings or structures that meet the minimum age requirement (45 years in age or older) it is recommended that the resource/s be assessed by a professional familiar with architecture and history of the county. Review of the available historic building/structure data has included only those sources listed above and should not be considered comprehensive.

If at any time you might require the services of a qualified professional the Statewide Referral List for Historical Resources Consultants is posted for your use on the internet at <http://chrisinfo.org>

If archaeological resources are encountered during project-related activities, work should be temporarily halted in the vicinity of the discovered materials and workers should avoid altering the materials and their context until a qualified professional archaeologist has evaluated the situation and provided appropriate recommendations. Project personnel should not collect cultural resources.

If human remains are discovered, California Health and Safety Code Section 7050.5 requires you to protect the discovery and notify the county coroner, who will determine if the find is Native American. If the remains are recognized as Native American, the coroner shall then notify the Native American Heritage Commission (NAHC). California Public Resources Code Section 5097.98 authorizes the NAHC to appoint a Most Likely Descendant (MLD) who will make recommendations for the treatment of the discovery.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the State Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

We thank you for contacting this office regarding historical resource preservation. Please let us know when we can be of further service. Please sign and return the attached **Access Agreement**

Short Form.

Note: Billing will be transmitted separately via email from the Financial Services office (\$225.00), payable within 60 days of receipt of the invoice.

If you wish to include payment by Credit Card, you must wait to receive the official invoice from Financial Services so that you can reference the CMP # (Invoice Number), and then contact the link below:

<https://commerce.cashnet.com/ANTHROPOLOGY>

Sincerely,

E. A. Greathouse

E. A. Greathouse, Coordinator
Central California Information Center
California Historical Resources Information System

Copy of invoice to Laurie Marroquin, Financial Services (lamarroquin@csustan.edu)

APPENDIX D
HAZARDOUS MATERIAL SITE REPORTS



RITE WAY CLEANERS (60001402)

[SIGN UP FOR EMAIL ALERTS](#)

700 EAST MARKET STREET
STOCKTON, CA 95202
SAN JOAQUIN COUNTY
SITE TYPE: EVALUATION

SUPERVISOR:
OFFICE:

[STEVEN BECKER](#)
CLEANUP SAN
JOAQUIN
6077000100
95-100% (highest
scores)

CENSUS TRACT:
CALENVIROSCREEN PERCENTILE SCORE:

[Summary](#) | [Activities](#) | [Site/Facility Docs](#) | [Map](#) | [Related Sites](#) | [CalEnviroScreen](#)

Site Information

CLEANUP STATUS

INACTIVE - NEEDS EVALUATION AS OF 2/1/2011

SITE TYPE: EVALUATION
NATIONAL PRIORITIES LIST: NO
ACRES: 0.25 ACRES
APN: 149-220-11, 149-220-12
CLEANUP OVERSIGHT AGENCIES:
DTSC - SITE CLEANUP PROGRAM
SAN JOAQUIN COUNTY
US EPA

ENVIROSTOR ID: 60001402
SITE CODE:
SPECIAL PROGRAM: EPA - PASI
FUNDING: NOT APPLICABLE
ASSEMBLY DISTRICT: 13
SENATE DISTRICT: 05

Regulatory Profile

PAST USE(S) THAT CAUSED CONTAMINATION
NONE SPECIFIED

POTENTIAL CONTAMINANTS OF CONCERN
NONE SPECIFIED

POTENTIAL MEDIA AFFECTED
NONE SPECIFIED

Site History

Historic operations at the Rite Way site include activities associated with full-service dry cleaning from approximately 1945 to at least May 2010. It is not known what operations, if any, were conducted at the site prior to 1945. Based upon the posted signage at the facility observed during the site reconnaissance on 31 May 2010, the facility appears to use "eco-friendly" dry cleaning practices by use of a Fimbimatic™ EcoGreen machine. These machines are designed to use a hydrocarbon solvent as an alternative to PCE; however, as recently as April 2006, the facility used and/or stored PCE on site. Dry cleaning operations typically include placing soiled clothing and textiles into a dry cleaning machine, which agitates the material with a chemical solvent for cleaning and subsequently uses cycles of hot and cold air for drying. Upon removing the materials from the machine, they are generally pressed, finished, and bagged. Utilizing boiling and condensation processes, dry cleaning facilities are able to recover and reuse portions of the spent solvent for future cycles; however, the amount of solvent recovery varies with the age and type of dry cleaning equipment used. Dry cleaning operations typically facilitate the generation of hazardous wastes, which may include: spent solvent, solvent-contaminated rags, separator water, solid lints and residues, and used filter cartridges.

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**Preliminary Assessment Report
Rite Way Cleaners
Stockton, San Joaquin County, California**

**EPA ID No.: CAN000905714
USACE Contract No.: W91238-06-F-0083
Interagency Agreement No.: 95777001-0
Document Control No.: 12767.063.572.1410**

July 2010

**Prepared for:
U.S. Environmental Protection Agency
Region 9**

**Prepared by:
Weston Solutions, Inc.
428 13th Street
6th Floor, Unit B
Oakland, California 94612**

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Appendix D: Latitude and Longitude Calculations Worksheet
Appendix E: References
Appendix F: EPA Quick Reference Fact Sheet

LIST OF ACRONYMS

APN	Assessor Parcel Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CUPA	Certified Unified Program Agency
DTSC	Department of Toxic Substances Control
EHD	San Joaquin County Environmental Health Department
EPA	United States Environmental Protection Agency
HRS	Hazard Ranking System
NPL	National Priorities List
PA	Preliminary Assessment
PCE	tetrachloroethylene
RCRAInfo	Resource Conservation and Recovery Act Information
Rite Way	Rite Way Cleaners site
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SDWC	Stockton Deep Water Channel
sf	square-foot
WESTON	Weston Solutions, Inc.

1.0 INTRODUCTION

Under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), Weston Solutions, Inc. (WESTON®) has been tasked to conduct a Preliminary Assessment (PA) of the Rite Way Cleaners (Rite Way) site, located in Stockton, San Joaquin County, California.

The purpose of the PA is to review existing information on the site and its environs, to assess the threat(s), if any, posed to public health, welfare, or the environment, and to determine if further investigation under CERCLA/SARA is warranted. The scope of the PA includes the review of information available from federal, state, and local agencies and performance of an on-site reconnaissance visit.

Using the sources of existing information, the site is then evaluated using the United States Environmental Protection Agency's (EPA's) Hazard Ranking System (HRS) criteria to assess the relative threat associated with actual or potential releases of hazardous substances at the site. The HRS has been adopted by the EPA to help set priorities for further evaluation and eventual remedial action at hazardous waste sites. The HRS is the primary method of determining a site's eligibility for placement on the National Priorities List (NPL). The NPL identifies sites where the EPA may conduct remedial response actions. This report summarizes the findings of these preliminary investigative activities.

The Rite Way site was identified as a potential hazardous waste site and entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) on 05 July 2000 (EPA ID No.: CAN000905714) (EPA, 2010a).

More information regarding the Superfund Program is available on the EPA website at <http://www.epa.gov/superfund>. The EPA's site assessment process is described in Appendix F.

1.1 Apparent Problem

The apparent problem at the Rite Way site, which contributed to EPA's determination that a PA was necessary, is as follows:

- The site has been operated as a full-service dry cleaning facility since approximately 1945 and historically used tetrachloroethylene (PCE) as the primary dry cleaning solvent (RWC, 2010; SKSI, 2006; Appendix B).

2.0 SITE DESCRIPTION

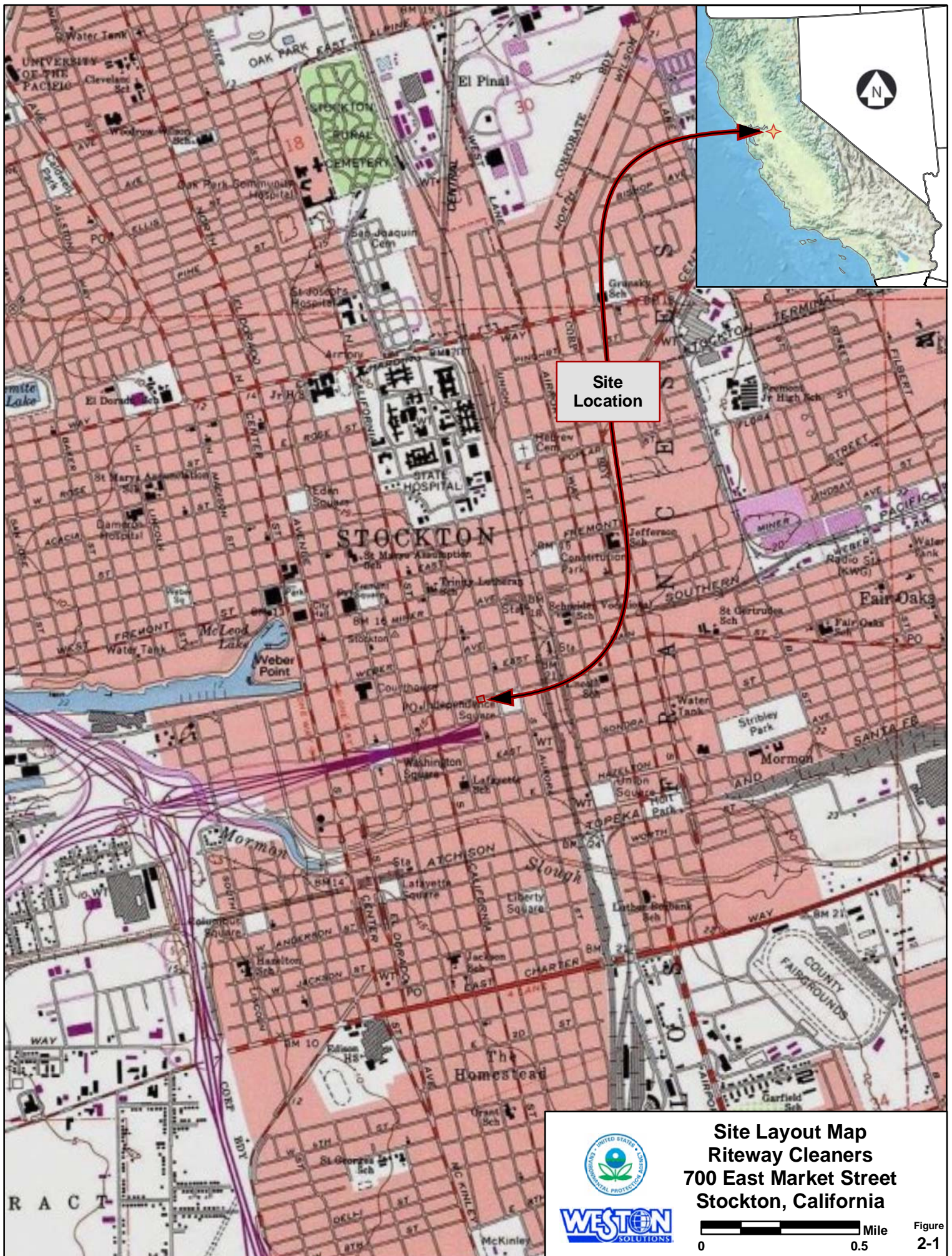
2.1 Location

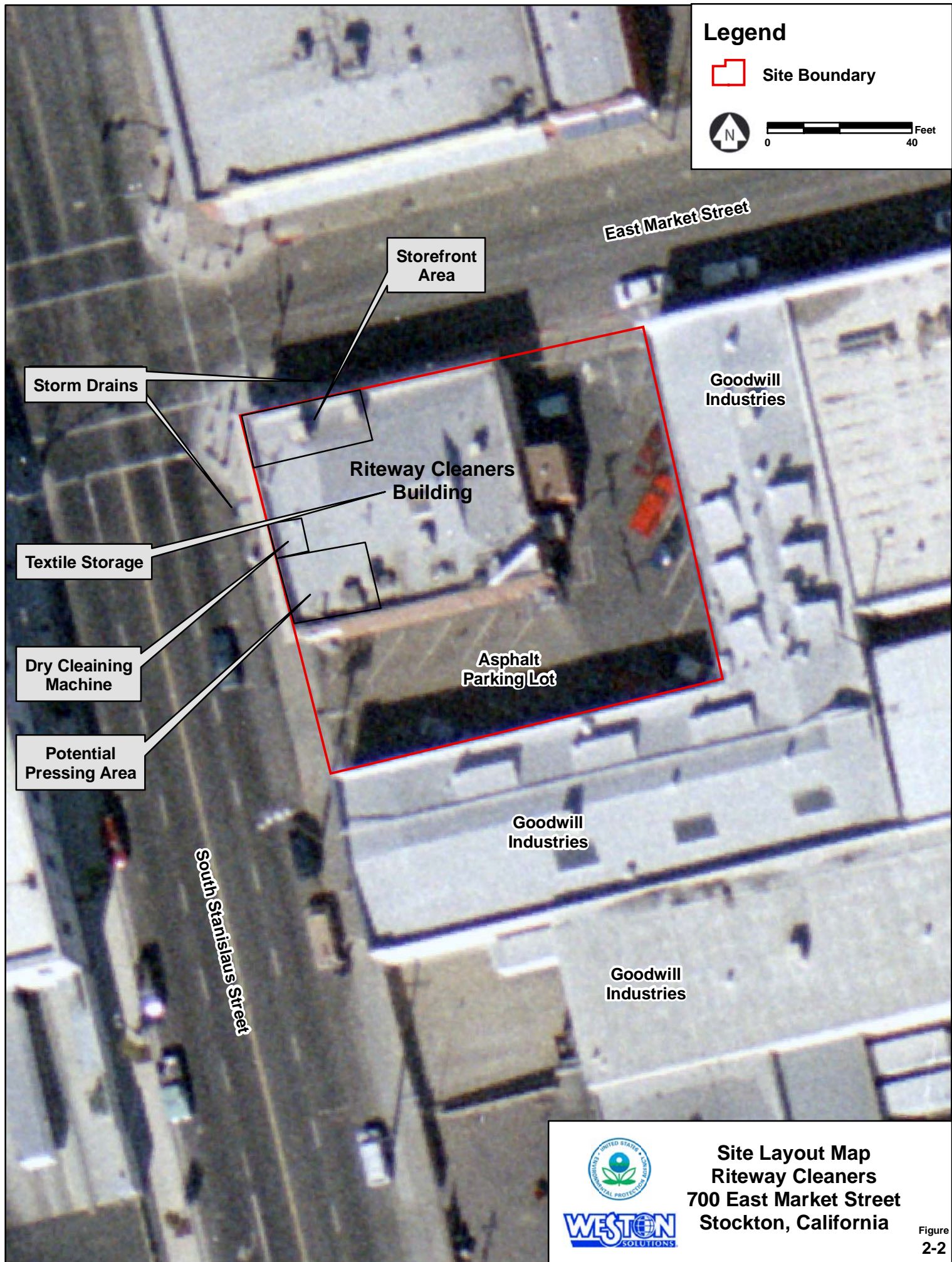
The Rite Way site is located at 700 East Market Street in Stockton, San Joaquin County, California. The geographic coordinates for the approximate center of the site are 37° 57' 10.4" North latitude and 121° 16' 52.7" West longitude. The site location is shown in Figure 2-1 (Google, 2010).

2.2 Site Description

The Rite Way site is located in a mixed commercial and industrial area of Stockton, California. The site occupies approximately 0.25 acre at the southeast corner of the intersection of East Market Street and South Stanislaus Street. The site is situated on two contiguous parcels, identified as San Joaquin County Assessor Parcel Numbers (APN) 149-220-11 (0.065 acre) and 149-220-12 (0.185 acre). The site is bound to the north by East Market Street with a commercial pharmacy beyond, to the east and south by a Goodwill Industries shipping and distribution facility, and to the west by South Stanislaus Street with the Stockton Record newspaper facility beyond (Google, 2010; SJC, 2005; App. B).

As of 31 May 2010, the Rite Way site was occupied by the Riteway Cleaners full-service dry cleaning facility. The facility has occupied the property since approximately 1945. The original construction date of the building is not known. In addition, it is not known when the property was first developed or what structures, if any, occupied the site prior to the current building. The building occupied approximately 4,200 square feet (sf) and was situated at the northwest corner of the property. The remaining portions of the property were occupied by an asphalt-paved customer and employee parking lot. The parking lot was enclosed behind an approximately 5-foot tall chain-link fence, which is secured during non-operational hours. The storefront and customer entrance of the facility was located at the northwest corner of the building. A dry cleaning machine was located at the west-central portion of the building and an apparent pressing area was located at the southwest corner of the building. The central portion of the building was primarily used for textile storage. The facility also includes a basement level and restrooms. No additional information is known regarding the types and/or locations of additional dry cleaning equipment, boiler equipment, hazardous materials storage, or floor drains. A site layout map is presented in Figure 2-2 (Google, 2010; RWC, 2010; App. B).





2.3 Operational History

The Rite Way site is currently owned by Gene and Tom Migliori, who have owned the property since approximately 1999. Prior to 1999, the site was owned by Eugene Migliori since at least 1987. The Riteway Cleaners dry cleaning facility has been operated by members of the Migliori family since 1935; however, the facility has only been located at 700 East Market Street since approximately 1945 (DTSC, 1998; DTSC, 1999; EHD, 2000-2010).

Historic operations at the Rite Way site include activities associated with full-service dry cleaning from approximately 1945 to at least May 2010. It is not known what operations, if any, were conducted at the site prior to 1945. Based upon the posted signage at the facility observed during the site reconnaissance on 31 May 2010, the facility appears to use “eco-friendly” dry cleaning practices by use of a Firbimatic™ EcoGreen machine. These machines are designed to use a hydrocarbon solvent as an alternative to PCE; however, as recently as April 2006, the facility used and/or stored PCE on site. Dry cleaning operations typically include placing soiled clothing and textiles into a dry cleaning machine, which agitates the material with a chemical solvent for cleaning and subsequently uses cycles of hot and cold air for drying. Upon removing the materials from the machine, they are generally pressed, finished, and bagged. Utilizing boiling and condensation processes, dry cleaning facilities are able to recover and reuse portions of the spent solvent for future cycles; however, the amount of solvent recovery varies with the age and type of dry cleaning equipment used. Dry cleaning operations typically facilitate the generation of hazardous wastes, which may include: spent solvent, solvent-contaminated rags, separator water, solid lints and residues, and used filter cartridges (EPA, 1995; RWC, 2010; SKSI, 2006; App. B).

No known soil, soil vapor, or groundwater sampling has been conducted at, or in the immediate vicinity of, the Rite Way site.

2.4 Regulatory Involvement

The following agencies were contacted in the course of conducting the PA: the Central Valley Regional Water Quality Control Board (RWQCB), the California Department of Toxic Substances Control (DTSC), and the San Joaquin County Environmental Health Department (EHD). The details of these agencies’ involvement with the site are presented below (App. C-1, C-2, C-3).

2.4.1 U.S. Environmental Protection Agency

The Rite Way site is listed in the Resource Conservation and Recovery Act Information (RCRAInfo) database as an active Small Quantity Generator (RCRA ID: CAD981642382), which was last updated 27 June 2002 (EPA, 2010b).

The DTSC Sacramento regional office completed a Site Screening/Prioritization Checklist for the Rite Way site on 04 August 1999 (DTSC, 1999).

2.4.2 Regional Water Quality Control Board

The Rite Way site was not listed in the Geotracker database as of 19 July 2010. The RWQCB has had no known involvement with the site (RWQCB, 2010).

2.4.3 Department of Toxic Substances Control

The Rite Way site was not listed in the DTSC Envirostor database as of 19 July 2010. With the exception of the Site Screening/Prioritization Checklist that the DTSC completed for the EPA on 04 August 1999, the DTSC has had no known involvement with the site (DTSC, 2010).

2.4.4 San Joaquin County Environmental Health Department

The EHD is the Certified Unified Program Agency (CUPA) within the city of Stockton. The EHD has issued Hazardous Waste Generator Permits to the Riteway Cleaners facility and conducted inspections of the facility since at least January 2000. No major violations were reported during the EHD's inspections (EHD, 2000-2010; EHD, 2006).

3.0 HAZARD RANKING SYSTEM FACTORS

3.1 Sources of Contamination

For HRS purposes, a source is defined as an area where a hazardous substance has been deposited, stored, disposed, or placed, plus those soils that have become contaminated from migration of a hazardous substance.

Potential hazardous substance sources associated with the Rite Way site include, but may not be limited to:

- On-site soils contaminated with PCE that are potentially the result of historic on-site operations (SKSI, 2006).

3.2 Groundwater Pathway

In determining a score for the groundwater migration pathway, the HRS evaluates: 1) the likelihood that sources at a site actually have released, or potentially could release, hazardous substances to groundwater; 2) the characteristics of the hazardous substances that are available for a release (i.e., toxicity, mobility, and quantity); and 3) the people (targets) who actually have been, or potentially could be, impacted by the release. For the targets component of the evaluation, the HRS focuses on the number of people who regularly obtain their drinking water from wells that are located within 4 miles of the site. The HRS emphasizes drinking water usage over other uses of groundwater (e.g., food crop irrigation and livestock watering), because, as a screening tool, it is designed to give the greatest weight to the most direct and extensively studied exposure routes.

3.2.1 Hydrogeological Setting

The Rite Way site lies within the Eastern San Joaquin Subbasin of the San Joaquin Valley Groundwater Basin. The Eastern San Joaquin Subbasin is bound to the north and northwest by the Solano, South American, and Consumnes Subbasins; and to the south, southwest, and west by the Modesto, Delta-Mendota, and Tracy Subbasins. The Eastern San Joaquin Subbasin is drained by the San Joaquin River and several of its major tributaries, which flow north across the subbasin toward the Sacramento and San Joaquin Deltas, and eventually into the Pacific Ocean. The major water-bearing units of the Eastern San Joaquin Subbasin are, in descending order: undifferentiated alluvium and Modesto/Riverbank, which are generally composed of interbedded silts and clays with sands and gravels and varies in thickness from zero to 150 feet; Flood Basin Deposits, which are generally composed of fine-grained sediments and varies in thickness from zero to 1,400 feet; the Laguna Formation, which is generally composed of discontinuous lenses of silts and sands and varies in thickness from 400 to 1,000 feet; and the Mehrten Formation, which is generally composed of interbedded sandstones, siltstones, and claystones and varies in thickness from 400 to 600 feet. The groundwater throughout these formations is generally under

unconfined conditions with limited areas under semi-confined and confined conditions. Although sufficient evidence is not available at this time, aquifer interconnection between the aquifers of the East San Joaquin Subbasin is projected (DWR, 2006).

Based upon groundwater data collected in April 2008 at the Valley Motors facility, which is located approximately 375 feet northeast of the Rite Way site and is situated within a similar hydrogeologic region, the depth to groundwater beneath the site is estimated to be approximately 30 feet and the groundwater flow direction is estimated to be down gradient towards the east. Geologic materials in the unsaturated zone between ground surface and the top of the aquifer are primarily composed of interbedded and intermixed sand, soil, and clay. The average net annual precipitation in the Eastern San Joaquin Subbasin is approximately eighteen inches (DWR, 2006; Google, 2010; SWRCB, 2009; UEC, 2008).

3.2.2 Groundwater Targets

The nearest public drinking water well to the Rite Way site is Well 01-16, which is operated by the California Water Service - Stockton District and is located between one-half and one mile from the site (EPA, 2010c).

The California Water Service - Stockton District operates a partially-blended drinking water system that serves an estimated population of 170,000 and consists of 23 active wells, 7 standby wells, and 24 inactive wells. The district obtains 35 to 40 percent of its drinking water from groundwater. The remaining 60 to 65 percent is imported surface water from the Calaveras and Stanislaus Rivers purchased from the Stockton East Water District. All 30 of the wells operated by the district are within 4 miles of the site (EPA, 2010c; App. C-4).

The City of Stockton Water Department operates a partially blended drinking water system that serves an estimated population of 186,000 and consists of 16 wells. The department obtains approximately 30 percent of its drinking water from groundwater and the remaining 70 percent is composed of imported surface from the Stockton East Water District. Seven of the 16 wells operated by the department are within 4 miles of the site (EPA, 2010c; SMUD, 2009).

Although the EPA Region 9 GIS Report for the Rite Way site indicates additional water purveyors operating wells within 4 miles of the site, it was not necessary to evaluate further systems for this assessment based on the HRS model (EPA, 2010c).

3.2.3 Groundwater Pathway Conclusion

No known groundwater sampling has been conducted at the Rite Way site. Based upon a groundwater investigation conducted approximately 375 feet northeast of the site, the depth to shallow groundwater beneath the site is estimated to be approximately 30 feet; the geologic materials in the unsaturated zone between ground surface and the top of the aquifer are primarily composed of intermixed sand, soil, and clay; and the groundwater flow direction is primarily

towards the east. There are approximately 81 municipal drinking water wells within 4 miles of the site, which serve an apportioned population of approximately 96,600 (EPA, 2010c; Google, 2010; SMUD, 2009; SWRCB, 2009; UEC, 2008; App. C-4).

3.3 Surface Water Pathway

In determining the score for the surface water pathway, the HRS evaluates: 1) the likelihood that sources at a site actually have released, or potentially could release, hazardous substances to surface water (e.g., streams, rivers, lakes, and oceans); 2) the characteristics of the hazardous substances that are available for a release (i.e., toxicity, persistence, bioaccumulation potential, and quantity); and 3) the people or sensitive environments (targets) who actually have been, or potentially could be, impacted by the release. For the targets component of the evaluation, the HRS focuses on drinking water intakes, fisheries, and sensitive environments associated with surface water bodies within 15 miles downstream of the site.

Surface water runoff from the Rite Way site typically flows into municipal stormwater drains located along the south side of East Market Street and the east side of South Stanislaus Street. The runoff from the Stanislaus Street drain is discharged untreated into the east side of the Mormon Slough at approximately 0.71 mile southwest of the site. The runoff from the Market Street drain is discharged untreated into the northeastern portion of the Stockton Deep Water Channel (SDWC) at approximately 0.65 mile west-northwest of the site. The nearest surface water bodies to the site are the SDWC, which is located approximately 0.5 mile west-northwest of the site; the Mormon Slough, which is located approximately 0.7 mile southwest of the site; and the San Joaquin River, which is located approximately 3 miles west of the site. There is the potential for fisheries to exist within the Stockton Deep Water Channel and the San Joaquin River. In addition, there is the potential for wetlands to be associated with the San Joaquin River. There are no known drinking water intakes located within at least 15 miles downstream of the site (Google, 2010; SMUD, 2010; App. B, C-5).

3.4 Soil Exposure and Air Pathways

In determining the score for the soil exposure pathway, the HRS evaluates: 1) the likelihood that there is surficial contamination associated with the site (e.g., contaminated soil that is not covered by pavement or at least 2 feet of clean soil); 2) the characteristics of the hazardous substances in the surficial contamination (i.e., toxicity and quantity); and 3) the people or sensitive environments (targets) who actually have been or potentially could be, exposed to the contamination. For the targets component of the evaluation, the HRS focuses on populations that are regularly and currently present on or within 200 feet of surficial contamination. The four populations that receive the most weight are residents, students, daycare attendees, and terrestrial sensitive environments.

In determining the score for the air migration pathway, the HRS evaluates: 1) the likelihood that sources at a site actually have released, or potentially could release, hazardous substances to

ambient outdoor air; 2) the characteristics of the hazardous substances that are available for a release (i.e., toxicity, mobility, and quantity); and 3) the people or sensitive environments (targets) who actually have been, or potentially could be, impacted by the release. For the targets component of the evaluation, the HRS focuses on regularly occupied residences, schools, and workplaces within 4 miles of the site. Transient populations, such as customers and travelers passing through the area, are not counted.

As of 31 May 2010, there were no residences, schools, or daycare facilities located on, or within 200 feet of, the Rite Way site. No sensitive environments were located on the site and the surface of the site was entirely covered with asphalt and buildings. The parking lot was enclosed behind an approximately 5-foot tall chain-link fence, which is secured during non-operational hours. During operational hours, the exterior portions of the site were entirely accessible to the public. The number of employees that regularly work on site is not known; however, based upon the size of the facility and the general labor requirements for full service dry cleaning operations, it is estimated that less than five employees regularly work on site (App. B).

4.0 EMERGENCY RESPONSE CONSIDERATIONS

The National Contingency Plan [40CFR 300.415 (b) (2)] authorizes the EPA to consider emergency response actions at those sites that pose an imminent threat to human health or the environment. For the following reasons, a referral to Region 9's Emergency Response Office does not appear to be necessary:

- As of 31 May 2010, there were no residences, schools, or daycare facilities located on, or within 200 feet of, the Rite Way site. In addition, no sensitive environments were located on the site and the surface of the site was entirely covered in asphalt or buildings (App. B).

5.0 SUMMARY

The Rite Way site is located at 700 East Market Street in Stockton, San Joaquin County, California. The site is located in a mixed commercial and industrial area and occupies approximately 0.25 acre at the southeast corner of the intersection of East Market Street and South Stanislaus Street. As of 31 May 2010, the site was occupied by the Riteway Cleaners full-service dry cleaning facility, which has occupied the property since approximately 1945. It is not known when the property was first developed or what structures, if any, occupied the property prior to 1945. The facility includes the retail building at the northwest corner of the property, surrounded by a paved parking lot. The retail building includes a dry cleaning machine, an apparent pressing area, a storefront, a basement level, and a restroom. No additional information is known regarding the types and/or locations of additional dry cleaning equipment, boiler equipment, hazardous materials storage, or floor drains.

Historic operations at the site include activities associated with full-service dry cleaning from approximately 1945 to at least May 2010. Based upon the posted signage at the facility observed during the site reconnaissance on 31 May 2010, the facility appears to use “eco-friendly” dry cleaning practices by use of a Firbimatic™ EcoGreen machine. These machines are designed to use a hydrocarbon solvent as an alternative to tetrachloroethylene (PCE); however, as recently as April 2006, the facility used and/or stored PCE on site. No known soil, soil vapor, or groundwater sampling has been conducted at, or in the immediate vicinity of, the site.

The site is listed in the Resource Conservation and Recovery Act Information (RCRAInfo) database as an active Small Quantity Generator (RCRA ID: CAD981642382). The site is not listed in the Regional Water Quality Control Board’s (RWQCB) Geotracker database and/or the California Department of Toxic Substances Control’s (DTSC) Envirostor database. With the exception of the Site Screening/Prioritization Checklist that the DTSC completed for the EPA on 04 August 1999, neither the DTSC nor the RWQCB has had any known involvement with the site. The San Joaquin County Environmental Health Department (EHD), which is the Certified Unified Program Agency (CUPA) within the city of Stockton, has issued Hazardous Waste Generator Permits to the facility and conducted inspections of the site since at least January 2000. No major violations were reported during the EHD’s inspections.

The following pertinent Hazard Ranking System factors are associated with the Rite Way site:

- The depth to shallow groundwater beneath the site is estimated to be approximately 30 feet and the groundwater flow direction is generally towards the east. Geologic materials in the unsaturated zone between ground surface and the top of the aquifer are primarily composed of intermixed sand, soil, and clay. The average net annual precipitation in the vicinity of the site is approximately eighteen inches.
- The nearest drinking water well to the site is the California Water Service - Stockton District’s Well 01-16, which is located between one-half and one mile from the site.

There are approximately 81 municipal drinking water wells within 4 miles of the site that serve an apportioned population of approximately 96,600.

- Surface water runoff from the site typically flows into municipal stormwater drains located along East Market and South Stanislaus streets, which are subsequently discharged untreated into the Mormon Slough and the Stockton Deep Water Channel (SDWC). There is the potential for fisheries to exist within the SDWC and the San Joaquin River. In addition, there is the potential for wetlands to be associated with the San Joaquin River. No drinking water intakes are located within 15 miles downstream of the site.
- As of 31 May 2010, there were no residences, schools, or daycare facilities located on, or within 200 feet of, the site. No sensitive environments were located on the site and the surface of the site was entirely covered with asphalt and buildings. During operational hours, the exterior portions of the site were entirely accessible to the public. It is estimated that less than five employees regularly work on site.

6.0 REFERENCE LIST

- DTSC, 1998 Department of Toxic Substances Control; *Geographic Screening, 700 E. Market*; 11 June 1998.
- DTSC, 1999 Department of Toxic Substances Control; *EPA Region IX Site Screening/Prioritization Checklist, Rite Way Cleaners*; 30 June 1999.
- DTSC, 2010 Department of Toxic Substances Control; Envirostor Database, Search Results, *Market, Stockton*; <http://www.envirostor.dtsc.ca.gov/public/search.asp>; data extracted 19 July 2010.
- DWR, 2006 Department of Water Resources, State of California; *California's Groundwater Bulletin 118, San Joaquin Valley Groundwater Basin, Eastern San Joaquin Subbasin*; 20 January 2006.
- EHD, 2000-2010 County of San Joaquin, Environmental Health Department; *Certified Unified Program Agency, Permit to Operate, Migliori, Gene & Tom, DBA Rite-Way Cleaners Inc*; 29 September 2000, 29 March 2001, 29 March 2002, 01 May 2003, 01 April 2004, 10 February 2005, 03 February 2006, 13 February 2007, 08 February 2008, 04 February 2009, 10 February 2010.
- EHD, 2006 County of San Joaquin, Environmental Health Department; *Hazardous Waste Generator Program Inspection Report, Rite Way Cleaners*; 31 January 2006.
- EPA, 1995 U.S. Environmental Protection Agency, Office of Compliance; *Profile of the Dry Cleaning Industry*; September 1995.
- EPA, 2010a U.S. Environmental Protection Agency; Envirofacts Warehouse CERCLIS query results; *Rite Way Cleaners*; http://oaspub.epa.gov/enviro/cerclis_web.report?pgm_sys_id=CAN000905714; data extracted 24 June 2010.
- EPA, 2010b U.S. Environmental Protection Agency; Envirofacts Warehouse RCRAInfo query results; *Riteway Cleaners*; http://www.epa.gov/enviro/html/rcris/rcris_query_java.html; data extracted 24 June 2010.
- EPA, 2010c U.S. Environmental Protection Agency; GIS Report, *Rite Way Cleaners CAN000905714*; 04 June 2010.

Note: This document is confidential and is included in the confidential information packet.

Google, 2010	Google Earth; 37° 57' 10.41" N, 121° 16' 52.70 " W, 30 April 2002; http://earth.google.com ; data extracted 19 July 2010.
RWC, 2010	Riteway Cleaners; <i>Welcome to Riteway Cleaners</i> ; http://www.ritewaycleaners.com ; data extracted 24 June 2010.
RWQCB, 2010	Regional Water Quality Control Board; Geotracker Database, Search Results, <i>Market, Stockton</i> ; http://geotracker.swrcb.ca.gov/search.asp ; data extracted 19 July 2010.
SJC, 2005	County of San Joaquin, Department of the Assessor; <i>City of Stockton, Assessor's Map Bk. 149 Pg. 22</i> ; last updated 2005.
SKSI, 2006	Safety-Kleen Systems, Inc.; Hazardous Waste Manifest, <i>Riteway Cleaners, 700 E Market St</i> ; 01 April 2006.
SMUD, 2009	City of Stockton, Municipal Utilities Department; <i>2009 Drinking Water Quality Report</i> ; 2009.
SMUD, 2010	City of Stockton, Municipal Utilities Department; <i>General Info: What is Stormwater?</i> ; http://www.stocktongov.com/mud/General/stormwater/stormwater_main.cfm ; data extracted 19 July 2010.
SWRCB, 2009	State Water Resources Control Board; <i>USTCF 5-Year Review Summary, Valley Motors, 800 Main Street E</i> ; April 2009.
UEC, 2008	Upgradient Environmental Consultants; <i>First Quarter 2008 Report, Valley Motors, 800 East Main Street, Stockton, California</i> ; 01 May 2008; pp. 1-9.

APPENDIX A:

Transmittal List

TRANSMITTAL LIST

Date: July 2010
Site Name: Rite Way Cleaners
EPA ID No.: CAN000905714

A copy of the Preliminary Assessment report for the above-referenced site should be sent to the following recipients:

Gene & Tom Migliori
Site Owner
700 East Market Street
Stockton, CA 95202

Tim Miles
California Environmental Protection Agency
Department of Toxic Substances Control (DTSC)
8800 Cal Center Drive
Sacramento, CA 95826

APPENDIX B:
Site Reconnaissance Interview and
Observation Report/Photographic
Documentation

SITE RECONNAISSANCE INTERVIEW AND OBSERVATIONS REPORT

DATE: 31 May 2010

OBSERVATIONS MADE BY: Brian P. Reilly, Weston Solutions, Inc. (WESTON)

SITE: Rite Way Cleaners

EPA ID: CAN000905714

The weather was clear and the temperature was approximately 70 °F.

The following information was obtained during the site reconnaissance:

The Rite Way Cleaners (Rite Way) site was occupied by the Riteway Cleaners full-service dry cleaning facility. The facility was located within a single-unit retail building at the southeast corner of E. Market Street and S. Stanislaus Street. The facility was not open for business at the time of the site visit due to the Memorial Day holiday. The customer entrance and storefront were located at the northwest corner of the building. Signage posted on the windows of the building indicated that the facility advertised itself as an “eco-friendly” dry cleaning operation and that they used a Firbimatic™ EcoGreen dry cleaning machine. A machine that matched the sign picture was observed through the windows to be located on the west-central portion of the interior of the building adjacent to the window. An apparent pressing area was located at the southwest corner of the facility and the remaining observable portions of the interior appeared to be occupied by textile (hanging clothes) storage. Floor drains, additional dry cleaning equipment, and/or boiler equipment was not observed within the facility. The south and east portions of the site were occupied by an asphalt-paved parking area.

The site was located in a mixed commercial and industrial area of Stockton, California. The site was bound to the north across Market Street by a pharmacy business; to the south and east by a Goodwill Industries shipping and distribution center; and to the west across Stanislaus Street by the Stockton Record newspaper facility. The parking lot portion of the site was enclosed behind an approximately 5-foot tall chain link fence at the time of the visit; however, it appeared that this area would be accessible to the public during business hours. The surface of the site was entirely covered by asphalt and/or buildings. No schools, daycare facilities, or sensitive environments were observed on, or within 200 feet, of the site. A recreational park was located approximately one city block east of the site. Surface water runoff from the site appeared to be directed into municipal stormwater drains that were located along the curbs of Market and Stanislaus Streets. The nearest curb drains were located on the south side of Market Street and the east side of Stanislaus Street, directly adjacent to the Riteway Cleaners storefront.

Photographic Documentation
Rite Way Cleaners (EPA ID: CAN000905714)



Photo 1 – View looking southeast at Riteway Cleaners facility.



Photo 2 - View looking south across E. Market Street at north side of Riteway Cleaners facility. Note stormwater curb drain adjacent to facility.



Photo 3 - View looking east across S. Stanislaus Street at west side of Riteway Cleaners facility. Note stormwater curb drain adjacent to site.



Photo 4 - View looking southwest across E. Market Street at east side of Riteway Cleaners facility.



Photo 5 - View looking northeast at south side of Riteway Cleaners facility.



Photo 6 - View looking south through window at west interior portion of Riteway Cleaners facility with dry cleaning machine at photo-right.



Photo 7 - View looking at posted signage on north side of building adjacent to primary customer entrance.



Photo 8 - View looking east at posted signage on Riteway Cleaners window and dry cleaning machine on interior of building.

APPENDIX C:
Contact Log and Contact Reports

CONTACT LOG

SITE: Rite Way Cleaners
EPA ID: CAN000905714

NAME	AFFILIATION	PHONE	DATE	INFORMATION
Bobbi Jensen	Department of Toxic Substances Control	(916) 255-3545	05/13/2010	See Contact Report 2
Justin Kelley	Regional Water Quality Control board	(916) 464-4826	05/13/2010	See Contact Report 1
Diane Martinez	San Joaquin County Environmental Health Department	(209) 468-3425	01/07/2010	See Contact Report 3
Ross Moilan	California Water Service Company	(209) 464-8311	02/01/2010	See Contact Report 4
Courtney D. Vasquez	Stockton Municipal Utilities Department	(209) 937-8705	07/20/2010	See Contact Report 5

CONTACT REPORT 1

AGENCY/AFFILIATION: Regional Water Quality Control Board		
DEPARTMENT: Central Valley Region, Sacramento Office		
ADDRESS/CITY: 11020 Sun Center Drive; Rancho Cordova		
COUNTY/STATE/ZIP: Sacramento; California; 93706		
CONTACT(S)	TITLE	PHONE
Justin Kelley	Student Assistant	(916) 464-4826
PERSON MAKING CONTACT: Brian P. Reilly		DATE: 13 May 2010
SUBJECT: Records Request		
SITE NAME: Rite Way Cleaners		EPA ID#: CAN000905714

There are no files on record with the RWQCB for the Rite Way Cleaners site.

CONTACT REPORT 2

AGENCY/AFFILIATION: Department of Toxic Substances Control		
DEPARTMENT: Sacramento Regional Office		
ADDRESS/CITY: 8800 Cal Center Drive; Sacramento		
COUNTY/STATE/ZIP: Sacramento; California; 95826		
CONTACT(S)	TITLE	PHONE
Bobbi Jensen	Record Staff	(916) 255-3545
PERSON MAKING CONTACT: Brian P. Reilly		DATE: 13 May 2010
SUBJECT: Records Request		
SITE NAME: Rite Way Cleaners		EPA ID#: CAN000905714

There are no files on record with the DTSC for the Rite Way Cleaners site.

CONTACT REPORT 3

AGENCY/AFFILIATION: County of San Joaquin		
DEPARTMENT: Environmental Health Department		
ADDRESS/CITY: 600 East Main Street; Stockton		
COUNTY/STATE/ZIP: San Joaquin; California; 95202-3029		
CONTACT(S)	TITLE	PHONE
Diane Martinez	Record Clerk	(209) 468-3425
PERSON MAKING CONTACT: Brian P. Reilly		DATE: 13 May 2010
SUBJECT: Records Request		
SITE NAME: Rite Way Cleaners		EPA ID#: CAN000905714

There are files on record with the San Joaquin County Environmental Health Department for the Rite Way Cleaners site. The files were reviewed by Weston at the EHD office on 01 June 2010.

CONTACT REPORT 4

AGENCY/AFFILIATION: California Water Service Company		
DEPARTMENT: Stockton District		
ADDRESS/CITY: 1550 West Fremont Street, Suite 100, Stockton		
COUNTY/STATE/ZIP: San Joaquin, California, 95203		
CONTACT(S)	TITLE	PHONE
Ross Moilan	District Manager	(209) 464-8311
PERSON MAKING CONTACT: Brian P. Reilly		DATE: 01 February 2010
SUBJECT: Water Purveyor Information		
SITE NAME: Rite Way Cleaners		EPA ID#: CAN000905714

Mr. Moilan indicated that the Stockton District operates 23 active wells, maintains 7 standby wells, and has an additional 24 inactive wells. The system serves approximately 170,000 individuals through 42,000 service connections. The system is partially blended with imported surface water and the blended water is treated at a mixing station. All unblended wells are treated using well head or on-site systems. Some wells have been shut down in the past due to high concentrations of naturally-occurring arsenic.

CONTACT REPORT 5

AGENCY/AFFILIATION: City of Stockton		
DEPARTMENT: Municipal Utilities Department		
ADDRESS/CITY: 2500 Navy Drive; Stockton		
COUNTY/STATE/ZIP: San Joaquin; California; 95206		
CONTACT(S)	TITLE	PHONE
Courtney D. Vasquez	Stormwater Program Manager	(209) 937-8705
PERSON MAKING CONTACT: Brian P. Reilly		DATE: 20 July 2010
SUBJECT: Stormwater Discharge Location Information		
SITE NAME: Rite Way Cleaners		EPA ID#: CAN000905714

Ms. Vasquez indicated that stormwater runoff within the City of Stockton is not treated prior to being discharged into the local waterways. Ms. Vasquez also provided a stormwater utility map for the area between the site and the discharge points (see below).



APPENDIX D:
Latitude and Longitude Calculations
Worksheet

**Latitude and Longitude Calculation Worksheet (7.5' quads)
Using an Engineer's Scale (1/50)**

Site Name CERCLIS #

AKA

Address

City State ZIP

Site Reference Point

USGS Quad Name Scale

Township Range Section

Map Datum ☐ 1927 ☐ 1983 (Check one) Meridian

Map coordinates at southeast corner of 7.5' quadrangle (attach photocopy)

Latitude E > AN Longitude E > AW

Map coordinates at southeast corner of 2.5' grid cell

Latitude E > AN Longitude E > AW

C a l c u l a t i o n s

LATITUDE(x)

A) Number of ruler graduations between 2.5' (150") grid lines (a)

B) Number of ruler graduations between south grid line and the site reference point (b)

C) Therefore, $a/150 = b/x$, where **x = Latitude in decimal seconds, north of the south grid line**

Expressed as minutes and seconds (1' = 60") = E > AN

Add to grid cell latitude = E > AN + E > AN

Site latitude = ° ' " N

LONGITUDE(y)

A) Number of ruler graduations between 2.5' (150") grid lines (a)

B) Number of ruler graduations between south grid line and the site reference point (b)

C) Therefore, $a/150 = b/x$, where **x = Longitude in decimal seconds, west of the east grid line**

Expressed as minutes and seconds (1" = 60") = E > AW

Add to grid cell longitude = E > AN + E > AN

Site longitude = ° ' " W

APPENDIX E:

References

Reference:
DTSC, 1998

GEOGRAPHIC SCREENING

ADDRESS: 700 E. Market

ASSESSOR'S OFFICE Date Checked 6/11/98
 ASSESSOR'S PARCEL NUMBER: 14922012
 CURRENT PROPERTY OWNER(S): Migliori, Eugene
 (address) _____
 (date of ownership) _____
 (previous owner) _____
 (address) _____
 (date of ownership) _____

DRIVE BY: (Date: 6/11/98)

RESIDENCE: ☐ YES ☐ NO
 VACANT BLDG.: ☐ YES ☐ NO
 VACANT LOT: ☐ YES ☐ NO
 ACTIVE/OPERATING BUSINESS: ☐ YES ☐ NO
 (Name of business) Rite Way Cleaners
 (Type of business) Dry Cleaner

EXISTING GROUND COVER: (e.g. paved, grassy, building, etc.)
building covers entire property

OBSERVATIONS DURING DRIVE BY:
 (General Layout) active facility

(Hazardous Substances/Staining/Drums, etc.)
None observed

Reference:
DTSC, 1999

EPA REGION IX SITE SCREENING/PRIORITIZATION CHECKLIST

This review checklist is to be used by individual site screening staff when reviewing sites which have been brought to the attention of EPA or the State. Each site is reviewed on the merits of the discovery documentation and additional information gathered during the screening process. The guiding principal in evaluating a given site is to use common sense in assessing the information and subsequently presenting the site and its known hazardous potential to the SST. All sections of this form are to be completed for both screens and prioritizations.

1.0 GENERAL INSTRUCTIONS

Complete Section 1 for the site using readily available information and contacting appropriate individuals. A contact log (Attachment A) should be used to document information gained through correspondence, interviews, and telephone calls. Handwriting is acceptable if it is legible. Attach extra pages if necessary.

1.1 Site Information

Site Name:	<u>Rite Way Cleaners</u>		
Alias Name:	<u></u>		
Site Street Address:	<u>700 East Market Street</u>		
City, County, State:	<u>Stockton, San Joaquin, California</u>		
EPA ID Number:	<u>CAD981642382</u>		
Site Screener:	<u>Mary Misemer</u>	Date:	<u>08/04/99</u>
Date of Discovery:	<u>June 30, 1999</u>		
Discovery Vehicle:			
<input type="checkbox"/> County Referral	<input type="checkbox"/> State Referral	<input type="checkbox"/> Lawsuit	
<input type="checkbox"/> Citizen Petition	<input type="checkbox"/> State PA/SI Grant	<input type="checkbox"/> Removal	
<input type="checkbox"/> RCRA Referral	<input type="checkbox"/> Nonemergency Release Report	<input type="checkbox"/> Newspaper	
<input checked="" type="checkbox"/> Site Discovery Project		<input type="checkbox"/> Other	
Is this site part of an NPL site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
CERCLIS Status:	<input type="checkbox"/> Discovery	<input type="checkbox"/> PA	
<input type="checkbox"/> NFA	<input type="checkbox"/> SI	<input type="checkbox"/> ESI	
<input checked="" type="checkbox"/> Not in CERCLIS	<input type="checkbox"/> Other/Specify: <u></u>	<input type="checkbox"/> Site Discovery Project Area: <u></u>	

State oversight role:

PA/SI Cooperative Agreement ☒ Yes ☐ No ☐ Not applicable

Cooperative Agreement Number: V-999-252 -02-1

EPA Project Officer: Rachel Loftin

RCRA Status:	<input checked="" type="checkbox"/> Generator	<input type="checkbox"/> Transporter
	<input type="checkbox"/> TSDF	<input type="checkbox"/> Not listed in RCRIS

In a State Database(s)? ☒ Yes ☐ No If yes, specify. HAZNET

CURRENT ACTIVITY: ☒ Site Screening ☐ Site Prioritization

1.2 CERCLA Eligibility

If the answer to question 1 is "No", or if the answer to any question of 2 through 8 is "Yes", the site is ineligible for CERCLA evaluation and the decision at the bottom of this page is "No Further Action Under CERCLA". A "yes" answers to questions 9 through 16 identifies sites that may not be appropriate for CERCLA evaluation without further justification. If a question cannot be answered, explain why in the Comments section below.

- | | | |
|--|---|--|
| 1. Has a release of hazardous substances, pollutants, or contaminants occurred? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 2. Does the release or threat of release consist only of crude oil or unaltered petroleum product? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 3. Is the site subject to corrective action under RCRA Subtitle C (hazardous waste treatment, storage, or disposal facility)? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 4. Does the release or threatened release fall under the jurisdiction of the Uranium Mill Tailings Radiation Control Act (UMTRCA)? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 5. Does the release or threatened release fall under the jurisdiction of the Atomic Energy Act (AEA)? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 6. Is the release or threatened release a result of a legal application of pesticides under Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 7. Is the release or threatened release regulated under the Oil Pollution Act (OPA)? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 8. Is the release or threatened release permitted under the Nuclear Regulatory Commission (NRC)? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 9. Is the site a federal facility? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 10. Is the site outside of U.S. boundaries? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 11. Is the site outside of EPA, Region IX borders? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 12. Is the site within Native American Tribal lands? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 13. Is the site currently under the control and management of a state/local agency? If yes, which agencies? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 14. Is the site currently operating? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 15. Is the site address valid? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 16. Has the site been investigated under an alias? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |

Comments: Site is listed as small quantity generator in RCRIS. No County Environmental/Tank file. No record of any release on or from site.

DECISION: ☒ No Further Action Under CERCLA

☒ Go to Section 2

2.0 TECHNICAL INFORMATION

This section contains information about site's operational history and environmental sampling. Complete the following section by filling in the blanks or checking the appropriate boxes. If a question cannot be answered, explain why. If a drive-by is performed, complete Attachment B.

2.1 Operational History

1a. List present site owner(s) and operator(s). [Include dates of ownership]:

Per Haznet data, current Owner is RiteWay Cleaners. Operator is Tom Migliori. Dates of ownership are unknown.

1b. Are hazardous substances presently on site?

☒ Yes ☐ No

If yes, how and where are substances stored and used?

Site currently operates as an onsite dry cleaners. According to Haznet manifesting information, the site currently manifests F002 wastes consistent with activities of a dry cleaners. It is unknown how wastes are handled or stored. It is assumed that wastes and the handling are consistent with dry cleaning operations.

2a. List historic site owner(s) and operator(s). [Include dates of ownership]:

Per TRW data 1987-1992 owner was Eugene Miligori. No data prior available to 1987.

2b. Were hazardous substances present on site in the past?

☒ Yes ☐ No

If yes, how and where were substances stored and used? Describe past operations briefly.

Dry cleaners have operated on site since at least 1987.

Additional comments: No record of any release on or from site.

2.2 Contaminant(s):

List any hazardous substances, pollutants, or contaminants that have been identified at the site and indicate whether they have been quantified (e.g., by sampling).

	<u>Suspected</u>	<u>Identified</u>	<u>Quantified</u>	<u>Comments</u>
[] Ammonia	[]	[]	[]	
[] Arsenic	[]	[]	[]	
[] Asbestos	[]	[]	[]	
[] Beryllium	[]	[]	[]	
[] Cadmium	[]	[]	[]	
[] Carbon tetrachloride	[]	[]	[]	
[] Chloroform	[]	[]	[]	
[] Chromium (+3 or +6)	[]	[]	[]	
[] Copper	[]	[]	[]	
[] Cyanide	[]	[]	[]	
[] Dichloroethene, 1,1-	[]	[]	[]	
[] Dioxin	[]	[]	[]	
[] Ethyl benzene	[]	[]	[]	
[] Lead	[]	[]	[]	
[] Mercury	[]	[]	[]	
[] Methylene chloride	[]	[]	[]	
[] Nickel	[]	[]	[]	
[] P-Dichlorobenzene	[]	[]	[]	
[] Pentachlorophenol	[]	[]	[]	
[] Phenol	[]	[]	[]	
[] Polychlorinated biphenyls (PCBs)	[]	[]	[]	
[] Polyaromatic hydrocarbons (PAHs)	[]	[]	[]	
[] Tetrachloroethylene	[]	[]	[]	
[] Toluene	[]	[]	[]	
[] Trichloroethylene	[]	[]	[]	
[] Vinyl chloride	[]	[]	[]	
[] Xylene	[]	[]	[]	
[] Zinc	[]	[]	[]	
[] Other chemicals (List):	[]	[]	[]	
	[]	[]	[]	

Additional Comments: No record of any release on or from site.

2.3 Has a release as defined in CERCLA Section 101(22) occurred?

☐ Yes

☐ Suspected

☒ No

Identify the source(s) of the release or suspected release (e.g., drums, landfill, surface impoundment, waste pile, etc.): No record of any release on or from site. Site selected for screening solely on the basis of business activity (dry cleaners)

2.4 Pathway(s) of contaminant migration:

☐ Air

☐ Groundwater

☐ Surface Water

☐ Soil

Briefly describe any identified pathway: Since site is completely paved, if any contamination existed groundwater pathway would be of concern.

2.5 Sampling History

1. Has sampling been conducted? ☐ Yes ☒ No

2. If environmental sampling has been conducted, use the Sampling Event Summary Table, Attachment C, to record the information.

2.6 Additional Information

Use this space to present additional information that may be used to support site screening decisions.

No record of a release on or from site. We recommend that any further investigation be initiated by the county in response to future development.

3.0 REMOVAL ASSESSMENT CRITERIA — NCP EVALUATION

Use the following criteria to determine if the site should be referred to EPA's Removal Section. If the answer to any question is yes, get EPA concurrence for the decision. If all answers are no, go to Section 4. If a question cannot be answered, explain why in the Comments section below.

- | | | |
|---|------------------------------|--|
| 1. Is there actual or potential exposure to nearby populations, animals, or the food chain from hazardous substances, pollutants, or contaminants? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 2. Is there actual or potential contamination of drinking supplies or sensitive ecosystems? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 3. Are hazardous substances, pollutants, or contaminants in drums, barrels, tanks, or other bulk storage containers which may pose a threat of release? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 4. Are there high levels of hazardous substances, pollutants, or contaminants in soils largely at or near the surface, which may migrate and affect populations or the environment? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 5. Could weather conditions cause hazardous substances, pollutants, or contaminants to migrate or be released? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 6. Is there a threat of fire or explosion? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 7. Are there appropriate Federal or State response mechanisms to respond to the release or potential release? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 8. Are there other situations or factors which may pose threats to public health, welfare, or the environment? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 9. For the situation where there appears to be primarily a groundwater contamination problem, is there a near-surface source which can be removed? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |

Comments: _____

DECISION: ☐ Removal Assessment
 ☐ Expanded Removal Assessment
 ☒ Not Appropriate For Removal Action

Assign a high, medium, or low priority category to each of the following factors and then use these factors to help make preliminary recommendations in Section 5. A high priority influence may indicate that a Preliminary Assessment should be conducted as a high priority without regard to other screening factors.

Other Influences	High	Medium	Low
1. Site remedial/removal history	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Some	<input type="checkbox"/> All wastes removed
2. Regulatory involvement	<input checked="" type="checkbox"/> No involvement	<input type="checkbox"/> Somewhat involved	<input type="checkbox"/> Other agency currently active
3. Environmental justice	<input checked="" type="checkbox"/> Site is in low income/minority neighborhood		<input type="checkbox"/> Site is not in low income or minority neighborhood
4. Brownfields/Redevelopment	<input type="checkbox"/> Possible candidate		<input checked="" type="checkbox"/> Not a likely candidate
5. Political attention	<input type="checkbox"/> Very visible/vocal	<input type="checkbox"/> Some involvement	<input checked="" type="checkbox"/> None
6. Public attention	<input type="checkbox"/> Very visible/vocal	<input type="checkbox"/> Some involvement	<input checked="" type="checkbox"/> None
7. Remedial Costs	<input type="checkbox"/> Likely very expensive or difficult		<input type="checkbox"/> Easy and relatively cheap

No record of contamination at site.

OTHER INFLUENCING FACTORS CATEGORY:

LOW

5.0 SITE PRIORITIZATION WORKSHEET

Site Name: Rite Way Cleaners
 EPA ID Number: CAD981642382
 Site Screen: X

Site Screener: Misemer
 Date: 12/30/99
 Site Prioritization: _____

The following risk-based criteria should be used as a guideline to assist in the prioritization of pre-CERCLIS and CERCLIS sites. These guidelines can be used in various stages of assessment. When interpreting the information provided below, one should understand that conservative assumptions were made where information is lacking and the risk value is subjective.

Site screeners should complete this form by using the categories as guidelines. The "Notes" sections should be used to document assumptions made, data sources, or other information pertinent to determining risk prioritization. For benchmarks, use industrial/residential PRGs for soil, MCLs for groundwater, and NOAA standards for sediments.

5.1 HAZARDS IDENTIFICATION

Complete the sections below for the suspected contaminants of greatest concern. Use SCDMs as a reference for assigning hazardous substance risk category. Assign a Hazard Factor for each hazardous substance evaluated and then assign an Overall Hazard Factor Value combining the separate Hazard Factors. If only one hazardous substance is evaluated, the Overall Hazard Factor Value will be the same as the Hazard Factor for A. Create sections for "Hazardous Substance C" and "D" if necessary.

HAZARDOUS SUBSTANCE A: <u>N/A</u>			
Estimate the risk associated with the hazard properties for this hazardous substance.			
Hazard Property	HIGH	MEDIUM	LOW
Quantity	<input type="checkbox"/> $\geq 10,000$ lbs; or or 5 mil. gals; or or 25,000 yds ³	<input type="checkbox"/> $< 10,000$ lbs and ≥ 100 lbs; or < 5 mil. gals and $\geq 50,000$ gals; or $< 25,000$ yds ³ and ≥ 250 yds ³	<input type="checkbox"/> < 100 lbs. or 50,000 gals. or 250 yds ³
Toxicity	<input type="checkbox"/> $\geq 10,000$	<input type="checkbox"/> $< 10,000$ and ≥ 100	<input type="checkbox"/> < 100
Mobility	<input type="checkbox"/> 1	<input type="checkbox"/> < 1 and ≥ 0.001	<input type="checkbox"/> < 0.001
Bioavailability	<input type="checkbox"/> $\geq 1,000$	<input type="checkbox"/> $< 1,000$ and ≥ 10	<input type="checkbox"/> < 10
Concentration (if known)	<input type="checkbox"/> \geq benchmark = sample = _____	<input type="checkbox"/> near benchmark = sample = _____	<input type="checkbox"/> low relative to benchmark = _____ sample = _____
Level of Containment	<input type="checkbox"/> None	<input type="checkbox"/> Partial (explain below)	<input type="checkbox"/> Full (explain below)
Hazard Factor for A	HIGH	MEDIUM	LOW

HAZARDOUS SUBSTANCE B: _____			
Estimate the risk associated with the hazard properties for this hazardous substance.			
Hazard Property	HIGH	MEDIUM	LOW
Quantity	<input type="checkbox"/> $\geq 10,000$ lbs; or or 5 mil. gals; or or 25,000 yds ³	<input type="checkbox"/> $< 10,000$ lbs and ≥ 100 lbs; or < 5 mil. gals and $\geq 50,000$ gals; or $< 25,000$ yds ³ and ≥ 250 yds ³	<input type="checkbox"/> < 100 lbs. or 50,000 gals. or 250 yds ³
Toxicity	<input type="checkbox"/> $\geq 10,000$	<input type="checkbox"/> $< 10,000$ and ≥ 100	<input type="checkbox"/> < 100
Mobility	<input type="checkbox"/> 1	<input type="checkbox"/> < 1 and ≥ 0.001	<input type="checkbox"/> < 0.001
Bioavailability	<input type="checkbox"/> $\geq 1,000$	<input type="checkbox"/> $< 1,000$ and ≥ 10	<input type="checkbox"/> < 10
Concentration (if known)	<input type="checkbox"/> \geq benchmark = sample = _____	<input type="checkbox"/> near benchmark = sample = _____	<input type="checkbox"/> low relative to benchmark = _____ sample = _____
Level of Containment	<input type="checkbox"/> None	<input type="checkbox"/> Partial (explain below)	<input type="checkbox"/> Full (explain below)
Hazard Factor for B	HIGH	MEDIUM	LOW

Comments: No record of contamination on or from site.

OVERALL HAZARD FACTOR VALUE: HIGH MEDIUM LOW

5.2 VULNERABILITY ANALYSIS

Assign a risk category to each of the following vulnerability factors. Assign an Overall Vulnerability Factor Value for the site based on the dominant vulnerability risk categories.

Vulnerability Factor	High	Medium	Low
1. Environmental Setting - Land use within 0.5 miles of the site	<input checked="" type="checkbox"/> Residential	<input checked="" type="checkbox"/> Agricultural/ Commercial	<input checked="" type="checkbox"/> Industrial
2. Sensitive Populations - Children, the elderly, or groups with poor health live:	<input type="checkbox"/> Within 0.25 miles of site		<input checked="" type="checkbox"/> More than 0.25 miles from site
3. Population Density - Evaluate within 0.5 miles.	<input type="checkbox"/> Dense	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> Sparse
4. Groundwater Use - Wells used for drinking water are located:	<input type="checkbox"/> Within 0.5 miles of the site	<input type="checkbox"/> 0.5 to 2 miles from site	<input checked="" type="checkbox"/> More than 2 miles from site
5. Groundwater Contamination - Evaluate groundwater contamination within 2 miles of the site.	<input checked="" type="checkbox"/> Known	<input type="checkbox"/> Possible	<input type="checkbox"/> Not likely
6. Surface Water Location - Distance to nearest surface water body. If used for drinking water or known to be contaminated, bump to next higher risk category.	<input type="checkbox"/> Within 0.5 miles of the site	<input checked="" type="checkbox"/> 0.5 to 2 miles from site	<input type="checkbox"/> More than 2 miles from site
7. Sensitive Habitats - Distance to nearest sensitive habitat. If known or projected contamination within habitat, bump to next higher risk category.	<input type="checkbox"/> Within 0.5 miles of the site	<input type="checkbox"/> 0.5 to 2 miles from site	<input checked="" type="checkbox"/> More than 2 miles from site
8. Soil/Air Contamination - Evaluate the potential for exposure to individuals from contaminated soil or air releases.	<input type="checkbox"/> Documented or probable exposure	<input type="checkbox"/> Potential for exposure	<input type="checkbox"/> Exposure not likely
9. Sampling Data Confidence - Evaluate the quality of any data available for the site.	<input type="checkbox"/> No oversight; no QA/QC; no data	<input type="checkbox"/> Regulatory oversight; EPA methods; partial or unknown QA/QC	<input type="checkbox"/> Regulatory oversight; EPA methods; QA/QC validation

Notes: Upper aquifer contaminated not used for drinking water.

OVERALL VULNERABILITY FACTOR VALUE: HIGH MEDIUM LOW

5.3 PRIORITIZATION SCREENING RISK ANALYSIS

Assign a Site Priority Level based on the dominant risk categories given for the hazard and vulnerability factor values.

OTHER INFLUENCING FACTORS	HIGH	MEDIUM	LOW
1. REPUTATION			
2. REPUTATION			
3. REPUTATION			
4. REPUTATION			
5. REPUTATION			
6. REPUTATION			
7. REPUTATION			
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100. REPUTATION			

HAZARD FACTOR VALUE	HIGH	MEDIUM	LOW
---------------------	------	--------	-----

VULNERABILITY FACTOR VALUE	HIGH	MEDIUM	LOW
----------------------------	------	--------	-----

Additional Comments: No record of contamination at site.

OVERALL SITE PRIORITY LEVEL: HIGH MEDIUM LOW

6.0 SITE RECOMMENDATION

Site Name: Rite Way Cleaners
EPA ID Number: CAD981642382

Site Screener: Misemer
Date: 12/30/99

6.1. Further Site Assessment Warranted

6.1.a Under DTSC Lead ☐

Recommend further site investigation under DTSC lead.

6.1.b Under EPA Cooperative Agreement
High Priority ☐ Medium Priority ☐ Low Priority ☐

Recommend further site investigation under the EPA cooperative agreement.

6.2. Recommended for Removal Assessment ☐
or Expanded Removal Assessment ☐

Recommend referral to EPA's Removal Section.

6.3. Referral To DTSC'S Hazardous Waste Management Program
(REFRC) ☐

Recommend REFRC for sites that can be remediated as a Corrective Action under H&S Code 25187.

6.4 Referral to Regional Water Quality Control Board (REFRW) ☐

Recommend REFRW for sites that fall under RWQCB authority and for which RWQCB is providing oversight of investigation/remediation.

6.5 Referral to another agency (REFOA) ☒

Recommend REFOA for sites where another agency (other than RWQCB) including DTSC is providing or has provided oversight. Name agency below.

6.6 No Action Under CERCLA ☐

Recommend No Action for sites where documented contamination is not significant by EPA/DTSC standards and the presence of greater contamination is unlikely.

Comments: No record of contamination at or from site. Recommend that any further site assessment be initiated by county as related to future development.

EPA CONCURRENCE: _____

RN Lofgren
signature

7-5-00
date

Attachment A

SITE SCREENING CONTACT LOG

Site Name: Rite Way Cleaners

Site Screener: Mary Misemer

Contact Name	Affiliation	Telephone Number	Date	Discussion
Mary O'Sullivan	San Joaquin County Environmental Health	(209) 468-3425	11/19/99 12/02/99	File review.

ATTACHMENT B

SITE SCREENING OBSERVATION RECORD

Site Name: RiteWay Cleaners Site Screener: Misemer
 EPA ID Number: CAD981642382 Date: 11/19/99

1. Status: Active x Different Company _____
 Inactive _____

2. Setting: Residential _____ Commercial x _____
 Industrial _____ Agricultural _____
 Paved x _____ Unpaved _____
 Restricted access x _____ Unrestricted access _____
 Near RR tracks _____ Near drainage _____

Vegetation none _____
 Topography Flat, inside building _____

3. Visibility: None, inside building _____

4. Waste Description/ Pit n/a _____ Ditch _____
 Containment: Tanks _____ Buckets _____
 Dumpster _____ Sacks _____
 N/A all Scattered _____ Other _____
 Pond _____ Trash Can _____
 Drums _____ Piles _____

Stored On: Asphalt N/A _____ Pallets _____
 Concrete _____ Other _____
 N/A all BareGround _____ Gravel _____

Waste Type: Garbage _____ Liquid _____
 Sludge _____ Gas _____
 N/A all Inert _____ Solid _____

Describe quantities, labelling, colors, odors, etc.: Smelled like dry cleaners _____

5. Distance to surface water and sensitive environments or ecosystems:

About 1 mile to port of Stockton _____

6. Proximity to residences, schools, daycare facilities, hospitals, nursing homes, etc.:

Property is located in down town Stockton near courthouse, although none were obvious, there may be onsite day care located at court house. Residential Hotels likely to be in area _____

7. Estimated number of people living or working in the area: 3000 located in down town Stockton

8. Distance to food processing/packaging or agricultural production: none known

9. Additional Information: _____

Reference:
DTSC, 2010

**PROJECT SEARCH RESULTS**

CLEANUP STATUS: All Statuses

GO

SEARCH CRITERIA: MARKET, STOCKTON

0 RECORDS FOUND

[EXPORT TO EXCEL](#)

PAGE 1 OF 1

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0.03125 seconds

**Reference:
DWR, 2006**

San Joaquin Valley Groundwater Basin

Eastern San Joaquin Subbasin

Groundwater Basin Number: 5-22.01

- County: San Joaquin, Stanislaus, and Calaveras
- Surface Area: 707,000 acres (1,105 square miles)

Basin Boundaries and Hydrology

The San Joaquin Valley comprises the southernmost portion of the Great Valley Geomorphic Province of California. The Great Valley is a broad structural trough bounded by the tilted block of the Sierra Nevada on the east and the complexly folded and faulted Coast Ranges on the west. The Eastern San Joaquin Subbasin is defined by the areal extent of unconsolidated to semiconsolidated sedimentary deposits that are bounded by the Mokelumne River on the north and northwest; San Joaquin River on the west; Stanislaus River on the south; and consolidated bedrock on the east.

The Eastern San Joaquin Subbasin is bounded on the south, southwest, and west by the Modesto, Delta-Mendota, and Tracy Subbasins, respectively and on the northwest and north by the Solano, South American, and Cosumnes Subbasins. The Solano and South American are subbasins of the Sacramento Valley Groundwater Basin.

The Eastern San Joaquin Subbasin is drained by the San Joaquin River and several of its major tributaries namely, the Stanislaus, and Calaveras, and Mokelumne Rivers. The San Joaquin River flows northward into the Sacramento and San Joaquin Delta and discharges into the San Francisco Bay. Annual precipitation within the subbasin ranges from about 11 inches in the southwest to about 25 inches in the northeast.

Hydrogeologic Information

Water Bearing Formations

Water bearing formations of significance in the Eastern San Joaquin Subbasin consist of the Alluvium and Modesto/Riverbank Formations, Flood Basin Deposits, Laguna Formation, and Mehrten Formation. The Mehrten Formation is considered to be the oldest fresh water-bearing formation on the east side of the basin, even though the underlying Valley Springs Formation produces minor quantities. Information on water bearing units and groundwater conditions was taken primarily from (DWR 1967).

Alluvium and Modesto/Riverbank Formations (Undifferentiated). These units are exposed within the subbasin along a band approximately 15 miles wide that extends from about Stockton eastward. These units are Recent to Late Pleistocene in age and consist primarily of sand and gravel in the fan areas while clay, silt, and sand are dominant in the interfan areas. These units range in thickness from a thin veneer on the east side of the basin to over 150 feet near the center of the basin. Groundwater occurs unconfined within these units. Well yields to $650 \pm$ gpm are reported. Because these units are limited in thickness, most wells penetrate them in order to tap deeper aquifers in the area. Average specific yields in the 10- to 200-foot depth range vary from about 7 to 15 percent within the boundaries of the

Tuolumne River Storage Unit (Davis et al. 1959). The average specific yield for fresh water bearing units in the San Joaquin County Groundwater Investigation area as defined in (DWR 1967) is 7.3 percent. The Victor Formation as defined in (DWR 1967) is correlative with these units.

Flood Basin Deposits. This unit is exposed in the Delta area of the San Joaquin Valley. These deposits are basinward, fine-grained forms of the Laguna, Riverbank, Modesto, and Recent formations and, therefore, range in age from Pliocene to Recent. They are generally much finer grained with a higher percentage of fine sand and clays than their depositional equivalents to the east and west. Occasional gravel beds occur along the present waterways and are probably representative of the type of underlying lithology distribution. This unit ranges in thickness from 0 to 1,400 ± feet. Groundwater in this unit occurs under unconfined to confined conditions. The unit, in general, has low permeabilities and may create semi-confined to confined conditions when interfingering with the Alluvium and Modesto/Riverbank Formations. Occasional pockets of fresh water are found in the Delta deposits, but generally speaking the formation contains poor quality water. This unit is designated as Dos Palos Alluvium by (Wagner et al. 1990).

Laguna Formation. The Laguna Formation is Plio-Pleistocene in age and consists of discontinuous lenses of stream laid sand and silt with lesser amounts of clay and gravel. There are no regionally significant fine-grained intervals that could cause water pressure conditions, although the heterogeneous nature of the sediments causes local confinement. From the Mokelumne River area, the formation thickens from approximately 400 feet to approximately 1,000 feet in the Stockton area. Regionally, yields of 1,500 gpm have been reported from highly permeable beds, but average yields are about 900 ± gpm. Groundwater occurs under unconfined to locally semiconfined conditions within this unit. Occasional minor perched water zones are encountered in this formation, particularly in the Mokelumne River area.

Mehrten Formation. This formation is exposed in the easternmost part of the subbasin where it forms readily identifiable, nearly flat-topped hills. The formation is late Miocene to Pliocene in age and is composed of moderately to well indurated andesitic sand to sandstone interbedded with conglomerate, tuffaceous siltstone, and claystone. The Mehrten Formation is approximately 400 feet thick in eastern surface outcrops to over 600 feet thick in the subsurface near Stockton. It is reported to be 1,300 ± feet thick at McDonald Island. The top of the Mehrten Formation occurs at depths of approximately 800 to 1,000 feet in the Stockton area. Regional studies indicate that Mehrten Formation sands commonly yield on the order of 1,000 gpm from wells. The formation appears to be semiconfined at least locally in the Stockton area, due to the inferred extensive fine-grained beds in its upper part. The average specific yield for fresh water bearing units in the San Joaquin County Groundwater Investigation area as defined in (DWR 1967) is 7.3 percent.

Groundwater Level Trends

Measurements over the past 40 years show a fairly continuous decline in groundwater levels in Eastern San Joaquin County (USACE 2001). Groundwater levels have declined at an average rate of 1.7 feet per year and have dropped as much as 100 feet in some areas. It is estimated that groundwater overdraft during the past 40 years has reduced storage in the basin by as much as 2 million acre feet.

Due to the continued overdraft of groundwater within the subbasin, significant groundwater depressions are present below the City of Stockton, east of Stockton, and east of Lodi (SJCFC 1999). Several of these groundwater depressions extend to depths of about 100 feet below ground surface (or more than 40 feet below mean sea level).

Groundwater Storage

Groundwater Storage Capacity. The total available groundwater storage capacity from a depth of 20 feet to the base of the groundwater basin is about 42,400,000 af based on a total aquifer material volume of 579,900,000 af and an average specific yield of 7.3 percent (DWR 1967). This estimate was based on a study area that encompassed approximately 586,000 acres. Since the currently defined subbasin size is over 707,000 acres, the storage value mentioned above underestimates the total storage capacity for the subbasin as defined in Bulletin 118 – Update 2002.

Groundwater in Storage. No published groundwater in storage estimates were identified.

Groundwater Budget (Type A)

A hydrologic balance for a study area approximately matching the subbasin was prepared by Brown & Caldwell (SJCFC 1985). The balance consists of an inventory of inflow and outflow items for the period 1963 – 1982. Inflow estimates include: average annual infiltration from applied water and precipitation (593,356 af); average annual seepage from surface water (141,127 af); and average annual net subsurface inflow (3,586 af). Outflow estimates include: average annual municipal and industrial pumpage (47,493 af); and average annual agricultural pumpage (761,828 af). This balance shows that there has been a total net outflow from the system of about 1.5 million acre feet over the 20 year study period which represents an average annual outflow (or overdraft) of about 70,000 acre feet.

The (USBR 1996) estimated the 1990 annual groundwater extraction in San Joaquin County to be about 731,000 af/year, which exceeds the estimated safe yield of 618,000 af/year. This results in an estimated overdraft of 113,000 af/year. It is estimated that 70,000 af/year of overdraft occurs in northeastern San Joaquin County and about 35,000 af/year of overdraft occurs in the Stockton East Water District area.

Groundwater Quality

Characterization. The majority of the groundwater in the basin is characterized by calcium-magnesium bicarbonate or calcium-sodium bicarbonate types (Sorenson 1981). Bicarbonate is the predominant anion in the eastern part of the basin. Large areas of chloride type water occur along the western margin of the subbasin along the San Joaquin River. Based on analyses of 174 water supply wells in the subbasin, TDS ranges from 30 to

1,632 mg/L and averages about 310 mg/L. TDS ranged from 50 to 3,520 mg/L with a mean of 463 and median of 269 according to the groundwater chemistry study in San Joaquin County and part of Contra Costa County by (Sorenson 1981). Specific conductance of groundwater ranged from 78 to 5,390 μ mhos/cm, with a mean value of 685 and a median of 356. Some of the highest specific conductance values were found along the western part of the subbasin and San Joaquin River alignment.

Impairments. As a result of declining water levels, poor quality water has been moving east along a 16-mile front on the east side of the Delta (DWR 1967). The degradation was particularly evident in the Stockton area where the saline front was moving eastward at a rate of 140 to 150 feet per year. Data from 1980 and 1996 indicate that the saline front has continued to migrate eastward up to about one mile beyond its 1963 extent (USACE 2001). Large areas of elevated nitrate in groundwater exist within the subbasin located southeast of Lodi and south of Stockton and east of Manteca extending towards the San Joaquin – Stanislaus County line.

Water Quality in Public Supply Wells

Constituent Group ¹	Number of wells sampled ²	Number of wells with a concentration above an MCL ³
Inorganics – Primary	182	8
Radiological	179	8
Nitrates	189	7
Pesticides	191	21
VOCs and SVOCs	185	6
Inorganics – Secondary	182	71

¹ A description of each member in the constituent groups and a generalized discussion of the relevance of these groups are included in *California's Groundwater – Bulletin 118* by DWR (2003).

² Represents distinct number of wells sampled as required under DHS Title 22 program from 1994 through 2000.

³ Each well reported with a concentration above an MCL was confirmed with a second detection above an MCL. This information is intended as an indicator of the types of activities that cause contamination in a given basin. It represents the water quality at the sample location. It does not indicate the water quality delivered to the consumer. More detailed drinking water quality information can be obtained from the local water purveyor and its annual Consumer Confidence Report.

Well Production characteristics

Well yields (gal/min)	
Municipal/Irrigation	Well yields in the fresh water-bearing formations underlying the basin range (in general) from about 650 to 1,500 gpm.
Total depths (ft)	
Domestic	Range: 25-993 Average: 242 (Based on 1551 well completion reports)
Municipal/Irrigation	Range: 75-780 Average: 349 (Based on 224 well completion reports)

Active Monitoring Data

Agency	Parameter	Number of wells /measurement frequency
DWR	Groundwater levels	99 /semiannually, and 15 /monthly
San Joaquin County Flood Control and Water Conservation District (SJCFC) and cooperators	Groundwater levels	246 /semiannually
SJCFC and cooperators	TDS, turbidity, chloride, and EC	Approximately 26 /annually
Department of Health Services and cooperators	Title 22 water quality	540 /annually

Basin Management

Groundwater management: (DWR 1999)	San Joaquin County enacted a groundwater management ordinance in 1996; AB 3030 plans have been adopted by the following entities: County of Stanislaus ; North San Joaquin WCD (3/5/96); Oakdale ID (9/22/95); San Joaquin County FC&WCD (2/11/97); South San Joaquin ID (2/14/95); Stockton East WD (11/1/95); and Woodbridge ID.
Water agencies: Public and Private	Lockeford CSD, North Delta WA, North San Joaquin WCD, Oakdale ID, City of Lathrop WD, City of Lodi Service Area, City of Manteca WSA, Calaveras County WD , California Water Service Company, Central Delta WA, Central San Joaquin WCD, City of Escalon WSA, Reclamation District No. 828, River Junction Reclamation District No. 2064, Rock Creek WD, South Delta WA, South San Joaquin ID, Stockton East WD, Valley Springs PUD, Woodbridge ID, Woodbridge WUCD, and City of Stockton MUD. Northeastern San Joaquin County Groundwater Banking Authority adopted a groundwater management plan .

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Additional References

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Errata

Changes made to the basin description will be noted here.

Reference:
EHD, 2000-2010

SAN JOAQUIN COUNTY ENVIRONMENTAL HEALTH DEPARTMENT

600 E. Main St. • Stockton, CA 95202-3029 • Phone (209) 468-3420

Donna Heran, R.E.H.S., Director

ENVIRONMENTAL HEALTH

**SAN JOAQUIN COUNTY CERTIFIED UNIFIED PROGRAM AGENCY
PERMIT TO OPERATE**

Program Record ID	Permit Number	Program Code and Description	Permit Valid
PR0513629	PT0009824	2220 - SMALL QUANTITY HAZARDOUS WASTE GENERATOR FACILITY Hazardous Waste Generator Program:	1/1/2010 To 12/31/2010

In order to maintain the permit to operate, Hazardous Waste Generators shall comply with California Health and Safety Code, Div. 20, Chap. 6.5, Art. 2-13; Sec. 25100 et seq. and Title 22, California Code of Regulations, Chap. 20.

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STOCKTON CA 95202

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Billing Address:
RITEWAY CLEANERS
700 E MARKET ST
STOCKTON CA 95202

SAN JOAQUIN COUNTY ENVIRONMENTAL HEALTH DEPARTMENT

600 E. Main St. • Stockton, CA 95202-3029 • Phone (209) 468-3420

Donna Heran, R.E.H.S., Director

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700 E MARKET ST
STOCKTON CA 95202

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Billing Address:
RITEWAY CLEANERS
700 E MARKET ST
STOCKTON CA 95202

SAN JOAQUIN COUNTY ENVIRONMENTAL HEALTH DEPARTMENT

600 E. Main St. • Stockton, CA 95202-3029 • Phone (209) 468-3420

Donna Heran, R.E.H.S., Director

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STOCKTON CA 95202

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Billing Address: RITEWAY CLEANERS
700 E MARKET ST
STOCKTON CA 95202

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SAN JOAQUIN COUNTY ENVIRONMENTAL HEALTH DEPARTMENT

304 E. Weber Ave., Third Floor • Stockton, CA 95202-2708 • Phone (209) 468-3420

Donna Heran, R.E.H.S., Director

ENVIRONMENTAL HEALTH

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Program Record ID	Permit Number	Program Code and Description	Permit Valid
PR0513629	PT0009824	2220 - SMALL QUANTITY HAZARDOUS WASTE GENERATOR FACILITY Hazardous Waste Generator Program:	1/1/2007 To 12/31/2007

In order to maintain the permit to operate, Hazardous Waste Generators shall comply with California Health and Safety Code, Div. 20, Chap. 6.5, Art. 2-13, Sec. 25100 et seq, and Title 22, California Code of Regulations, Chap. 20.

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700 E MARKET ST
STOCKTON CA 95202

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Billing Address:
RITEWAY CLEANERS
700 E MARKET ST
STOCKTON CA 95202

SAN JOAQUIN COUNTY ENVIRONMENTAL HEALTH DEPARTMENT

304 E. Weber Ave., Third Floor • Stockton, CA 95202-2708 • Phone (209) 468-3420

Donna Heran, R.E.H.S., Director

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Program Record ID	Permit Number	Program Code and Description	Permit Valid
PR0513629	PT0009824	2220 - SMALL QUANTITY HAZARDOUS WASTE GENERATOR FACILITY Hazardous Waste Generator Program:	1/1/2006 To 12/31/2006
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STOCKTON CA 95202

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Billing Address:
RITEWAY CLEANERS
700 E MARKET ST
STOCKTON CA 95202

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304 E. Weber Ave., Third Floor • Stockton, CA 95202-2708 • Phone (209) 468-3420

Donna Heran, R.E.H.S., Director

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Program Record ID	Permit Number	Program Code and Description	Permit Valid
PR0513629	PT0009824	2220 - SMALL QUANTITY HAZARDOUS WASTE GENERATOR FACILITY Hazardous Waste Generator Program:	1/1/2005 To 12/31/2005.

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STOCKTON, CA 95202

Facility ID **FA0009084**
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Issued **2/10/2005**

Billing Address:
RITEWAY CLEANERS
700 E MARKET ST
STOCKTON, CA 95202

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304 E. Weber Ave., Third Floor • Stockton, CA 95202-2708 • Phone (209) 468-3420

Donna Heran, R.E.H.S., Director

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PR0513629	PT0009824	2220 - SMALL QUANTITY HAZARDOUS WASTE GENERATOR FACILITY Hazardous Waste Generator Program:	1/1/2004 To 12/31/2004

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Billing Address:
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700 E MARKET ST
STOCKTON, CA 95202

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304 E. Weber Ave., Third Floor • Stockton, CA 95202-2708 • Phone (209) 468-3420

Donna Heran, R.E.H.S., Director

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PR0513629	PT0009824	2220 - SMALL QUANTITY HAZARDOUS WASTE GENERATOR FACILITY <u>Hazardous Waste Generator Program:</u>	1/1/2003 To 12/31/2003
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STOCKTON, CA 95202

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Account ID AR0016084
Issued 5/1/2003

Billing Address:
RITEWAY CLEANERS
700 E MARKET ST
STOCKTON, CA 95202

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SAN JOAQUIN COUNTY ENVIRONMENTAL HEALTH DEPARTMENT

304 E. Weber Ave., Third Floor • Stockton, CA 95202-2708 • Phone (209) 468-3420

Donna Heran, R.E.H.S., Director

ENVIRONMENTAL HEALTH

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Program Record ID	Permit Number	Program Code and Description	Permit Valid
PR051362	PT0009824	2220 - SMALL QUANTITY HAZARDOUS WASTE GENERATOR FACILITY <u>Hazardous Waste Generator Program:</u>	1/1/2002 To 12/31/2002
California Health and Safety Code Div. 20, Chap. 6.5, Art. 2-13 Sec. 25100 et seq, and Title 22 California Code of Regulations, Chap. 20.			

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STOCKTON, CA 95202- 20

Facility ID FA0009084
Account ID AR0016084
Issued 3/29/2002

Billing Address: TOM MIGLIORI
RITEWAY CLEANERS
700 E MARKET ST
STOCKTON, CA 95202

10

SAN JOAQUIN COUNTY PUBLIC HEALTH SERVICES
304 E. WEBER AVE., THIRD FLOOR • STOCKTON, CA 95202 • PHONE (209) 468-3420
KAREN FURST, M.D., M.P.H., HEALTH OFFICER
DONNA HERAN, R.E.H.S., DIRECTOR ENVIRONMENTAL HEALTH DIVISION

ENVIRONMENTAL HEALTH
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Program Record ID	Permit Number	Program Code and Description	Permit Valid
PR0513629	PT0009824	2220 - SMALL QUANTITY HAZARDOUS WASTE GENERATOR FACILITY	1/1/01 To 12/31/01
<u>Hazardous Waste Generator Program:</u> California Health and Safety Code Div. 20, Chap. 6.5, Art. 2-13 Sec. 25100 et seq, and Title 22 California Code of Regulations, Chap. 20.			

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700 E MARKET ST
STOCKTON, CA 95202- 20

Facility ID **FA0009084**
Account ID **AR0016084**
Issued **3/29/2001**

Billing Address: **TOM MIGLIORI**
RITEWAY CLEANERS
700 E MARKET ST
STOCKTON, CA 95202

SAN JOAQUIN COUNTY PUBLIC HEALTH SERVICES
304 E. WEBER AVE., THIRD FLOOR • STOCKTON, CA 95202 • PHONE (209) 468-3420

KAREN FURST, M.D., M.P.H., HEALTH OFFICER

DONNA HERAN, R.E.H.S., DIRECTOR ENVIRONMENTAL HEALTH DIVISION

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California Health and Safety Code Div. 20, Chap. 6.5, Art. 2-13 Sec. 25100 et seq, and Title 22 California Code of Regulations, Chap. 20.			

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Regulated Facility: RITEWAY CLEANERS
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Facility ID FA0009084
Account ID AR0016084
Issued 9/29/2000

Billing Address: TOM MIGLIORI
RITEWAY CLEANERS
700 E MARKET ST
STOCKTON, CA 95202

Reference:
EHD, 2006

San Joaquin County Environmental Health Department

HAZARDOUS WASTE GENERATOR PROGRAM INSPECTION REPORT

Facility Name: <u>Rite Way Cleaners</u>		Facility Address: <u>700 E Market</u>		Inspection Date: <u>1/31/06</u>	
Facility Contact: <u>Tom Migliori</u>		Inspector: <u>Michelle Le</u>		Phone: <u>204 468-9847</u>	
Title: <u>owner</u>		Phone: _____		(Authority HSC 25185) Consent for: <input checked="" type="checkbox"/> Inspection <input type="checkbox"/> Sampling <input type="checkbox"/> Photos	
EPA ID# <u>CAD98164238</u>		Inspection Type: <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Follow up <input type="checkbox"/> Complaint		Granted by: <u>Tom Migliori</u>	

	#	V	R	RV	Code Section	VIOLATIONS	
SB 14	1				25244.4 HSC	HSC=California Health & Safety Code CCR=California Code of Regulations V=Violation RV=Repeat Violation	
	2				25244.19 HSC	Failed to submit a report to the Department at least every two years.	
	3				25244.21 HSC	Failed to conduct source reduction/evaluation of site and prepare waste minimization plan.	
OPERATIONS	4				25189.5 HSC	Failed to retain current (SB14) review and plan.	
	5				25189.5/25201(a) HSC	Disposed or caused disposal of HW at an unauthorized point (Class I Violation).	
	6				25189.5 HSC	Illegal treatment of a hazardous waste.	
	7				25189.6 HSC	Transported or caused transportation of HW to an unauthorized point [66263.23(b) CCR].	
	8				25189.7 HSC	Illegal storage, disposal, treatment, transportation or handling of hazardous waste which causes unreasonable risk of fire, explosion, serious injury, or death (Class I Violation).	
	9				25201(a) HSC	Burning or incineration of hazardous waste at an unauthorized facility (Class I Violation).	
	10				66262.11 CCR	Illegal storage of offsite hazardous waste (Class I Violation)	
	11				66262.12(a) CCR	Failed to determine if a waste is a hazardous waste.	
PREPAREDNESS	12	<input checked="" type="checkbox"/>			66265.31 CCR	Managed a hazardous waste without an EPA number (unless exempted 25143.13 HSC)	
	13				66265.32(a) CCR	Facility not maintained to minimize the release of a hazardous waste.	
	14				66265.32(b) CCR	Internal communication or alarm system not provided.	
	15				66265.32(c) CCR	A device capable of calling outside emergency help not provided.	
	16				66265.33 CCR	Spill control equipment, and/or decontamination equipment not provided.	
	17				66265.33 CCR	Failed to maintain all communication or alarm systems, spill control, or decon equipment.	
	18				66265.34 CCR	No immediate access to emergency communication or alarm system during HW handling.	
	19				66265.35 CCR	Failed to maintain adequate aisle space.	
STORAGE, MANIFESTS, & BILLS OF LADING	20	<input checked="" type="checkbox"/>			25201(a) HSC	Stored hazardous waste on site longer than 90 days without a permit or authorization.	
	21	<input checked="" type="checkbox"/>			66262.34 CCR	Failed to properly label containers of hazardous waste.	
	22				66265.173(a) CCR	Failed to keep containers of HW closed except when adding/removing HW.	
	23				25160(b)(3) HSC	Failed to submit TSDF manifest to the Department for Out-Of-State shipments.	
	24				66262.20(a)/(b) CCR	Failed to submit manifest to the Department for transportation of hazardous waste.	
	25				66262.23(a)(1)(2) CCR	Failed to prepare manifests for transportation of hazardous waste.	
	26				66262.23(a)(4) CCR	Manifest not properly completed, signed or dated.	
	27				66262.23(a)(4) CCR	Generator manifest copies not sent to the Department within 30 days.	
	28				66262.23(b) CCR	Failed to give manifest copies to transporter.	
	29				66262.40(a) CCR	Failed to keep signed copy for 3 years.	
	30				66262.42(a) CCR	Failed to keep signed copy for 3 years.	
	31				66262.42(b) CCR	Failed to determine status of hazardous waste when manifest copy not received.	
	32				66262.42(b) CCR	Failed to file an exception report.	
	33				25160.2 HSC	Failed to keep a copy of the consolidated manifest for 3 years.	
LDR	34				66266.81(a)(4)(B) CCR	Failed to retain copy of manifest bill of lading for spent lead acid batteries.	
	35				25250.22(b)(1) HSC	Failed to label oil filters containing gasoline/diesel-commingled filters "used oil and gasoline filters".	
	36				66266.130(c) CCR	Failed to: Drain of free-flowing oil (1), Reclaim metal (2), Close container w/initial date of accumulation, Label "drained used oil filters" (3), Store <1 ton/ <1 year (4), Retain bill of lading for filters for 3 years (5).	
	37				66268.7(a) CCR	No determination made for land disposal.	
	38				66268.7(a)(1) CCR	No notification for LDR.	
	39				66268.7(a)(2) CCR	No signed notice and certification for LDR waste requiring further treatment.	
RECORDS	40				66268.7(a)(5) CCR	Failed to retain on site determination/waste analysis records.	
	41				66268.7(a)(6) CCR	Failed to retain notifications, certifications, other records for 5 years.	
	42				66262.40(c) CCR	Waste analysis not kept on site for 3 years.	
	43				66262.41(a) CCR	Biennial Report not sent to the Department.	
CONTINGENCY PLAN & TRAINING	44				66262.40(b) CCR	Copy of Biennial Report/Exception Report not retained for 3 years.	
	45				66265.77(a) CCR	Failed to report releases to the Department.	
	46				66265.51(a) CCR	No contingency plan.	
	47				66265.51(b) CCR	Failed to implement contingency plan.	
	48				66265.52 CCR	Contingency plan incomplete.	
	49				66265.53(a) CCR	Contingency plan not on site.	
	50				66265.55 CCR	No emergency coordinator.	
				66265.56(j) CCR	Facility failed to submit written incident report to the Department within 15 days.		
				66265.16 CCR	Personnel training records incomplete.		

EHD Inspector: <u>Michelle Le</u>		Received By: <u>Tom Migliori</u>		Title: _____	
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San Joaquin County Environmental Health Department

Continued					HAZARDOUS WASTE GENERATOR PROGRAM INSPECTION REPORT	
Facility Address: <u>700 E Market, Stockton</u>					Inspection Date: <u>1/31/06</u>	
	#	V	RV	Code Section	VIOLATIONS	
TRANSPORTATION	50			25160(d) HSC	Transported hazardous waste without a manifest	
	51			25163(a) HSC	Transported hazardous waste or transferred HW to a transporter without valid registration.	
	52			25160.2(c)(2) HSC	Offered ineligible waste streams to be transported using consolidated manifest.	
	53			25160.2(b)(4) HSC	Consolidated manifest receipts failed to contain complete information.	
	54			25250.23 HSC	Transported used oil and not registered as a hazardous waste hauler.	
	55			66263.17(a) CCR	Transported hazardous waste without receiving ID Number and registration cert from DTSC.	
INCOMPATIBLE/RECYCLABLE	56			66263.23(b) CCR	Delivered hazardous waste to an unauthorized facility.	
	57			66265.17 CCR	Failed to manage incompatible waste in containers properly.	
	58			66265.199 CCR	Failed to manage incompatible waste in tanks properly.	
HAZARDOUS WASTE TANKS	59			25250.7 HSC	Contaminated used oil with other hazardous waste.	
	60			66266.81(b) CCR	Damaged lead acid batteries not properly managed and labeled.	
	61			66265.191(a) CCR	Failed to determine if HW tank is leaking or unfit.	
	62			66265.191(b) CCR	HW tank assessment not sufficient.	
	63			66265.191(d) CCR	If HW tank found leaking or unfit, failed to comply with 66265.196.	
	64			66265.192 CCR	Failed to retain on-site required certification for HW tanks.	
	65			66265.193 CCR	Failed to provide secondary containment for HW tank.	
	66			66265.194(a) CCR	Placed hazardous waste or reagents in tank system that caused the tank, containment system or ancillary equipment to leak, corrode, rupture, or fail.	
	67			66265.194(b) CCR	Failed to use controls and practices to prevent spillage and overflows from tank system.	
	68			66265.194(b)(3) CCR	Failed to prevent overtopping from HW tank.	
	69			66265.195(a) CCR	Failed to conduct daily inspections of HW tank.	
	70			66265.195(b) CCR	Failed to inspect HW tank cathodic protection system.	
	71			66265.196 CCR	Failed to immediately remove tank/secondary containment system that had leaked or spilled.	
	72			66265.197 CCR	Tank closure, failed to remove/decon all waste and manage them as HW.	
	73			66265.198(a)/(b) CCR	Failed to manage ignitable or reactive waste properly.	
	UNIVERSAL WASTE	74			66265.199(a)/(b) CCR	Failed to manage incompatible wastes properly.
75				66273.13 CCR	Small Quantity Handler (SQH) did not manage UW according to these sections (a)-(c), [UW Electronic Device (UWED) (d): Containment (1), Notification (2), SQ Handler Standards (3), Zoning (4), Residuals (5), Mgmt Standards (6), Treatment Standards (7).]	
76				66273.14 CCR	Small Quantity Handler did not mark universal waste according to this section.	
77				66273.15 CCR	SQH had universal waste onsite for more than one year (a) or was unable to demonstrate the length of time UW was accumulated from the date it became a waste or was received.(c)	
78				66273.16 CCR	SQH did not inform employees who handle UW proper handling and emergency procedures.	
79				66273.32 CCR	LQH did not notify the EPA RA to obtain an EPA ID #, [see UWED subsection (a)(3)(A)-(C)].	
80				66273.33 CCR	Large Quantity Handler did not manage universal waste according to these sections (a)-(c)	
81				66273.33(d) CCR	Containment (1), Notification (2), LQ Handler Standards (3), Zoning (4), Residuals (5), Mgmt Standards (6), Treatment Standards (7).	
82				66273.34 CCR	Large Quantity Handler did not label universal waste according to this section.	
83				66273.35 CCR	LQH had UW onsite for more than 1 year (a) or was unable to demonstrate the length of time the UW has been accumulated from the date it became a waste or was received.(c)	
84				66273.36 CCR	LQH did not inform employees who handle UW proper handling and emergency procedures.	
85				66273.39 CCR	LQH did not keep records of each shipment of universal waste according to this section.	
86				66273.82 CCR	Cathode Ray Tube (CRT) handler accepts offsite source failed to notify DTSC 30 days prior.	
87				66273.83 CCR	CRT Waste Management.	
SGQ's (generates less than 1000 kg/mo)						
	88			66262.34(d) CCR & 25123.3(h)(1) HSC	Stored hazardous waste onsite greater than 180 days	
	89			66262.34(d)(1) CCR	Accumulated more than 6,000 kg onsite at one time.	
	90	✓		66262.34(d)(2) CCR	Modified emergency coordinator information lacking or insufficient [as referenced by CFR 262.34(d) and CFR (e)&(f).]	
OTHER						
	91			66261.7(f) CCR	An empty HW or Haz Mat container (larger than 5 gallons) was not marked with the date it was emptied/not managed within one year of being emptied.	
	92			25217.1 HSC	Liquid latex paint was disposed of, or attempted to be disposed of, to land or water.	
	93			See attached "Continuation-Official Inspection Report" for violation(s) not listed above.		
SPCC						
	94			25270-25270.13 HSC	Spill Prevention Control and Countermeasure Plan not onsite for Petroleum AST's.	
UIC Septic System: <u>Serves ≥ 20 persons/day</u> <u>Receives other than sanitary waste</u> <u>Dry wells/French Drains</u>						
EHD Inspector: <u>Michael De Fe</u>				Received By: <u>Tom Migliore</u>		Title: _____

**CONTINUATION FORM
OFFICIAL INSPECTION REPORT**

Page: 3 of 3
Date: 1/31/06
Program:

Facility Address: 700 E Market

Hazardous Waste Inspection
Notice to comply

All violations are currently minor

#12 1- 15 gal container of gray water/solvent located in the parking lot was stored open. This container is located in an area which is unsecure and can easily be impacted by vehicles or people. Move this container into a secure location immediately.

#20 1- 15 gal container of gray water/solvent
3- 15 gal containers of Sludge.
The above hazardous wastes were not labeled with the required information. Label all containers of hazardous waste with the following: 1) words "Hazardous Waste" 2) Business name + address 3) Contents 4) physical state 5) hazardous characteristics 6) accumulation start date Correct by: 3/1/06.

#21 1- 15 gal container of gray water/solvent
The above waste container was observed open this day. Maintain all containers of hazardous waste closed at all times except when adding or removing contents. Correct immediately.

#49 Personnel training records were not available at the time of inspection. Conduct or attend training and submit a copy of attendance to this office by 3/1/06.

#90 The contingency plan is incomplete. A form outlining the missing information was provided this day. Post the missing information next to a phone and submit a copy to this office by 3/1/06.

Submit Certification of Return to Compliance with a Statement of Correction and any requested documents to this office by 3/1/06.
THIS FACILITY IS SUBJECT TO REINSPECTION AT ANY TIME AT EHD'S CURRENT HOURLY RATE.

EHD Inspector: <u>Michelle J.</u>	Received By: <u>Tom Migliari</u>	Title:
--------------------------------------	-------------------------------------	--------

Reference:
EPA, 1995

EPA/310-R-95-001

EPA Office of Compliance Sector Notebook Project

Profile of the Dry Cleaning Industry

September 1995

Office of Compliance
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
401 M St., SW (MC 2221-A)
Washington, DC 20460

This report is one in a series of volumes published by the U.S. Environmental Protection Agency (EPA) to provide information of general interest regarding environmental issues associated with specific industrial sectors. The documents were developed under contract by Abt Associates Inc. (Cambridge, MA), and Booz-Allen & Hamilton, Inc. (McLean, VA). This publication may be **purchased** from the Superintendent of Documents, U.S. Government Printing Office. A listing of available Sector Notebooks and document numbers is included at the end of this document.

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Electronic versions of all Sector Notebooks are available on the EPA Enviro\$en\$e Bulletin Board and via the Internet on the Enviro\$en\$e World Wide Web. Downloading procedures are described in Appendix A of this document.

Cover photograph by Steve Delaney, EPA

Contacts for Available Sector Notebooks

The Sector Notebooks were developed by the EPA Office of Compliance. Particular questions regarding the Sector Notebook Project in general can be directed to the EPA Work Assignment Managers:

Michael Barrette

Gregory Waldrip

US EPA Office of Compliance
401 M St., SW (2223-A)
Washington, DC 20460
(202) 564-7019

US EPA Office of Compliance
401 M St., SW (2223-A)
Washington, DC 20460
(202) 564-7024

Questions and comments regarding the individual documents can be directed to the appropriate specialists listed below.

<u>Document Number</u>	<u>Industry</u>	<u>Contact</u>	<u>Phone (202)</u>
EPA/310-R-95-001.	Dry Cleaning Industry	Joyce Chandler	564-7073
EPA/310-R-95-002.	Electronics and Computer Industry	Steve Hoover	564-7007
EPA/310-R-95-003.	Wood Furniture and Fixtures Industry	Bob Marshall	564-7021
EPA/310-R-95-004.	Inorganic Chemical Industry	Walter DeRieux	564-7067
EPA/310-R-95-005.	Iron and Steel Industry	Maria Malave	564-7027
EPA/310-R-95-006.	Lumber and Wood Products Industry	Seth Heminway	564-7017
EPA/310-R-95-007.	Fabricated Metal Products Industry	Greg Waldrip	564-7024
EPA/310-R-95-008.	Metal Mining Industry	Keith Brown	564-7124
EPA/310-R-95-009.	Motor Vehicle Assembly Industry	Suzanne Childress	564-7018
EPA/310-R-95-010.	Nonferrous Metals Industry	Jane Engert	564-5021
EPA/310-R-95-011.	Non-Fuel, Non-Metal Mining Ind.	Keith Brown	564-7124
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EPA/310-R-95-017.	Stone, Clay, Glass and Concrete Ind.	Scott Throwe	564-7013
EPA/310-R-95-018.	Transportation Equip. Cleaning Ind.	Virginia Lathrop	564-7057

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LIST OF ACRONYMS

AFS -	AIRS Facility Subsystem (CAA database)
AIRS -	Aerometric Information Retrieval System (CAA database)
BIFs -	Boilers and Industrial Furnaces (RCRA)
BOD -	Biochemical Oxygen Demand
CAA -	Clean Air Act
CAAA -	Clean Air Act Amendments of 1990
CERCLA -	Comprehensive Environmental Response, Compensation and Liability Act
CERCLIS -	CERCLA Information System
CFCs -	Chlorofluorocarbons
CO -	Carbon Monoxide
COD	Chemical Oxygen Demand
CSI -	Common Sense Initiative
CWA -	Clean Water Act
D&B -	Dun and Bradstreet Marketing Index
ELP -	Environmental Leadership Program
EPA -	United States Environmental Protection Agency
EPCRA-	Emergency Planning and Community Right-to-Know Act
FIFRA -	Federal Insecticide, Fungicide, and Rodenticide Act
FINDS -	Facility Indexing System
HAPs -	Hazardous Air Pollutants (CAA)
HSDB -	Hazardous Substances Data Bank
IDEA -	Integrated Data for Enforcement Analysis
LDR -	Land Disposal Restrictions (RCRA)
LEPCs -	Local Emergency Planning Committees
MACT -	Maximum Achievable Control Technology (CAA)
MCLGs -	Maximum Contaminant Level Goals
MCLs -	Maximum Contaminant Levels
MEK -	Methyl Ethyl Ketone
MSDSs -	Material Safety Data Sheets
NAAQS -	National Ambient Air Quality Standards (CAA)
NAFTA -	North American Free Trade Agreement
NCDB -	National Compliance Database (for TSCA, FIFRA, EPCRA)
NCP -	National Oil and Hazardous Substances Pollution Contingency Plan
NEIC -	National Enforcement Investigation Center
NESHAP -	National Emission Standards for Hazardous Air Pollutants
NO ₂ -	Nitrogen Dioxide
NOV -	Notice of Violation

NO _x -	Nitrogen Oxides
NPDES -	National Pollution Discharge Elimination System (CWA)
NPL -	National Priorities List
NRC -	National Response Center
NSPS -	New Source Performance Standards (CAA)
OAR -	Office of Air and Radiation
OECA -	Office of Enforcement and Compliance Assurance
OPA -	Oil Pollution Act
OPPTS -	Office of Prevention, Pesticides, and Toxic Substances
OSHA -	Occupational Safety and Health Administration
OSW -	Office of Solid Waste
OSWER -	Office of Solid Waste and Emergency Response
OW -	Office of Water
P2 -	Pollution Prevention
PCS -	Permit Compliance System (CWA Database)
POTW -	Publicly Owned Treatments Works
RCRA -	Resource Conservation and Recovery Act
RCRIS -	RCRA Information System
SARA -	Superfund Amendments and Reauthorization Act
SDWA -	Safe Drinking Water Act
SEPs -	
Supplementary Environmental Projects	
SERCs -	State Emergency Response Commissions
SIC -	Standard Industrial Classification
SO ₂ -	Sulfur Dioxide
SO _x -	Sulfur Oxides
TOC -	Total Organic Carbon
TRI -	
Toxic Release Inventory	
TRIS -	Toxic Release Inventory System
TCRIS -	Toxic Chemical Release Inventory System
TSCA -	Toxic Substances Control Act
TSS -	Total Suspended Solids
UIC -	Underground Injection Control (SDWA)
UST -	Underground Storage Tanks (RCRA)
VOCs -	Volatile Organic Compounds

III. INDUSTRIAL PROCESS DESCRIPTION

This section describes the major industrial processes within the dry cleaning industry, including the materials and equipment used, and the processes employed. The section is designed for those interested in gaining a general understanding of the industry, and for those interested in the inter-relationship between the industrial process and the topics described in subsequent sections of this profile -- pollutant outputs, pollution prevention opportunities, and Federal regulations. This section does not attempt to replicate published engineering information that is available for this industry. Refer to Section IX for a list of reference documents that are available.

This section specifically contains a description of commonly used production processes, associated raw materials, the byproducts produced or released, and the materials either recycled or transferred off-site. This discussion, coupled with schematic drawings of the identified processes, provide a concise description of where wastes may be produced in the process. This section also describes the potential fate (via air, water, and soil pathways) of these waste products.

III.A. Industrial Processes in the Dry Cleaning Industry

Dry cleaning processes garments in a way that avoids saturating fabrics with water. If thoroughly saturated with water, agitated and heated, certain fabrics (especially wool, silk and rayon) may shrink or the dye may run. Other garments that are constructed from several materials can be damaged if the various layers react differently to the cleaning process. Because dry cleaning solvents do not saturate the fibers of the fabric, the swelling and shrinking from water saturation is avoided, allowing nearly all types of fabrics and garments to be safely dry cleaned.

Four solvents dominate the dry cleaning market: perchloroethylene (PCE), petroleum solvents, chlorofluorocarbons (CFC-113) and trichloroethane (TCA). The manufacture of the latter two will be banned in 1995 under the Clean Air Act Amendments. The exhibit below shows that PCE dominates the commercial sector while petroleum solvent is used in the majority of industrial machines.

One important characteristic of the dry cleaning industry is that the machinery used with these solvents has evolved over time. The development encompasses four "generations" of machines, all of which are still in use. The first generation of equipment has separate washers and dryers, thus the operator must transfer the clothes between the two. The second generation machine design eliminates the stand-alone dryer and

combines both washing and drying into a single machine. The third generation of equipment includes added control technology to reduce the vapor emissions. The fourth generation of machine design modifies the third generation by recycling the air in the machine to further reduce emissions. Each generation is described further below.

Exhibit 7: Number of Dry Cleaning Facilities by Process and Industrial Sector^a				
Process Solvent	Industrial Sector			
	Commercial	Industrial	Coin-operated	Total
PCE	24,947	130	3,044	28,121
Petroleum	4,548 ^b	195	0	4,743
CFC-113	949 ^b	0	0	949
Trichloroethane	50 ^c	0	0	50
Total	30,494	325	3,044	33,863
^a USEPA, 1991b, unless otherwise indicated. ^b Estimate based on USEPA, 1991a. ^c Wolf, 1992.				

First Generation Machines

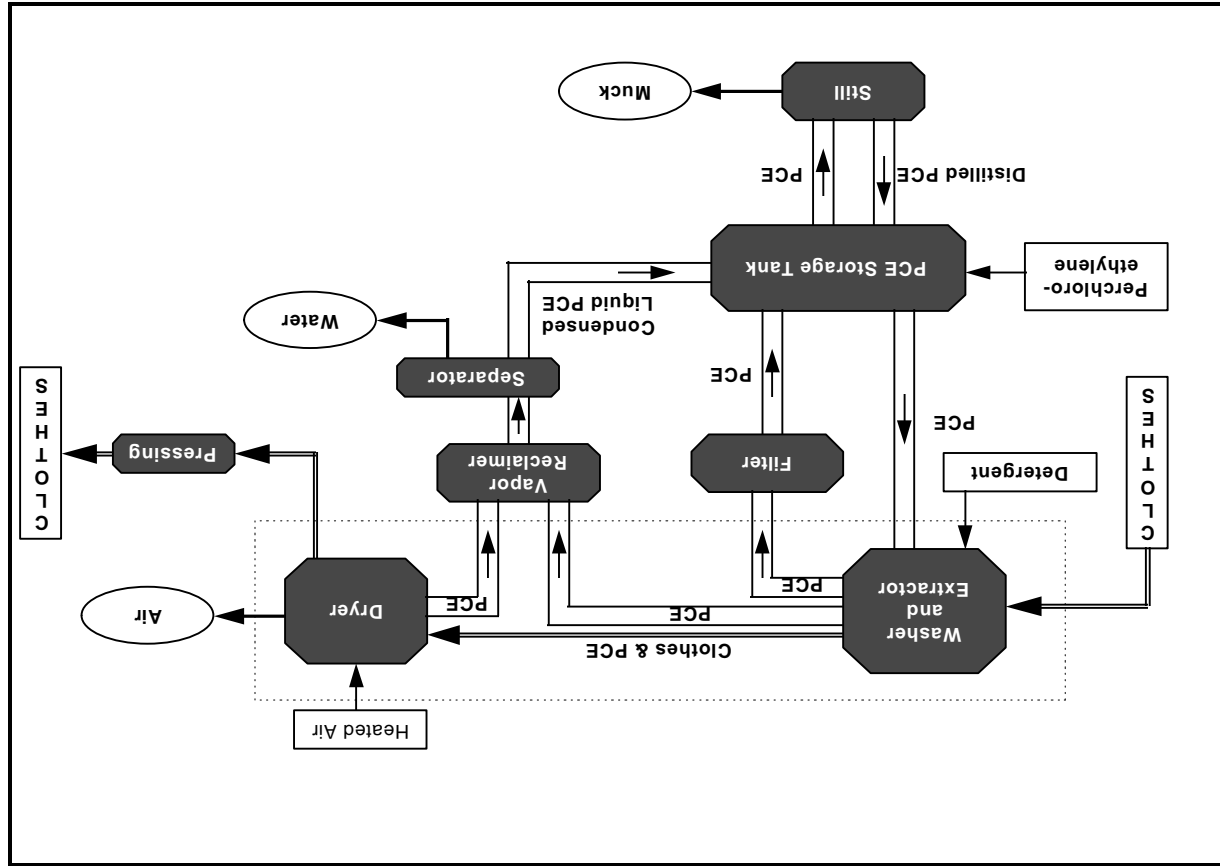
The first generation of dry cleaning machines had separate washers and dryers. These transfer machines (so-called because the wet clothes were transferred from the washer to the dryer) were the predominant type of machine used until the late-1960s, when dry-to-dry machines were developed that reduced solvent loss and improved dry cleaning economics. In a typical transfer process, the clothes are loaded into the washer, where the solvent is combined with a water and detergent charge, and the clothes and solvent are agitated by rotation of the washer's drum. After washing, the drum is rotated at high speeds to extract the residual solvent. The clothes are then manually transferred to a dryer where recirculating warm air causes most of the remaining solvent to vaporize. To reduce wrinkling, the drying cycle is followed by a brief cool-down cycle during which unheated air is circulated through the clothes (USEPA, 1991). A flow diagram for a typical PCE transfer machine is shown below. The advantages of using transfer equipment are: (a) more production since a

new load is being washed while the previous one is being dried; (b) less complicated construction with less automation and thus greater ease of repair; and (c) reduction of fabric damage since the cylinder remains cool after the prior load is removed. The disadvantages are: (a) the additional labor required to handle the heavy volume; (b) the solvent vapors that escape to the atmosphere during transfer; (c) exposure of the worker to the solvent; and (d) the garments that can fall on the floor during transfer. Currently, about 34 percent of dry cleaning machines in the U.S. are transfer units (Brown, 1993). However, the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for PCE dry cleaning facilities will not allow new transfer machines that use PCE (USEPA, 1993b). Transfer machines cannot be converted to dry-to-dry machines, but they can be retrofitted with vapor control devices and with impermeable enclosures to capture fugitive emissions. Two technologies that can capture the solvent that escapes during clothing transfer are hamper enclosure and room enclosures.

Hamper enclosures consist of a hood or canopy usually made of polyethylene -- impervious plastic that encloses the clothing hamper and the open door of the washer when clothing is removed from the washer of a transfer machine and placed in the dryer. The same canopy is used when transferring the clothes from the hamper to the dryer (Environmental Reporter, 1992).

Room enclosures usually consist of a metal frame covered with clear impervious plastic that encloses both the washer and dryer of a transfer machine. During clothing transfer, a fan is turned on to draw air from outside the room enclosure through louvered door openings in the enclosure and then to a vapor emission control device.

Exhibit 8: Process Flow Diagram for Perchloroethylene Solvent Transfer Dry Cleaning Machines



Source: Adapted from USEPA, 1991b

Second Generation Machines

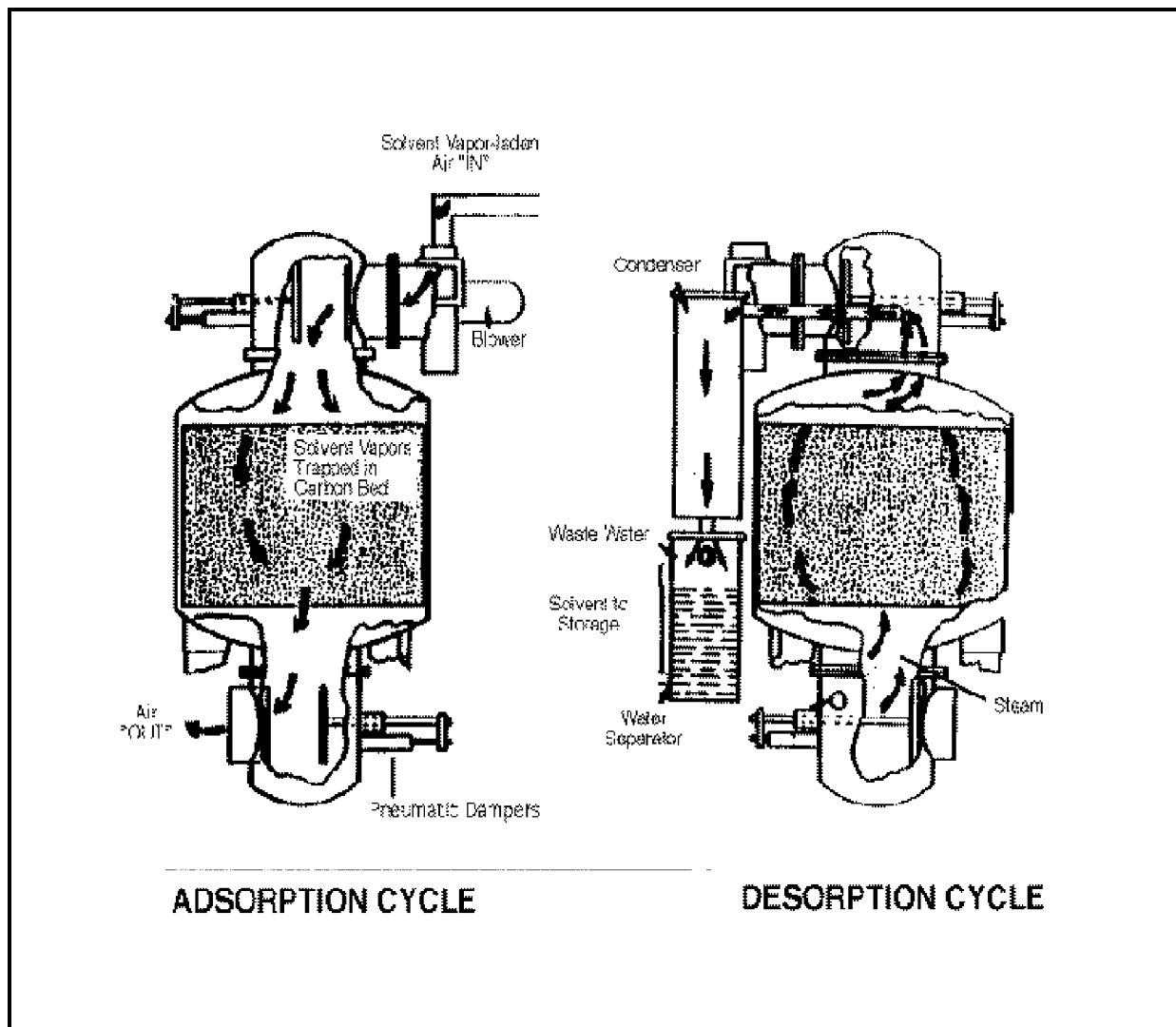
Transfer units were used exclusively until the late 1960s, when a second generation of equipment was introduced to reduce the amount of space the machines occupied and to decrease solvent consumption. Called "dry-to-dry" machines, these units integrate the washing and drying into the same unit. This saves space, requires less labor (because the operator does not have to transfer garments), reduces the amount of solvent vapor that escapes, lowers worker exposure to solvent vapor, and generates a higher solvent mileage (the quantity of solvent needed to clean a quantity of clothes). The disadvantages are lower production and less flexibility, since each machine is committed to a single load during its entire wash-dry cycle. Dry-to-dry machines currently comprise 66 percent of the units used in the U.S. (Brown, 1993). Of these, 32 percent are the vented units

(2nd generation machines) that are designed to send residual vapors to the atmosphere or an external control device (Brown, 1993). The remainder are third or fourth generation machines as described below. Second generation machines can be retrofitted with control devices such as carbon adsorbers (not allowed under current regulations) and refrigerated condensers.

Carbon adsorbers recover solvent by sending contaminated air through a bed of activated carbon that then adsorbs^a the solvent vapors as shown below. The adsorbed solvent is recovered by passing low-pressure steam (new designs use hot air) through the carbon bed. The mixed steam and solvent vapors are then passed through a water-cooled condenser and are collected in a phase separator.^b The carbon is dried and reused while the recovered solvent is returned to the dry cleaning system (SRRP, 1990). Carbon adsorbers can be retrofitted to both dry-to-dry and transfer machines. In tests of carbon adsorbers, the removal efficiencies were above 95 percent (USEPA, 1991). However, subsequent data from the California Air Resources Board led the Agency to believe that in actual practice the removal efficiencies are much lower. As a result, the NESHAP does not allow them as an option for primary control except in certain large facilities where carbon adsorbers were installed prior to the promulgation of the regulation, September 22, 1993.

^a The system will hold molecules on its surface (adsorb) and then release them (desorb) when steam is passed through the bed.

^b PCE and water are reasonably insoluble in the liquid phase. The cooled PCE/water mixture will enter the phase separator where two layers will form. The PCE will then be drawn off for recycling.



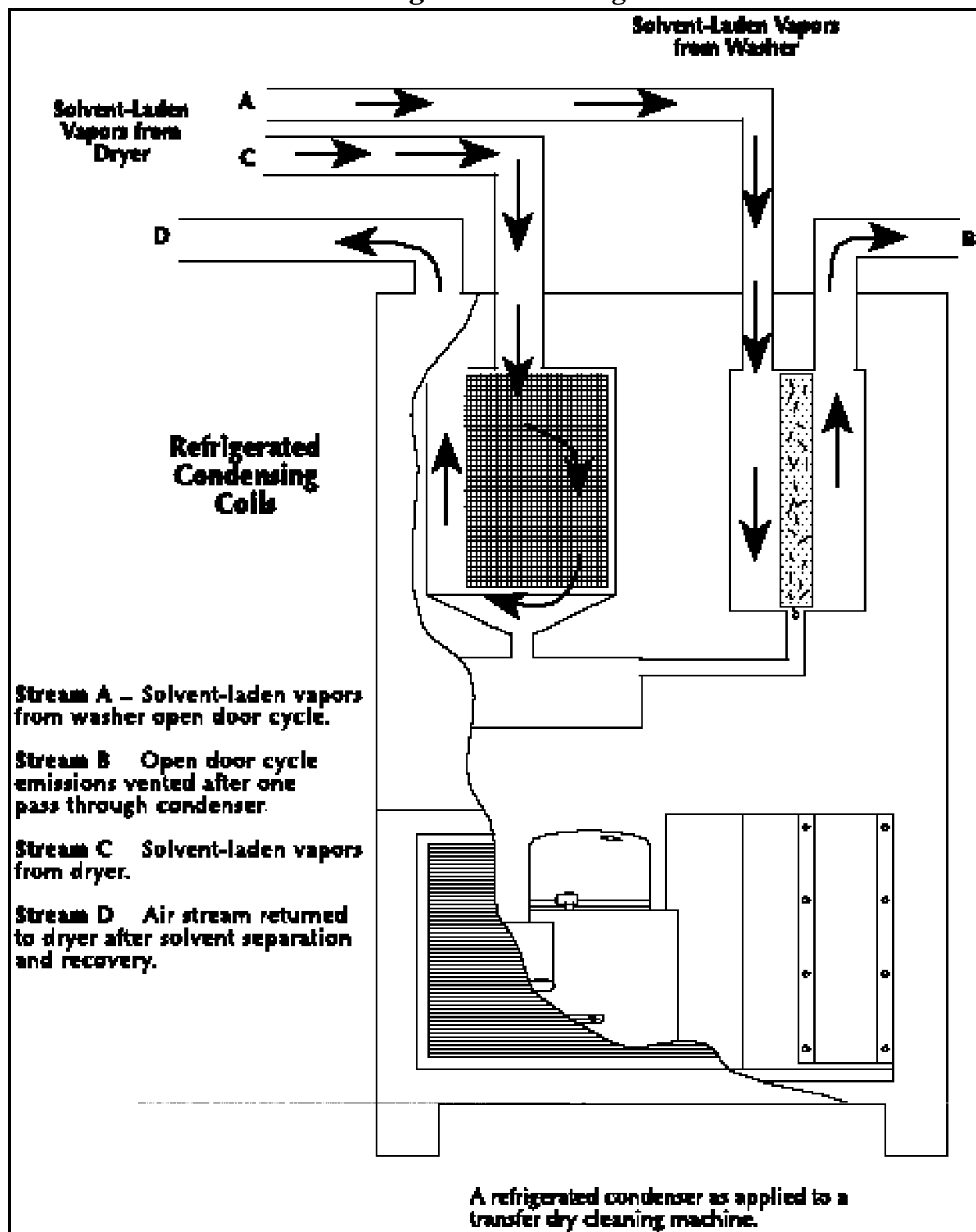
Source: USEPA 1991a

Exhibit 9: Flow Diagram of a Carbon Adsorber

Refrigerated condensers have both an advantage and a disadvantage when compared to carbon adsorbers. They require less maintenance because the refrigerant only needs to be replaced yearly while carbon adsorbers must be desorbed daily.^c The disadvantage of refrigerated condensers compared to carbon adsorbers is that they cannot be used to control low concentration emission streams (USEPA, 1991a).

^c The desorption of solvent is accomplished by passing steam (or hot air) through the carbon bed.

Refrigerated condensers remove vapors from the exhaust stream by cooling them to below their dew points. Most new machines have built-in refrigerated condensers, but the condensers can be retrofitted to both transfer and dry-to-dry machines (USEPA, 1991a). Refrigerated condensers achieve about 95 percent control of HAPs when compared to uncontrolled machines (Smith, 1995). The figure below shows a typical refrigerated condenser that can accommodate two HAP (hazardous air pollutant such as PCE)-laden streams. In transfer machines, a stream (Stream A) from the exhaust fan used when the washer door is opened will feed through the condenser and be vented (Stream B) and a stream from the dryer (Stream C) passes through the condenser, and after separation and recovery of the solvent returns the air stream to the dryer (Stream D). Dry-to-dry machines only have the second stream. In transfer machines, the exhaust vapors from the washer are vented (in one pass) through the condenser to the atmosphere, and thus the system can achieve only about 85 percent control of HAPs compared to an uncontrolled machine (USEPA, 1991a).

Exhibit 10: Flow Diagram of a Refrigerated Condenser

Source: USEPA 1991a

Third Generation Machines

The third generation of machines that were designed in the late 1970s and early 1980s are dry-to-dry with built-in refrigerated condensers. These are closed loop machines. A closed-loop machine does not vent air to the atmosphere but recycles it continuously throughout the dry cleaning cycle. The only air exchange with the atmosphere occurs during loading and unloading. Thirty-four percent of the machines currently in use in the U.S. are of this design (Brown, 1993). The advantage is a single unit that will release smaller amounts of vapor. The disadvantage is the greater complexity of machine design which could lead to higher maintenance costs and more frequent breakdowns. The principles of operation are the same as for the second generation machines that use refrigerated condensers.

Fourth Generation Machines

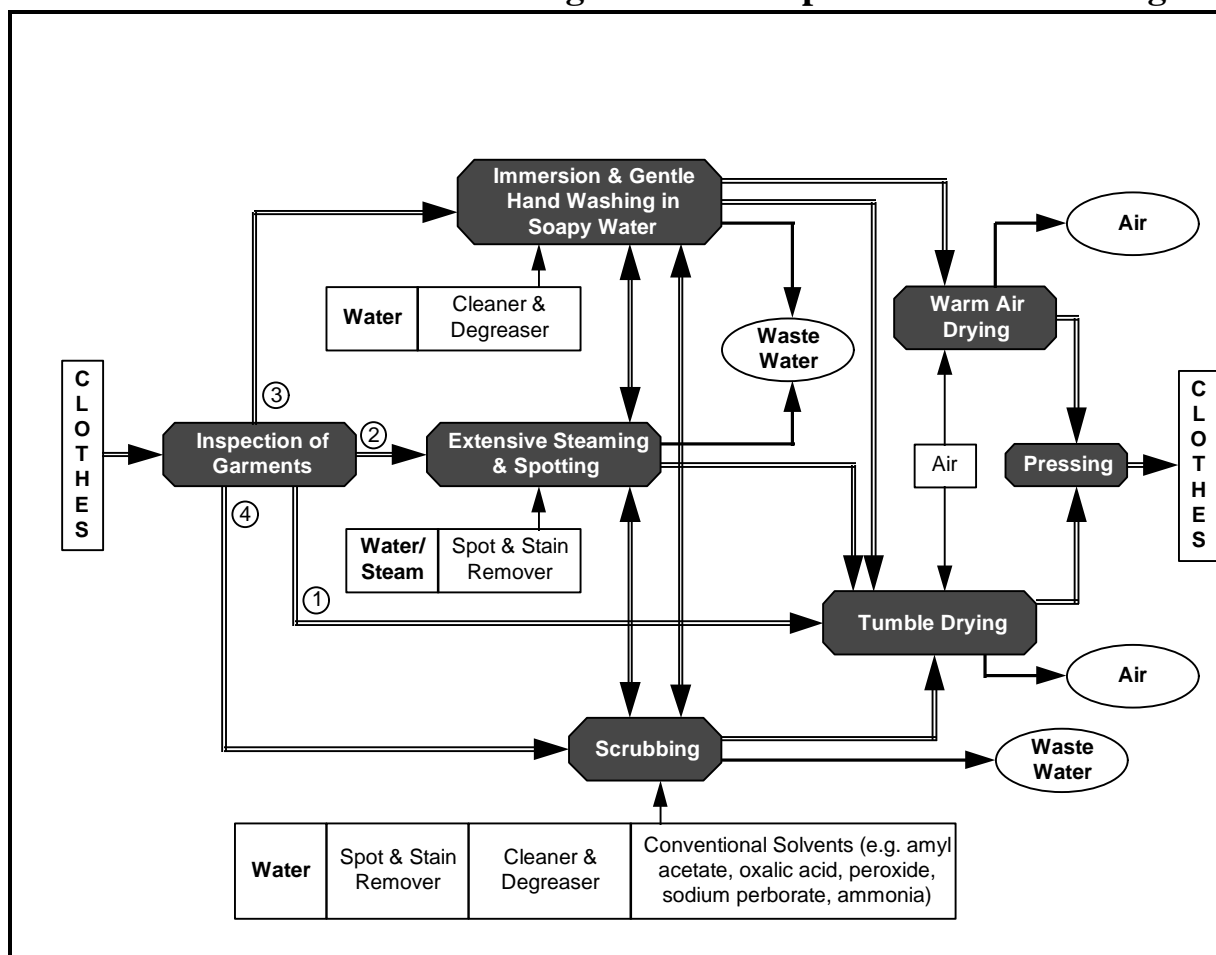
The fourth generation machine is a non-vented, closed loop process with an additional internal vapor recovery device. The control technologies used in these machines are refrigerated condensers and carbon adsorbers. In non-vented, closed loop machines, refrigerated condensers can match carbon adsorber's 95 percent control efficiency (USEPA, 1991a).

Technological Trends

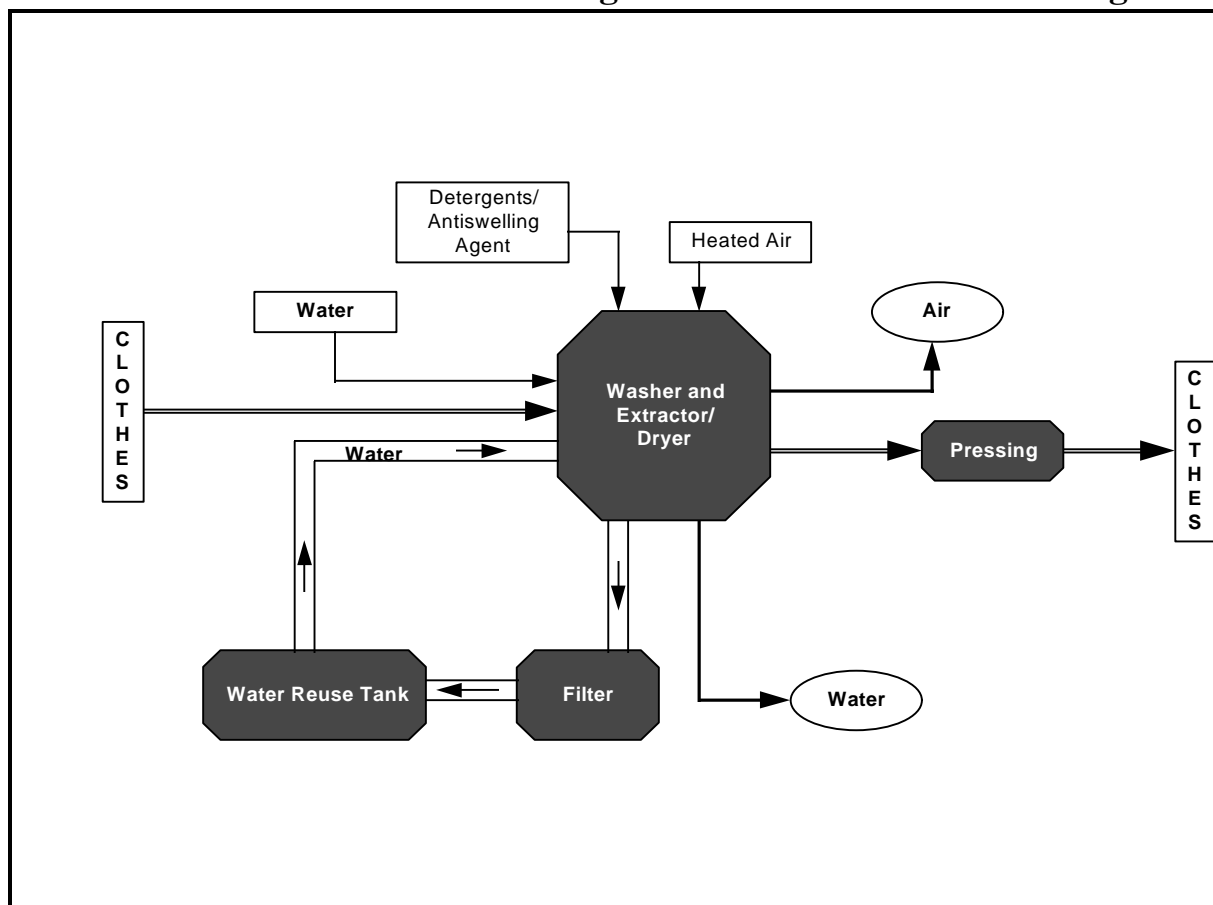
The recent technological trends have been to increase mileage and to reduce emissions. The increased mileage decreases solvent costs for the facility while the reduced emissions are driven by both environmental and worker protection laws. In September, 1993 the Agency promulgated a National Emission Standard for Hazardous Air Pollutants (NESHAP) for Perchloroethylene Dry Cleaners. These regulations require both existing and new facilities that meet certain size requirements to use designated vapor control technologies and undertake leak detection and equipment repair to prevent fugitive emissions. Occupational Safety and Health Act regulations have imposed limits on worker exposure to perchloroethylene which has led to machine designs that reduce emissions from opening the door after operation. For petroleum solvents the trend has been towards development of solvents with higher flash points to reduce the explosion potential and to solvents with lower volatile organic compound content to reduce VOC emissions.

One of the most important current developments in the industry is the commercialization of aqueous alternatives for a portion of the clothes currently dry cleaned. Multi-process wet cleaning is a method of hand cleaning clothes using a controlled application of water. It is called "multi-

process" because a number of different steps can be included in the process depending upon the fabric type and the soil and stains on the garment. A cleaning technician inspects incoming garments for the degree of soiling and based on that and the fiber type a cleaning process is chosen. The process could be spotting, localized steaming, hand washing or machine washing. A flow diagram of multi-process wet cleaning is shown below. The second aqueous alternative is machine wet cleaning. This process uses a specially designed washing machine that reduces the agitation the clothes are subject to in a traditional laundering process and adds proprietary chemicals (that satisfy the German environmental regulations) to reduce fiber swelling. These machines have been used profitably in Europe (primarily Germany) and are now being introduced into the U.S. market by several manufacturers. The process is diagramed below. The critical test for market acceptance will be the percent of the current U.S. dry cleaning clothes stream that these processes can clean effectively without damaging the garments. Two firms in New York City currently are using a combination of the two aqueous processes and report eighty percent repeat business.

Exhibit 11: Process Flow Diagram of Multiprocess Wet Cleaning

Source: Developed for USEPA Office of Pollution Prevention and Toxics' Design for the Environment Program.

Exhibit 12: Process Flow Diagram of Machine Wet Cleaning

Source: Developed for the USEPA Office of Pollution Prevention and Toxics' Design for the Environment Program.

III.B. Raw Material Inputs and Pollution Outputs

The primary dry cleaning releases are to air (through both fugitive emissions and direct release at the end of the cycle), water (from water that was contained in the clothes and from regenerating carbon adsorbers) and solid waste (such as the muck from stills used to evaporate solvent-contaminated water, the residue remaining after contaminated solvent is filtered, and the carbon from an adsorber). There is an active recycling market for solvent recovered from dry cleaning facilities, although the overall percentage of solvent recovered is not known.

Exhibit 13: Pollution Releases from Dry Cleaning Operations	
Release Medium	Emissions
Air	Solvent spills Fugitive leaks from piping Vapor released with transferring or removing clothes from machines Vapor release from clothes dryers Residual vapor release from clothes after they are removed from the dryer
Water	Water from separator
Hazardous/Solid Waste	Residue from solvent still Filters

IX. CONTACTS/ACKNOWLEDGMENTS/RESOURCE MATERIALS/BIBLIOGRAPHY

For further information on selected topics within the Dry Cleaning Industry a list of publications and contacts are provided below:

Contacts^f

Name	Organization	Telephone	Subject
Joyce Chandler	EPA/OECA	(202)564-7073	Regulatory requirements and compliance assistance
Ohad Jehassi	EPA/OPPT	(202)260-6911	Design for the Environment
George Smith	EPA/OAQPS	(919)541-1549	Regulatory requirements (air)

OECA: Office of Enforcement and Compliance Assurance

OAQPS: Office of Air Quality Planning and Standards

OPPT: Office of Pollution Prevention and Toxics

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^f Many of the contacts listed above have provided valuable background information and comments during the development of this document. EPA appreciates this support and acknowledges that the individuals listed do not necessarily endorse all statements made within this notebook.

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Drycleaners News published by Zackin Publications, Inc. Waterbury, Connecticut.

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[Note that several publications by OPPT's Design for the Environment Program on alternative dry cleaning technologies are expected in 1995. Contact: Ohad Jehassi, 202-260-6911, for publication dates.]

Reference:
EPA, 2010a

http://oaspub.epa.gov/enviro/cerclis_web.report?pgm_sys_id=CAN000905714

Last updated on Thursday, June 24, 2010

Superfund (CERCLIS)

You are here: [EPA Home](#) [Envirofacts](#) [CERCLIS](#) [Query Results](#)

Query Results



Site ID: Equal To: CAN000905714

Results are based on data extracted on MAY-12-2010

Note: Click on the underlined CORPORATE LINK value for links to that company's environmental web pages. Click on the underlined MAPPING INFO value to obtain mapping information for the facility. Click on the underlined RECORD OF DECISION value for a RODS Site Report. Click on the underlined "View Facility Information" link to view EPA Facility information for the facility.

[Go To Bottom Of The Page](#)

<u>CERCLIS EPA ID:</u>	CAN000905714	<u>SITE NAME:</u>	RITE WAY CLEANERS
<u>STREET ADDRESS:</u>	700 EAST MARKET STREET	<u>FACILITY INFORMATION</u>	View facility information
<u>CITY NAME:</u>	STOCKTON		
<u>STATE ABBR:</u>	CA	<u>FEDERAL FACILITY:</u>	N
<u>ZIP CODE:</u>	95202	<u>NPL STATUS:</u>	Not on the NPL
<u>COUNTY NAME:</u>	SAN JOAQUIN		
<u>CORPORATE LINK:</u>	No	<u>RECORD OF DECISION (ROD) INFO:</u>	No
<u>LATITUDE:</u>		<u>EPA REGIONAL LINK:</u>	No
<u>LONGITUDE:</u>		<u>MAPPING INFO:</u>	MAP
<u>SITE SMSA:</u>			

Enforcement and Cleanup Actions

<u>Action</u>	<u>Action ID</u>	<u>Actual Start Date</u>	<u>Actual End Date</u>	<u>Responsibility</u>	<u>Planned Outcome</u>	<u>Urgency</u>
DISCOVERY	001		07/05/2000	EPA Fund-Financed		

Site Description

There were no Site Descriptions reported for this site.

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BS=proc_group=0&procname=&program_search=1&report=3&page_no=1&output_sql_switch=TRUE&database_type=RCRAINFO

Resource Conservation and Recovery Act (RCRAInfo)

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Query Results

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STREET: 700 E MARKET ST **FACILITY INFORMATION:** [View Facility Information](#)
CITY: STOCKTON **CORPORATE LINK:** No
STATE: CA **COUNTY:** SAN JOAQUIN
ZIP CODE: 95202 **MAPPING INFO:** [MAP](#)
EPA REGION: 9

CONTACT INFORMATION

<u>NAME</u>	<u>STREET</u>	<u>CITY</u>	<u>STATE</u>	<u>ZIP CODE</u>	<u>PHONE</u>	<u>TYPE OF CONTACT</u>
						Public
ENVIRONMENTAL MANAGER	700 E MARKET ST	STOCKTON	CA	95202	2094644282	Permit

No Process Information is available for the facility listed above.[Go To Top Of The Page](#)**Total Number of Facilities Displayed: 1**

**Reference:
EPA, 2010c**

*Confidential; to be included in the
confidential information packet*

Reference:
Google, 2010



**Reference:
RWC, 2010**



Welcome to Riteway Cleaners!

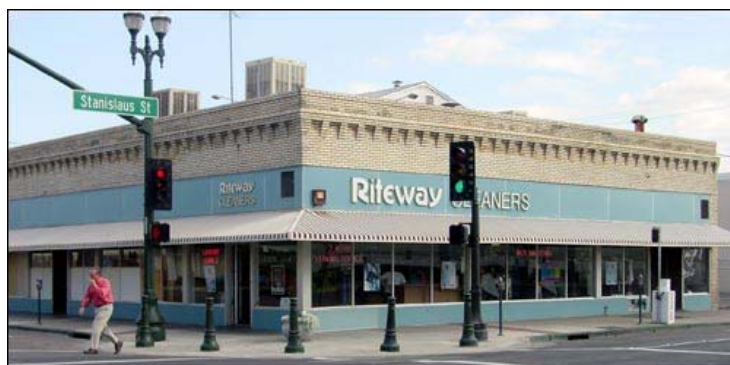
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Riteway Cleaners was started in 1935 by Pat Migliori. His brother, Peter, came into the business in 1945. It has been located on the corner of Market Street and Stanislaus Street since 1945. Riteway is now headed by Tom Migliori (second generation owner) who started in 1968. The reason for our success all these years is our tradition... Quality, Dependability, Workmanship and Honesty.

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- Leather and Suede Cleaning
- Alterations
- Laundry
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- Smoke Removal
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Saturday: 7am - 1pm



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SEARCH CRITERIA: MARKET, STOCKTON, LUFT, SLIC, LANDFILL, DOD, DODPRIV, DODUST

2 RECORDS FOUND

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PAGE 1 OF 1

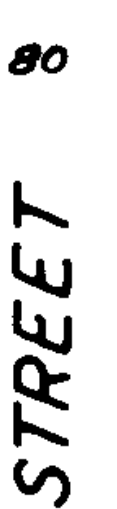
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Reference:
SJC, 2005

(700) STREET 8



23

24

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CITY OF STOCKTON
Assessor's Map Bk.149 Pg.22
County of San Joaquin, Calif.

Reference:
SKSI, 2006

CUSTOMER NO.

FOR SERVICE CALL	BRANCH/MANAGER	DOCT. NO.	SERVICE WEEK	TERRITORY	NUMBER
209-545-1011	RUBEN MARTINEZ	04/01/06	06-05	24	0031087698
			CREDIT CODE	PREVIOUS BALANCE	BAL. OVER 60 DAYS
			D		
BUSINESS TYPE		CHAIN	OUTER COUNTY	SVC. P/C	PROD. P/C
07		0000	NO	414	414
LOCATION			TAX EXEMPTION NO.		
718501					

RITEWAY CLEANERS
700 E MARKET ST
STOCKTON CA 95202

INVOICE DATE	SALES REP NO.	CUSTOMER P.O. NUMBER	CUSTOMER PHONE #	TAX CODE	HANDLING CODE	ASSOC. CODE	SERVICE TAX	C.O.M.S. TAX	PRODUCT TAX
2-06	29321		209-464-4282	05-195-8487			08		08

[illegible]




TOTAL-SERVICE/PRODUCTS

USEPA TRANSPORTER 1 ID NO.	USEPA TRANSPORTER 2 ID NO.	GENERATOR USEPA ID NO.	GENERATOR STATE ID NO.		LAMP ASSEMBLY CONDITION	EMERGENCY CLOSING OF LID UNOBSTRUCTED	AFFORD TO MACHINE	SPENT SOLVENT MEETS ACCEPTANCE CRITERIA
	TXR0000050930	CAD981642382			<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>

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HAZARDOUS WASTE TOXIC LIQUID, ORGANIC N.O.S. (TETRACHLOROETHYLENE) (UN2810 PGIII RO/FD02)(ERG#153)(J3#/G)(DOQ7, DO39, DO40)	2 DF	360	P	12627		2			D TO 220 LBS./MONTH
									<u> </u> INITIALS
									220 LBS. TO 2,200 LBS./MO. <u> </u> INITIALS
									GREATER THAN 2,200 LBS./MONTH <u> </u> INITIALS

DESIGNATED FACILITY NAME AND ADDRESS 6000 88TH STREET	SAFETY-KLEEN SYSTEMS, INC. SACRAMENTO CA 95828	I CERTIFY THAT NO MATERIAL CHANGE HAS OCCURRED EITHER IN THE CHARACTERISTICS OF THE WASTE MATERIALS OR IN THE PROCESS GENERATING THE WASTE MATERIALS.	USA EPA ID NO. A0000084517
			STATE ID NO. CA0000084517

CASH <input type="checkbox"/>		TOTAL RECEIVED		APPLY PAYMENT TO:		MANIFEST NO.		1. I AGREE TO PAY THE ABOVE CHARGES AND TO BE BOUND BY THE TERMS AND CONDITIONS SET FORTH ABOVE AND ON THE REVERSE SIDE OF THIS DOCUMENT. PLEASE CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT RECEIVED SECTION. THE INDIVIDUAL SIGNING THIS DOCUMENT IS DULY AUTHORIZED TO SIGN AND BIND CUSTOMER TO ITS TERMS.		TOTAL CHARGE (FROM ABOVE)	
CHECK NUMBER		<input type="checkbox"/> TODAY'S SERVICE/SALE <input type="checkbox"/> PREVIOUS BALANCE AS FOLLOWS				LDR MESSAGE		"This is to certify that the above-named materials are properly classified, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation."		WASTE MIN. (FROM ABOVE)	
INVOICE #		AMOUNT \$		INVOICE #		AMOUNT \$		LDR REQ'D		TOTAL DUE	
								MANIFEST CODE		DO NOT WRITE IN THE AREA BELOW	
PREVIOUS CREDIT ADD NO.								CA		2 D	
								Dated: <i>Donal Smith</i>		VISA	

CARD NO. CREDIT CARD NO.	AMEX VISA MC	EXP. DATE	IN THE EVENT OF AN EMERGENCY CALL 1-800-468-1760 (24 hours)	By:  Customer's Authorized Representative	 	0031087698 0002-5187-55 -3
CUSTOMER REFERENCE:						

SERVICE AND SALES ACKNOWLEDGMENT

Reference:
SMUD, 2009

2009



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The City of Stockton is proud to present our annual Drinking Water Quality Report and inform you about the safety of the water we deliver to you each and every day. We are dedicated to providing you with the highest quality water available while meeting all State and Federal drinking water standards. This 2009 report includes a detailed summary of our water quality, including the composition of your water and the steps we take to protect your health and safety, as well as our water quality monitoring and testing.

We are required by law to supply this information; however, the City of Stockton Municipal Utilities Department has also included information we think you will find useful and informative. If you have any questions or concerns about the 2009 Water Quality Report, or would like additional copies, please contact Robert Granberg, Deputy Director, Municipal Utilities Department via email at Robert.Granberg@ci.stockton.ca.us or call 209-937-8779.

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City of Stockton Water System.

They meet twice per month on Tuesday night at 5:30 p.m. at 425 N. El Dorado Street.

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Daimntawv tshaj tawm no muaj lus tseemceeb txog koj cov dej haus. Tshab txhais nws, los yog tham nrog tej tug neeg uas totaub txog nws.

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

**Chi tiết này thật quan trọng.
Xin nhờ người dịch cho quý vị.**

**ລາຍງານນີ້ມີຂໍ້ມູນສໍາຄັນກ່ຽວກັບນໍ້າປະປາຂອງທ່ານ. ຈົ່ງໃຫ້ຄົນອື່ນຮູ້ເລື່ອງນີ້ເພື່ອໃຫ້ທ່ານ
ຫລືໃຫ້ບັນຊາທ່ານຮູ້ເລື່ອງນີ້ເພື່ອໃຫ້ທ່ານ.**

Do you know where your water comes from?

Approximately 30 percent of the water supplied to the system originated from groundwater wells owned by the City, with the remainder being treated surface water supplied by the Stockton East Water District (SEWD). Three water reservoir sites provide for temporary storage of up to nineteen million gallons of drinking water.

SEWD receives the surface water it supplies to the Stockton area from two separate sources. The first source of surface water comes from the Calaveras River system which includes the New Hogan Reservoir. The second source of surface water comes from the Stanislaus River system which includes the New Melones Reservoir.

The use of surface water has enabled the City to reduce its dependence on groundwater to meet the needs of our customers. Eastern San Joaquin County has a problem with declining groundwater levels and use of surface water has generally improved the groundwater levels under the City's water service areas helping to conserve this valuable resource. The blending of treated surface water with our groundwater supply varies from point to point throughout our system due to seasonal demands and customer location relative to City wells. Treated surface water and groundwater have different characteristics. Hardness, taste and odor are some of these characteristics that you may notice over the course of the year.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are also available from the Safe Drinking Water Hotline (1-800-426-4791).

Radon is a radioactive gas that occurs naturally in some groundwater. It may pose a health risk when the gas is released from water into air, as occurs during showering, bathing, or washing dishes and clothes. Radon gas released from drinking water is a relatively small part of the total radon in air. There is no federal regulation for radon levels in drinking water at present.

While your drinking water meets federal and state standards for arsenic it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The USEPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.



The City's Water Conservation Program assists residential and business customers by offering incentives on water efficient devices. Residential customers may be eligible for rebates and free in-home water use surveys. The program has also developed a no-cost direct install program of high efficiency toilets for Commercial, Industrial and Institutional customers.

For more information on the Water Conservation Program, please call the Water Conservation Hotline: 1.866.STOKWTR (1.866.786.5987) or visit: www.stocktongov.com/mud.

LEAD IN WATER

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water comes primarily from materials and components associated with service lines and home plumbing.

The water delivered by the City of Stockton to your meter meets all water quality standards, but your home plumbing can affect water quality. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking and cooking.

If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline, 1.800.426.4791 or at www.epa.gov/safewater/lead.

WATER DELIVERED BY THE CITY OF STOCKTON MEETS ALL STATE AND FEDERAL DRINKING-WATER STANDARDS

The following general information is provided in order to comply with California Code of Regulations [Title 22, Chapter 15, Article 20], California Health and Safety Code [Section 116470] and the Federal Consumer Confidence Rule [40 CFR Part 141 Subpart O]. The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the State Department of Public Health (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

TEST RESULTS

The following constituents were detected in the most recent sampling of one or more of the 16 wells in service during 2009 or of the surface water which was used as a source of drinking water for the system in 2009. Regulations allow for a representative number of the wells to be sampled each year, on a rotating basis. Data in this report represent sampling from 2007 through 2009, unless otherwise noted. Regulations also allow for monitoring of some constituents less frequently than once a year. Ranges included in the tables are based on individual results whether or not compliance is determined by individual results or by averages. Analyses were performed for many other constituents that were not detected and are not included in this report. Feel free to contact the City of Stockton for a complete list of analyses and results.

Table 1a: Detected Constituents with Primary Drinking Water Standards—regulated to protect your health

Constituent	units	Primary MCL	PHG (MCLG)	Ground Sources		Surface Source		Did we meet the regulation?	Typical Source of Constituent
				Range	Average	Range	Average		
Aluminum	mg/L	1	0.6		<0.05		0.06	Yes	Erosion of natural deposits
Arsenic	µg/L	10	0.004	3 – 12	5		< 2	Yes ⁽¹⁾	Erosion of natural deposits; runoff from orchards, and electronics production wastes
Barium	mg/L	1	2	< 0.10 – 0.21	0.14		< 0.10	Yes	Erosion of natural deposits
Chromium, Total	µg/L	50	(100)	< 10 – 12	< 10		< 10	Yes	Discharge from chrome plating; erosion of natural deposits
Fluoride	mg/L	2.0	1	< 0.10 – 0.14	< 0.10		< 0.10	Yes	Erosion of natural deposits
Nitrate (as NO ₃)	mg/L	45	45	3.5 – 27	13		< 2.0	Yes	Runoff/leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Alpha Activity, Gross	pCi/L	15 ⁽²⁾	(0)	< 3.0 – 7.52	3.95		< 3.0	Yes	Erosion of natural deposits
Radium 228 ⁽⁴⁾	pCi/L	⁽³⁾	0.019	< 1.0 – 1.71	< 1.0		NR	N/A	Erosion of natural deposits
Uranium	pCi/L	20 ⁽²⁾	0.43	< 1.0 – 7.62	4.40		< 2.0	Yes	Erosion of natural deposits
Beta Activity, Gross	pCi/L	50 ⁽²⁾⁽⁵⁾	(0)	NR	NR	<4.0 – 7.52	< 4.0	Yes	Decay of natural and man-made deposits
	units	Primary MCL	PHG (MCLG)	Surface Source				Did we meet the regulation?	Typical Source of Constituent
				Percentage of samples less than 0.3 = 100%					
Turbidity ⁽⁶⁾	NTU	TT	N/A	Highest single turbidity measurement = 0.10				Yes	Soil runoff

(1) One sample from one source had an Arsenic result greater than the MCL. This well was being monitored as a new source, which requires four quarterly samples. Compliance is based on the average of the results. The average was less than the MCL.

(2) Compliance based on average values for four quarters.

(3) The MCL is based on Combined Radium (Radium 226 + Radium 228). Radium 226 and Radium 228 do not have individual MCLs. The MCL for Combined Radium is 5 pCi/L. Radium 226 was not detected.

(4) Radium 228 testing was conducted for initial monitoring required by new regulations.

(5) Effective 6-11-06, the gross Beta Particle Activity MCL is 4 millirem/year annual dose equivalent to the total body or any internal organ. 50 pCi/L is used as a screening level.

(6) For surface water systems, the Treatment Technique requires that each month the turbidity level of the filtered water is less than or equal to 0.3 NTU in 95% of the measurements and shall not exceed 1.0 NTU at any time. Turbidity is a measure of the cloudiness of the water. It is monitored as a good indicator of the effectiveness of the filtration system.

(7) Presence of coliform bacteria in no more than 5% of monthly samples.

(8) Compliance is based on the quarterly Running Annual Average. The highest level reported in the range is the result of an individual sample.

(9) Lead and Copper are required to be monitored every three years. This data is from 2007.

Constituent	units	Primary MCL (MRDL)	MCLG (MRDLG)	Distribution System		Did we meet the regulation?	Typical Source of Constituent
				Range	Average		
Total Coliform Bacteria	% positive samples	5% ⁽⁷⁾	0	0 – 0.56	0.05	Yes	Naturally present in the environment
Chlorine as Cl ₂	mg/L	(4.0)	(4.0)	0.04 – 1.27	0.55	Yes	Drinking water disinfectant added for treatment
Total Trihalomethanes (TTHM)	µg/L	80	N/A	< 0.5 – 59 ⁽⁸⁾	35	Yes	By-product of drinking water disinfection
Haloacetic Acids 5 (HAA5)	µg/L	60	N/A	< 2.0 – 20.0 ⁽⁸⁾	13.2	Yes	By-product of drinking water disinfection
Constituent	units	Action Level (AL)	PHG	Level Detected at the 90 th percentile	Number of Samples exceeding the AL	Did we meet the regulation?	Typical Source of Constituent
Copper ⁽⁹⁾	mg/L	1.3	0.3	0.13	0 of 50	Yes	Internal corrosion of household plumbing systems
Lead ⁽⁹⁾	µg/L	15	0.2	< 5	0 of 50	Yes	Internal corrosion of household plumbing systems

Table 1b: Detected Constituents with Secondary Drinking Water Standards – regulated for aesthetic qualities

Constituent	units	Secondary MCL	Ground Sources		Surface Source	Typical Source of Constituent
			Range	Average	Average	
Aluminum	µg/L	200		< 50	60	Erosion of natural deposits
Chloride	mg/L	500	5.7 – 80	26	4	Runoff/leaching from natural deposits; seawater influence
Iron	µg/L	300	< 100 – 120	< 100	< 100	Leaching from natural deposits; industrial wastes
Manganese	µg/L	50	< 20 – 50	< 20	< 20	Leaching from natural deposits
Odor	units		< 1 – 1	< 1	< 1	Naturally occurring organic materials
Specific Conductance	µS/cm		255 – 763	489	115	Substances that form ions when in water; seawater influence
Sulfate	mg/L	500	12 – 40	27	12	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids	mg/L	1,000	180 – 480	321	60	Runoff/leaching from natural deposits

Table 1c: Regulated Constituents with no MCLs –

Unregulated monitoring helps EPA and the California Department of Public Health to determine where certain contaminants occur and whether the contaminants need to be regulated.

Constituent	units	Ground Sources		Surface Source
		Range	Average	Average
Total Hardness (as CaCO ₃) ⁽¹⁾	mg/L	120 – 290	188	41.4
Boron	µg/L	< 100 – 130	< 100	< 100
Sodium	mg/L	13 – 39	20	6
Vanadium	µg/L	3.0 – 30	20	< 3.0
N-nitrosodimethylamine (NDMA)	ng/L	< 2.0 – 5.1	< 2.0	NR

(1) Conversion: Hardness (grains per gallon) = Hardness as CaCO₃ (mg/L) multiplied by 0.0584

Table 2: Other Constituents Measured

Constituent	units	Ground Sources		Surface Source
		Range	Average	Average
Total Alkalinity	mg/L	120 – 230	170	40
Calcium	mg/L	28 – 64	43	10
Magnesium	mg/L	11 – 31	20	4
Potassium	mg/L	2.4 – 6.6	4.8	< 1
Radon	pCi/L	625 – 717	671	NR

Definitions:

(AL) – Regulatory Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

(MCL) – Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. **Primary** MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. **Secondary** MCLs are set to protect the odor, taste and appearance of drinking water.

(MCLG) – Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

(MRDL) – Maximum Residual Disinfectant Level: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

(MRDLG) – Maximum Residual Disinfectant Level Goal: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

(PDWS) – Primary Drinking Water Standard: MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

(PHG) – Public Health Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

(TT) – Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Key:

< – Less than

mg/L – Milligrams per Liter

µg/L – Micrograms per Liter

µS/cm – Micro-siemens per centimeter

ng/L – Nanograms per Liter

pCi/L – Picocuries per Liter

NTU – Nephelometric Turbidity Unit

N/A – Not Applicable

NR – Testing not required

In 2001, the City of Stockton, in cooperation with the State Department of Public Health, completed the Drinking Water Source Assessment and Protection Assessment for the City well system. The following information is presented as a result of this assessment. The source is considered most vulnerable to the following activities not associated with any detected contaminants:

- Automobile - Gas Stations
- Plastics/synthetics producers
- Automobile - repair shops
- Fleet/truck/bus terminals
- Airports-Maintenance/fueling areas
- Underground storage tanks - Confirmed leaking tanks
- Chemical/Petroleum processing/storage
- NPDES/WDR permitted discharges
- Photo processing/printing
- Housing - high density
- Agricultural drainage

The source is considered most vulnerable to the following activities associated with contaminants detected in the water supply:

- Metal plating/finishing/fabricating activities can be associated with the detected aluminum and tetrachloroethylene. Aluminum can occur naturally in the environment as well.
- Sewer collection systems, septic systems (high density) and animal operations can be associated with nitrates detected.
- Electrical/electronic manufacturing activities can be associated with aluminum contaminants detected in the water supply.

A copy of the complete assessment may be viewed at:

**CALIFORNIA DEPARTMENT OF PUBLIC HEALTH
DRINKING WATER FIELD OPERATIONS BRANCH
STOCKTON DISTRICT OFFICE
31 E CHANNEL STREET, RM 270
STOCKTON, CA 95202
Phone: (209) 948-7696**

A copy of the summary assessment is available upon your request. Please contact Joseph O. Spano, P.E., District Engineer, at the above address or phone number for a copy.

SOME CONTAMINANTS THAT MAY BE PRESENT IN SOURCE WATER INCLUDE: Microbial contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. Inorganic contaminants, such as salts and metals, that can be naturally- occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming. Pesticides and herbicides that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses. Organic chemical contaminants, including synthetic and volatile organic chemicals that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems. Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.

Reference:
SMUD, 2010



[Stockton Homepage](#) [For Residents](#) [For Visitors](#) [For Businesses](#) [Helpful Resources](#) [Contact Us](#) [SEARCH](#)

Municipal Utilities Department: 2500 Navy Drive * Stockton, CA * 95206 * (209) 937-8750 * (209) 937-8708 (fax) * [Send an E-Mail](#)



Municipal Utilities (MUD)

Municipal Utilities Department

General Info WHAT IS STORMWATER?

The water that flows into our streets and storm drains from rainstorms, garden hoses, sprinklers or other water sources is called STORMWATER. This water NEVER goes to a wastewater treatment plant to be cleaned. It flows directly into our local waterways, carrying with it pollutants from yards, streets, driveways and other impermeable surfaces.



STORMWATER CONTACT INFO:

[Courtney
Vasquez](#)

Program Mgr III
(209) 937-8705

**EMERGENCY
NUMBER**
(209) 937-8341

General Info

- Utility Services
 - Water
 - Waste water
 - Stormwater
 - Water Conservation
- Billing / Account Info
- **City or County?**
- Fee Schedule (pdf)
- Report A Problem
- Service Area
- About MUD
- FAQ
- Project Info /Updates
- Regulatory Info
- Staff
- Contact us

Business

- Getting Started
- Permits / Fees
- Reports / Forms
- Inspection Program
- Bids / RFPs
- Helpful Resources

Residents

- Water - Sewer
- Permits / Fees
- Reports / Forms
- Helpful Resources

Education/ Conservation

- The Basics
 - Water
 - Wastewater
 - Stormwater
- Bird Watching
- Conservation Tips
- Teachers / Parents
- Events
- Volunteer

What's New?

[2010 General Construction Permit](#)

[Click here](#) for the original General Construction Permit on the Regional Water Quality Control Board website

The [2005-2006 Stormwater Annual Report](#) is now available

Learn more about what's causing water pollution in Stockton.
[Press Release](#)

[2005 Follow up Stormwater Community Survey
and the Original
Stormwater Community Baseline Survey](#)
(Adobe Acrobat PDF)

Manage pests while protecting our water
[see how - click here](#)



General Info



Community



Business

Reference:
SWRCB, 2009



Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board

Division of Financial Assistance

1001 I Street • Sacramento, California 95814
P.O. Box 944212 • Sacramento, California • 94244-2120
(916) 341-5660 FAX (916) 341-5806 • www.waterboards.ca.gov/cwphome/ustcf



Arnold Schwarzenegger
Governor

USTCF 5-YEAR REVIEW SUMMARY 2ND REVIEW – APRIL 2009

USTCF Claim No.: 12540
Claimant Name: Barbara Hyduke
Site Name: Valley Motors
Site Address: 800 Main Street E
City: Stockton
LOP: San Joaquin County

Caseworker: Michael Infurna
Lead Agency Case No: 1166
Global ID: T0607700430
Date LOC Issued: 9/30/97
USTCF Expenditures to Date: \$249,406
Priority Class: B

I. CASE INFORMATION

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active?	Date
T-1	?	Gasoline	Removed	Oct 90
T-2	?	Gasoline	Removed	Oct 90

II. RELEASE INFORMATION

Source of Release: USTs
Date of Release: 10/25/90
Affected Media: soil and groundwater

III. SITE CHARACTERIZATION INFORMATION

A. Site Information

- GW BASIN: unnamed basin
- BENEFICIAL USES: Municipal, Irrigation, Industrial
- DISTANCE TO NEAREST SUPPLY WELL: according to Geotracker, three wells identified within ½ mile of the site, wells are 1693 feet and 1727 feet from the site
- DISTANCE BETWEEN KNOWN SHALLOW GW CONTAMINATION AND AQUIFER: impacted
- MINIMUM GROUNDWATER DEPTH: 30 feet
- MAXIMUM GROUNDWATER DEPTH: 45 feet
- FLOW DIRECTION: northeast
- SOIL TYPES: interbedded and intermixed sand, silt, and clay



B. Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Most Recent DTW (Sep 08)
VM-1	Jul 96	?	32.21
VM-2	Jul 96	?	31.74
VM-3	Jul 96	?	32.27
VM-4	Aug 98	?	31.50
VM-5	Apr 03	?	31.78
VM-6	Apr 03	?	31.87
VM-7	Apr 03	?	31.34
VM-8	Apr 03	?	31.88

- MTBE THREAT CLASSIFICATION: N
- LAND USE DESIGNATION: residential and commercial
- ESTIMATED WATER QUALITY OBJECTIVES (WQO'S) FOR SITE: Per the Water Quality Control Plan (Basin Plan) for the Sacramento River Basin and the San Joaquin River Basin (Fourth Edition).

IV. MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS

Contaminant	Soil (mg/kg)		ESLs		Water (ug/L)		WQOs (ug/L)
	Maximum	Latest	Shallow Soil ¹ Residential (mg/kg)	Industrial ² Dermal (mg/kg)	Maximum	Latest (Sep 08)	
TPH-g	NA	NA	83	450	110,000	39,900	5
TPH-d	NA	NA	83	450	9,680	NA	56
Benzene	NA	NA	0.044	0.27	10,000	2,410	0.15
Toluene	NA	NA	2.9	210	22,000	3,690	42
Ethylbenzene	NA	NA	2.3	5.0	4,900	2,860	29
Xylenes	NA	NA	2.3	100	19,000	7,840	17
MTBE	NA	NA	0.023	65	1,140	NA	5
TBA	NA	NA	0.075	320,000	NA	NA	12
1,2-DCA	NA	NA	0.0045	0.48	NA	NA	0.4
Lead	NA	NA	200	750	NA	NA	15
PCE	NA	NA	0.37	0.95	NA	NA	0.06
TCE	NA	NA	0.46	4.1	NA	NA	0.8

1 Environmental Screening Levels (ESLs) Shallow Soil <3m, Groundwater is source of Drinking Water.

2 ESLs, Shallow Soil Screening Levels, Groundwater not source of Drinking Water, Commercial Use, Direct Exposure, Worker

NA Not Analyzed, Not Applicable, or Data Not Available

WQO Water Quality Objectives

FP Free phase product in site wells

V. FREE PRODUCT: none identified

VI. SOIL AND GROUNDWATER REMEDIATION

A. Soil Excavation: unknown volume

B. In-Situ Soil Remediation: none identified

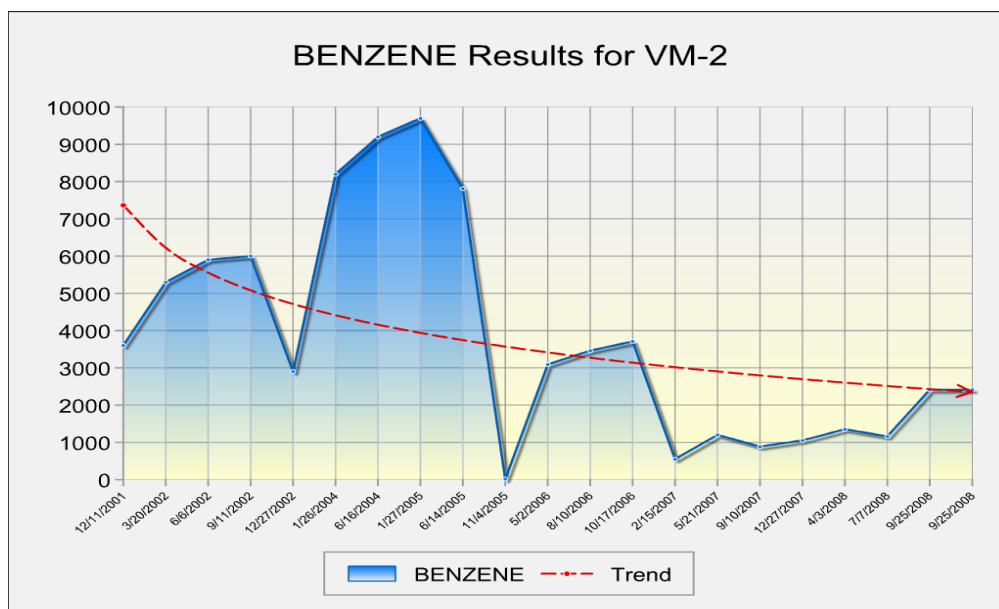
- METHOD: soil vapor extraction
- DURATION: 2005 through Nov 06

C. Groundwater Remediation:

- METHOD 1: air sparging pilot test, ineffective
- METHOD 2: groundwater extraction pilot test, pending

D. Groundwater Trends:

- Benzene trends are shown below:



VII. SENSITIVE RECEPTOR SURVEY: three wells identified within ½ mile of the site

VIII. COMMENTS AND JUSTIFICATION FOR RECOMMENDED ACTION

- A. Site Description:** active retail gasoline station
- B. Site History:** the extent of groundwater contamination is defined
- C. Groundwater Monitoring Summary:** strong monitoring history
- D. Remediation Summary:** soil vapor extraction, groundwater extraction pilot test is pending
- E. Contaminant Exposure Pathway Evaluation:** unknown

F. Recommendation:

In April 2008, the Fund made the following recommendation: San Joaquin County LOP approved a remediation test work plan in April 2008. The Fund concurs with this action and will review this site next year to track progress.

UPDATED, April 2009: This investigation has been underway for 19 years. The Fund recommends that active remediation be conducted to reduce contaminant mass and achieve Water Quality Objectives in a timely manner. By letter on 9 March 2009, the San Joaquin County LOP directed the Responsible Party to reduce monitoring costs. The Fund concurs and will review this site next year to track progress.

Kirk Larson, P.G. _____ Date _____
 Technical Review Unit
 (916) 341-5663

Robert Trommer, C.H.G. Date
Chief, Technical Review Unit
(916) 341-5684

Reference:
UEC, 2008

FIRST QUARTER 2008 REPORT

Valley Motors

**800 East Main Street
Stockton, California**

May 1, 2008

Prepared by

Upgradient Environmental Consultants
3369 Kimberly Road
Cameron Park, CA 95682

Prepared for

Mr. Tom O'Neill
P. O. Box 923
Stockton, CA 95201

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REMARKS AND SIGNATURES

The conclusions contained in this report represent a professional interpretation, and are based on a limited amount of data, some of which has been supplied by an independent laboratory. The work has been performed in accordance with currently accepted hydrogeologic and engineering practices, and recommendations have been provided in accordance with regulatory requirements. No other warranty is implied.


CLIENT: VALLEY MOTORS
P. O. Box 923
Stockton, California

REPORT TITLE: FIRST QUARTER 2008 REPORT

DATE: May 1, 2008

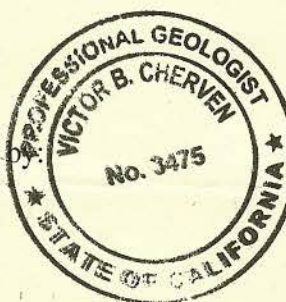
CONSULTANT: UPGRADIENT ENVIRONMENTAL CONSULTANTS
3369 Kimberly Road
Cameron Park, California


Field Work by:


Clyde L. Hebbron
Senior Project Geologist

Date: 5/5/08


Report by:




Victor B. Cherven, Ph. D.
Professional Geologist #3475

Date: 5/2/08

Reviewed by:


Clyde L. Hebbron
Professional Geologist #4717

Date: 5/5/08

EXECUTIVE SUMMARY

Groundwater at Valley Motors was monitored on April 3, 2008. The water table has risen between 6 inches and 1 foot since December 2007, and was between 30 and 31.5 feet below grade. The groundwater flow direction remains eastward.

Groundwater samples were collected from seven of eight monitoring wells. The samples were analyzed for Total Petroleum Hydrocarbons in the range of gasoline and volatile aromatic compounds (BTEX). TPH-g concentrations decreased in VM-1 but increased in VM-2 and VM-4. BTEX concentrations also increased in VM-2 and VM-4. Although VM-1 and VM-2 are now exhibiting a general decline in hydrocarbon concentrations, the impact to VM-4 continues to increase. This suggests that the hydrocarbon plume is migrating eastward, down the hydraulic gradient.

Graphs illustrating hydrocarbon concentrations over time in various wells have been updated to show recent changes. They illustrate the long-term decline in concentrations in VM-1, several annual cycles of rising and falling concentrations superimposed on the long-term increase in concentrations in VM-2, and the long-term increase in concentrations in VM-4. These results are discussed in relation to analytical results for older soil samples and changes in the depth of the water table over time.

1.0 INTRODUCTION

Valley Motors operates a wholesale used car dealership at 800 East Main Street in Stockton, California and is owned by Mrs. Barbara Hyduke. Investigation of the extent of hydrocarbon contamination beneath the Valley Motors property has been directed by San Joaquin County Public Health Services, Environmental Health Division (PHS/EHD).

2.0 BACKGROUND

2.1 Site Location and Description

The site is located several blocks east of downtown Stockton and several blocks north of Mormon Slough (Figure 1). It occupies an L-shaped parcel of land at the corner of Main and Grant Streets. The area is zoned commercial and light industrial. Small businesses and a vacant lot are located to the north, across Main Street, and a paint company is located to the west, across Grant Street. The topography in the area is flat.

2.2 Previous Work

After several years of investigation and monitoring, Upgradient Environmental submitted a *Problem Assessment Report and Soil Remediation Plan* on behalf of Valley Motors in October 2003. That report summarizes all previous work that has been performed. The reader is referred to that report for information about the history of the investigation.

3.0 PROCEDURES

The depth to groundwater was measured and water samples were collected on April 3, 2008. The wells were opened and allowed to equalize with atmospheric pressure before the depth to groundwater was measured. Depth measurements were recorded on the Well Monitor Report (Appendix A).

Fifteen gallons of water were purged from wells VM-1 through VM-3 before samples were collected. Twenty gallons were purged from VM-4, and up to six gallons were purged from the other three wells. After purging, three 40-ml vials were collected from each well, labeled, and placed in a cooled ice chest before transport to Excelchem Analytical Laboratory for analysis. No samples were collected from VM-8, which is scheduled only for annual sampling in the second calendar quarter. The laboratory report is included in Appendix B.

4.0 RESULTS

4.1 Depth to Groundwater and Hydraulic Gradient

The depth to groundwater on April 3 was between 30 and 31.5 feet, which is about 6 inches shallower than in December (Table 1). The calculated elevation of the water table is approximately 15 feet below sea level along Grant Street, deepening to 15.5 feet at the eastern edge of the site. This eastward slope (Figure 2) has remained remarkably consistent for more than 10 years, although the hydraulic gradient in April was somewhat flatter than in December 2007.

4.2 Analytical Results

After falling to an annual low in February of 2007, hydrocarbon concentrations began to rise in VM-2, dipped slightly in September, and then continued to rise through the fourth quarter of 2007 and into the first quarter of 2008. The TPH-g concentration rose from 16,500 to 24,500 parts per billion and the Total BTEX concentration rose from 6,840 to 9,850 ppb. This well has exhibited a cyclic pattern of rising and falling concentrations for more than 10 years, with the cycles superimposed on an overall trend of increasing concentrations until late 2005 (Figure 3). In six of those years (1998, 2000, 2001, 2002, 2003, and 2006) the concentration reached a peak during the late summer or early autumn (August, September, or October) and then declined as winter approached. Hence, the 2007-early 2008 results are an anomaly, because the concentration *declined* slightly in early autumn and then rose throughout the winter. Possible reasons for this cyclicity are discussed in section 5.0.

In contrast to VM-2, the TPH-g concentration in VM-1 declined between December and April from 753 to 482 parts per billion. The Total BTEX concentration, which is just due to the presence of benzene, remained constant at 1.7 parts per billion. Unlike VM-2, the overall trend in VM-1 has been a decrease in concentration. Cyclic changes are also evident in VM-1 (Figure 4), but unlike VM-2 the annual peak can occur at any time between January and October and is not restricted to the late summer or early autumn. However, the annual low concentration occurs most frequently during the fourth quarter (December of 1996, 2000, 2001, and 2002).

The trend in VM-4 is somewhat similar to VM-2, with an overall increase in the TPH-g concentration over time. However, this trend did not begin until June of 2004, at least nine years *after* the increase began in VM-2 (c.f. Figure 3). Prior to that, the concentration in VM-4 was stable at between 100 and 500 parts per billion (Figure 5). Since then, the concentration has mostly been between 1,000 and 2,000 ppb, except for June 2005, August 2006, February 2007, and December 2007 when it was below 1,000 ppb and November 2006, when it was above 2,000 ppb. Annual cycles of rising and falling concentration are not so evident in this well.

The present extent of gasoline in groundwater is illustrated in Figure 6. This map is a composite of the shallow (25-32 feet BSG) deep (45-55 feet BSG) water-bearing zones. The 500, 1,000, and 10,000 ppb contours are based on samples from the deep zone in the center of the site, and the 100 ppb contour is based on the samples from the shallow zone near the margin of the site. It is

apparent from the map that the plume remains centered near VM-2, and that proposed groundwater extraction well VM-9 is located in an area where TPH-g concentrations are likely to exceed 1,000 ppb. Proposed extraction well VM-10, on the other hand, is located beyond the 500 ppb contour. Based on this map, it appears that a location west of HP-2 would be better.

5.0 DISCUSSION

The graphs in Figures 3-5 bring out several interesting aspects of groundwater contamination at the site. Figure 4 reveals that hydrocarbon concentrations near the western boundary of the site were greater than 1,000 parts per billion in VM-1 at least as early as 1996, and increased to more than 2,500 ppb by the end of 1997. They stayed above that level until early 2000. A short distance to the east, at VM-2, the concentration was more than 4,000 ppb in 1996 and had risen over 6,000 ppb by the end of 1997. By early 2000, the concentration had climbed to more than 30,000 ppb. Thus, concentrations were rising in both wells throughout the latter half of the 1990's. The underground storage tanks beneath the sidewalk on Grant Street had been removed 5 years prior, in 1990.

When Hunter & Associates (H&A) conducted the initial drilling investigation in 1992, the maximum depth at which hydrocarbons (BTEX) were detected in soil was 26 feet. Samples from 26 feet to the bottom of the borings (40 feet) were not impacted, groundwater was not encountered, and H&A reported that the San Joaquin County Flood Control District groundwater elevation map for 1992 estimated the depth to groundwater at approximately 70 feet. Thus, H&A drew the logical conclusion that if soil below 26 feet was not impacted in 1992, it is highly unlikely that groundwater at 70 feet was impacted at that time by any gasoline that may have leaked from the underground storage tanks on Grant Street. By the time Upgradient Environmental drilled VM-1 in 1995, groundwater was at 43 feet and was impacted at a concentration of 1,300 ppb TPH-g. This suggests that either 1) gasoline leached downward from 26 to 43 feet (17 vertical feet) in three years (1992 to 1995) while groundwater was rising from approximately 70 to 43 feet (27 vertical feet) or 2) groundwater at 70 feet was already impacted in 1992 by some other (off-site) source and the impact was detected when groundwater rose to 43 feet in 1995 and was sampled in VM-1. The latter possibility better accounts for two observations that were reported in our *Soil Assessment Report*, dated April 24, 1998: 1) TPH-g and BTEX were not detected in the soil samples from 30 to 45 feet in VM-1; and 2) tetrachloroethane (PCE) and its daughter (degradation) products trichloroethane (TCE) and dichloroethane (1,2-DCE) were detected in the water sample from VM-1. These chlorinated hydrocarbons are not typically found in gasoline, but are commonly used as solvents in dry cleaning, painting, and related industrial processes.

A second interesting observation from Figures 3-5 is that concentrations in VM-1 peaked in 1999 and have fallen more or less continuously since then. When the peak was reached in February 1999, the depth to groundwater in VM-1 was 33 feet, but it continued to rise until mid-2001, at which time it was less than 31 feet. Meanwhile, instead of peaking in early 1999, the concentration in VM-2 continued to rise for another 6 years until late 2005 (Figure 3). Similarly, the concentration in VM-4 was low from 1999 to 2004, but has risen since then. The most

obvious explanation for this observation is that hydrocarbons were migrating eastward from VM-1 toward VM-2 and then from VM-2 to VM-4. Another possibility, though less likely, is that hydrocarbons were degrading in VM-1 but were continuing to desorb into groundwater in VM-2. Soil vapor extraction activity that was conducted in 2005 is even less likely to have had an effect in VM-1, as shown by the air sparging pilot test that was performed in 2007. That test demonstrated that the clay layer between 32 and 40 feet impedes air and vapor flow from the deeper water-bearing zone to the shallow zone where vapor extraction took place.

The third observation to be made from Figures 3-5 is the annual cyclicity of falling and rising TPH-g concentrations, as mentioned in section 4.2. Both VM-1 and VM-2 tend to yield their annual lowest TPH-g concentrations in the 4th quarter (December) or early part of the 1st quarter (January), which might suggest a correlation with wet weather and perhaps a rising water table. However, perusal of Table 1 shows that the water table is sometimes lower late in the year than it is during the spring and early summer (for example, 37.63 feet in January 2005 and 35.28 feet in June 2005 in VM-2). Thus, it does not appear that lower concentrations late in the year are due to dilution by groundwater recharge.

The concentration peaks that occur in VM-2 during the late summer or early autumn are also of interest, because they too do not clearly correlate with a rising or falling water table. For example, when the TPH-g concentration reached its annual peak of 72,000 ppb in September 2001, the depth to groundwater was 31.28 feet. The following December, the concentration had fallen to 59,000 ppb and the depth had fallen to 33.11 feet (22 inches deeper). By March, the concentration had dropped to 47,000 ppb, but the water table was unchanged at 33.09 feet. In June, the concentration was essentially unchanged (46,000 ppb) but the water table had fallen to 33.36 feet (>3 inches). In September, the concentration peaked again (at 68,000 ppb) but the water table was still falling and had dropped to 34.75 feet (almost 17 inches). Similar examples of non-corresponding changes in water depth and hydrocarbon concentration can be gleaned from further examination of Tables 1 and 2.

If TPH-g concentrations do not correlate with changes in the depth to groundwater, then other factors must be affecting the analytical results. Variations in sampling technique, such as purge volumes or the recovery time between purging and sampling, are often cited as possible explanations, but these possibilities are difficult to evaluate. Still, they cannot be discounted. Another hypothesis, which also cannot be evaluated with the available data, is the possibility that the rate at which hydrocarbons enter groundwater varies from season to season. For example, if the source of the hydrocarbons is the paint store on the west side of Grant Street, it is possible that a ramp-up in business activity during the spring and summer could create an influx of chlorinated solvents into groundwater that would be detected in the Valley Motors wells in the autumn. During the winter months, when weather conditions are less favorable for painting work, the rate of introduction of hydrocarbons would be lower. Such an explanation, however, would depend on a subsurface flow path that would allow rapid migration across the site.

6.0 RECOMMENDATIONS

San Joaquin County EHD has approved the March 2008 work plan to perform a groundwater extraction (pump and treat) pilot test to treat the impacted groundwater in the deeper water-bearing zone. The next step in the investigation will be to submit an application to EHD for a drilling permit to install the proposed extraction wells. We recommend moving the proposed location of VM-10 approximately 30 to the west of the previous location, where hydrocarbon concentrations appear to exceed 500 parts per billion. Drilling should take place some time during the second quarter of 2008, assuming that Valley Motor's account has been brought current, pre-2007 invoices have been paid, and the next reimbursement request has been submitted to the Underground Storage Tank Fund.

APPENDIX F:
EPA Quick Reference Fact Sheet



SITE ASSESSMENT:

Evaluating Risks at Superfund Sites

Office of Emergency and Remedial Response
Hazardous Site Evaluation Division 5204G

Quick Reference Fact Sheet

The Challenge of the Superfund Program

A series of headline-grabbing stories in the late 1970s, such as Love Canal, gave Americans a crash course in the perils of ignoring hazardous waste. At that time, there were no Federal regulations to protect the country against the dangers posed by hazardous substances (mainly industrial chemicals, accumulated pesticides, cleaning solvents, and other chemical products) abandoned at sites throughout the nation. And so, in 1980 Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, to address these problems.

The major goal of the Superfund program is to protect human health and the environment by cleaning up areas, known as "sites," where hazardous waste contamination exists. The U.S. Environmental Protection Agency (EPA) is responsible for implementing the Superfund program.

At the time it passed the Superfund law, Congress believed that the problems associated with uncontrolled releases of hazardous waste could be



handled in five years with \$1.6 billion dollars. However, as more and more sites were identified, it became apparent that the problems were larger than anyone had originally believed. Thus, Congress passed the Superfund Amendments and Reauthorization Act (SARA) in 1986. SARA expanded and strengthened the authorities given to EPA in the original legislation and provided a budget of \$8.5 billion over five years. Superfund was extended for another three years in 1991.

What is EPA's Job at Superfund Sites?

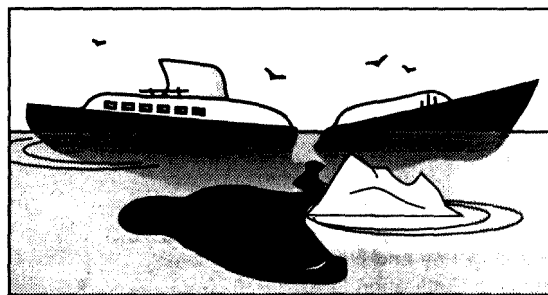
For more than 10 years, EPA has been implementing the Superfund law by:

- ☛ Evaluating potential hazardous waste sites to determine if a problem exists;
- ☛ Finding the parties who caused the hazardous waste problems and directing them to address these problems under EPA oversight or requiring them to repay EPA for addressing these problems; and
- ☛ Reducing immediate risks and tackling complex hazardous waste problems.

The Superfund site assessment process generally begins with the discovery of contamination at a site and ends with the completion of remediation (i.e., cleaning up the waste at a site) activities. This fact sheet explains the early part of the process, called the *site assessment* phase.

The National Response Center

The National Response Center (NRC), staffed by Coast Guard personnel, is the primary agency to contact for reporting all oil, chemical, and biological discharges into the environment anywhere in the U.S. and its territories. It is responsible for:



- Maintaining a telephone hotline 365 days a year, 24 hours a day;
- Providing emergency response support in specific incidents; and
- Notifying other Federal agencies of reports of pollution incidents.

To report a pollution incident, such as an oil spill, a pipeline system failure, or a transportation accident involving hazardous material, call the NRC hotline at **800-424-8802**.

1

Site Discovery

Hazardous waste sites are discovered in various ways. Sometimes concerned residents find drums filled with unknown substances surrounded by dead vegetation and call the NRC, EPA, or the State environmental agency; or an anonymous caller to the NRC or EPA reports suspicious dumping activities. Many sites come to EPA's attention through routine inspections conducted by other Federal, State, or local government officials. Other sites have resulted from a hazardous waste spill or an explosion. EPA enters these sites into a computer system that tracks any future Superfund activities.

2

Preliminary Assessment

After learning about a site, the next step in the site assessment process is to gather existing information about the site. EPA calls this the *preliminary assessment*. Anyone can request that a preliminary assessment be performed at a site by petitioning EPA, the State environmental agency, local representatives, or health officials.

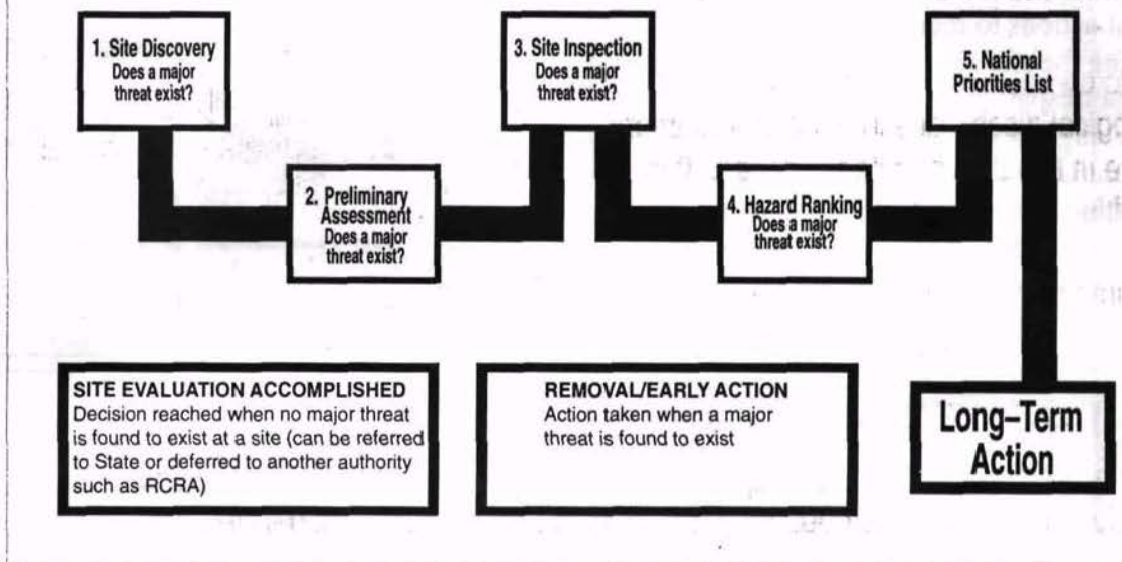
During the preliminary assessment, EPA or the State environmental agency:

- ◆ Reviews available background records;
- ◆ Determines the size of the site and the area around it;

- ◆ Tries to determine whether hazardous substances are involved;
- ◆ Identifies actual or potential pollution victims, such as the nearby population and sensitive environments;
- ◆ Makes phone calls or interviews people who may be familiar with the site; and
- ◆ Evaluates the need for early action using EPA's removal authority.

By gathering information and possibly visiting the site, EPA or the State environmental agency is able to determine if major threats exist and if cleanup is needed. Many times, the preliminary assessment indicates that no major threats exist.

The Site Assessment Process



However, if hazardous substances do pose an immediate threat, EPA quickly acts to address the threat. When a site presents an immediate danger to human health or the environment—for example, there is the potential for a fire or an explosion or the drinking water is contaminated as a result of hazardous substances leaking out of drums—EPA can move quickly to address site contamination. This action is called a *removal* or an *early action*. Additional information on early actions can be found on page 4.

EPA or the State environmental agency then decides if further Federal actions are required. Of the more than 35,000 sites discovered since 1980, only a small percentage have needed further remedial action under the Federal program.

A report is prepared at the completion of the preliminary assessment. The report includes a description of any hazardous substance release, the possible source of the release, whether the contamination could endanger people or the environment, and the pathways of the release. The information outlined in this report is formed into hypotheses that are tested if further investigation takes place. You can request a copy of this report once it becomes final—just send your name and address to your EPA regional Superfund office. See page 8 for further information on these contacts.

Sometimes it is difficult to tell if there is contamination at the site based on the initial information gathering. When this happens, EPA moves on to the next step of the site assessment, called the *site inspection*.

Making Polluters Pay

One of the major goals of the Superfund program is to have the responsible parties pay for or conduct remedial activities at hazardous waste sites. To accomplish this goal, EPA:

- ◆ Researches and determines who is responsible for contaminating the site;
- ◆ Issues an order requiring the private parties to perform cleanup actions with EPA oversight; and
- ◆ Recovers costs that EPA spends on site activities from the private parties.

Removals/Early Actions

EPA can take action quickly if hazardous substances pose an immediate threat to human health or the environment. These actions are called *removals* or *early actions* because EPA rapidly eliminates or reduces the risks at the site. EPA can take a number of actions to reduce risks, including:

- ◆ Fencing the site and posting warning signs to secure the site against trespassers;
- ◆ Removing, containing, or treating the source of the contamination;
- ◆ Providing homes and businesses with safe drinking water; and, as a last resort,
- ◆ Temporarily relocating residents away from site contamination.

"EPA can take action quickly if hazardous substances pose an immediate threat to human health or the environment."

3

Site Inspection

If the preliminary assessment shows that hazardous substances at the site may threaten residents or the environment, EPA performs a site inspection. During the site inspection, EPA or the State collects samples of the suspected hazardous substances in nearby soil and water. EPA may initiate a concurrent SI/remedial investigation at those sites that are most serious and determined early as requiring long-term action. Sometimes, wells have to be drilled to sample the ground water. Site inspectors may wear protective gear, including coveralls and respirators, to protect themselves against any hazardous substances present at the site. Samples collected during the site inspection are sent to a laboratory for analysis to help EPA answer many questions, such as:

- ◆ Are hazardous substances present at the site? If so, what are they, and approximately

how much of each substance is at the site?

- ◆ Have these hazardous substances been released into the environment? If so, when did the releases occur, and where did they originate?
- ◆ Have people been exposed to the hazardous substances? If so, how many people?
- ◆ Do these hazardous substances occur naturally in the immediate area of the site? At what concentrations?
- ◆ Have conditions at the site gotten worse since the preliminary assessment? If so, is an early action or removal needed? (See box above.)

Often, the site inspection indicates that there is no release of major contamination at the site, or that the hazardous substances are safely contained and have no possibility of being released into the environment. In these situations, EPA decides that no further Federal inspections or remedial actions are needed. This decision is referred to as *site evaluation accomplished*. (See page 5 for more details on the *site evaluation accomplished* decision.)

At the completion of the site inspection, a report is prepared. This report is available to the public—call your EPA regional Superfund office for a copy. See page 8 for the phone numbers of these offices.

"During the site inspection, EPA or the State collects samples of the suspected hazardous substances in nearby soil and water."

At sites with particularly complex conditions, EPA may need to perform a second SI to obtain legally defensible documentation of the releases.

Because EPA has limited resources, a method has been developed to rank the sites and set priorities throughout the nation. That method, known as the *Hazard Ranking System*, is the next step in the site assessment process.

4

Hazard Ranking System

EPA uses the information collected during the preliminary assessment and site inspection to evaluate the conditions at the site and determine the need for long-term remedial actions. When evaluating the seriousness of contamination at a site, EPA asks the following questions:

- ◆ Are people or sensitive environments, such as wetlands or endangered species, on or near the site?
- ◆ What is the toxic nature and volume of waste at the site?
- ◆ What is the possibility that a hazardous substance is in or will escape into ground water, surface water, air, or soil?

Based on answers to these questions, each site is given a score between zero and 100. Sites that score 28.5 or above move to the next step in the process: listing on the *National Priorities List*. Sites that score below 28.5 are referred to the State for further action.

5

National Priorities List

Sites that are listed on the *National Priorities List* present a potential threat to human health and the environment, and require further study to determine what, if any, remediation is necessary. EPA can pay for and conduct

Site Evaluation Accomplished

In many instances, site investigators find that potential sites do not warrant Federal action under the Superfund program. This conclusion can be attributed to one of two reasons:

- ◆ The contaminants present at the site do not pose a major threat to the local population or environment; or
- ◆ The site should be addressed by another Federal authority, such as EPA's Resource Conservation and Recovery Act (RCRA) hazardous waste management program.

When investigators reach this conclusion, the site evaluation is considered accomplished. A site can reach this point at several places during the site assessment process, namely at the conclusion of the preliminary assessment or the site inspection, or once the site is scored under the Hazard Ranking System.

remedial actions at NPL sites if the responsible parties are unable or unwilling to take action themselves. There are three ways a site can be listed on the National Priorities List:

- ◆ It scores 28.5 or above on the Hazard Ranking System;
- ◆ If the State where the site is located gives it top priority, the site is listed on the National Priorities List regardless of the HRS score; or
- ◆ EPA lists the site, regardless of its score, because all of the following are true about the site:
 - ▼ The Agency for Toxic Substances and Disease Registry (ATSDR), a group within the U.S. Public Health Service, issues a health advisory recommending that the local population be *dissociated* from the site (i.e., that the people be temporarily relocated or the immediate public health threat be removed);
 - ▼ EPA determines that the site poses a significant threat to human health; and
 - ▼ Conducting long-term remediation activities will be more effective than

addressing site contamination through early actions.

The list of proposed sites is published in the *Federal Register*, a publication of legal notices issued by Federal agencies. The community typically has 60 days to comment on the list. After considering all comments, EPA publishes a list of those sites that are officially on the National Priorities List. When a site is added to the National Priorities List, the site assessment is completed. Long-term actions take place during the next phase. See page 6 for more details on long-term actions.

As a Concerned Citizen, How Can I Help ?

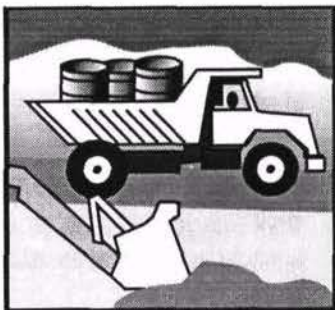
- ☛ Read this fact sheet.
- ☛ Call EPA with any potential sites in your area.
- ☛ Provide EPA with site information.
- ☛ Comment on proposed listing of sites on the National Priorities List.
- ☛ If the site is listed on the NPL, work with your citizens' group to apply for a technical assistance grant.



Addressing Sites in the Long Term

Once a site is placed on the National Priorities List, it enters the long-term or remedial phase. The stages of this phase include:

- ✓ Investigating to fully determine the nature and extent of contamination at the site, which can include a public health assessment done by the ATSDR;
- ✓ Exploring possible technologies to address site contamination;
- ✓ Selecting the appropriate technologies—also called remedies;
- ✓ Documenting the selected remedies in a record of decision (ROD);
- ✓ Designing and constructing the technologies associated with the selected remedies;
- ✓ If necessary, operating and maintaining the technologies for several years (e.g., long-term treatment of ground water) to ensure safety levels are reached; and
- ✓ Deleting the site from the National Priorities List, completing Superfund's process and mission.



Some Commonly Asked Questions

Q: What exactly is a site?

A: EPA designates the area in which contamination exists as the "site." Samples are taken to define the area of contamination. At any time during the cleanup process the site may be expanded if contamination is discovered to have spread further.

Q: How long will it take to find out if a threat exists?

A: Within one year of discovering the site, EPA must perform a preliminary assessment. The preliminary assessment allows EPA to determine if there is an immediate danger at the site; if so, EPA takes the proper precautions. You will be notified if you are in danger. EPA may also contact you to determine what you know about the site.

Q: What is the State's role in all these investigations?

A: The State can take the lead in investigating and addressing contamination. It also provides EPA with background information on (1) immediate threats to the population or environment, and (2) any parties that might be responsible for site contamination. The State shares in the cost of any long-term actions conducted by the Superfund program, comments on the proposal of sites to the National Priorities List, and concurs on the selected remedies and final deletion of sites from the National Priorities List.

Q: Why are private contractors used to assess sites?

A: EPA has a limited workforce. By using private contractors, EPA is able to investigate more sites. Also, EPA is able to draw on the expertise of private contracting companies.

Q: Why are there so many steps in the evaluation process? Why can't you just take away all the contaminated materials right now, just to be safe?

A: When EPA assesses a site, it first determines if contamination poses any threats to the health of the local population and the integrity of the environment. Dealing with worst sites first is one of Superfund's national goals. By evaluating contamination in a phased approach, EPA can quickly identify sites that pose the greatest threats and move them through the site assessment process. Once EPA understands the conditions present at a site, it searches for the remedy that will best protect public health and the environment. Cost is only one factor in weighing equally protective remedies. Many sites do not warrant actions because no major threat exists. However, if a significant threat does exist, EPA will take action.

about Superfund Sites

Q: If a site is added to the National Priorities List, how will we know when EPA has completed the cleanup efforts?

A: EPA notifies the public and requests their comments on the actions proposed to treat site contaminants. In addition, the community is notified when a site will be deleted from the National Priorities List. The entire process can take as long as 7 years; at sites where ground water is contaminated, it can take even longer.

Q: I live next door to a site and I see EPA and contractor personnel wearing "moon suits." Am I safe?

A: EPA and contractor personnel wear protective gear because they might actually be handling hazardous materials. Also, these people are regularly exposed to contaminants at different sites and do not always know what contaminants they are handling. EPA takes steps to protect the public from coming in contact with the site contamination. If a dangerous situation arises, you will be notified immediately.

Q: If a site is added to the National Priorities List, who pays for the activities?

A: EPA issues legal orders requiring the responsible parties to conduct site cleanup activities under EPA oversight. If the parties do not cooperate, Superfund pays and files suit for reimbursement from responsible parties. The sources of this fund are taxes on the chemical and oil industries; only a small fraction of the fund is generated by income tax dollars.

Q: How can I get more information on any health-related concerns?

A: Contact your EPA regional Superfund office for more information. The ATSDR also provides information to the public on the health effects of hazardous substances. Ask your EPA regional Superfund office for the phone number of the ATSDR office in your region.

Q: How can I verify your findings? What if I disagree with your conclusions?

A: You can request copies of the results of the site assessment by writing to your EPA regional Superfund office. The public is given the opportunity to comment on the proposal of a site to the National Priorities List and the actions EPA recommends be taken at the site. If a site in your community is listed on the National Priorities List, a local community group may receive grant funds from EPA to hire a technical advisor. Call your EPA regional Superfund office (see page 8) for the location of an information repository and for information on applying for a **technical assistance grant**.

Q: How can I get further information? How can I get a list of the sites EPA has investigated?

A: Contact your EPA regional Superfund office (see page 8) for more information and a list of sites in your area.

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Important Phone Numbers

For information on the Superfund program or to report a hazardous waste emergency, call the national numbers below.

U.S. EPA Headquarters Hazardous Site Evaluation Division

- ☐ Site Assessment Branch
703-603-8860

Federal Superfund Program Information

- ☐ EPA Superfund Hotline
800-424-9346

Emergency Numbers:

Hazardous Waste Emergencies

- ☐ National Response Center
800-424-8802

ATSDR Emergency Response Assistance

- ☐ Emergency Response Line
404-639-0615

For answers to site-specific questions and information on opportunities for public involvement, contact your region's Superfund community relations office.

EPA Region 1: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont

- ☐ Superfund Community
Relations Section
617-565-2713

EPA Region 2: New Jersey, New York, Puerto Rico, Virgin Islands

- ☐ Superfund Community
Relations Branch
212-264-1407

EPA Region 3: Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia

- ☐ Superfund Community
Relations Branch
800-438-2474

EPA Region 4: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee

- ☐ Superfund Site Assessment
Section
404-347-5065

EPA Region 5: Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin

- ☐ Office of Superfund
312-353-9773

EPA Region 6: Arkansas, Louisiana, New Mexico, Oklahoma, Texas

- ☐ Superfund Management
Branch, Information
Management Section
214-655-6718

EPA Region 7: Iowa, Kansas, Missouri, Nebraska

- ☐ Public Affairs Office
913-551-7003

EPA Region 8: Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming

- ☐ Superfund Community
Involvement Branch
303-294-1124

EPA Region 9: Arizona, California, Hawaii, Nevada, American Samoa, Guam

- ☐ Superfund Office of
Community Relations
800-231-3075

EPA Region 10: Alaska, Idaho, Oregon, Washington

- ☐ Superfund Community
Relations
206-553-2711

CSM REPORT FOR PUBLIC NOTICING

PROJECT INFORMATION (DATA PULLED FROM GEOTRACKER) - [MAP THIS SITE](#)

SITE NAME / ADDRESS	STATUS	STATUS DATE	RELEASE REPORT DATE	AGE OF CASE	CLEANUP OVERSIGHT AGENCIES
TOP FILLING STATION (Global ID: T0607700253) 101 WILSON WAY S STOCKTON, CA 95205	Open - Verification Monitoring	8/8/2017	2/3/1989	31	CENTRAL VALLEY RWQCB (REGION 5S) (LEAD) - CASE #: 390339 CASEWORKER: VERA FISCHER - SUPERVISOR: CHRISTOPHER FLOWER SAN JOAQUIN COUNTY - CASE #: 1294

SITE HISTORY

1986: Two USTs removed from under sidewalk on Wilson Way in front of station (file labeled City of Stockton Right of Way).
 12/07/1988: Two 550-gallon USTs removed.
 02/03/1989: Received analytical results for soil samples; UAR, Prop 65 issued.
 06/01/1994: Site entered into local oversight program (LOP).
 06/08/1994: Issued NORs to business and owners, Top Filling and Ken and Ed Endich.
 12/28/1994 - 01/10/1995: Six soil borings (B-1 through B-6) advanced and monitoring wells MW-1, MW-2 and MW-3 installed on site.
 12/05-11/1995: Vapor wells VW-1A through VW-3B and monitoring well MW-4 installed.
 01/19/1996: Monitoring well MW-5 installed.
 09/02/1998: Two 4,000-gallon, one 550-gallon USTs, dispensers and piping removed.
 04/2000: Five CPT soil borings (CPT-1, CPT-1A, CPT-2, CPT-2A, CPT-3) advanced on and off-site for groundwater sample collection. Soil samples were collected from CPT-1A and CPT-2A.
 05/02-08/2000: Monitoring wells MW6(A-E) and MW-7(A-E) installed.
 07/23, 24/2003: Extraction wells EW-1 and EW-2, and monitoring well MW-8 installed.
 08/31/2004: Implementation of interim soil vapor extraction (SVE) system.
 11/17/2004: Implementation of interim groundwater extraction (GWE) system.
 08/21-25/2006: Five CPT soil borings (CPT-4, CPT-5, CPT-6, CPT-8, CPT-9) were advanced on and off-site for groundwater sample collection.
 07/10-11/2008: Three soil borings (B-7, B-8, and B-9) were advanced onsite for the collection of soil samples. B-8 completed as SVE well VW-4.
 08/29/2013: SVE system operations suspended.

RESPONSIBLE PARTIES

NAME	ORGANIZATION	CONTACT TYPE	ADDRESS	CITY	EMAIL
ENDICH BROTHERS	ENDICH BROTHERS(390339)	PRIMARY RESPONSIBLE PARTY	101 S Wilson Way	Stockton	
SURINDER SINGH	SURINDER SINGH	PRIMARY RESPONSIBLE PARTY - INDIVIDUAL - PROPERTY/FEE TITLE OWNER		r5 UNKNOWN	

CLEANUP ACTION INFO

ACTION TYPE	BEGIN DATE	END DATE	PHASE	CONTAMINANT MASS REMOVED	DESCRIPTION
PUMP & TREAT (P&T) GROUNDWATER	11/17/2004	11/28/2016	Water	1,923 Pounds	Interim Remedial Action
SOIL VAPOR EXTRACTION (SVE)	8/31/2004	8/29/2013	Soil	24,696 Pounds	Interim Remedial Action

RISK INFORMATION

[VIEW LTCP CHECKLIST](#)[VIEW PATH TO CLOSURE PLAN](#)[VIEW CASE REVIEWS](#)

CONTAMINANTS OF CONCERN		CURRENT LAND USE	BENEFICIAL USE	DISCHARGE SOURCE	DATE REPORTED	STOP METHOD	NEARBY / IMPACTED WELLS
Benzene, Other Chlorinated Hydrocarbons, Gasoline, MTBE / TBA / Other Fuel Oxygenates, * * TERT-AMYL METHYL ETHER (TAME), * TERT-AMYL METHYL ETHER (TAME), * * TERT-BUTYL ALCOHOL (TBA), * TERT-BUTYL ALCOHOL (TBA), Toluene, Xylene		Commercial	GW - Municipal and Domestic Supply	Other	2/3/1989	Close and Remove Tank	0
FREE PRODUCT	OTHER CONSTITUENTS	NAME OF WATER SYSTEM	LAST REGULATORY ACTIVITY	LAST ESI UPLOAD	LAST EDF UPLOAD	EXPECTED CLOSURE DATE	MOST RECENT CLOSURE REQUEST
NO	NO	Calwater	6/4/2019	12/19/2019	6/10/2019		

CDPH WELLS WITHIN 1500 FEET OF THIS SITE

WELL NAME	STATE WELL #	STATUS	SOURCE	# TIMES SAMPLED	DIST TO WELL
WELL 01-25 - DESTROYED	3910001-004	Active Raw	G	32	866 feet
WELL 01-23 - DESTROYED	3910001-002	Active Raw	G	30	917 feet
WELL 01-16 - ABANDONED	3910001-001	Active Raw	G	6	1037 feet
WELL 01-24 - DESTROYED	3910001-003	Active Raw	G	53	1159 feet

CALCULATED FIELDS (BASED ON LATITUDE / LONGITUDE)

APN	GW BASIN NAME	WATERSHED NAME
15125307	San Joaquin Valley - Eastern San Joaquin (5-022.01)	North Valley Floor - Lower Calaveras (531.30)
COUNTY	PUBLIC WATER SYSTEM(S)	
San Joaquin	<ul style="list-style-type: none"> CALIFORNIA WATER SERVICE - STOCKTON - 1720 NORTH FIRST STREET, SAN JOSE, CA 95112 	

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN GROUNDWATER

[VIEW ESI SUBMITTALS](#)

FIELD PT NAME	DATE	TPH _g	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
AF+-AS	3/8/2005	3200 UG/L					2500 UG/L	ND
AFT-AS	12/11/2008	ND	ND	ND	ND	OTHER	49 UG/L	ND
AFTGAC2	7/10/2006						ND	ND
AS-AFT	2/8/2007						140 UG/L	ND
CPT4	8/22/2006	ND	ND	ND	ND	OTHER	ND	ND
CPT8	8/22/2006	ND	ND	ND	ND	OTHER	ND	ND
CPT9	8/22/2006	4000 UG/L	110 UG/L	1300 UG/L	110 UG/L	OTHER	ND	ND
EFFLUENT	9/22/2004	1100 UG/L	15 UG/L	88 UG/L	10 UG/L	40 UG/L	ND	ND
EFFLUENT-V	10/22/2008	ND	ND	ND	ND	ND	ND	ND
EFFLUENT-W	11/28/2016		ND	ND	ND	OTHER	ND	ND
EW1	5/30/2017	OTHER	360 UG/L	690 UG/L	420 UG/L	2200 UG/L	ND	ND

FIELD PT NAME	DATE	TPHg	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
EW2	5/30/2017	OTHER	39 UG/L	ND	4.8 UG/L	ND	3.1 UG/L	ND
GAC-1	10/26/2016		ND	ND	ND	ND	4 UG/L	15.4 UG/L
GAC-2	10/26/2016		ND	ND	ND	ND	ND	19.8 UG/L
GAC2	5/16/2007						ND	ND
INFLUENT	9/22/2004	81000 UG/L	1200 UG/L	5500 UG/L	690 UG/L	3100 UG/L	130 UG/L	
INFLUENT-V	10/22/2008	1100 UG/L	ND	5.6 UG/L	2.2 UG/L	28 UG/L	4.5 UG/L	
INFLUENT-W	11/28/2016	OTHER	986 UG/L	764 UG/L	142 UG/L	1480 UG/L	ND	ND
MW 1	12/4/2002	OTHER	ND	ND	ND	ND	ND	ND
MW 2	12/4/2002	OTHER	98 UG/L	0.71 UG/L	3.1 UG/L	7.4 UG/L	0.93 UG/L	ND
MW 3	12/4/2002	OTHER	5100 UG/L	550 UG/L	430 UG/L	780 UG/L	230 UG/L	120 UG/L
MW 4	12/4/2002	OTHER	ND	ND	ND	ND	ND	ND
MW 5	12/4/2002	OTHER	23 UG/L	ND	230 UG/L	230 UG/L	ND	ND
MW 6A	12/4/2002	OTHER	28000 UG/L	24000 UG/L	1100 UG/L	5200 UG/L	62000 UG/L	ND
MW 6B	12/4/2002	OTHER	19000 UG/L	1800 UG/L	910 UG/L	3200 UG/L	470 UG/L	ND
MW 6C	12/4/2002	OTHER	140 UG/L	61 UG/L	52 UG/L	200 UG/L	ND	ND
MW 6D	12/4/2002	OTHER	16 UG/L	17 UG/L	2.1 UG/L	9.1 UG/L	0.65 UG/L	ND
MW 6E	12/4/2002	OTHER	42 UG/L	30 UG/L	4.4 UG/L	17 UG/L	ND	ND
MW 7A	12/4/2002	OTHER	19000 UG/L	9300 UG/L	550 UG/L	2200 UG/L	280 UG/L	ND
MW 7B	12/4/2002	OTHER	40000 UG/L	41000 UG/L	2800 UG/L	12000 UG/L	ND	ND
MW 7C	12/4/2002	OTHER	99 UG/L	59 UG/L	4.2 UG/L	17 UG/L	ND	ND
MW 7D	12/4/2002	OTHER	48 UG/L	25 UG/L	1.9 UG/L	7.6 UG/L	ND	ND
MW 7E	12/4/2002	OTHER	110 UG/L	82 UG/L	5.7 UG/L	19 UG/L	ND	ND
MW1	5/31/2017	OTHER	ND	ND	ND	ND	ND	ND
MW2	5/31/2017	OTHER	ND	ND	ND	ND	ND	ND
MW3	5/31/2017	OTHER	ND	ND	ND	ND	ND	ND
MW4	11/20/2018	OTHER	ND	ND	ND	ND	ND	ND
MW5	5/31/2017	OTHER	ND	ND	ND	0.87 UG/L	ND	ND
MW6	12/18/2014	8400 UG/L	570 UG/L	2.3 UG/L	20 UG/L	OTHER	23 UG/L	ND
MW6A	11/20/2018	OTHER	14.5 UG/L	ND	11.6 UG/L	ND	192 UG/L	1620 UG/L
MW6A-45	6/1/2017	OTHER	28 UG/L	3.5 UG/L	4.2 UG/L	14 UG/L	160 UG/L	700 UG/L
MW6A-55	6/1/2017	OTHER	ND	ND	ND	ND	26 UG/L	ND
MW6B	11/20/2018	OTHER	4.99 UG/L	ND	7.49 UG/L	34.9 UG/L	ND	ND
MW6C	11/20/2018	OTHER	3.58 UG/L	ND	12.2 UG/L	37.5 UG/L	ND	ND
MW6D	11/20/2018	OTHER	3.56 UG/L	ND	17.3 UG/L	50 UG/L	ND	ND
MW6E	12/9/2008	560 UG/L	31 UG/L	8 UG/L	17 UG/L	OTHER	ND	ND
MW7	12/18/2014	9400 UG/L	820 UG/L	650 UG/L	390 UG/L	OTHER	83 UG/L	ND
MW7A	11/19/2018	OTHER	ND	1.15 UG/L	ND	ND	ND	77 UG/L
MW7A-45	6/1/2017	OTHER	220 UG/L	5.8 UG/L	6.3 UG/L	22 UG/L	ND	ND
MW7A-55	6/1/2017	OTHER	9500 UG/L	ND	ND	ND	ND	ND
MW7B	11/19/2018	OTHER	1830 UG/L	433 UG/L	200 UG/L	719 UG/L	ND	1070 UG/L
MW7C	11/19/2018	OTHER	566 UG/L	247 UG/L	133 UG/L	510 UG/L	ND	ND
MW7D	5/23/2018	OTHER	76.8 UG/L	54.5 UG/L	36.7 UG/L	163 UG/L	ND	ND
MW7E	12/9/2008	2300 UG/L	100 UG/L	160 UG/L	45 UG/L	OTHER	ND	ND
MW8	11/20/2018	OTHER	ND	ND	ND	ND	ND	ND
NA	9/3/2002	OTHER	ND	ND	ND	ND	7.1 UG/L	
VW 1B	9/4/2002	OTHER	31000 UG/L	51000 UG/L	4200 UG/L	19000 UG/L	ND	ND
VW 1C	12/4/2002	OTHER	25000 UG/L	53000 UG/L	5100 UG/L	23000 UG/L	ND	ND
VW 2A	12/4/2002	OTHER	33000 UG/L	24000 UG/L	3600 UG/L	15000 UG/L	190 UG/L	ND
VW 3A	12/4/2002	OTHER	430 UG/L	290 UG/L	750 UG/L	2900 UG/L	590 UG/L	ND
VW1	12/18/2014	86000 UG/L	5500 UG/L	6100 UG/L	4200 UG/L	OTHER	12 UG/L	ND
VW1A	11/19/2018	OTHER	ND	ND	ND	ND	ND	ND
VW1A-B	5/30/2017	OTHER	2100 UG/L	470 UG/L	880 UG/L	1400 UG/L	ND	ND
VW1AB	5/11/2017	OTHER	3000 UG/L	930 UG/L	980 UG/L	2000 UG/L	ND	ND
VW1B	3/4/2003	OTHER	18000 UG/L	58000 UG/L	5000 UG/L	24000 UG/L	ND	ND
VW1C	12/21/2015	OTHER	556 UG/L	143 UG/L	642 UG/L	1010 UG/L	ND	ND
VW2	12/18/2014	37000 UG/L	4300 UG/L	2200 UG/L	2700 UG/L	OTHER	8.6 UG/L	ND
VW2A	11/19/2018	OTHER	ND	ND	ND	ND	ND	ND
VW2A-B	5/30/2017	OTHER	900 UG/L	ND	310 UG/L	280 UG/L	ND	ND
VW2AB	5/11/2017	OTHER	540 UG/L	21 UG/L	270 UG/L	390 UG/L	ND	ND
VW3	12/18/2014	71000 UG/L	2400 UG/L	2000 UG/L	3200 UG/L	OTHER	29 UG/L	ND
VW3A	11/19/2018	OTHER	ND	ND	509 UG/L	ND	ND	1550 UG/L
VW3A-B	5/30/2017	OTHER	1200 UG/L	1200 UG/L	340 UG/L	1500 UG/L	ND	ND
VW3AB	5/11/2017	OTHER	690 UG/L	960 UG/L	240 UG/L	1100 UG/L	ND	ND
VW7A	11/20/2017	OTHER	7810 UG/L	ND	ND	ND	ND	ND

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN SOIL

[VIEW ESI SUBMITTALS](#)

FIELD PT NAME	DATE	TPHg	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
B7	7/10/2008	ND	ND	ND	ND		ND	ND
B8	7/10/2008	530 MG/KG	0.42 MG/KG	6.6 MG/KG	3.3 MG/KG		ND	ND
B9	7/11/2008	ND	ND	ND	ND		ND	ND
SV1	3/24/2017		ND	ND	ND	ND	ND	ND
SV2	3/24/2017		ND	ND	ND	ND	ND	ND

MOST RECENT GEO_WELL DATA

[VIEW ESI SUBMITTALS](#)

FIELD PT NAME	DATE	DEPTH TO WATER (FT)	SHEEN	DEPTH TO FREE PRODUCT (FT)
EW1	11/19/2018			
EW2	11/19/2018			
MW 1	3/4/2003	41.74	U	
MW 2	3/4/2003	42.74	U	
MW 3	3/4/2003	42.79	U	
MW 4	3/4/2003	42.81	U	
MW 5	3/4/2003	42.15	U	
MW 6A	3/4/2003	42.81	U	
MW 6B	3/4/2003	42.63	U	
MW 6C	3/4/2003	42.58	U	
MW 6D	3/4/2003	42.65	U	
MW 6E	3/4/2003	42.61	U	
MW 7A	3/4/2003	42.6	U	

<u>FIELD PT NAME</u>	<u>DATE</u>	<u>DEPTH TO WATER (FT)</u>	<u>SHEEN</u>	<u>DEPTH TO FREE PRODUCT (FT)</u>
MW 7B	3/4/2003	42.59	U	
MW 7C	3/4/2003	42.57	U	
MW 7D	3/4/2003	42.59	U	
MW 7E	3/4/2003	42.58	U	
MW1	11/19/2018	0	N	
MW2	11/19/2018	30.6	N	
MW3	11/19/2018	30.7	N	
MW4	11/19/2018	30.58	N	
MW5	11/19/2018	30.02	N	
MW6A	11/19/2018			
MW6A-45	11/19/2018	30.54	N	
MW6A-55	11/19/2018	30.54	N	
MW6B	11/19/2018			
MW6C	11/19/2018	30.46	N	
MW6D	11/19/2018	30.44	N	
MW6E	11/19/2018	0	N	
MW7A	11/19/2018			
MW7A-45	11/19/2018	30.48	N	
MW7A-55	11/19/2018	30.48	N	
MW7B	11/19/2018			
MW7C	11/19/2018	30.46	N	
MW7D	11/19/2018	30.45	N	
MW7E	11/19/2018	0	N	
MW8	11/19/2018	29.89	N	
VW 1B	3/4/2003	42.32	U	
VW 1C	3/4/2003	42.11	U	
VW 2A	3/4/2003	42.66	U	
VW 2B	3/4/2003		U	
VW 3A	3/4/2003	42.64	U	
VW 3B	3/4/2003		U	
VW1A	11/19/2018	30	N	
VW1A-B	11/19/2018	30.02	N	
VW1B	11/19/2018			
VW1C	11/19/2018			
VW2A	11/19/2018	30.24	N	
VW2A-B	11/19/2018	30.56	N	
VW2B	11/19/2018			
VW3A	11/19/2018	30.2	N	
VW3A-B	11/19/2018	30.72	N	
VW3B	11/19/2018			

CSM REPORT FOR PUBLIC NOTICING

PROJECT INFORMATION (DATA PULLED FROM GEOTRACKER) - [MAP THIS SITE](#)

SITE NAME / ADDRESS	STATUS	STATUS DATE	RELEASE REPORT DATE	AGE OF CASE	CLEANUP OVERSIGHT AGENCIES
ROEK CONSTRUCTION (Global ID: T0607700163) 102 WILSON WAY S STOCKTON, CA 95205	Open - Site Assessment	8/31/2018	10/6/1988	32	CENTRAL VALLEY RWQCB (REGION 5S) (LEAD) - CASE #: 390232 CASEWORKER: VERA FISCHER - SUPERVISOR: CHRISTOPHER FLOWER SAN JOAQUIN COUNTY - CASE #: 9031

SITE HISTORY

1978: Four USTs reportedly removed from site; two 7,500-gallon, one 1,000-gallon and one 300-gallon tanks.

04/1988: A site assessment was performed without regulatory oversight or permits; three soil borings advanced in designated former UST areas, TPHg detected in northern boring, BTEX not analyzed.

05/16/1988: USR and Prop 65 filed, MFR for EHD filed.

01/23/1989: One soil boring and monitoring wells MW-1, MW-2 and MW-3 installed.

11/1989: Five soil borings and monitoring wells MW-4 and MW-5 installed.

08/08/1990: Three soil borings (SB21, SB22 and SB23) advanced; monitoring well MW-6 installed.

09/12-13/1994: MW-7 and MW-8 were installed.

05/04-10/1995: Eight soil borings were advanced, and monitoring wells MW-9, MW-10, MW-11 and MW-12 installed.

10/04-09/1995: Vapor wells (VW-1 through VW-6) were installed. MW-13 was installed.

02/27/2001: MW-14 was installed.

01/10-18/2003: MW-13B, MW-15A, MW-15B, MW-15C, MW-16A, and MW-16B were installed. MW-13 was destroyed.

04/21&25/2006: MW-17C was installed.

11/27-29/2012: IW-1A, IW-1B, IW-2A, IW-2B, IW-3A, IW-3B, IW-4A, IW-4B, IW-5A, and IW-5B were installed.

11/28/2012: VW-6 was destroyed

RESPONSIBLE PARTIES

NAME	ORGANIZATION	CONTACT TYPE	ADDRESS	CITY	EMAIL
ROEK CONSTRUCTION	ROEK CONSTRUCTION(390232)	PRIMARY RESPONSIBLE PARTY	P.O. BOX 30038, STOCKTON, CA 95213	r5 UNKNOWN	

CLEANUP ACTION INFO

ACTION TYPE	BEGIN DATE	END DATE	PHASE	CONTAMINANT MASS REMOVED	DESCRIPTION
IN SITU PHYSICAL/CHEMICAL TREATMENT (OTHER THAN SVE)	4/23/2013				
SOIL VAPOR EXTRACTION (SVE)	11/4/1997	6/17/2002	Soil		Rebound testing not performed as of 02/01/2006

RISK INFORMATION

[VIEW LTCP CHECKLIST](#)[VIEW PATH TO CLOSURE PLAN](#)[VIEW CASE REVIEWS](#)

CONTAMINANTS OF CONCERN		CURRENT LAND USE	BENEFICIAL USE	DISCHARGE SOURCE	DATE REPORTED	STOP METHOD	NEARBY / IMPACTED WELLS
Gasoline				Other	10/6/1988	Other Means	0
FREE PRODUCT	OTHER CONSTITUENTS	NAME OF WATER SYSTEM	LAST REGULATORY ACTIVITY	LAST ESI UPLOAD	LAST EDF UPLOAD	EXPECTED CLOSURE DATE	MOST RECENT CLOSURE REQUEST
NO	NO	City of Stockton	10/21/2019	2/6/2020	1/15/2020		

CDPH WELLS WITHIN 1500 FEET OF THIS SITE

WELL NAME	STATE WELL #	STATUS	SOURCE	# TIMES SAMPLED	DIST TO WELL
WELL 01-23 - DESTROYED	3910001-002	Active Raw	G	30	839 feet
WELL 01-25 - DESTROYED	3910001-004	Active Raw	G	32	865 feet
WELL 01-16 - ABANDONED	3910001-001	Active Raw	G	6	1003 feet
WELL 01-24 - DESTROYED	3910001-003	Active Raw	G	53	1129 feet
WELL 40-01 - INACTIVE	3910001-033	Active Raw	G	60	1377 feet
WELL 34-01 - INACTIVE	3910001-027	Active Raw	G	34	1468 feet

CALCULATED FIELDS (BASED ON LATITUDE / LONGITUDE)

APN	GW BASIN NAME	WATERSHED NAME
15502065	San Joaquin Valley - Eastern San Joaquin (5-022.01)	North Valley Floor - Lower Calaveras (531.30)
COUNTY	PUBLIC WATER SYSTEM(S)	
San Joaquin	<ul style="list-style-type: none"> CALIFORNIA WATER SERVICE - STOCKTON - 1720 NORTH FIRST STREET, SAN JOSE, CA 95112 	

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN GROUNDWATER

[VIEW ESI SUBMITTALS](#)

FIELD PT NAME	DATE	TPHg	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
KR MW- 11	3/7/2006		ND	ND	ND	ND	91 UG/L	ND
KR MW- 12	3/6/2006		ND	ND	ND	ND	520 UG/L	ND
KR MW- 13B	3/7/2006		11000 UG/L	30000 UG/L	2800 UG/L	17000 UG/L	ND	ND
KR MW- 15A	3/6/2006		ND	ND	ND	ND	10 UG/L	ND
KR MW- 15B	3/6/2006		ND	ND	ND	ND	10 UG/L	ND
KR MW- 15C	3/6/2006		ND	ND	ND	ND	ND	ND
KR MW- 8	3/7/2006		270 UG/L	70 UG/L	160 UG/L	390 UG/L	ND	ND
KR MW-1	3/7/2006		ND	ND	ND	ND	12 UG/L	ND
KR MW-11	12/21/2005		ND	ND	ND	ND	260 UG/L	ND
KR MW-12	12/21/2005		ND	ND	ND	ND	390 UG/L	ND
KR MW-13B	12/21/2005		5200 UG/L	12000 UG/L	1900 UG/L	12000 UG/L	ND	ND
KR MW-15A	12/21/2005		ND	ND	ND	ND	7.5 UG/L	ND
KR MW-15B	12/21/2005		ND	ND	ND	ND	1.6 UG/L	ND
KR MW-15C	12/21/2005		ND	ND	ND	ND	ND	ND
KR MW-17C	5/15/2006		ND	ND	ND	ND	ND	ND
KR MW-7	3/7/2006		ND	ND	ND	ND	1.7 UG/L	ND
KR MW-8	12/21/2005		31 UG/L	17 UG/L	15 UG/L	49 UG/L	ND	ND
KR VW-1	3/7/2006		16000 UG/L	33000 UG/L	2300 UG/L	15000 UG/L	ND	ND
MW-1	11/25/2019	OTHER	ND	ND	ND	OTHER	0.7 UG/L	ND
MW-10	11/25/2019	OTHER	0.87 UG/L	ND	ND	OTHER	ND	ND

FIELD PT NAME	DATE	TPHg	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
MW-11	5/14/2018	OTHER	ND	ND	ND	OTHER	4.2 UG/L	ND
MW-12	11/25/2019	OTHER	ND	ND	ND	OTHER	ND	ND
MW-13B	11/25/2019	OTHER	13000 UG/L	280 UG/L	570 UG/L	OTHER	ND	ND
MW-14	11/19/2008		1.6 UG/L	ND	1 UG/L	2.1 UG/L	170 UG/L	ND
MW-15A	11/25/2019	OTHER	ND	ND	ND	OTHER	320 UG/L	ND
MW-15B	11/25/2019	OTHER	ND	ND	ND	OTHER	ND	ND
MW-15C	5/14/2018	OTHER	ND	ND	ND	OTHER	ND	ND
MW-16A	11/19/2008		ND	ND	ND	ND	1600 UG/L	ND
MW-16B	11/19/2008		1100 UG/L	2000 UG/L	340 UG/L	1500 UG/L	28 UG/L	ND
MW-17C	11/25/2019	OTHER	3.6 UG/L	ND	ND	OTHER	ND	ND
MW-2	11/25/2019	OTHER	3.2 UG/L	ND	ND	OTHER	1.2 UG/L	ND
MW-3	11/19/2008		5.1 UG/L	0.7 UG/L	3.7 UG/L	11 UG/L	600 UG/L	ND
MW-4	11/19/2008		3.6 UG/L	ND	1.4 UG/L	3.5 UG/L	93 UG/L	ND
MW-5	11/25/2019	OTHER	ND	0.81 UG/L	ND	OTHER	0.9 UG/L	ND
MW-6	11/25/2019	OTHER	ND	ND	ND	OTHER	ND	ND
MW-7	2/5/2009		ND	ND	ND	ND	ND	ND
MW-8	11/25/2019	OTHER	95 UG/L	2.6 UG/L	13 UG/L	OTHER	ND	ND
MW-9	5/14/2018	OTHER	ND	ND	ND	OTHER	ND	ND
TB	8/26/2002		<0.5 UG/L	<0.5 UG/L	<0.5 UG/L	<1 UG/L	<2 UG/L	<20 UG/L
VW-1	11/25/2019	OTHER	12000 UG/L	ND	190 UG/L	OTHER	ND	ND
VW-2	11/25/2019	OTHER	83 UG/L	0.7 UG/L	1.7 UG/L	OTHER	1.4 UG/L	12 UG/L
VW-3	5/14/2018	OTHER	ND	ND	ND	OTHER	1.4 UG/L	8 UG/L
VW-4	5/14/2018	OTHER	0.65 UG/L	ND	ND	OTHER	0.96 UG/L	ND
VW-5	5/14/2018	OTHER	0.42 UG/L	ND	ND	OTHER	1.6 UG/L	ND
VW-6	8/12/2010		260 UG/L	230 UG/L	970 UG/L	3100 UG/L	13 UG/L	ND

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN SOIL

[VIEW ESI SUBMITTALS](#)

FIELD PT NAME	DATE	TPHg	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
IW-2-40	11/27/2012		ND	ND	ND		ND	ND
IW-2-60	11/27/2012		520 UG/KG	660 UG/KG	170 UG/KG		ND	ND
IW-2-73	11/27/2012		400 UG/KG	340 UG/KG	100 UG/KG		ND	ND
IW-5-40	11/26/2012		ND	ND	ND		ND	ND
IW-5-60	11/26/2012		1200 UG/KG	49 UG/KG	310 UG/KG		ND	ND
IW-5-73	11/26/2012		640 UG/KG	1200 UG/KG	290 UG/KG		ND	ND
IW1-20	11/29/2012		ND	ND	220 UG/KG		ND	ND
IW1-45	11/29/2012		ND	2400 UG/KG	8900 UG/KG		ND	ND
IW1-55	11/29/2012		23000 UG/KG	260000 UG/KG	140000 UG/KG		ND	ND
IW1-63	11/29/2012		18000 UG/KG	280000 UG/KG	120000 UG/KG		ND	ND
IW3-45	11/29/2012		ND	8.1 UG/KG	5.2 UG/KG		ND	ND
IW3-53	11/29/2012		1400 UG/KG	6000 UG/KG	11000 UG/KG		ND	ND
IW3-60	11/29/2012		3200 UG/KG	29000 UG/KG	15000 UG/KG		ND	ND
IW3-65	11/29/2012		ND	15000 UG/KG	23000 UG/KG		ND	ND
IW3-70	11/29/2012		53000 UG/KG	430000 UG/KG	180000 UG/KG		ND	ND
IW4-55	11/28/2012		160 UG/KG	ND	21 UG/KG		36 UG/KG	ND
IW4-65	11/28/2012		800 UG/KG	1100 UG/KG	170 UG/KG		5.6 UG/KG	ND
IW4-75	11/28/2012		630 UG/KG	1300 UG/KG	240 UG/KG		ND	ND
MW-15A	1/10/2003		<0.005 MG/KG	<0.005 MG/KG	<0.005 MG/KG	<0.01 MG/KG	<0.005 MG/KG	<0.05 MG/KG
MW-15B	1/10/2003		<0.005 MG/KG	<0.005 MG/KG	<0.005 MG/KG	<0.01 MG/KG	<0.005 MG/KG	<0.05 MG/KG
MW-16A	1/13/2003		<0.005 MG/KG	<0.005 MG/KG	<0.005 MG/KG	<0.01 MG/KG	<0.1 MG/KG	<1 MG/KG
MW-16B	1/14/2003		2.4 MG/KG	18 MG/KG	11 MG/KG	62 MG/KG	<0.2 MG/KG	<2 MG/KG

MOST RECENT GEO_WELL DATA

[VIEW ESI SUBMITTALS](#)

FIELD PT NAME	DATE	DEPTH TO WATER (FT)	SHEEN	DEPTH TO FREE PRODUCT (FT)
MW-1	11/25/2019	26.14	N	
MW-10	11/25/2019	26.07	N	
MW-11	11/25/2019	26.74	N	
MW-12	11/25/2019	26.51	N	
MW-13	11/13/2002	43.06	U	
MW-13B	11/25/2019	25.93	N	
MW-14	11/25/2019			
MW-15A	11/25/2019	25.97	N	
MW-15B	11/25/2019	25.7	N	
MW-15C	11/25/2019	25.88	N	
MW-16A	11/25/2019			
MW-16B	11/25/2019			
MW-17C	11/25/2019	25.89	N	
MW-2	11/25/2019	25.91	N	
MW-3	11/25/2019			
MW-4	11/25/2019			
MW-5	11/25/2019	26.75	N	
MW-6	11/25/2019	26.09	N	
MW-7	11/25/2019			
MW-8	11/25/2019	26.38	N	
MW-9	11/25/2019	26.45	N	
VW-1	11/25/2019	25.64	N	
VW-2	11/25/2019	25.68	N	
VW-3	11/25/2019	26.11	N	
VW-4	11/25/2019	26.25	N	
VW-5	11/25/2019	26.29	N	
VW-6	8/13/2012	30.3	N	

CSM REPORT FOR PUBLIC NOTICING

PROJECT INFORMATION (DATA PULLED FROM GEOTRACKER) - [MAP THIS SITE](#)

<u>SITE NAME / ADDRESS</u>	<u>STATUS</u>	<u>STATUS DATE</u>	<u>RELEASE REPORT DATE</u>	<u>AGE OF CASE</u>	<u>CLEANUP OVERSIGHT AGENCIES</u>
American Medical Response West (Global ID: T10000008942) 2060 East Main Street STOCKTON, CA 95205	Open - Active	5/23/2016	11/16/2015	4	CENTRAL VALLEY RWQCB (REGION 5S) (LEAD) - CASE #: 392001 CASEWORKER: ALAN M. BUEHLER - SUPERVISOR: CHRISTOPHER FLOWER

SITE HISTORY

The site historically operated as an ambulance medical response facility. The property previously operated as a retail fueling facility with unknown number of underground storage tanks (USTs). On 22 September and 22 October 2015, a ground penetrating radar (GPR) survey was conducted at the site by GPRS, Inc, which did not identify any anomalies or USTs at the site.

On 22 October 2015, 3 soil borings were advanced to a max depth of 54 feet below ground surface (bgs). A total of 7 soil and 3 grab groundwater samples were collected which detected petroleum hydrocarbons in soil and groundwater.

RESPONSIBLE PARTIES

<u>NAME</u>	<u>ORGANIZATION</u>	<u>CONTACT TYPE</u>	<u>ADDRESS</u>	<u>CITY</u>	<u>EMAIL</u>
BLAKE POLK	American Medical Response	RESPONSIBLE PARTY CONTACT	12020 INTRAPLEX PKWY	GULFPORT	

CLEANUP ACTION INFO

NO CLEANUP ACTIONS HAVE BEEN REPORTED

RISK INFORMATION[VIEW LTCP CHECKLIST](#)[VIEW PATH TO CLOSURE PLAN](#)[VIEW CASE REVIEWS](#)

<u>CONTAMINANTS OF CONCERN</u>		<u>CURRENT LAND USE</u>	<u>BENEFICIAL USE</u>	<u>DISCHARGE SOURCE</u>	<u>DATE REPORTED</u>	<u>STOP METHOD</u>	<u>NEARBY / IMPACTED WELLS</u>
Tetrachloroethylene (PCE), Gasoline, Total Petroleum Hydrocarbons (TPH), Waste Oil / Motor / Hydraulic / Lubricating				Tank	11/16/2015		0
<u>FREE PRODUCT</u>	<u>OTHER CONSTITUENTS</u>	<u>NAME OF WATER SYSTEM</u>	<u>LAST REGULATORY ACTIVITY</u>	<u>LAST ESI UPLOAD</u>	<u>LAST EDF UPLOAD</u>	<u>EXPECTED CLOSURE DATE</u>	<u>MOST RECENT CLOSURE REQUEST</u>
NO	NO	California Water Service	8/1/2019	5/13/2019	8/15/2018		1/10/2019

CDPH WELLS WITHIN 1500 FEET OF THIS SITE

<u>WELL NAME</u>	<u>STATE WELL #</u>	<u>STATUS</u>	<u>SOURCE</u>	<u># TIMES SAMPLED</u>	<u>DIST TO WELL</u>
WELL 39-01 - INACTIVE	3910001-032	Active Raw	G	78	302 feet
WELL 40-01 - INACTIVE	3910001-033	Active Raw	G	60	1081 feet

CALCULATED FIELDS (BASED ON LATITUDE / LONGITUDE)

<u>APN</u>	<u>GW BASIN NAME</u>	<u>WATERSHED NAME</u>
15523016	San Joaquin Valley - Eastern San Joaquin (5-022.01)	North Valley Floor - Lower Calaveras (531.30)
<u>COUNTY</u>	<u>PUBLIC WATER SYSTEM(S)</u>	
San Joaquin	<ul style="list-style-type: none"> CALIFORNIA WATER SERVICE - STOCKTON - 1720 NORTH FIRST STREET, SAN JOSE, CA 95112 	

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN GROUNDWATER[VIEW ESI SUBMITTALS](#)

<u>FIELD PT NAME</u>	<u>DATE</u>	<u>TPHg</u>	<u>BENZENE</u>	<u>TOLUENE</u>	<u>ETHYL-BENZENE</u>	<u>XYLENES</u>	<u>MTBE</u>	<u>TBA</u>
B6	7/11/2018	OTHER	ND	ND	ND	ND	ND	ND
MW1	5/15/2018	OTHER	ND	ND	ND	OTHER	ND	
MW2	5/15/2018	OTHER	ND	ND	ND	OTHER	ND	
MW3	5/15/2018	OTHER	37.1 UG/L	ND	13.2 UG/L	OTHER	ND	

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN SOIL[VIEW ESI SUBMITTALS](#)

<u>FIELD PT NAME</u>	<u>DATE</u>	<u>TPHg</u>	<u>BENZENE</u>	<u>TOLUENE</u>	<u>ETHYL-BENZENE</u>	<u>XYLENES</u>	<u>MTBE</u>	<u>TBA</u>
B4	2/14/2017		ND	ND	ND	ND	ND	
B5	7/11/2018		ND	ND	ND		ND	
MW1	2/13/2017		ND	ND	ND	ND	ND	ND
MW2	2/14/2017		ND	ND	ND	ND	ND	ND
MW3	3/27/2017		ND	0.04 MG/KG	0.0066 MG/KG	0.095 MG/KG	ND	ND

MOST RECENT GEO_WELL DATA[VIEW ESI SUBMITTALS](#)

<u>FIELD PT NAME</u>	<u>DATE</u>	<u>DEPTH TO WATER (FT)</u>	<u>SHEEN</u>	<u>DEPTH TO FREE PRODUCT (FT)</u>
MW1	5/15/2018	5.48	Y	
MW2	5/15/2018	35.35	N	
MW3	5/15/2018	34.85	N	

CSM REPORT FOR PUBLIC NOTICING

PROJECT INFORMATION (DATA PULLED FROM GEOTRACKER) - [MAP THIS SITE](#)

<u>SITE NAME / ADDRESS</u>	<u>STATUS</u>	<u>STATUS DATE</u>	<u>RELEASE REPORT DATE</u>	<u>AGE OF CASE</u>	<u>CLEANUP OVERSIGHT AGENCIES</u>
Buggy Bath Car Wash (Former ARCO Station #559) (Global ID: T10000012224) 2085 E. Main Street STOCKTON, CA 95205	Open - Site Assessment	10/17/2018		1	CENTRAL VALLEY RWQCB (REGION 5S) (<i>LEAD</i>) - CASE #: 392006 <i>CASEWORKER: ALAN M. BUEHLER - SUPERVISOR: CHRISTOPHER FLOWER</i>

SITE HISTORY

<NO SITE HISTORY ENTERED>

RESPONSIBLE PARTIES

<u>NAME</u>	<u>ORGANIZATION</u>	<u>CONTACT TYPE</u>	<u>ADDRESS</u>	<u>CITY</u>	<u>EMAIL</u>
KEVIN & BRENDA REILLY	Buggy Bath Car Wash (Owner)	SECONDARY RESPONSIBLE PARTY - INDIVIDUAL - PROPERTY/FEE TITLE OWNER	5603 PINTAIL CT	STOCKTON	
WADE MELTON	BP Remediation Management Services Company	RESPONSIBLE PARTY CONTACT	4 CENTERPOINT DRIVE #200	LA PALMA	

CLEANUP ACTION INFO

NO CLEANUP ACTIONS HAVE BEEN REPORTED

RISK INFORMATION

[VIEW LTCP CHECKLIST](#)[VIEW PATH TO CLOSURE PLAN](#)[VIEW CASE REVIEWS](#)

<u>CONTAMINANTS OF CONCERN</u>		<u>CURRENT LAND USE</u>	<u>BENEFICIAL USE</u>	<u>DISCHARGE SOURCE</u>	<u>DATE REPORTED</u>	<u>STOP METHOD</u>	<u>NEARBY / IMPACTED WELLS</u>
							0
<u>FREE PRODUCT</u>	<u>OTHER CONSTITUENTS</u>	<u>NAME OF WATER SYSTEM</u>	<u>LAST REGULATORY ACTIVITY</u>	<u>LAST ESI UPLOAD</u>	<u>LAST EDF UPLOAD</u>	<u>EXPECTED CLOSURE DATE</u>	<u>MOST RECENT CLOSURE REQUEST</u>
NO	YES	San Joaquin County	2/28/2020				

CDPH WELLS WITHIN 1500 FEET OF THIS SITE

<u>WELL NAME</u>	<u>STATE WELL #</u>	<u>STATUS</u>	<u>SOURCE</u>	<u># TIMES SAMPLED</u>	<u>DIST TO WELL</u>
WELL 39-01 - INACTIVE	3910001-032	Active Raw	G	78	429 feet
WELL 40-01 - INACTIVE	3910001-033	Active Raw	G	60	1293 feet

CALCULATED FIELDS (BASED ON LATITUDE / LONGITUDE)

<u>APN</u>	<u>GW BASIN NAME</u>	<u>WATERSHED NAME</u>
15310210	San Joaquin Valley - Eastern San Joaquin (5-022.01)	North Valley Floor - Lower Calaveras (531.30)
<u>COUNTY</u>	<u>PUBLIC WATER SYSTEM(S)</u>	
San Joaquin	<ul style="list-style-type: none"> CALIFORNIA WATER SERVICE - STOCKTON - 1720 NORTH FIRST STREET, SAN JOSE, CA 95112 	

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN GROUNDWATER

[VIEW ESI SUBMITTALS](#)

NO GROUNDWATER DATA HAS BEEN SUBMITTED TO GEOTRACKER ESI FOR THIS SITE

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN SOIL

[VIEW ESI SUBMITTALS](#)

NO SOIL DATA HAS BEEN SUBMITTED TO GEOTRACKER ESI FOR THIS SITE

MOST RECENT GEO_WELL DATA

[VIEW ESI SUBMITTALS](#)

NO GEO_WELL DATA HAS BEEN SUBMITTED TO GEOTRACKER ESI FOR THIS SITE

CSM REPORT FOR PUBLIC NOTICING

PROJECT INFORMATION (DATA PULLED FROM GEOTRACKER) - [MAP THIS SITE](#)

SITE NAME / ADDRESS	STATUS	STATUS DATE	RELEASE REPORT DATE	AGE OF CASE	CLEANUP OVERSIGHT AGENCIES
E & R FREEMAN (Global ID: T0607700243) 3138 MAIN ST E STOCKTON, CA 95205	Open - Site Assessment	7/1/2001	11/8/1988	31	CENTRAL VALLEY RWQCB (REGION 5S) (LEAD) - CASE #: 390328 CASEWORKER: ALAN M. BUEHLER - SUPERVISOR: CHRISTOPHER FLOWER SAN JOAQUIN COUNTY - CASE #: 2260

SITE HISTORY

The case was opened following an unauthorized release from an underground storage tank system at the subject site. Corrective action is underway as directed by the CVRWQCB. Corrective action may consist of preliminary site investigation, planning and implementation of remedial action, verification monitoring, or a combination thereof. A summary of the site history is available by clicking on either the "Cleanup Status History", "Regulatory Activities" or the "Site Maps/Documents" tab. For a complete site history the case file at the CVRWQCB should be consulted.

RESPONSIBLE PARTIES

NAME	ORGANIZATION	CONTACT TYPE	ADDRESS	CITY	EMAIL
Harvey Schoonover	E & R FREEMAN(390328)	PRIMARY RESPONSIBLE PARTY	3138 EAST MAIN ST	STOCKTON	

CLEANUP ACTION INFO

ACTION TYPE	BEGIN DATE	END DATE	PHASE	CONTAMINANT MASS REMOVED	DESCRIPTION
MONITORED NATURAL ATTENUATION	10/18/2012		Water		
MONITORED NATURAL ATTENUATION	11/8/1988		Water		very limited monitoring

RISK INFORMATION

[VIEW LTCP CHECKLIST](#)[VIEW PATH TO CLOSURE PLAN](#)[VIEW CASE REVIEWS](#)

			CURRENT LAND USE	BENEFICIAL USE	DISCHARGE SOURCE	DATE REPORTED	STOP METHOD	NEARBY / IMPACTED WELLS
CONTAMINANTS OF CONCERN								
Other Chlorinated Hydrocarbons, Tetrachloroethylene (PCE), Trichloroethylene (TCE), Benzene, Diesel, Ethylbenzene, Gasoline, MTBE / TBA / Other Fuel Oxygenates, Naphthalene, Other Petroleum, Toluene, Waste Oil / Motor / Hydraulic / Lubricating, Xylene			Commercial, Residential	GW - Agricultural Supply, GW - Freshwater Replenishment, GW - Groundwater Recharge, GW - Industrial Process Supply (PROC), GW - Industrial Service Water Supply (IND), GW - Municipal and Domestic Supply, SW - Agricultural Supply, SW - Commercial and Sport Fishing, SW - Freshwater Replenishment, SW - Municipal and Domestic Supply, SW - Navigation, SW - Spawning, Reproduction, and/or Early Development, SW - Water Contact Recreation, SW - Water Quality Enhancement, SW - Wetland Habitat, SW - Wildlife Habitat	Piping, Tank	11/8/1988	Close and Remove Tank	0
FREE PRODUCT	OTHER CONSTITUENTS	NAME OF WATER SYSTEM		LAST REGULATORY ACTIVITY	LAST ESI UPLOAD	LAST EDF UPLOAD	EXPECTED CLOSURE DATE	MOST RECENT CLOSURE REQUEST
NO	YES	California Water Service - Stockton District		2/12/2020	1/16/2020	1/16/2020		4/16/2018

CDPH WELLS WITHIN 1500 FEET OF THIS SITE

NONE

CALCULATED FIELDS (BASED ON LATITUDE / LONGITUDE)

APN	GW BASIN NAME	WATERSHED NAME
15710403	San Joaquin Valley - Eastern San Joaquin (5-022.01)	North Valley Floor - Lower Calaveras (531.30)
COUNTY	PUBLIC WATER SYSTEM(S)	
San Joaquin	<ul style="list-style-type: none"> CALIFORNIA WATER SERVICE - STOCKTON - 1720 NORTH FIRST STREET, SAN JOSE, CA 95112 	

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN GROUNDWATER

[VIEW ESI SUBMITTALS](#)

FIELD PT NAME	DATE	TPH _g	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
MW-1	11/27/2019	OTHER	6.8 UG/L	ND	ND	ND	ND	ND
MW-10	11/27/2019	OTHER	ND	ND	ND	ND	ND	ND
MW-11	11/27/2019	OTHER	ND	ND	ND	ND	ND	ND
MW-1B	11/27/2019	OTHER	ND	ND	ND	ND	ND	ND
MW-2	11/27/2019	OTHER	3.9 UG/L	0.9 UG/L	0.6 UG/L	ND	0.7 UG/L	ND
MW-3	11/27/2019	OTHER	955 UG/L	19.8 UG/L	114 UG/L	135 UG/L	ND	ND
MW-4	11/27/2019	OTHER	ND	ND	ND	ND	2.5 UG/L	ND
MW-5	11/27/2019	OTHER	ND	ND	ND	ND	19.3 UG/L	ND
MW-5B	11/27/2019	OTHER	ND	ND	ND	ND	ND	ND
MW-6	12/13/2019	OTHER	ND	ND	ND	ND	ND	ND
MW-6B	12/13/2019	OTHER	ND	ND	ND	ND	ND	ND
MW-7	11/27/2019	OTHER	ND	ND	ND	ND	ND	ND
MW-8	11/27/2019	OTHER	ND	ND	ND	ND	ND	ND
QCTB	6/25/2012		ND	ND	ND	ND	ND	ND
TRIP BLANK	9/10/2012		ND	ND	ND	ND	ND	ND

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN SOIL

[VIEW ESI SUBMITTALS](#)

FIELD PT NAME	DATE	TPH _g	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
MW-10	11/13/2019		ND	ND	ND	ND	ND	ND
MW-11	11/12/2019		ND	ND	ND	ND	ND	ND
MW-4	10/7/2013	ND	ND	ND	ND	ND	ND	ND
MW-6	10/9/2013	ND	ND	ND	ND	ND	ND	ND
MW-7	10/8/2013	ND	ND	ND	ND	ND	ND	ND
MW-8	10/8/2013	ND	ND	ND	ND	ND	ND	ND
RDM-1	11/5/2013	21000 MG/KG	3.3 MG/KG	200 MG/KG	290 MG/KG		ND	ND

MOST RECENT GEO_WELL DATA

[VIEW ESI SUBMITTALS](#)

FIELD PT NAME	DATE	DEPTH TO WATER (FT)	SHEEN	DEPTH TO FREE PRODUCT (FT)
---------------	------	---------------------	-------	----------------------------

<u>FIELD PT NAME</u>	<u>DATE</u>	<u>DEPTH TO WATER (FT)</u>	<u>SHEEN</u>	<u>DEPTH TO FREE PRODUCT (FT)</u>
MW-1	11/27/2019	37.76	N	
MW-10	11/27/2019	37.36	N	
MW-11	11/27/2019	36.12	N	
MW-1B	11/27/2019	37.35	N	
MW-2	11/27/2019	38.19	N	
MW-3	11/27/2019	37.68	N	
MW-4	11/27/2019	38.24	N	
MW-5	11/27/2019	37.67	N	
MW-5B	11/27/2019	37.25	N	
MW-6	12/13/2019	36.12	N	
MW-6B	12/13/2019	37.02	N	
MW-7	11/27/2019	37.51	N	
MW-8	11/27/2019	37.38	N	

GeoTracker

GeoTracker

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CHLORINATED SOLVENT CASE - CORNER OF EAST MAIN STREET AND SOUTH GRANT STREET (SLT5S3083344) - (MAP)

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EAST MAIN STREET & SOUTH GRANT STREET

STOCKTON, CA

SAN JOAQUIN COUNTY

CLEANUP PROGRAM SITE (INFO)

OPEN - INACTIVE AS OF 7/7/2015 - DEFINITION

PRINTABLE CASE SUMMARY / CSM REPORT

CLEANUP OVERSIGHT AGENCIES

CENTRAL VALLEY RWOCB (REGION 55) (LEAD) - CASE # SLT5S308

CASE MANAGER: MITCH WESSMER

Summary

Cleanup

Action Report

Regulatory Activities

Environmental Data (ESI)

Site Maps / Documents

Community Involvement

Related Cases

Regulatory Profile

PRINTABLE CASE SUMMARY

CLEANUP STATUS - DEFINITIONS

OPEN - INACTIVE AS OF 7/7/2015 - CLEANUP STATUS HISTORY

POTENTIAL CONTAMINANTS OF CONCERN

POTENTIAL MEDIA OF CONCERN

DESIGNATED GROUNDWATER BENEFICIAL USE(S) - DEFINITIONS

FILE LOCATION

DWR GROUNDWATER SUB-BASIN NAME

San Joaquin Valley - Eastern San Joaquin (5-022.01)

OTHER CHLORINATED HYDROCARBONS, OTHER PETROLEUM, OTHER SOLVENT OR NON-PETROLEUM HYDROCARBON, WASTE OIL / MOTOR / HYDRAULIC / LUBRICATING

INDOOR AIR, OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER), SOIL VAPOR

MUN, AGR, IND, PROC

CALWATER WATERSHED NAME

North Valley Floor - Lower Calaveras (531.30)

Site History

a fuel investigation for Valley Motors revealed PCE, TCE in groundwater that is coming from an upgradient source. PCE 625 ug/L, TCE 340 ug/L, trans 1,2-DCE 227 ug/L.

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APPENDIX E
TRAFFIC STUDY



TECHNICAL MEMORANDUM

Date: December 4, 2024
To: Paul J. Schneider, P.E.
3428 Brookside Road
Stockton, CA 95219
Phone: 209.943.2021
Email: pjs@siegfriedeng.com
Project No.: 011-101
From: Rutvij Patel
Project Manager
Jurisdiction: City of Stockton
Subject: **Traffic Analysis on Main Street and Market Street in Stockton, California**

INTRODUCTION

The purpose of this technical memorandum is to evaluate the existing conditions, existing build conditions, background conditions, and background build conditions of Main Street and Market Street. The study area consists of approximately 2.6 mile section of Main Street and 1.3 mile section of Market Street in Stockton.

Main Street is a primarily two to three-lane, one-way major arterial running westbound from Market Street to Hunter Street. Main Street has four lanes, two lanes each direction from Market Street to Golden Gate Avenue. From Golden Gate Avenue to Broadway Avenue, it is a five-lane with two lane in each direction and one two way left turn lane (TWLTL). The average daily traffic (ADT) volume on Main Street ranges between 950 vehicles per day (vpd) to 14,435 vpd.

Market Street is a primarily two-lane one-way minor arterial stretching eastbound direction from Center Street to Locust Street. The average daily traffic (ADT) volume on Market Street ranges between 1,305 vpd to 5,410 vpd.

45 study intersections and 21 study roadway segments were selected for the project within the study area – 28 study intersections and 14 study roadway segments on Main Street; and 17 study intersections and 7 study roadway segments on Market Street. The intersections were evaluated under existing conditions, existing build conditions, background conditions, and background build conditions for the weekday a.m. and p.m. peak periods.

This technical memorandum summarizes the existing, existing build, background, and background build conditions intersection and segment level of service (LOS) analysis as well as the 95th percentile queue length at the study intersections. This memorandum also summarizes the collisions that occurred over an eight year (2015-2022) period in the project vicinity.

The following is the list of study intersections that were selected for the project:

1. Main Street/ Hunter Street (No Control)



2. Main Street/San Joaquin Street (Signal)
3. Main Street/Sutter Street (Signal)
4. Main Street/California Street (Signal)
5. Main Street/American Street (Signal)
6. Main Street/Stanslaus Street (Signal)
7. Main Street/Grant Street (Two-Way Stop)
8. Main Street/Aurora Street (Two-Way Stop)
9. Main Street/Union Street (All-Way Stop)
10. Main Street/Pilgrim Street (Two-Way Stop)
11. Main Street/Airport Way (Signal)
12. Main Street/Sierra Nevada Street (Two-Way Stop)
13. Main Street/Wilson Way (Signal)
14. Main Street/Market Street – Locust Street (Signal)
15. Main Street/B Street (Two-Way Stop)
16. Main Street/C Street-Lafayette Street (Two-Way Stop)
17. Main Street/D Street (Signal)
18. Main Street/E Street-Marsh Street (Two-Way Stop)
19. Main Street/F Street-Alma Street (Two-Way Stop)
20. Main Street/Filbert Street (Signal)
21. Main Street/Burkett Avenue (Two-Way Stop)
22. Main Street/Shasta Avenue (Two-Way Stop)
23. Main Street/David Avenue (Two-Way Stop)
24. Main Street/Rendon Avenue (Two-Way Stop)
25. Main Street/Golden Gate Avenue (Signal)
26. Main Street/Windsor Avenue (Two-Way Stop)
27. Main Street/Netherton Avenue (Signal)
28. Main Street/Broadway Avenue (Two-Way Stop)
29. Market Street/Center Street (Signal)
30. Market Street/El Dorado Street (Signal)
31. Market Street/Hunter Street (All-Way Stop)
32. Market Street/San Joaquin Street (Signal)
33. Market Street/Sutter Street (Signal)
34. Market Street/California Street (Signal)
35. Market Street/American Street (Signal)

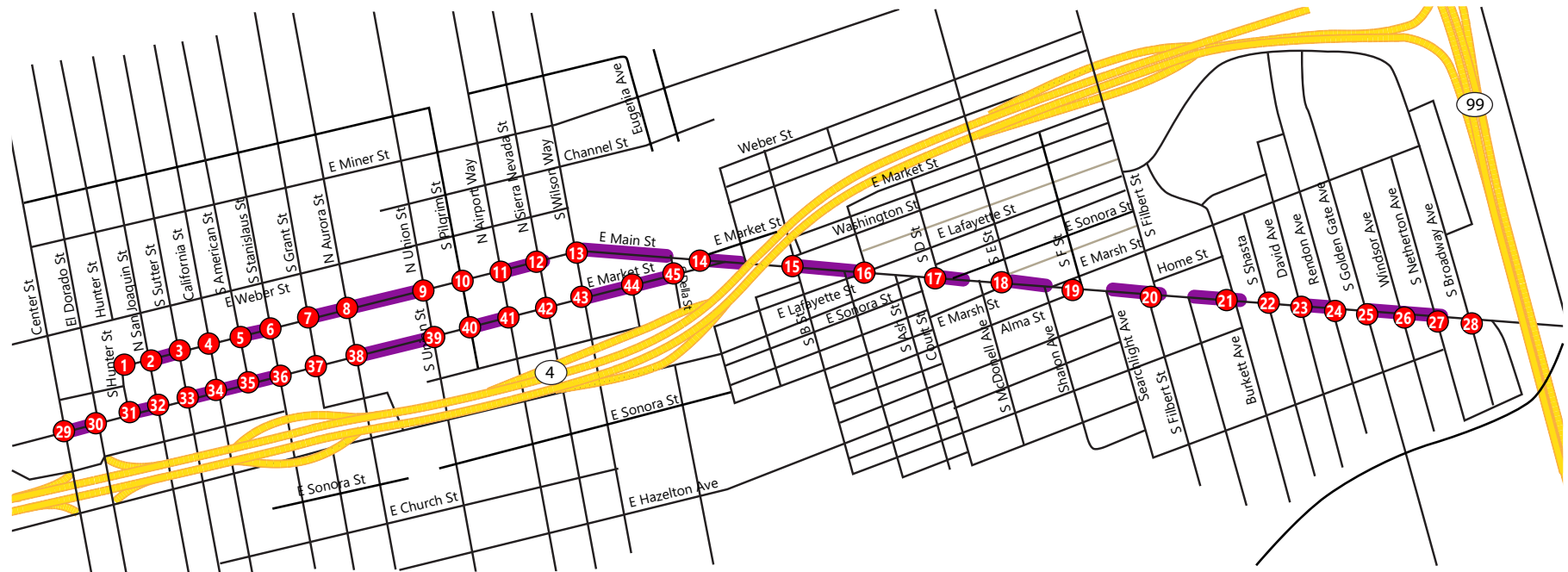
36. Market Street/Stanislaus Street (Signal)
37. Market Street/Grant Street (Two-Way Stop)
38. Market Street/Aurora Street (Two-Way Stop)
39. Market Street/Union Street (Two-Way Stop)
40. Market Street/Pilgrim Street (Two-Way Stop)
41. Market Street/Airport Way (Signal)
42. Market Street/Sierra Nevada Street (Two-Way Stop)
43. Market Street/Wilson Way (Signal)
44. Market Street/Eugenia Street (One-Way Stop)
45. Market Street/Della Street (Two-Way Stop)

The following is the list of study roadway segments:

1. Main Street between San Joaquin Street and Sutter Street
2. Main Street between American Street and Stanislaus Street
3. Main Street between Grant Street and Aurora Street
4. Main Street between Aurora Street And Union Street
5. Main Street between Airport Way and Sierra Nevada Street
6. Main Street between Wilson Way and Della Street
7. Main Street between Market Street and A Street
8. Main Street between B Street and C Street
9. Main Street between D Street and Sonora Street
10. Main Street between E Street and Sharon Avenue
11. Main Street between Searchlight Avenue and Filbert Street
12. Main Street between Sullivan Avenue and Burkett Avenue
13. Main Street between David Avenue and Rendon Avenue
14. Main Street between Golden Gate Avenue and Netherton Avenue
15. Market Street between Center Street and El Dorado Street
16. Market Street between Hunter Street and San Joaquin Street
17. Market Street between Sutter Street and California Street
18. Market Street between California Street and Stanislaus Street
19. Market Street between Aurora Street and Union Street
20. Market Street between Airport Way and Pilgrim Street
21. Market Street between Wilson Street and Main Street

Figure 1 illustrates the 45 study intersections and 21 study roadway segments.

Figure 1: Vicinity Map



LEGEND

-  Study Intersection  Study Segment



STUDY METHODOLOGY

LEVEL OF SERVICE ANALYSIS AND METHODOLOGY

Existing operational conditions at the study intersections were evaluated according to the requirements set forth by the City of Stockton. The traffic operational analysis was conducted using the Highway Capacity Manual (HCM) 6th as well as HCM 2000 Level of Service (LOS) methodology with Synchro 12.0 software. The HCM 2000 methodology was used in lieu of more recent editions of the HCM due to limitations in the newer methodology in analyzing exclusive pedestrian phases, clustered intersections, and non-NEMA phasing. In the existing build conditions, two intersections were analyzed as Roundabouts using the Sidra 8.1 software.

LOS is a qualitative measure that describes operational conditions as they relate to the traffic stream and perceptions by motorists and passengers. The LOS generally describes these conditions in terms of such factors as speed and travel time, delays, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The operational LOS are given letter designations from A to F, with 'A' representing the best operating conditions (free-flow) and 'F' the worst (severely-congested flow with high delays). Intersections generally are the capacity-controlling locations with respect to traffic operations on arterial and collector streets.

SIGNALIZED, UNSIGNALIZED AND ROUNDABOUTS INTERSECTIONS

Signalized intersection LOS and unsignalized all-way stop controlled LOS is based on the capacity of the intersection as a whole and average delay experienced by a driver. Unsignalized one-way and two-way stop controlled intersection LOS is defined by the average delay experienced by a driver for the minor approach worst movement or major approach critical movement. Roundabout intersection LOS is defined by the average control delay based on the capacity of intersection as a whole. The LOS criteria is same as the unsignalized intersection. **Table 1** provides the relationship between LOS rating and delay for signalized and unsignalized intersections.

Table 1: Level of Service Thresholds Based on Intersection Delay

Level of Service	Signalized Intersection Delay (sec)	Unsignalized Intersection Delay (sec)
A	$0 \leq D \leq 10$	$0 \leq D \leq 10$
B	$10 < D \leq 20$	$10 < D \leq 15$
C	$20 < D \leq 35$	$15 < D \leq 25$
D	$35 < D \leq 55$	$25 < D \leq 35$
E	$55 < D \leq 80$	$35 < D \leq 50$
F	$80 < D$	$50 < D$

Source: Highway Capacity Manual (HCM), 6th Edition

ROADWAY SEGMENTS

Roadway segment LOS was performed based on the LOS thresholds set by the City. The analysis was performed for the study segments where ADT counts were collected. **Table 2** shows the LOS thresholds for roadways in the City.

Table 2: Roadway Segment Level of Service Thresholds

Roadway Classification	Lanes	Capacity for LOS C (Vehicles)
Major Arterial	2	12,500
with two-way center left	3	15,000
	4	30,100
with two-way center left	5	35,000
	6	45,000
Minor Arterial	2	12,500
with two-way center left	3	15,000
	4	25,000
Collector (Commercial/Industrial)	2	10,000
Collector (Residential)	2	7,000
Local (Commercial/Industrial)	2	7,000
Local (Residential)	2	2,000

Source: San Joaquin County

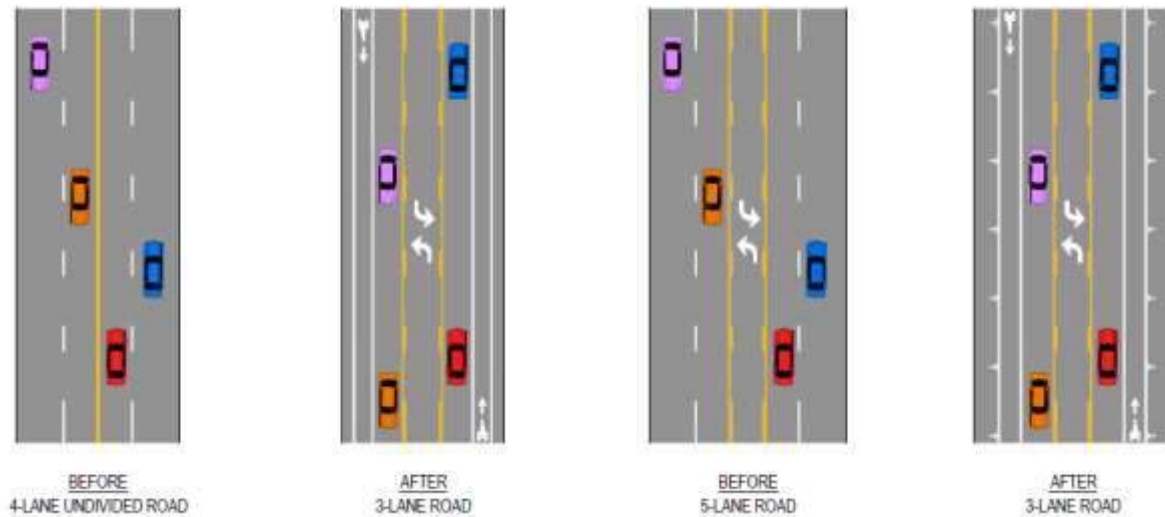
SIGNIFICANT IMPACT CRITERIA/LEVEL OF SERVICE STANDARDS

The “Envision Stockton 2040 General Plan”, adopted by City Council in 2018, established LOS D as the acceptable level of traffic congestion on major streets. For the purposes of this study when evaluating the potential significance of level of service impacts to the City of Stockton motorists, LOS D or better is acceptable whereas LOS E and F are unacceptable.

ROAD DIET GUIDELINES

“Road diets” are often conversions of four-lane undivided roads into three lanes (two through lanes and a center turn lane), as shown in **Figure 2**. The residual street space can be utilized for bike lanes, street parking, transit lanes, raised medians, pedestrian refuge islands, sidewalks and/or curbside delivery and pick-up areas. In short, existing street space is reallocated from traffic lanes to other uses while maintaining the same curbs and curb-to-curb pavement width. If planned as a part of a street overlay or pavement resurfacing project, a road diet conversion can be relatively inexpensive and cost-effective.

Figure 2: Typical Road Diet Basic Design (Typical)



(source: Road Diet Informational Guide: FHWA Safety program, November 2014, section 1.2.2, page 5, https://safety.fhwa.dot.gov/road_diets/guidance/info_guide/).

Under most ADT volumes, road diets have minimal effect on motorist delay because left-turning vehicles are moved into an exclusive two-way left-turn lane. At ADTs above approximately 20,000 vehicles, there is a greater likelihood that traffic congestion will increase to the point of diverting traffic to alternate or parallel streets.

Road diets offer potential benefits to pedestrians, bicyclists and motorists. On a typical four-lane street, drivers change lanes to pass slower vehicles (such as vehicles stopped in the left lane in a midblock location waiting to make a left turn to a driveway). In contrast, drivers' speeds on two-lane streets are limited by the speed of the lead vehicle. Thus, road diets may reduce vehicle speeds and vehicle interactions during lane changes, which has been proven to reduce the number and severity of vehicle-to-vehicle crashes in most cases. Based on studies conducted by FHWA, road diets have been observed to bring about a crash reduction of 19 to 47 percent. Pedestrians benefit because they have fewer lanes of traffic to cross, and also because motor vehicles are likely to be moving more slowly and further from the sidewalk.

In determining the feasibility of a roadway for a road diet, there are eight criteria to evaluate. The criteria are introduced below to provide a basis for the evaluation and analysis of the study corridor which is described in the subsequent sections of this report. Parameters to be assessed when a road diet conversion is considered include:

- Roadway characteristics
- Parallel routes
- Traffic volume, level of service and delay
- Access points, turning volume and patterns
- Collision analysis

- Frequent stop and slow-moving vehicles
- Weaving and speed
- Pedestrian and bicycle activity

COLLISION ANALYSIS

DATA COLLECTION

Eight-year collision data, from 2015 to 2022, was retrieved from the Transportation Injury Mapping System (TIMS) database. The collision data was collected at all the study intersections and roadways. TIMS dataset includes collisions of 4 levels of severity. The essential information required to analyze the TIMS database includes collision severity, types of collision, primary violation factors, and lighting conditions.

Collisions that occurred within a 150-foot radius of an intersection were considered as an intersection collision. Collisions that occurred at a distance greater than 150 feet were considered occurring at a mid-block location, i.e., at a roadway segment.

Based on the collision data retrieved, a total of 371 collisions were reported from the year 2015 to 2022. Out of the total collisions, approximately 94% (349 collisions) were observed to have occurred at an intersection and 6% (22 collisions) were observed to have occurred at mid-block locations on roadway segments. The number of collisions that occurred every year, as per facility type, is listed in **Table 3. Appendix A** contains the complete collision data set.

Table 3: Intersection and Mid-block Collisions by Year

Facility Type	2015	2016	2017	2018	2019	2020	2021	2022	Total
Intersection Collisions	51	38	45	43	59	24	43	46	349
Segment Collisions		2	4	5		3	5	3	22
Total	51	40	49	48	59	27	48	49	371

Source: TIMS (2015-2022 Collision Data along Main Street and Market Street)

Based on the 349 reported collisions that occurred at intersections, 84% are vehicle-vehicle collisions (7 of these collisions involved a parked motor vehicle), 9% are vehicle-pedestrian, 4% are vehicle-bicycle collisions, and 3% are vehicle-fixed object collisions. All the collisions occurring on Main Street and Market Street were further analyzed based on facility type by the following factors:

- Collision Types & Severity
- Motor Vehicle Involved With
- Primary Violation Factors
- Lighting

INTERSECTION COLLISION ANALYSIS

Broadside (219 collisions, 63%) and rear-end (49 collisions, 14%) collisions are the most common occurring collision types at intersections. Other significant collision types include vehicle



pedestrian (30 collisions, 9%) followed by sideswipe and head-on collisions, each contributing 34 collisions (10%). Vehicle-Bicycle collisions contributed 4% (15 collisions) of all collisions. 72% of collisions (250 collisions) resulted in complaint of pain, followed by other visible injury (88 collisions, 26%), severe injury (9 collisions, 2%) and fatal (1 collisions, 1%). Traffic signals and signs violations (124 collisions, 36%) is the most common primary collision factor leading to collisions at intersection. The next highest factors are automobile right of way violation (86 collisions, 25%) and unsafe speed (54 collisions, 15%). 79% (276 collisions) of the collisions occurred in daylight, 19% (66 collisions) occurred at dark hours but street lights were present, and 2% (5 collisions) occurred when it was dusk or dawn. **Table 4** summarizes the intersection collision analysis based on all the factors analyzed.

Table 4: Intersection Collision Analysis (January 2015 to December 2022)

Collision Attribute	2015		2016		2017		2018		2019		2020		2021		2022		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Collision Type																		
Head-On	2	1%	1	0%	3	1%		0%	4	1%	1	0%	4	1%	1	0%	16	4%
Sideswipe	6	2%	2	1%	1	0%	1	0%	1	0%	2	1%	2	1%	3	1%	18	5%
Rear End	7	2%	5	1%	7	2%	8	2%	13	4%	2	1%	4	1%	3	1%	49	14%
Broadside	30	9%	21	6%	28	8%	29	8%	35	10%	17	5%	30	9%	29	8%	219	63%
Hit Object	1	0%	2	1%	1	0%		0%		0%		0%	1	0%	4	1%	9	3%
Vehicle/Pedestrian	4	1%	5	1%	4	1%	2	1%	5	1%	2	1%	2	1%	6	2%	30	9%
Other	1	0%	2	1%	1	0%	3	1%	1	0%		0%		0%		0%	8	2%
Total	51	15%	38	11%	45	13%	43	12%	59	17%	24	7%	43	12%	46	13%	349	100%
Motor Vehicle Involved With																		
Not Stated	1	0%		0%		0%		0%		0%		0%		0%		0%	1	0%
Pedestrian	4	1%	5	1%	4	1%	2	1%	5	1%	2	1%	2	1%	6	2%	30	9%
Other Motor Vehicle	36	10%	27	8%	38	11%	37	11%	51	15%	20	6%	38	11%	33	9%	280	80%
Motor Vehicle on Other Roadway	3	1%		0%		0%		0%	1	0%	2	1%	1	0%		0%	7	2%
Parked Motor Vehicle	2	1%	2	1%		0%	1	0%	1	0%		0%		0%	1	0%	7	2%
Bicycle	4	1%	2	1%	2	1%	3	1%	1	0%		0%	1	0%	2	1%	15	4%
Fixed Object	1	0%	2	1%	1	0%		0%		0%		0%	1	0%	4	1%	9	3%
Total	51	15%	38	11%	45	13%	43	12%	59	17%	24	7%	43	12%	46	13%	349	100%
Collision Severity																		
Fatal Injury	1	0%		0%		0%		0%		0%		0%		0%		0%	1	0%
Sever Injury	1	0%	2	1%	1	0%	1	0%	1	0%	1	0%	2	1%		0%	9	2%
Visible Injury	17	5%	12	3%	12	3%	9	3%	13	4%	7	2%	7	2%	12	3%	89	26%
Complaint of Pain	32	9%	24	7%	32	9%	33	9%	45	13%	16	5%	34	10%	34	10%	250	72%
Total	51	15%	38	11%	45	13%	43	12%	59	17%	24	7%	43	12%	46	13%	349	100%

Collision Attribute	2015		2016		2017		2018		2019		2020		2021		2022		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Primary Collision Factor																		
Unknown	2	1%	4	1%	1	0%		0%	1	0%		0%		0%		0%	8	2%
Driving/Bicycling Under the Influence	3	1%		0%		0%	2	1%	3	1%	1	0%	1	0%		0%	10	3%
Unsafe Speed	8	2%	7	2%	6	2%	7	2%	13	4%	4	1%	2	1%	7	2%	54	15%
Wrong Side of Road	2	1%		0%	1	0%	2	1%	1	0%		0%	1	0%	1	0%	8	2%
Unsafe Lane Change	1	0%		0%		0%		0%		0%	1	0%	3	1%	1	0%	6	2%
Improper Turning	1	0%		0%	1	0%	2	1%	3	1%		0%	3	1%	1	0%	11	3%
Auto ROW	13	4%	7	2%	13	4%	11	3%	13	4%	4	1%	14	4%	11	3%	86	25%
Ped ROW	1	0%	2	1%	3	1%	1	0%	3	1%	1	0%	2	1%	4	1%	17	5%
Ped Violation	3	1%		0%		0%	1	0%	1	0%	1	0%		0%	2	1%	8	2%
Traffic Signals and Signs	16	5%	15	4%	16	5%	15	4%	20	6%	10	3%	15	4%	17	5%	124	36%
Lights		0%		0%	1	0%		0%		0%		0%		0%		0%	1	0%
Brakes		0%		0%		0%	1	0%		0%		0%		0%		0%	1	0%
Other Hazardous Violation		0%	2	1%	1	0%	1	0%	1	0%	2	1%	2	1%	1	0%	10	3%
Other Than Driver (or Pedestrian)		0%		0%	1	0%		0%		0%		0%		0%	1	0%	2	1%
Unsafe Starting or Backing		0%	1	0%		0%		0%		0%		0%		0%		0%	1	0%
Other Improve Driving	1	0%		0%	1	0%		0%		0%		0%		0%		0%	2	1%
Total	51	15%	38	11%	45	13%	43	12%	59	17%	24	7%	43	12%	46	13%	349	100%
Lighting																		
Daylight	42	12%	31	9%	36	10%	33	9%	47	13%	20	6%	29	8%	38	11%	276	79%
Dusk-Dawn	1	0%		0%	2	1%		0%		0%		0%	2	1%		0%	5	1%
Dark - Street lights	8	2%	7	2%	7	2%	10	3%	11	3%	4	1%	12	3%	7	2%	66	19%
Dark - No Street lights		0%		0%		0%		0%	1	0%		0%		0%	1	0%	2	1%
Total	51	15%	38	11%	45	13%	43	12%	59	17%	24	7%	43	12%	46	13%	349	100%

During the eight year period, the intersections of Market Street/Airport Way, Main Street/Filbert Street, Main Street/Airport Way, Main Street/Wilson Way, and Market Street/Wilson Way are the top five intersections that experienced the highest number of collisions. **Table 5** summarizes the total number of collisions that were reported at the study intersections during the eight-year analysis period and the calculated intersection collision rate for each intersection. The collision rates at the intersections along the study corridor were compared with the Caltrans' 2021 statewide average collision rates for intersections with similar characteristics. Based on the analysis, 22 out of the 45 study intersections experienced a collision rate higher than the Caltrans statewide average.

Table 5: Intersection Collision Analysis

#	Study Intersection	Total # of Collisions (2015-2022)	Intersection Collision Rate (ICR)	Statewide Average Collision Rate ¹	High Collision Rate
1	Main Street/S Hunter Street	0	0.00	0.13	No
2	Main Street/San Joaquin Street	1	0.08	0.33	No
3	Main Street/Sutter Street	0	0.00	0.33	No
4	Main Street/California Street	2	0.12	0.33	No
5	Main Street/American Street	0	0.00	0.33	No
6	Main Street/Stanslaus Street	15	0.65	0.33	Yes
7	Main Street/Grant Street	2	0.33	0.20	Yes
8	Main Street/Aurora Street	1	0.13	0.20	No
9	Main Street/Union Street	3	0.35	0.21	Yes
10	Main Street/Pilgrim Street	2	0.43	0.20	Yes
11	Main Street/Airport Way	26	0.51	0.33	Yes
12	Main Street/Sierra Nevada Street	3	0.34	0.20	Yes
13	Main Street/Wilson Way	24	0.41	0.33	Yes
14	Main Street/Market Street	2	0.08	0.33	No
15	Main Street/B Street	7	0.30	0.20	Yes
16	Main Street/C Street-Lafayette Street	7	0.29	0.20	Yes
17	Main Street/D Street	1	0.05	0.28	No
18	Main Street/E Street-Marsh Street	8	0.13	0.20	No
19	Main Street/F Street-Alma Street	7	0.48	0.20	Yes
20	Main Street/Filbert Street	34	0.82	0.33	Yes
21	Main Street/Burkett Ave	8	0.23	0.20	Yes
22	Main Street/Shasta Ave	4	0.09	0.20	No
23	Main Street/David Ave	4	0.12	0.20	No
24	Main Street/Rendon Ave	5	0.14	0.20	No

#	Study Intersection	Total # of Collisions (2015-2022)	Intersection Collision Rate (ICR)	Statewide Average Collision Rate ¹	High Collision Rate
25	Main Street/Golden Gate Ave	13	0.36	0.33	Yes
26	Main Street/Windsor Ave	3	0.11	0.20	No
27	Main Street/Netherton Ave	4	0.13	0.33	No
28	Main Street/Broadway Ave	4	0.14	0.20	No
29	Market Street/Center Street	14	0.29	0.33	No
30	Market Street/El Dorado Street	15	0.29	0.33	No
31	Market Street/Hunter Street	2	0.24	0.21	Yes
32	Market Street/San Joaquin Street	15	1.03	0.33	Yes
33	Market Street/Sutter Street	5	0.41	0.33	Yes
34	Market Street/California Street	8	0.41	0.33	Yes
35	Market Street/American Street	0	0.00	0.33	No
36	Market Street/Stanislaus Street	9	0.32	0.33	No
37	Market Street/Grant Street	1	0.19	0.20	No
38	Market Street/Aurora Street	3	0.33	0.20	Yes
39	Market Street/Union Street	11	1.19	0.20	Yes
40	Market Street/Pilgrim Street	1	0.18	0.20	No
41	Market Street/Airport Way	47	0.92	0.33	Yes
42	Market Street/Sierra Nevada Street	5	0.51	0.20	Yes
43	Market Street/Wilson Way	22	0.38	0.33	Yes
44	Market Street/Eugenia Street	0	0.00	0.13	No
45	Market Street/Della Street	3	0.13	0.20	No
46	Market Street/Locust Street	0	0.00	0.33	No

Source: TIMS

Notes: High Collision Rate – denotes a crash rate that is greater than the statewide average for similar types of intersections

ICR = collisions per million vehicles entering the intersection (all approaches) or $1,000,000 \cdot A / (365 \cdot T \cdot \text{AADT})$

ICR= Observed collision rate; Number of accidents/vehicles miles traveled

A = Number of collisions over study period

T = Total number of years over which intersection accidents were collected; January 2015 to December 2022 = 8.0 years

AADT = Annual Average Daily Traffic

¹Obtained from 2021 Collision Data on California State Highways, Basic Average Accident Rate Table for Intersections, Page 89 and 90



EXISTING CONDITIONS

ROADWAY NETWORK

Main Street is an east-west major arterial that extends from Downtown Stockton to unincorporated San Joaquin County. From Market Street to Golden Gate Avenue, Main Street is four lanes with two lanes in each direction. From Golden Gate Avenue to Broadway Avenue, it is a five-lane with two-lane in each direction and a center two-way left turn lane. West of Market Street, Main Street is a two to three-lane one-way roadway heading into downtown. Main Street provides access to the residential and commercial land uses. The ADT volume on Main Street ranges between 950 vpd to 14,435 vpd. The posted speed limit along the corridor is 30 miles per hour (mph) from Wilson Way to Filbert Street and 35 mph from Filbert Street to Highway 99. There were no posted speed limit sign boards on the west of Wilson Way. We have assumed 25 mph.

Market Street is an east-west minor arterial roadway in the Downtown Stockton of the San Joaquin County. It is a two lane one-way roadway between Center Street and Main Street within the study area. The ADT volume ranges from 1,305 vpd to 5,410 vpd along the Market Street. No posted speed limit is present. The speed limit along the corridor is assumed as 25 mph. There are various land uses along the study corridor, such as residential, commercial, recreational, and administrative land uses.

EXISTING PEDESTRIAN FACILITIES

Walkability is defined as the ability to travel easily and safely between various origins and destinations without having to rely on automobiles or other motorized travel. The ideal "walkable" community includes but is not limited to having wide sidewalks, a mix of land uses such as residential, employment and shopping opportunities, buildings with windows and interesting facades at or near the edge of sidewalk, a limited number of conflict points with vehicle traffic, and easy access to transit facilities and services.

Pedestrian facilities are comprised of crosswalks, sidewalks, ADA ramps, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access destinations such as institutions, businesses, public transportation and recreation facilities.

In the project vicinity, sidewalks are provided on both sides of Main Street and Market Street throughout the corridor. Pedestrian non-actuated crossings are provided at each signalized study intersection. Pedestrian crossings are considered as a separate phase and they are operating with exclusive pedestrian phasing on Main Street at San Joaquin Street, Sutter Street, California Street, and American Street. The existing pedestrian facilities in the study area are shown in **Figure 3**.

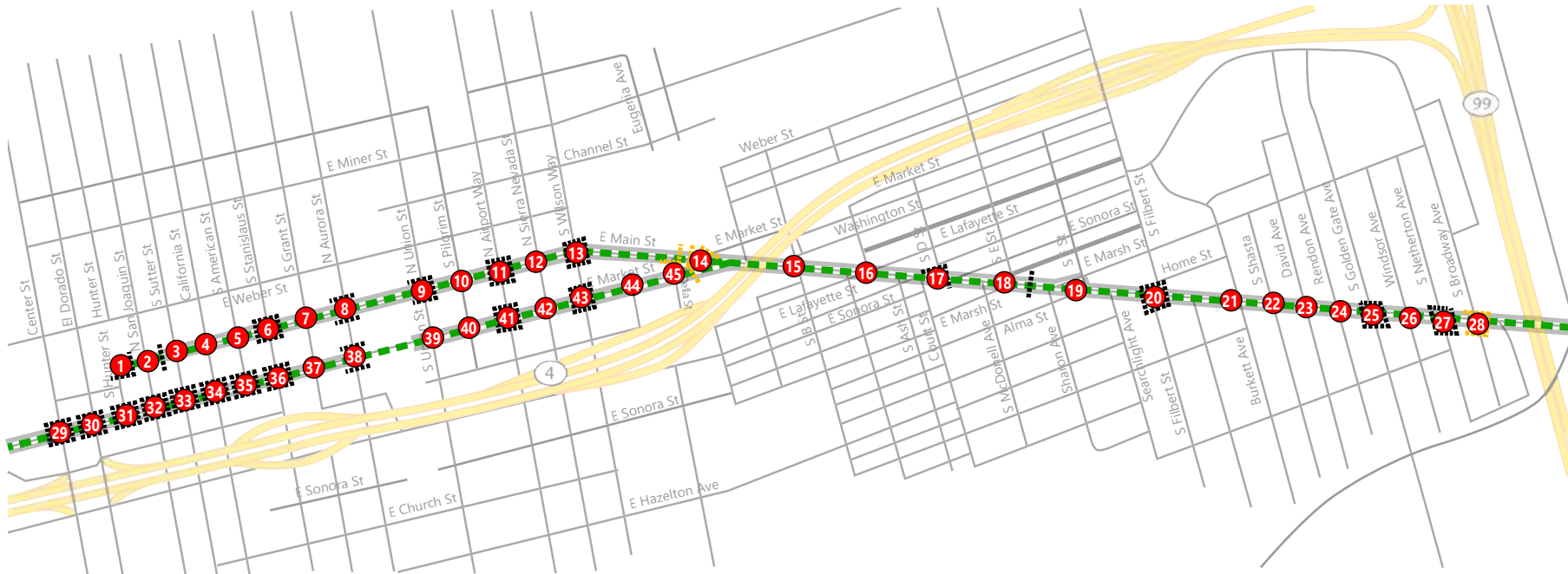
EXISTING BICYCLE FACILITIES

As defined by the State of California Streets and Highways Code, Section 890.4, "bikeway" means all facilities that provide primarily for bicycle travel. Bikeways shall be categorized as follows:

- **Class I** bikeways, such as a bike path, which provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with crossflows by motorists minimized.
- **Class II** bikeways, such as a bike lane, which provide a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossflows by pedestrians and motorists permitted.
- **Class III** bikeways, such as an on-street or off-street bike route, which provide a right-of-way designated by signs or permanent markings and shared with pedestrians or motorists.
- **Class IV** bike ways, such as separated bikeway, also known as a cycle track, is an on-street bike lane that is physically separated from motor-vehicle traffic by a vertical and/or horizontal element such as a raised curb, narrow median, bollards, or car parking.

There are currently no existing bicycle facilities along Main Street and Market Street, however, a Class II bike lane is planned for the study corridors. The planned bicycle facility is illustrated in **Figure 3**.

Figure 3: Existing Pedestrian and Bicycle Facilities



LEGEND

- Study Intersection
- Sidewalk
- Marked Crosswalk
- Marked School Crosswalk
- Class II Planned Bike Lane



EXISTING TRANSIT FACILITIES

Public transit service in the area is provided by San Joaquin Regional Transit District (RTD). RTD bus stops are located throughout the study area on both sides of Main Street and Market Street.

Table 6 summarizes the services and frequency during the weekday and on weekends for bus transit in Stockton. **Figure 4** illustrates the transit facilities in the study area.

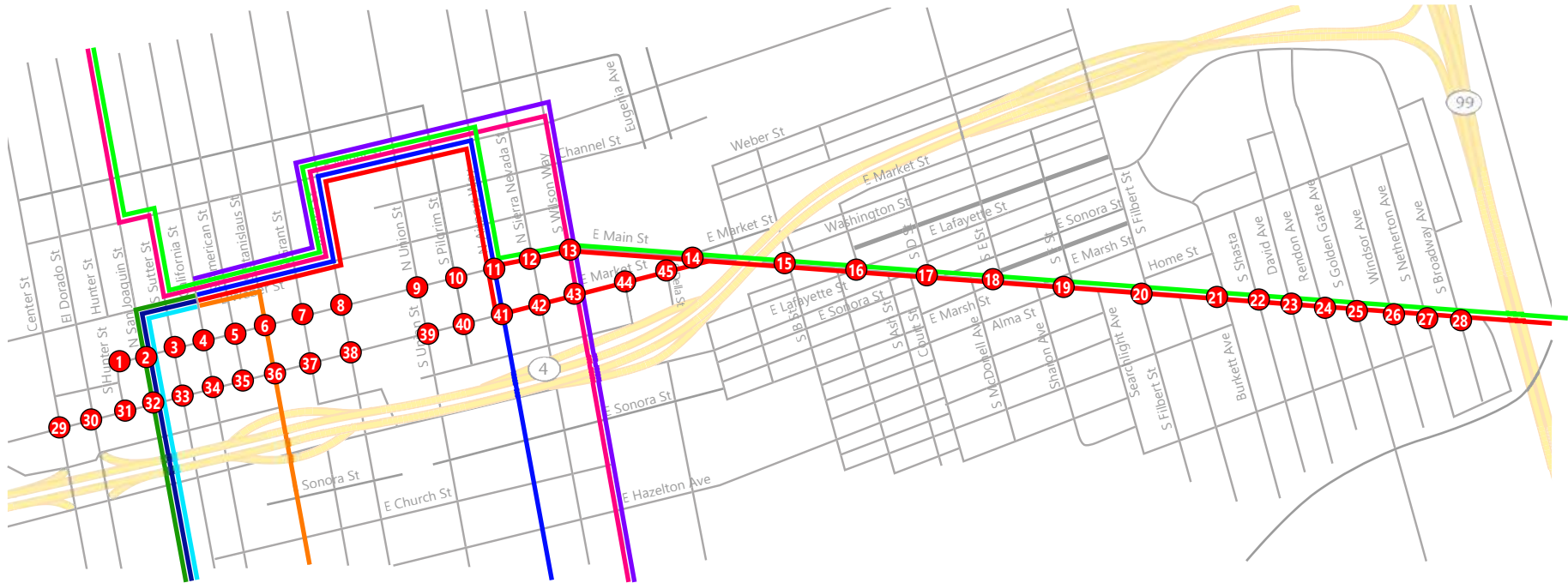
Table 6: Existing Transit Service

Route	From	To	Weekdays		Weekends	
			Operating Hours	Headway (minutes)	Operating Hours	Headway (minutes)
Bus Rapid Transit (BRT) 44	Downtown Transit Center (DTC)	99 Frontage/Boeing	5:49 a.m. to 9:36 p.m.	20-30	7:50 a.m. to 7:42 p.m.	40
315 ^[1]	Downtown Transit Center	Stockton MLK Boulevard	7:15 a.m. & 8:07 a.m. 3:45 p.m. & 4:15 p.m.	N/A	No Service	N/A
378 ^[1]	Mall Transfer Station (MTS)	Section/Oro	7:20 a.m. & 3:40 p.m.	N/A	No Service	N/A
510	Downtown Transit Center (DTC)	San Joaquin County Honor Farm	5:25 a.m. – 8:24 p.m.	11-30	No Service	N/A
525	Downtown Transit Center (DTC)	Main-Gertrude	6:15 a.m. to 8:06 p.m.	30-50	No Service	N/A
555	Downtown Transit Center (DTC)	Carolyn Weston - Manthey	6:07 a.m. to 8:19 p.m.	30-35	No Service	N/A
580	Downtown Transit Center (DTC)	Section/Oro	6:26 a.m. to 7:51 p.m.	35-45	No Service	N/A
710	Downtown Transit Center (DTC)	San Joaquin County Hospital	No Service	N/A	8:10 a.m. to 7:20 p.m.	60-65
725	Acacia-Lincoln (Dameron Hospital)	Main-Gertrude	No Service	N/A	7:55 a.m. to 6:43 p.m.	60-75

Source: San Joaquin RTD Website

Note: ¹ Not a frequent Transit

Figure 4: Existing Transit Facilities



LEGEND

- ⊗ Study Intersection
- Route 315
- Route 378
- Route 710
- Route 580
- Route 510
- Route 525
- Route 555
- Route 725
- Route 44





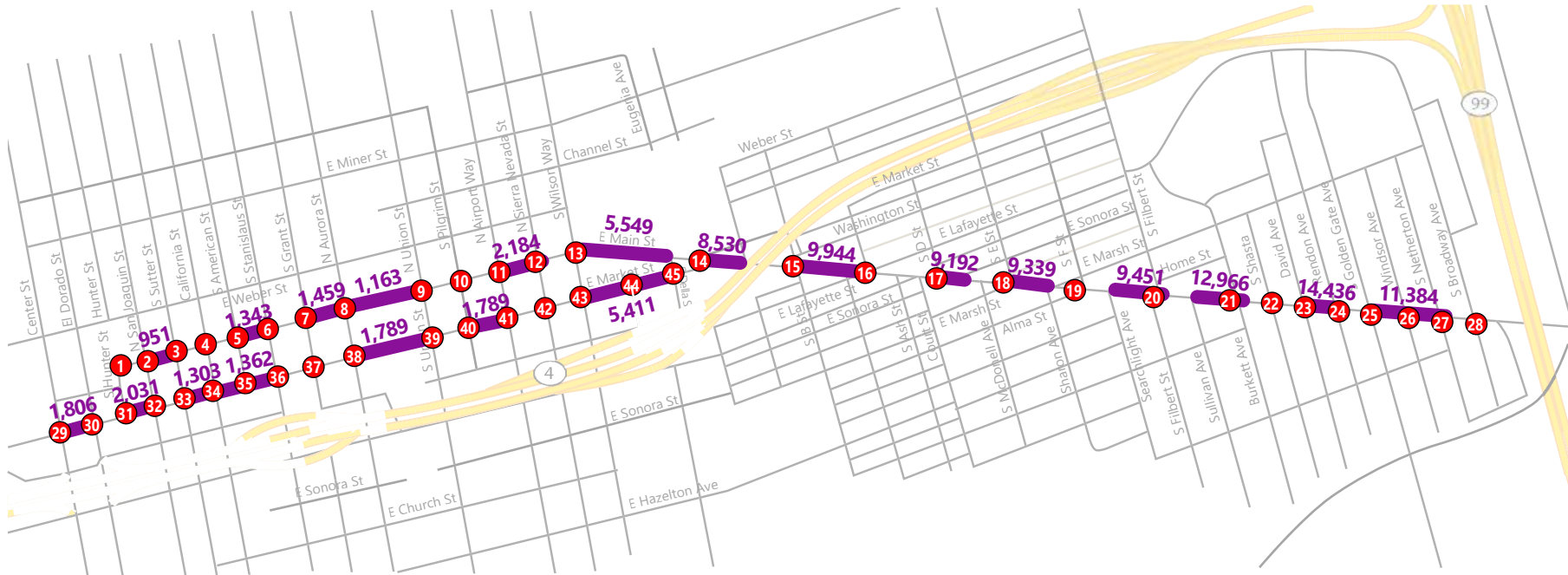
DATA COLLECTION

Turning movement counts (TMC) for vehicles, bicycles, and pedestrians were conducted during the weekday a.m. peak period (7:00 to 9:00 a.m.) and p.m. peak period (4:00 to 6:00 p.m.) at the study intersections. On Main Street between Aurora Street and Broadway Avenue, TMC were collected on September 28, 2023. 24-hour bi-directional average daily traffic (ADT) counts were collected on September 28, 2023 for the same corridor. On Main Street between Hunter Street and Grant Street, and Market Street between Center Street and Della Street, TMC were collected on April 3, 2024. 24-hour bi-directional average daily traffic (ADT) counts were also collected on April 3, 2024 along the study corridors. For Market Street between Center Street and El Dorado Street, 24-hour bidirectional ADT counts were recorded on April 10, 2024. **Figure 5** illustrates average daily traffic along the study corridors.

EXISTING PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS

Existing conditions traffic operations at the study intersections were evaluated for the busiest one-hour period during weekday morning (a.m.) and afternoon (p.m.) peak periods. **Figure 6 (a-d)** illustrates the existing lane geometry and traffic controls at the study intersections. **Figure 7 (a-c)** illustrates the existing a.m. and p.m. peak hour turning movement counts at the study intersections. **Appendix B** includes all the data sheets for the collected traffic counts.

Figure 5: Average Daily Traffic

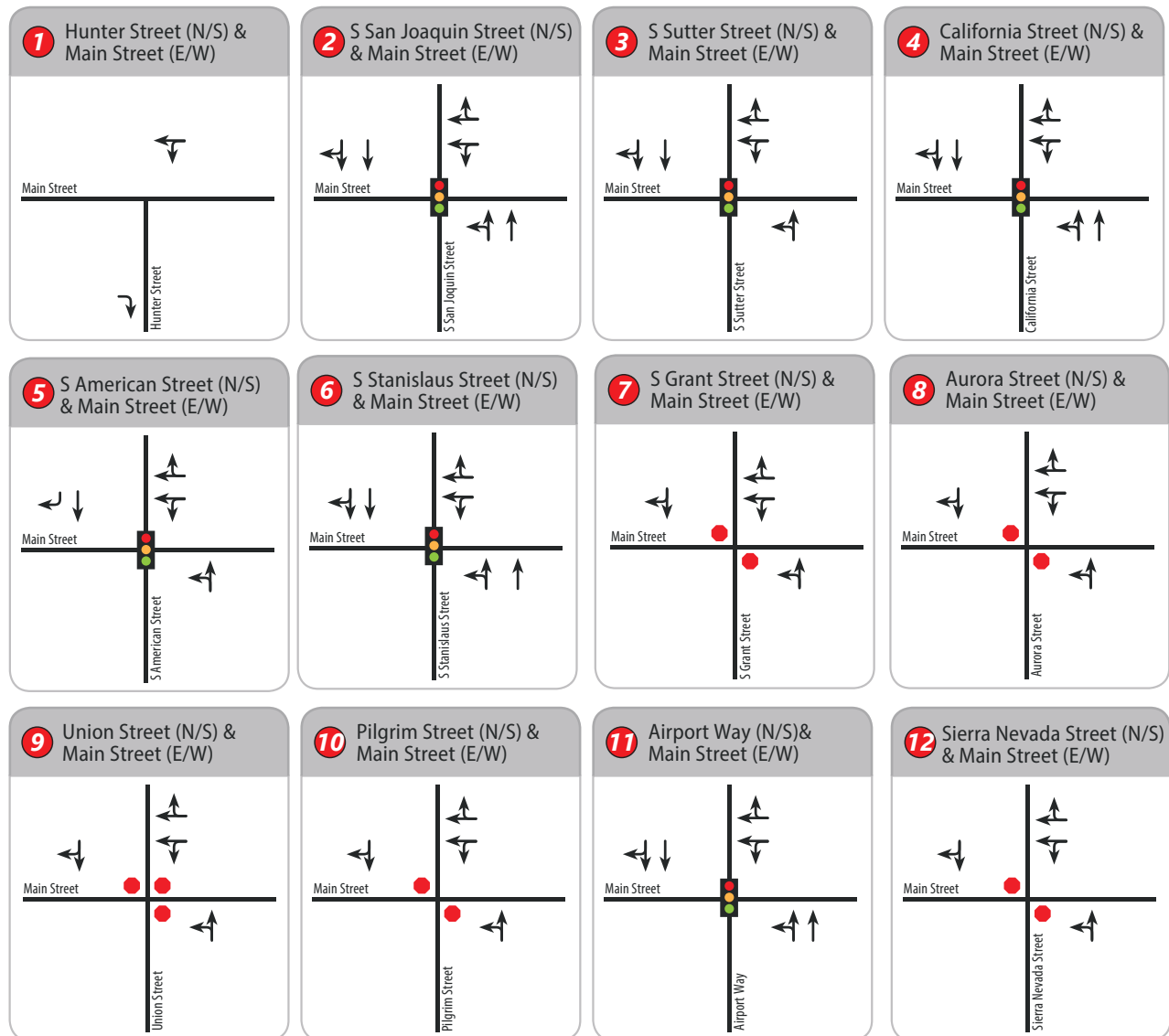


LEGEND



- Study Intersection
- Average Daily Traffic



Figure 6a: Existing Lane Configuration and Traffic Control



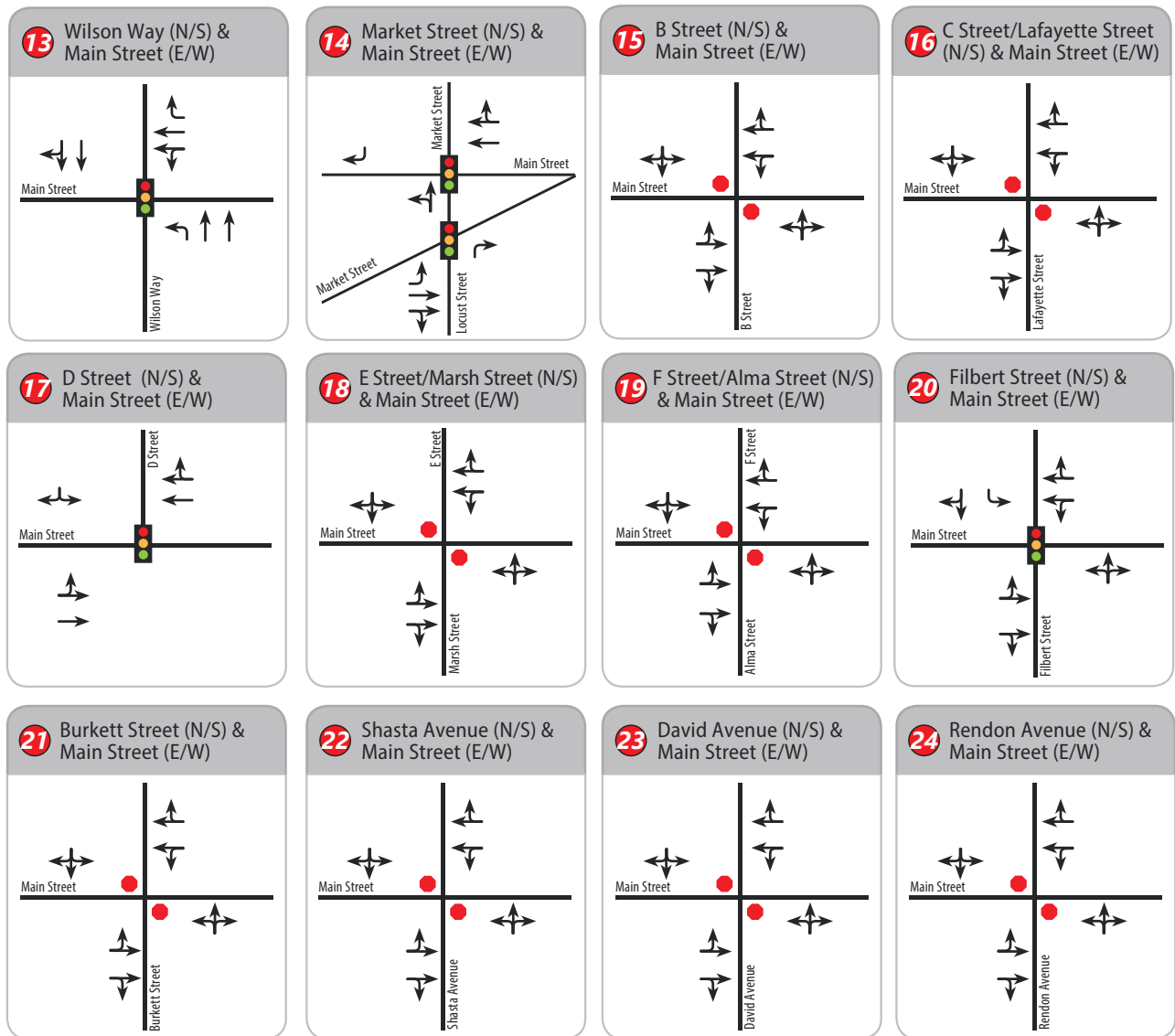
LEGEND

-  Study Intersection
-  Stop Sign

 Traffic Signal



Figure 6b: Existing Lane Configuration and Traffic Control



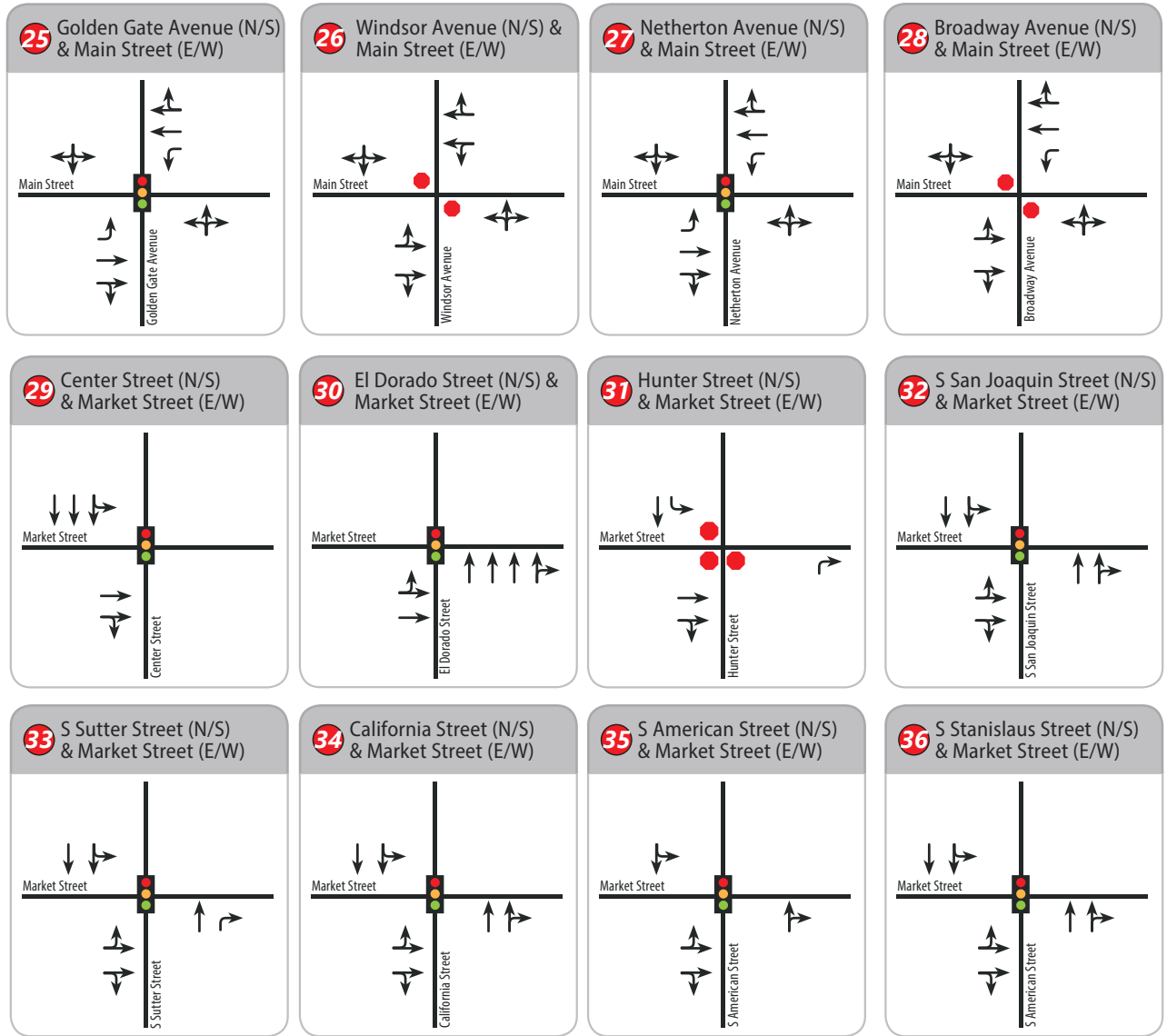
LEGEND

- Study Intersection
- Stop Sign

Traffic Signal



Figure 6c: Existing Lane Configuration and Traffic Control



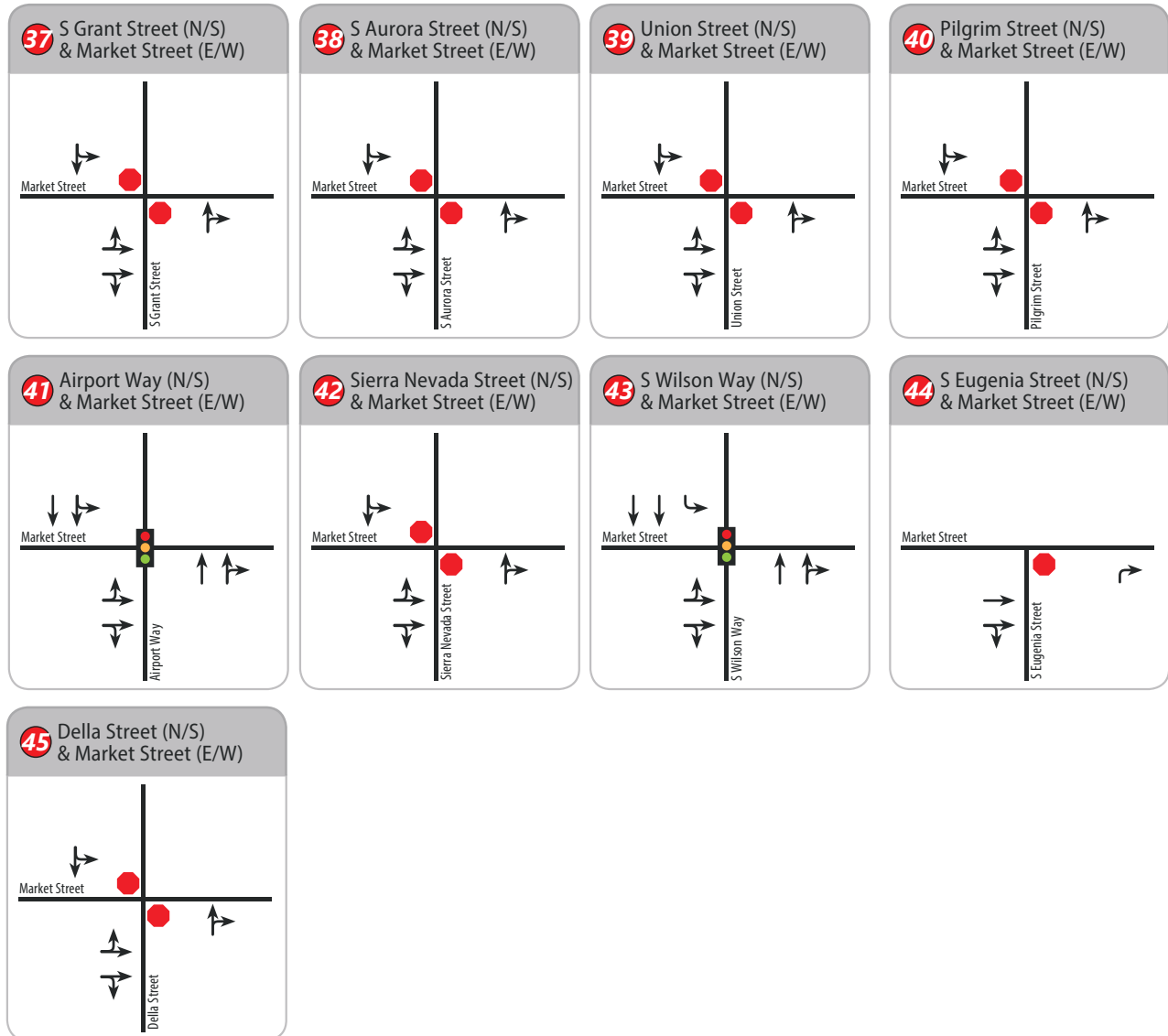
LEGEND

- X Study Intersection
- Stop Sign



 Traffic Signal



Figure 6d: Existing Lane Configuration and Traffic Control



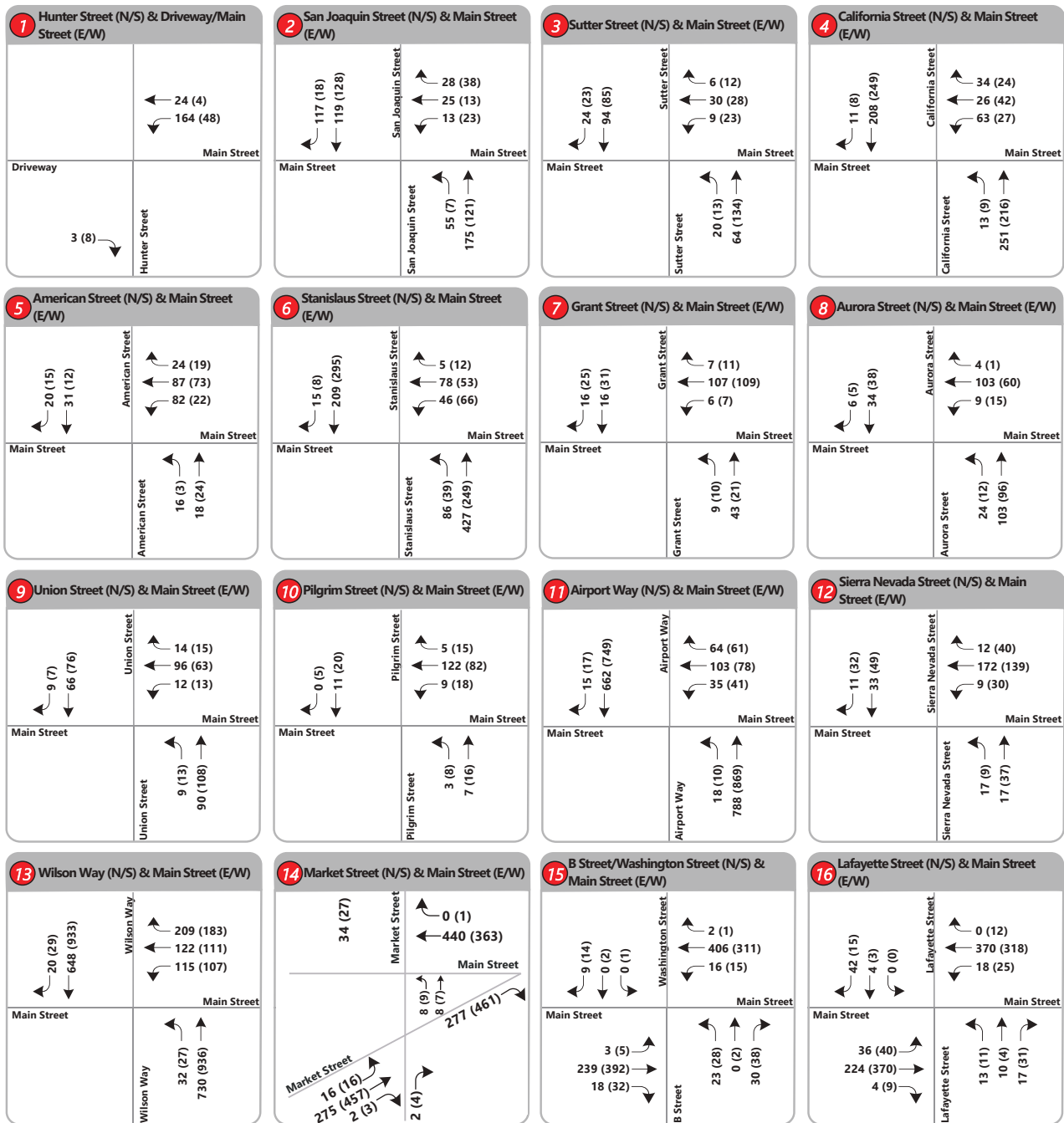
LEGEND

-  Study Intersection
-  Stop Sign

 Traffic Signal



Figure 7a: Existing Conditions Peak Hour Traffic Volumes and Traffic Control



LEGEND



Study Intersection

XX

AM Peak Hour Volumes

(XX)

PM Peak Hour Volumes



Figure 7b: Existing Conditions Peak Hour Traffic Volumes and Traffic Control



LEGEND



Study Intersection

XX AM Peak Hour Volumes

(XX) PM Peak Hour Volumes



Figure 7c: Existing Conditions Peak Hour Traffic Volumes and Traffic Control



LEGEND



Study Intersection

XX AM Peak Hour Volumes

(XX) PM Peak Hour Volumes



INTERSECTION LEVEL OF SERVICE ANALYSIS – EXISTING CONDITIONS

Existing intersection lane configurations, signal timings and turning movement volumes were used to calculate the LOS for the study intersections during each peak hour. The results of the LOS analysis using Synchro 12 software for baseline conditions are summarized in **Table 7**. LOS worksheets are provided in **Appendix C**.

Under this scenario, all the study intersections operate at acceptable LOS D or better during the a.m. and p.m. peak hours.

Table 7: Intersection Level of Service Analysis – Existing Conditions

#	Intersection	Peak Hour ¹	Existing Conditions		
			Control	Delay ²	LOS ³
1	Main Street/S Hunter Street	AM	No Control	-	-
		PM		-	-
2	Main Street/San Joaquin Street	AM	Signal	14.4	B
		PM		15.5	B
3	Main Street/Sutter Street	AM	Signal	16.5	B
		PM		17.3	B
4	Main Street/California Street	AM	Signal	21.8	C
		PM		22.7	C
5	Main Street/American Street	AM	Signal	30.1	C
		PM		20.7	C
6	Main Street/Stanslaus Street	AM	Signal	10.8	B
		PM		10.2	B
7	Main Street/Grant Street	AM	Two-Way Stop	10.8	B
		PM		10.4	B
8	Main Street/Aurora Street	AM	Two-Way Stop	11.6	B
		PM		10.7	B
9	Main Street/Union Street	AM	All-Way Stop	8.1	A
		PM		8.0	A
10	Main Street/Pilgrim Street	AM	Two-Way Stop	10.5	B
		PM		10.1	B
11	Main Street/Airport Way	AM	Signal	6.3	A
		PM		5.5	A
12	Main Street/Sierra Nevada Street	AM	Two-Way Stop	10.6	B
		PM		11.2	B
13	Main Street/Wilson Way	AM	Signal	10.5	B
		PM		8.6	A
14	Main Street/Market Street	AM	Signal	3.9	A
		PM		3.7	A
15	Main Street/B Street	AM	Two-Way Stop	11.7	B
		PM		13.6	B
16	Main Street/C Street-Lafayette Street	AM	Two-Way Stop	13.8	B
		PM		12.6	B
17	Main Street/D Street	AM	Signal	3.5	A
		PM		3.5	A

#	Intersection	Peak Hour ¹	Existing Conditions		
			Control	Delay ²	LOS ³
18	Main Street/E Street-Marsh Street	AM	Two-Way Stop	16.0	C
		PM		16.6	C
19	Main Street/F Street-Alma Street	AM	Two-Way Stop	14.9	B
		PM		16.8	C
20	Main Street/Filbert Street	AM	Signal	15.4	B
		PM		19.3	B
21	Main Street/Burkett Avenue	AM	Two-Way Stop	17.4	C
		PM		19.5	C
22	Main Street/Shasta Avenue	AM	Two-Way Stop	16.6	C
		PM		17.7	C
23	Main Street/David Avenue	AM	Two-Way Stop	17.1	C
		PM		27.7	D
24	Main Street/Rendon Avenue	AM	Two-Way Stop	19.1	C
		PM		25.2	D
25	Main Street/Golden Gate Avenue	AM	Signal	9.0	A
		PM		10.8	B
26	Main Street/Windsor Avenue	AM	Two-Way Stop	14.5	B
		PM		15.9	C
27	Main Street/Netherton Avenue	AM	Signal	13.6	B
		PM		16.3	B
28	Main Street/Broadway Avenue	AM	Two-Way Stop	20.1	C
		PM		16.0	C
29	Market Street/Center Street	AM	Signal	10.5	B
		PM		12.9	B
30	Market Street/El Dorado Street	AM	Signal	10.8	B
		PM		10.8	B
31	Market Street/Hunter Street	AM	All-Way Stop	8.9	A
		PM		7.8	A
32	Market Street/San Joaquin Street	AM	Signal	10.9	B
		PM		9.2	A
33	Market Street/Sutter Street	AM	Signal	15.3	B
		PM		12.6	B
34	Market Street/California Street	AM	Signal	6.7	A
		PM		7.1	A
35	Market Street/American Street	AM	Signal	10.6	B
		PM		6.3	A
36	Market Street/Stanislaus Street	AM	Signal	11.8	B
		PM		8.4	A
37	Market Street/Grant Street	AM	Two-Way Stop	11.4	B
		PM		10.0	B
38	Market Street/Aurora Street	AM	Two-Way Stop	10.9	B
		PM		11.2	B
39	Market Street/Union Street	AM	Two-Way Stop	10.3	B
		PM		11.2	B

#	Intersection	Peak Hour ¹	Existing Conditions		
			Control	Delay ²	LOS ³
40	Market Street/Pilgrim Street	AM	Two-Way Stop	9.7	A
		PM		9.9	A
41	Market Street/Airport Way	AM	Signal	4.7	A
		PM		5.9	A
42	Market Street/Sierra Nevada Street	AM	Two-Way Stop	10.1	B
		PM		11.5	B
43	Market Street/Wilson Way	AM	Signal	11.8	B
		PM		16.8	B
44	Market Street/Eugenia Street	AM	Two-Way Stop	9.5	A
		PM		10.7	B
45	Market Street/Della Street	AM	Two-Way Stop	12.8	B
		PM		17.0	C

Notes:

1. AM – morning peak hour, PM – afternoon peak hour

2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.

3. LOS – Level of Service.

Bold indicates unacceptable LOS and Delay.

ROADWAY SEGMENT LEVEL OF SERVICE

Table 8 presents the roadway segment level of service along Main Street and Market Street for daily volumes. All of the study roadway segments operate under capacity (LOS C or better).

Table 8: Roadway Segment Level of Service – Existing Conditions

#	Segment	LOS C Threshold	Existing Volume	Exceeds LOS C Threshold?
1	Main Street between San Joaquin Street and Sutter Street	12,500	951	No
2	Main Street between American Street and Stanislaus Street	12,500	1,343	No
3	Main Street between Grant Street and Aurora Street	12,500	1,459	No
4	Main Street between Aurora Street and Union Street	12,500	1,163	No
5	Main Street between Airport Way and Sierra Nevada Street	12,500	2,184	No
6	Main Street between Wilson Way and Della Street	12,500	5,549	No
7	Main Street between Market Street and A Street	30,100	8,530	No
8	Main Street between B Street and C Street	30,100	9,944	No
9	Main Street between D Street and Sonora Street	30,100	9,192	No
10	Main Street between E Street and Sharon Avenue	30,100	9,339	No
11	Main Street between Searchlight Avenue and Filbert Street	30,100	9,451	No
12	Main Street between Sullivan Avenue and Burkett Avenue	30,100	12,966	No
13	Main Street between David Avenue and Rendon Avenue	30,100	14,436	No

#	Segment	LOS C Threshold	Existing Volume	Exceeds LOS C Threshold?
14	Main Street between Golden Gate Avenue and Netherton Avenue	35,000	11,384	No
15	Market Street between Center Street and El Dorado Street	12,500	1,806	No
16	Market Street between Hunter Street and San Joaquin Street	12,500	2,031	No
17	Market Street between Sutter Street and California Street	12,500	1,303	No
18	Market Street between California Street and Stanislaus Street	12,500	1,362	No
19	Market Street between Aurora Street and Union Street	12,500	1,789	No
20	Market Street between Airport Way and Pilgrim Street	12,500	1,789	No
21	Market Street between Wilson Street and Main Street	12,500	5,411	No

95TH PERCENTILE QUEUE ANALYSIS

TJKM conducted a vehicle queuing and turn lane storage analysis for study signalized intersections existing conditions. The 95th percentile queues were analyzed using the HCM Queue methodology contained in Synchro 12 software. **Table 9** presents the existing queues (in feet) at the study signalized intersections. **Appendix C** contains the queue output worksheets for existing conditions.

Under existing conditions, the southbound left-turn movement at Main Street/Filbert Street & Market Street/Wilson Way experiences queue lengths that exceed storage lengths for the a.m. and p.m. peak hours.

Table 9: 95th Percentile Queueing Analysis – Existing Conditions

#	Intersection	Lane Group	Storage Length	Existing Conditions	
				AM	PM
1	Main Street/Hunter Street	EBR	-	0	0
		WBLT	-	0	0
2	Main Street/San Joaquin Street	WBT	-	34	37
		NBT	-	42	21
		SBT	-	60	40
3	Main Street/Sutter Street	WBT	-	16	27
		NBT	-	36	55
		SBT	-	41	38
4	Main Street/California Street	WBT	-	47	47
		NBT	-	85	75
		SBT	-	70	81
5	Main Street/American Street	WBT	-	72	49
		NBT	-	11	11
		SBT	-	24	14
		SBR	-	18	17

#	Intersection	Lane Group	Storage Length	Existing Conditions	
				AM	PM
6	Main Street/Stanislaus Street	WBT	-	36	37
		NBT	-	73	40
		SBT	-	42	59
7	Main Street/Grant Street	NBLT	-	10	5
		SBTR	-	5	10
8	Main Street/Aurora Street	NBLT	-	25	15
		SBTR	-	5	5
9	Main Street/Union Street	NBLT	-	15	15
		SBTR	-	10	10
		WBLTR	-	10	5
10	Main Street/Pilgrim Street	NBLT	-	5	5
		SBTR	-	5	5
		WBLTR	-	0	0
11	Main Street/Airport Way	NBLT	-	11	10
		SBTR	-	115	130
		WBLTR	-	54	51
12	Main Street/Sierra Nevada Street	NBLT	-	5	10
		SBTR	-	5	10
		WBLTR	-	0	5
13	Main Street/Wilson Way	WBT	-	91	84
		WBR	215	53	72
		NBL	70	36	23
		NBT	-	215	286
		SBTR	-	112	176
14	Main Street/Market Street – Locust Street	WBTR	-	26	21
		NBT	-	0	0
		SBT	-	0	0
15	Main Street/B Street	NBLTR	-	10	15
		SBLTR	-	0	5
		EBL	-	0	0
		WBL	-	0	0
16	Main Street/C Street - Lafayette Street	NBLTR	-	5	10
		SBLTR	-	5	5
		EBL	-	5	5
		WBL	-	0	5
17	Main Street/D Street	EBLT	-	20	32
		WBTR	-	29	26
		SBLR	-	9	10
18	Main Street/ E Street- Marsh Street	NBLTR	-	0	5
		SBLTR	-	10	25
		EBL	-	5	0
		WBL	-	0	5

#	Intersection	Lane Group	Storage Length	Existing Conditions	
				AM	PM
19	Main Street/F Street - Alma Street	NBLTR	-	5	5
		SBLTR	-	5	5
		EBL	-	0	0
		WBL	-	0	5
20	Main Street/Filbert Street	EBT	-	95	161
		WBT	-	159	138
		NBT	-	61	84
		SBL	50	193	289
		SBT	-	46	47
21	Main Street/Burkett Avenue	NBLTR	-	5	10
		SBLTR	-	5	5
		EBL	-	5	5
		WBL	-	0	0
22	Main Street/Shasta Avenue	NBLTR	-	5	5
		SBLTR	-	0	5
		EBL	-	0	0
		WBL	-	0	0
23	Main Street/David Avenue	NBLTR	-	5	10
		SBLTR	-	5	5
		EBL	-	0	0
		WBL	-	0	0
24	Main Street/Rendon Avenue	NBLTR	-	5	15
		SBLTR	-	10	5
		EBL	-	0	0
		WBL	-	0	5
25	Main Street/Golden Gate Avenue	EBL	95	9	18
		EBT	-	117	185
		WBL	95	35	33
		WBT	-	137	110
		NBT	-	65	122
		SBT	-	33	39
26	Main Street/Windsor Avenue	NBLTR	-	5	5
		SBLTR	-	5	5
		EBL	-	0	0
		WBL	-	0	0
27	Main Street/Netherton Avenue	EBL	90	10	19
		EBT	-	100	130
		WBL	90	36	40
		WBT	-	132	103
		NBT	-	28	33
		SBT	-	39	35
28	Main Street/Broadway Avenue	NBLTR	-	5	5
		SBLTR	-	30	10
		EBL	-	10	5

#	Intersection	Lane Group	Storage Length	Existing Conditions	
				AM	PM
		WBL	-	0	0
29	Market Street/Center Street	EBT	-	32	38
		SBT	-	169	281
30	Market Street/El Dorado Street	EBT	-	82	33
		NBT	-	163	142
31	Market Street/Hunter Street	EBT	-	20	10
		NBR	-	5	5
		SBL	-	15	5
		SBT	-	15	5
32	Market Street/San Joaquin Street	EBT	-	54	35
		NBT	-	35	28
		SBT	-	8	7
33	Market Street/Sutter Street	EBT	-	42	35
		NBT	-	55	59
		NBR	-	6	13
		SBT	-	5	20
34	Market Street/California Street	EBT	-	13	28
		NBT	-	43	33
		SBT	-	1	0
35	Market Street/American Street	EBT	-	27	21
		SBT	-	55	28
36	Market Street/Stanslaus Street	EBT	-	30	1
		NBT	-	106	55
		SBT	-	18	32
37	Market Street/Grant Street	NBTR	-	5	0
		SBLT	-	5	5
		EBL	-	5	5
38	Market Street/Aurora Street	NBTR	-	20	20
		SBLT	-	5	10
		EBL	-	0	5
39	Market Street/Union Street	NBTR	-	15	15
		SBLT	-	10	15
		EBL	-	0	0
40	Market Street/Pilgrim Street	NBTR	-	5	5
		SBLT	-	5	5
		EBL	-	0	0
41	Market Street/Airport Way	EBT	-	50	72
		NBT	-	158	167
		SBT	-	56	67
42	Market Street/Sierra Nevada Street	NBTR	-	5	5
		SBLT	-	5	15
		EBL	-	0	0
43	Market Street/Wilson Way	EBT	-	61	97
		NBT	-	211	286
		SBL	90	126	220
		SBT	-	135	191

#	Intersection	Lane Group	Storage Length	Existing Conditions	
				AM	PM
44	Market Street/Eugenia Street	NBR	-	5	5
		EBTR	-	0	0
45	Market Street/Della Street	NBTR	-	0	0
		SBLT	-	10	25
		EBL	-	0	5

Notes: Storage length and 95th percentile queue is expressed in feet per lane.

AM – morning peak hour, PM – afternoon peak hour

L – left turn, T – through, R- right turn

- indicates 95th percentile volume exceeds capacity, queue may be longer.

Bold indicates queue lengths exceeding capacity.

EXISTING BUILD CONDITIONS

Proposed intersection lane configurations, existing signal timings and baseline turning movement volumes were used to calculate the LOS for the study intersections during each peak hour. According to the striping plans provided by Siegfried, the proposed lane configuration on the Main Street and Market Street (within the study area) would reduce the number of travel lanes in each direction from two to one. Beyond Golden Gate Avenue, the travel lanes would reduce from five lanes to three lanes until reaching Broadway Avenue. The plan also includes the addition of parking lanes in both directions, as well as continuous and connected Class II bicycle facilities along the project limits. Furthermore, there are additional intersection modifications at Main Street/Market Street, and Main Street/Filbert Street. These modifications entail transforming the intersections into single-lane roundabouts for improved traffic flow. For this scenario, the existing lane configuration would be maintained on the side streets along the study corridors. **Figure 8 (a-d)** illustrates the proposed lane geometry and traffic controls at the study intersections.

INTERSECTION LEVEL OF SERVICE ANALYSIS – EXISTING BUILD CONDITIONS

The results of the LOS analysis using the Synchro 12 software program for existing Build conditions are summarized in **Table 10**. LOS worksheets are provided in **Appendix C**.

Under this scenario, all of the study intersections operate at acceptable service levels (LOS D or better) during a.m., and p.m. peak hours, except at the following intersections:

- Main Street/David Avenue operates at unacceptable LOS E only during the p.m. peak hour.

Table 10: Intersection Level of Service Analysis – Existing Build Conditions

#	Intersection	Peak Hour ¹	Existing Conditions			Existing Build Conditions			Change in Delay ⁴
			Control	Delay ²	LOS ³	Control	Delay ²	LOS ³	
1	Main Street/S Hunter Street	AM	No Control	-	-	No Control	-	-	-
		PM		-	-		-	-	-
2	Main Street/San Joaquin Street	AM	Signal	14.4	B	Signal	14.8	B	0.4
		PM		15.5	B		16.1	B	0.6
3	Main Street/Sutter Street	AM	Signal	16.5	B	Signal	16.7	B	0.2
		PM		17.3	B		17.5	B	0.2
4	Main Street/California Street	AM	Signal	21.8	C	Signal	26.1	C	4.3
		PM		22.7	C		27.1	C	4.4
5	Main Street/American Street	AM	Signal	30.1	C	Signal	49.8	D	19.7
		PM		20.7	C		24.9	C	4.2
6	Main Street/Stanslaus Street	AM	Signal	10.8	B	Signal	10.7	B	-0.1
		PM		10.2	B		10.3	B	0.1
7	Main Street/Grant Street	AM	Two-Way Stop	10.8	B	Two-Way Stop	10.9	B	0.1
		PM		10.4	B		10.6	B	0.2
8	Main Street/Aurora Street	AM	Two-Way Stop	11.6	B	Two-Way Stop	11.7	B	0.1
		PM		10.7	B		10.7	B	0.0
9	Main Street/Union Street	AM	All-Way Stop	8.1	A	All-Way Stop	8.1	A	0.0
		PM		8.0	A		7.9	A	-0.1

#	Intersection	Peak Hour ¹	Existing Conditions			Existing Build Conditions			Change in Delay ⁴
			Control	Delay ²	LOS ³	Control	Delay ²	LOS ³	
10	Main Street/Pilgrim Street	AM	Two-Way	10.5	B	Two-Way	10.5	B	0.0
		PM	Stop	10.1	B	Stop	10.2	B	0.1
11	Main Street/Airport Way	AM	Signal	6.3	A	Signal	7.4	A	1.1
		PM		5.5	A		6.4	A	0.9
12	Main Street/Sierra Nevada Street	AM	Two-Way	10.6	B	Two-Way	11.0	B	0.4
		PM	Stop	11.2	B	Stop	11.2	B	0.0
13	Main Street/Wilson Way	AM	Signal	10.5	B	Signal	11.1	B	0.6
		PM		8.6	A		8.9	A	0.3
14	Main Street/Market Street – Locust Street	AM	Signal	3.9	A	Roundabout	1.9	A	-2.0
		PM		3.7	A		1.9	A	-1.8
15	Main Street/B Street	AM	Two-Way	11.7	B	Two-Way	13.7	B	2.0
		PM	Stop	13.6	B	Stop	15.8	C	2.2
16	Main Street/C Street-Lafayette Street	AM	Two-Way	13.8	B	Two-Way	15.4	C	1.6
		PM	Stop	12.6	B	Stop	11.7	B	-0.9
17	Main Street/D Street	AM	Signal	3.5	A	Signal	4.3	A	0.8
		PM		3.5	A		4.5	A	1.0
18	Main Street/E Street-Marsh Street	AM	Two-Way	16.0	C	Two-Way	18.0	C	2.0
		PM	Stop	16.6	C	Stop	20.1	C	3.5
19	Main Street/F Street-Alma Street	AM	Two-Way	14.9	B	Two-Way	16.0	C	1.1
		PM	Stop	16.8	C	Stop	20.7	C	3.9
20	Main Street/Filbert Street	AM	Signal	15.4	B	Roundabout	4.0	A	-11.4
		PM		19.3	B		5.7	A	-13.6
21	Main Street/Burkett Avenue	AM	Two-Way	17.4	C	Two-Way	22.5	C	5.1
		PM	Stop	19.5	C	Stop	25.7	D	6.2
22	Main Street/Shasta Avenue	AM	Two-Way	16.6	C	Two-Way	21.9	C	5.3
		PM	Stop	17.7	C	Stop	23.5	C	5.8
23	Main Street/David Avenue	AM	Two-Way	17.1	C	Two-Way	22.8	C	5.7
		PM	Stop	27.7	D	Stop	37.4	E	9.7
24	Main Street/Rendon Avenue	AM	Two-Way	19.1	C	Two-Way	25.2	D	6.1
		PM	Stop	25.2	D	Stop	33.5	D	8.3
25	Main Street/Golden Gate Avenue	AM	Signal	9.0	A	Signal	10.7	B	1.7
		PM		10.8	B		14.4	B	3.6
26	Main Street/Windsor Avenue	AM	Two-Way	14.5	B	Two-Way	17.8	C	3.3
		PM	Stop	15.9	C	Stop	19.4	C	3.5
27	Main Street/Netherton Avenue	AM	Signal	13.6	B	Signal	10.8	B	-2.8
		PM		16.3	B		17.6	B	1.3
28	Main Street/Broadway Avenue	AM	Two-Way	20.1	C	Two-Way	22.6	C	2.5
		PM	Stop	16.0	C	Stop	18.9	C	2.9
29	Market Street/Center Street	AM	Signal	10.5	B	Signal	10.6	B	0.1
		PM		12.9	B		12.9	B	0.0
30	Market Street/El Dorado Street	AM	Signal	10.8	B	Signal	12.8	B	2.0
		PM		10.8	B		12.0	B	1.2
31	Market Street/Hunter Street	AM	All-Way Stop	8.9	A	All-Way Stop	9.2	A	0.3
		PM		7.8	A		7.7	A	-0.1

#	Intersection	Peak Hour ¹	Existing Conditions			Existing Build Conditions			Change in Delay ⁴
			Control	Delay ²	LOS ³	Control	Delay ²	LOS ³	
32	Market Street/San Joaquin Street	AM	Signal	10.9	B	Signal	12.2	B	1.3
		PM		9.2	A		9.6	A	0.4
33	Market Street/Sutter Street	AM	Signal	15.3	B	Signal	15.0	B	-0.3
		PM		12.6	B		13.1	B	0.5
34	Market Street/California Street	AM	Signal	6.7	A	Signal	7.8	A	1.1
		PM		7.1	A		9.0	A	1.9
35	Market Street/American Street	AM	Signal	10.6	B	Signal	12.3	B	1.7
		PM		6.3	A		6.6	A	0.3
36	Market Street/Stanslaus Street	AM	Signal	11.8	B	Signal	12.7	B	0.9
		PM		8.4	A		9.4	A	1.0
37	Market Street/Grant Street	AM	Two-Way Stop	11.4	B	Two-Way Stop	11.4	B	0.0
		PM		10.0	B		10.4	B	0.4
38	Market Street/Aurora Street	AM	Two-Way Stop	10.9	B	Two-Way Stop	11.0	B	0.1
		PM		11.2	B		11.2	B	0.0
39	Market Street/Union Street	AM	Two-Way Stop	10.3	B	Two-Way Stop	10.3	B	0.0
		PM		11.2	B		11.4	B	0.2
40	Market Street/Pilgrim Street	AM	Two-Way Stop	9.7	A	Two-Way Stop	10.1	B	0.4
		PM		9.9	A		10.3	B	0.4
41	Market Street/Airport Way	AM	Signal	4.7	A	Signal	5.1	A	0.4
		PM		5.9	A		6.6	A	0.7
42	Market Street/Sierra Nevada Street	AM	Two-Way Stop	10.1	B	Two-Way Stop	10.7	B	0.6
		PM		11.5	B		12.7	B	1.2
43	Market Street/Wilson Way	AM	Signal	11.8	B	Signal	13.2	B	1.4
		PM		16.8	B		23.4	C	6.6
44	Market Street/Eugenia Street	AM	One-Way Stop	9.5	A	One-Way Stop	10.5	B	1.0
		PM		10.7	B		13.1	B	2.4
45	Market Street/Della Street	AM	Two-Way Stop	12.8	B	Two-Way Stop	12.9	B	0.1
		PM		17.0	C		19.7	C	2.7

Notes:

1. AM – morning peak hour, PM – afternoon peak hour

2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.

3. LOS – Level of Service.

4. Change in delay between existing conditions and existing Build conditions

Bold indicates unacceptable LOS and Delay

The peak-hour signal warrant from the California Manual of Uniform Traffic Control Devices (CA MUTCD) was evaluated for the unsignalized intersection of Main Street/David Avenue, operating at LOS E, to determine if a traffic signal is warranted. Under this scenario, the MUTCD peak hour signal warrant is not met for the unsignalized intersection of Main Street/David Avenue during weekday a.m., and p.m. peak hour. Peak Hour Signal Warrant sheets are provided in **Appendix D**.

95TH PERCENTILE QUEUE ANALYSIS

TJKM conducted a vehicle queuing and turn lane storage analysis for study signalized intersections under existing Build conditions. The 95th percentile queue is determined using statistical analysis to predict the near-worst case situation; that is, queues that exceed only 5 percent of the time. The 95th percentile queues were analyzed using the HCM 6th Queue methodology contained in Synchro 12 software. **Table 11** presents the existing queues (in feet) at the study signalized intersection. **Appendix C** contains the queue output worksheets for existing Build conditions.

Under existing Build conditions, the southbound left-turn movement Market Street/Wilson Way experiences queue lengths that exceed storage lengths for the a.m. and p.m. peak hours.

Table 11: 95th Percentile Queueing Analysis – Existing Build Conditions

#	Intersection	Lane Group	Storage Length	Existing Conditions		Existing Build Conditions		Change in Queue	
				AM	PM	AM	PM	AM	PM
1	Main Street/Hunter Street	EBR	-	0	0	0	0	0	0
		WBLT	-	0	0	0	0	0	0
2	Main Street/San Joaquin Street	WBT	-	34	37	60	69	26	32
		NBT	-	42	21	43	22	1	1
		SBT	-	60	40	65	44	5	4
3	Main Street/Sutter Street	WBT	-	16	27	33	54	17	27
		NBT	-	36	55	36	56	0	1
		SBT	-	41	38	41	38	0	0
4	Main Street/California Street	WBT	-	47	47	79	92	32	45
		NBT	-	85	75	181	160	96	85
		SBT	-	70	81	150	177	80	96
5	Main Street/American Street	WBT	-	72	49	141	98	69	49
		NBT	-	11	11	19	16	8	5
		SBT	-	24	14	27	14	3	0
		SBR	-	18	17	20	17	2	0
6	Main Street/Stanislaus Street	WBT	-	36	37	76	81	40	44
		NBT	-	73	40	67	38	-6	-2
		SBT	-	42	59	42	59	0	0
7	Main Street/Grant Street	NBLT	-	10	5	10	5	0	0
		SBTR	-	5	10	5	10	0	0
8	Main Street/Aurora Street	NBLT	-	25	15	25	15	0	0
		SBTR	-	5	5	10	5	5	0
9	Main Street/Union Street	NBLT	-	15	15	15	15	0	0
		SBTR	-	10	10	10	10	0	0
		WBLTR	-	10	5	15	5	5	0
10	Main Street/Pilgrim Street	NBLT	-	5	5	5	5	0	0
		SBTR	-	5	5	5	5	0	0
		WBLTR	-	0	0	0	0	0	0
11	Main Street/Airport Way	NBLT	-	11	10	11	11	0	1
		SBTR	-	115	130	115	130	0	0

#	Intersection	Lane Group	Storage Length	Existing Conditions		Existing Build Conditions		Change in Queue	
				AM	PM	AM	PM	AM	PM
		WBLTR	-	54	51	177	156	123	105
12	Main Street/Sierra Nevada Street	NBLT	-	5	10	5	10	0	0
		SBTR	-	5	10	5	10	0	0
		WBLTR	-	0	5	0	5	0	0
13	Main Street/Wilson Way	WBT	-	91	84	195	179	104	95
		WBR	215	53	72	53	72	0	0
		NBL	70	36	23	34	20	-2	-3
		NBT	-	215	286	213	283	-2	-3
		SBTR	-	112	176	112	176	0	0
14	Main Street/Market Street – Locust Street	WBTR	-	26	21	20	45	-6	24
		NBT	-	0	0	0	0	0	0
		SBT	-	0	0	5	5	5	5
15	Main Street/B Street	NBLTR	-	10	15	10	15	0	0
		SBLTR	-	0	5	0	5	0	0
		EBL	-	0	0	0	0	0	0
		WBL	-	0	0	0	0	0	0
16	Main Street/C Street - Lafayette Street	NBLTR	-	5	10	10	5	5	-5
		SBLTR	-	5	5	10	5	5	0
		EBL	-	5	5	5	5	0	0
		WBL	-	0	5	0	5	0	0
17	Main Street/D Street	EBLT	-	20	32	46	80	26	48
		WBTR	-	29	26	75	65	46	39
		SBLR	-	9	10	11	12	2	2
18	Main Street/ E Street - Marsh Street	NBLTR	-	0	5	0	5	0	0
		SBLTR	-	10	25	15	25	5	0
		EBL	-	5	0	5	0	0	0
		WBL	-	0	5	0	5	0	0
19	Main Street/F Street - Alma Street	NBLTR	-	5	5	5	5	0	0
		SBLTR	-	5	5	5	10	0	5
		EBL	-	0	0	0	5	0	5
		WBL	-	0	5	0	0	0	-5
20	Main Street/Filbert Street	EBT	-	95	161	40	100	-55	-61
		WBT	-	159	138	15	85	-144	-53
		NBT	-	61	84	5	15	-56	-69
		SBL	50	193	289	20	100	-173	-189
		SBT	-	46	47	20	100	-26	53
21	Main Street/Burkett Avenue	NBLTR	-	5	10	10	15	5	5
		SBLTR	-	5	5	5	5	0	0
		EBL	-	5	5	5	5	0	0
		WBL	-	0	0	0	0	0	0
22	Main Street/Shasta Avenue	NBLTR	-	5	5	5	10	0	5
		SBLTR	-	0	5	5	5	5	0
		EBL	-	0	0	0	0	0	0

#	Intersection	Lane Group	Storage Length	Existing Conditions		Existing Build Conditions		Change in Queue	
				AM	PM	AM	PM	AM	PM
		WBL	-	0	0	0	0	0	0
23	Main Street/David Avenue	NBLTR	-	5	10	5	10	0	0
		SBLTR	-	5	5	5	5	0	0
		EBL	-	0	0	0	0	0	0
		WBL	-	0	0	0	0	0	0
24	Main Street/Rendon Avenue	NBLTR	-	5	15	10	20	5	5
		SBLTR	-	10	5	10	10	0	5
		EBL	-	0	0	0	0	0	0
		WBL	-	0	5	0	5	0	0
25	Main Street/Golden Gate Avenue	EBL	95	9	18	10	21	1	3
		EBT	-	117	185	288	590	171	405
		WBL	95	35	33	41	40	6	7
		WBT	-	137	110	320	246	183	136
		NBT	-	65	122	89	161	24	39
		SBT	-	33	39	45	52	12	13
26	Main Street/Windsor Avenue	NBLTR	-	5	5	5	5	0	0
		SBLTR	-	5	5	5	5	0	0
		EBL	-	0	0	0	0	0	0
		WBL	-	0	0	0	0	0	0
27	Main Street/Netherton Avenue	EBL	90	10	19	12	20	2	1
		EBT	-	100	130	220	311	120	181
		WBL	90	36	40	43	45	7	5
		WBT	-	132	103	309	232	177	129
		NBT	-	28	33	38	40	10	7
		SBT	-	39	35	52	43	13	8
28	Main Street/Broadway Avenue	NBLTR	-	5	5	5	10	0	5
		SBLTR	-	30	10	30	10	0	0
		EBL	-	10	5	10	5	0	0
		WBL	-	0	0	0	0	0	0
29	Market Street/Center Street	EBT	-	32	38	65	78	33	40
		SBT	-	169	281	169	281	0	0
30	Market Street/El Dorado Street	EBT	-	82	33	169	64	87	31
		NBT	-	163	142	236	200	73	58
31	Market Street/Hunter Street	EBT	-	20	10	35	10	15	0
		NBR	-	5	5	5	5	0	0
		SBL	-	15	5	15	5	0	0
		SBT	-	15	5	15	5	0	0
32	Market Street/San Joaquin Street	EBT	-	54	35	125	77	71	42
		NBT	-	35	28	35	28	0	0
		SBT	-	8	7	8	7	0	0
33	Market Street/Sutter Street	EBT	-	42	35	85	89	43	54
		NBT	-	55	59	55	59	0	0
		NBR	-	6	13	6	13	0	0
		SBT	-	5	20	5	20	0	0
34		EBT	-	13	28	27	54	14	26

#	Intersection	Lane Group	Storage Length	Existing Conditions		Existing Build Conditions		Change in Queue	
				AM	PM	AM	PM	AM	PM
	Market Street/California Street	NBT	-	43	33	111	74	68	41
		SBT	-	1	0	2	0	1	0
35	Market Street/American Street	EBT	-	27	21	59	39	32	18
		SBT	-	55	28	75	24	20	-4
36	Market Street/Stanislaus Street	EBT	-	30	1	140	47	110	46
		NBT	-	106	55	106	55	0	0
		SBT	-	18	32	18	32	0	0
37	Market Street/Grant Street	NBTR	-	5	0	5	0	0	0
		SBLT	-	5	5	5	5	0	0
		EBL	-	5	5	5	5	0	0
38	Market Street/Aurora Street	NBTR	-	20	20	20	20	0	0
		SBLT	-	5	10	5	10	0	0
		EBL	-	0	5	0	5	0	0
39	Market Street/Union Street	NBTR	-	15	15	15	15	0	0
		SBLT	-	10	15	10	15	0	0
		EBL	-	0	0	0	0	0	0
40	Market Street/Pilgrim Street	NBTR	-	5	5	5	5	0	0
		SBLT	-	5	5	5	5	0	0
		EBL	-	0	0	0	0	0	0
41	Market Street/Airport Way	EBT	-	50	72	113	161	63	89
		NBT	-	158	167	159	167	1	0
		SBT	-	56	67	55	69	-1	2
42	Market Street/Sierra Nevada Street	NBTR	-	5	5	5	5	0	0
		SBLT	-	5	15	5	15	0	0
		EBL	-	0	0	0	0	0	0
43	Market Street/Wilson Way	EBT	-	61	97	156	348	95	251
		NBT	-	211	286	211	286	0	0
		SBL	90	126	220	126	221	0	1
		SBT	-	135	191	153	205	18	14
44	Market Street/Eugenia Street	NBR	-	5	5	10	10	5	5
		EBTR	-	0	0	0	0	0	0
45	Market Street/Della Street	NBTR	-	0	0	0	0	0	0
		SBLT	-	10	25	10	25	0	0
		EBL	-	0	5	0	5	0	0

Notes: Storage length and 95th percentile queue is expressed in feet per lane.

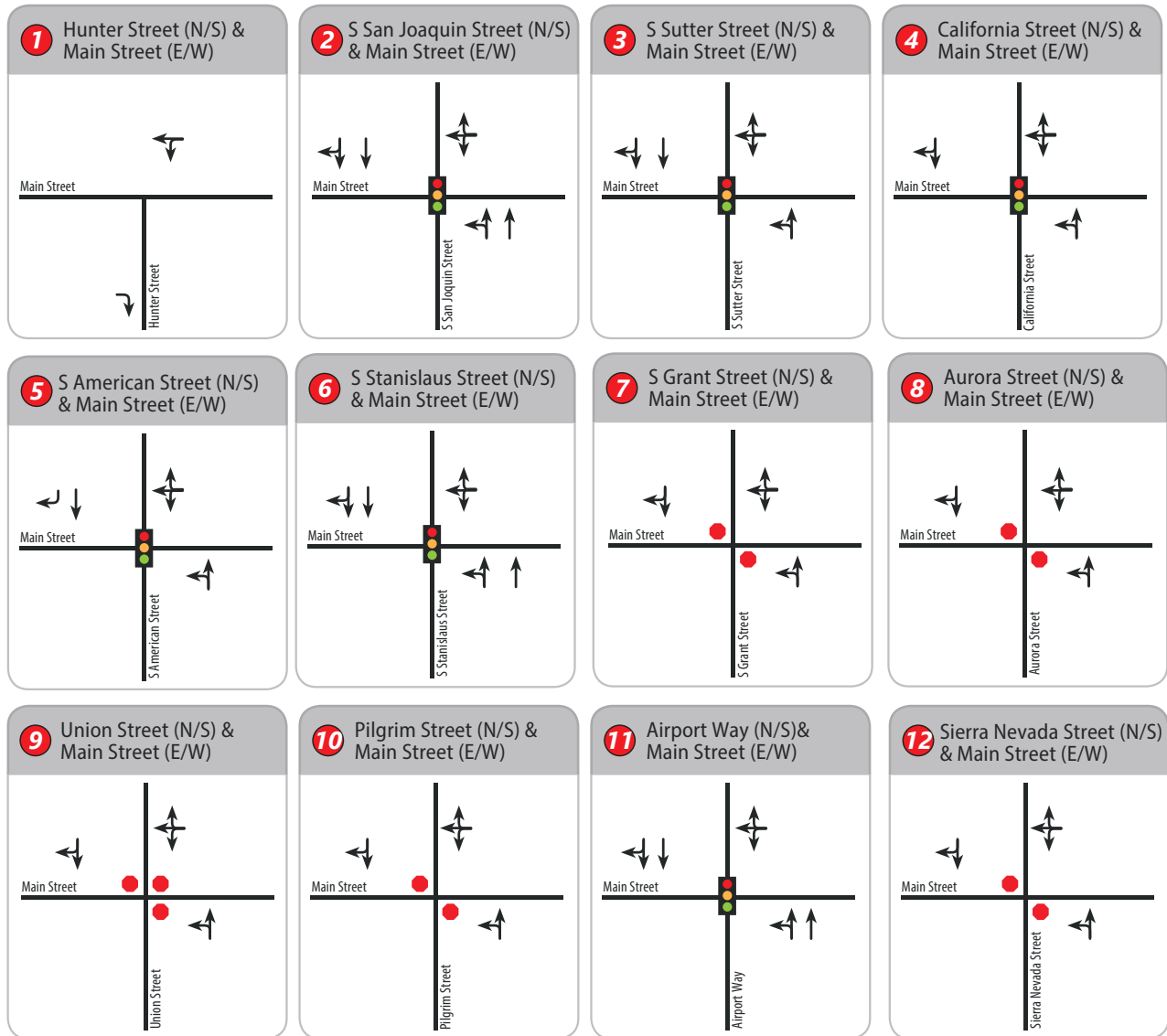
AM – morning peak hour, PM – afternoon peak hour

L – left turn, T – through, R- right turn



- indicates 95th percentile volume exceeds capacity, queue may be longer.

Bold indicates queue lengths exceeding capacity.

Figure 8a: Existing Build Conditions Intersection Lane Geometry and Traffic Control



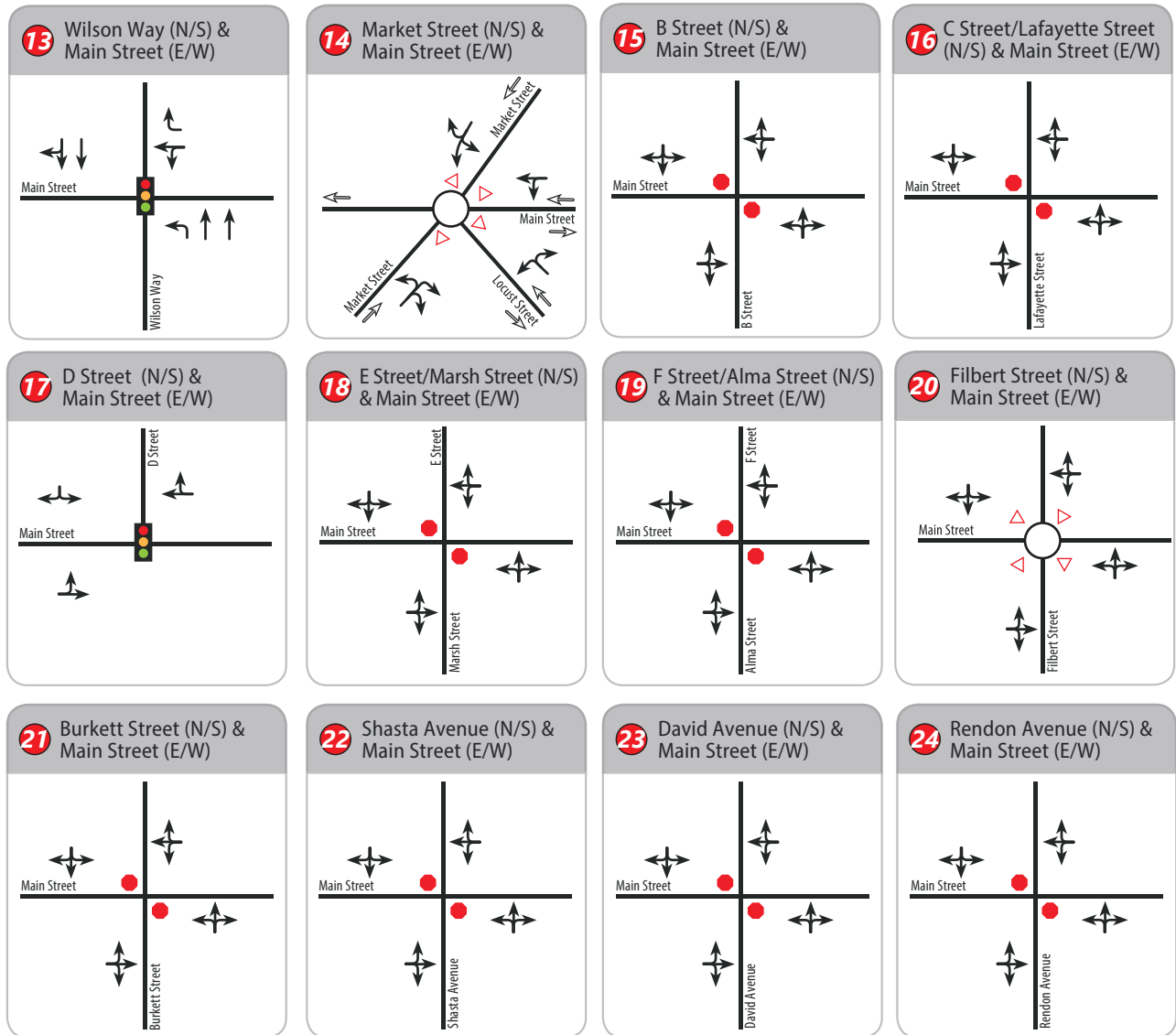
LEGEND

-  Study Intersection
-  Stop Sign

 Traffic Signal



Figure 8b: Existing Build Conditions Intersection Lane Geometry and Traffic Control



LEGEND



Study Intersection



Traffic Signal



Yield Sign



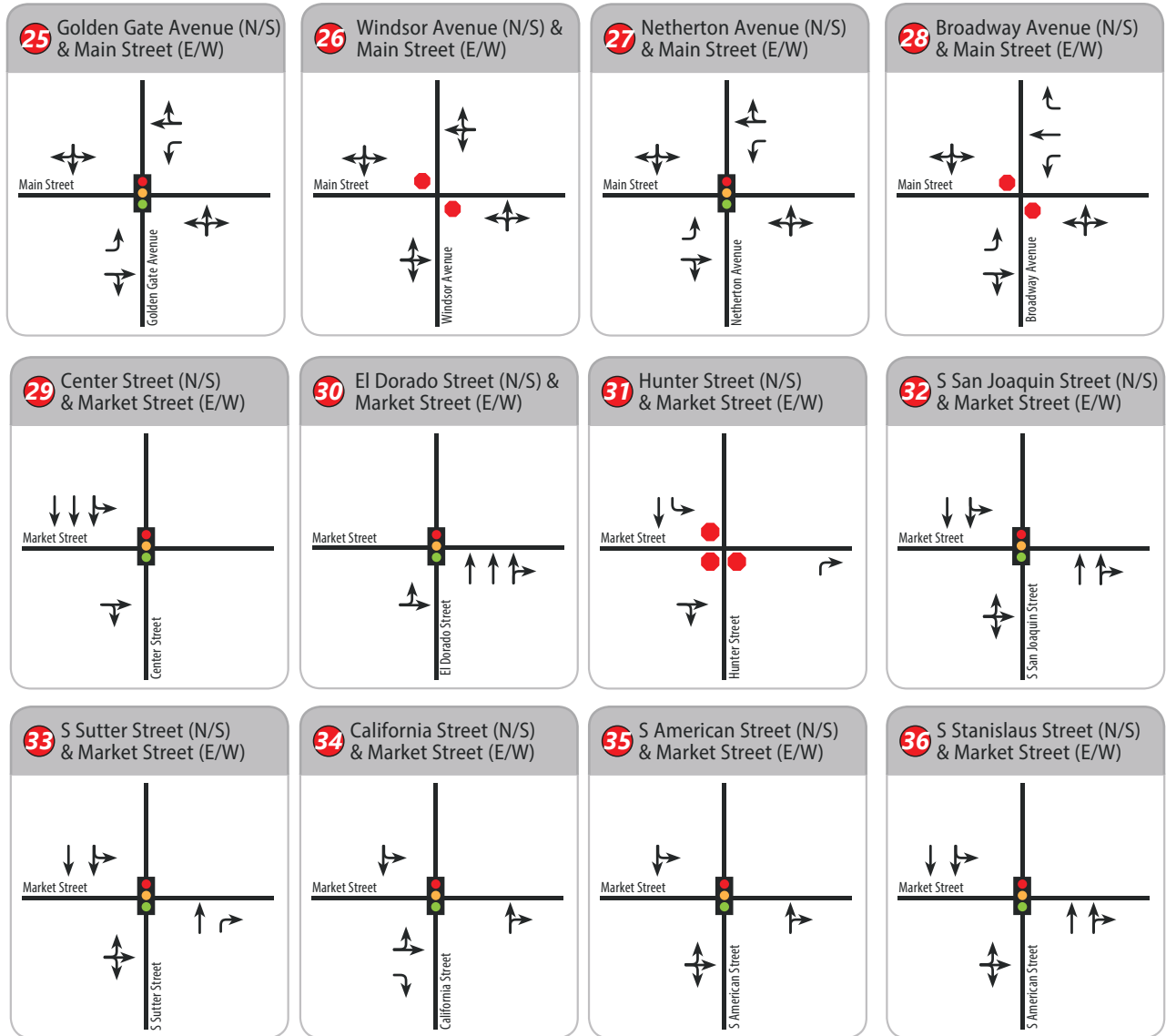
Stop Sign



Roundabout



Figure 8c: Existing Build Conditions Intersection Lane Geometry and Traffic Control



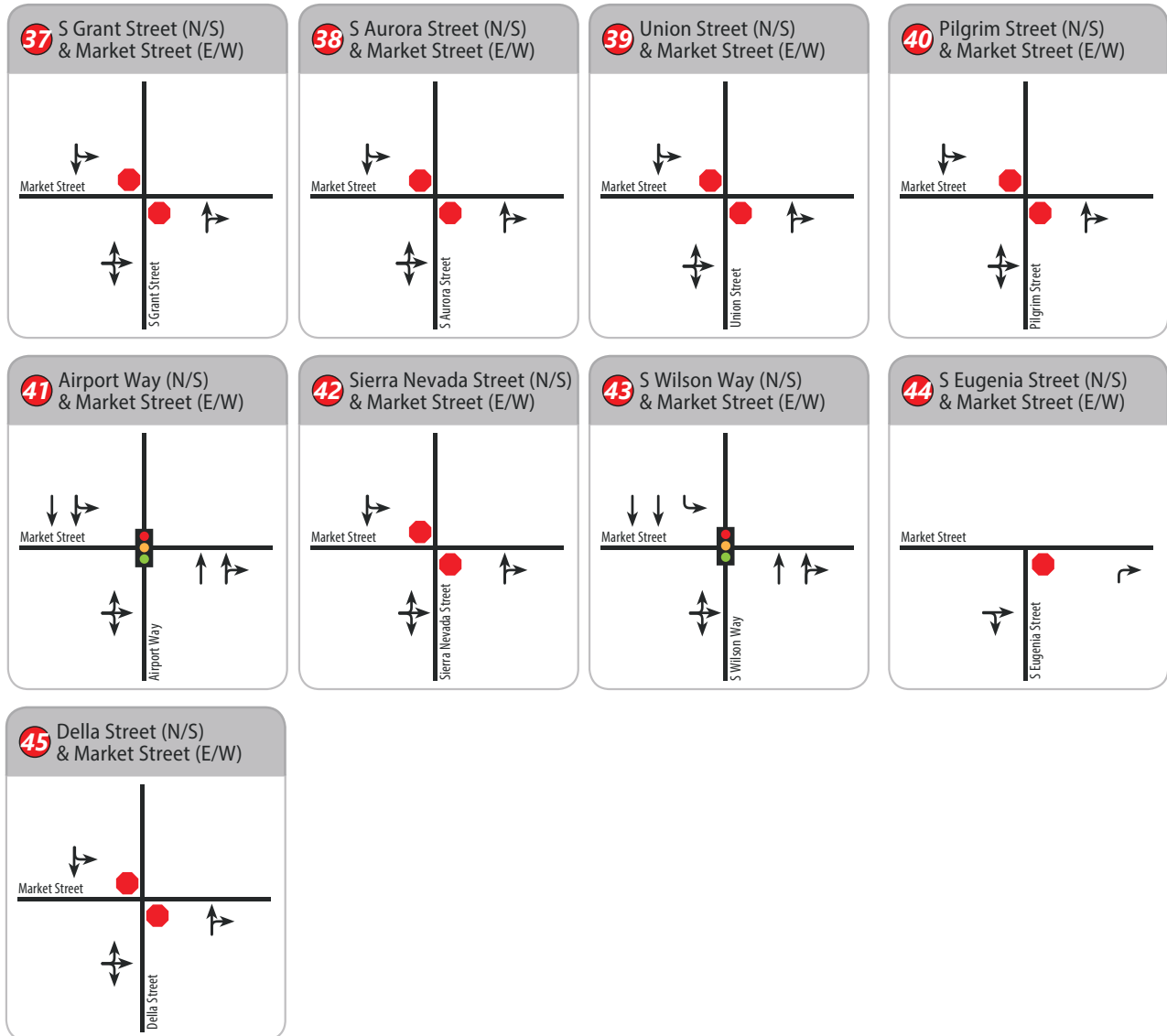
LEGEND

- Study Intersection
- Stop Sign



Traffic Signal




Figure 8d: Existing Build Conditions Intersection Lane Geometry and Traffic Control



LEGEND

-  Study Intersection
-  Stop Sign

-  Traffic Signal





BACKGROUND CONDITIONS

This scenario is identical to existing conditions with the addition of trips from the three developments on the east of State Route 99 (SR 99). All the three developments are the single family residential land use. **Figure 9 (a-c)** shows background conditions peak hour volumes. **Appendix E** contains trip estimates and distribution from the following projects.

EASTBROOK ESTATES

Eastbrook Estates is a 70-lot single-family residential development located on a 14.7-acre parcel at 5113 E. Main Street, at the northwest corner of S. Walker Lane and E. Main Street, east of Stockton. The traffic impact study was submitted on July 7, 2006. The traffic study anticipates a total of 749 daily trips, including 58 trips during the a.m. peak hour (15 inbound and 43 outbound) and 78 trips during the p.m. peak hour (49 inbound and 29 outbound). The following trip distribution was considered in the study:

- 3% to and from Main Street.
- 45% of trips are distributed from the north of Main Street along SR 99, accessing the site via Main Street and Golden Gate Avenue.
- 8% of trips are distributed from the south of Main Street along SR 99, also accessing through Main Street and Golden Gate Avenue.

LINGURIAN VILLAGE

Lingurian Village is a development that would feature 117 single-family residential units, situated on 19.9 acres of currently undeveloped land. The project is located at the northwest corner of South Del Mar Avenue and East Main Street, to the east of Stockton. The traffic study for the project, which was submitted on November 7, 2006, estimates a total of 1,201 daily trips, with 91 trips during the a.m. peak hour (23 inbound and 68 outbound) and 123 trips during the p.m. peak hour (77 inbound and 46 outbound). The following trip distribution same as Eastbrook Estates was considered in the study

LINGURIAN VILLAGE UNIT 2

Lingurian Village Unit 2 would consist of 53 single-family residential units, to be built on 12.38 acres of undeveloped land. The site is located at the northeast corner of South Walker Lane and East Main Street, east of Stockton. The traffic study for the project, submitted on September 25, 2008, estimates a total of 580 daily trips, including 47 trips during the a.m. peak hour (12 inbound and 35 outbound) and 61 trips during the p.m. peak hour (38 inbound and 23 outbound). The following trip distribution was analyzed in the study:

- 56% to and from Main Street..

INTERSECTION LEVEL OF SERVICE ANALYSIS – BACKGROUND CONDITIONS

The results of the LOS analysis using the Synchro 12 software program for background conditions are summarized in **Table 12**. LOS worksheets are provided in **Appendix C**.

Under this scenario, all of the study intersections operate at acceptable service levels (LOS D or better) during a.m., and p.m. peak hours.

Table 12: Intersection Level of Service Analysis – Background Conditions

#	Intersection	Peak Hour ¹	Control	Existing Conditions		Background Conditions		Change in Delay ⁴
				Delay ²	LOS ³	Delay ²	LOS ³	
1	Main Street/S Hunter Street	AM	No Control	-	-	-	-	-
		PM		-	-	-	-	-
2	Main Street/San Joaquin Street	AM	Signal	14.4	B	16.1	B	1.7
		PM		15.5	B	17.2	B	1.7
3	Main Street/Sutter Street	AM	Signal	16.5	B	16.4	B	-0.1
		PM		17.3	B	17.3	B	0.0
4	Main Street/California Street	AM	Signal	21.8	C	22.7	C	0.9
		PM		22.7	C	23.4	C	0.7
5	Main Street/American Street	AM	Signal	30.1	C	32.4	C	2.3
		PM		20.7	C	21.1	C	0.4
6	Main Street/Stanslaus Street	AM	Signal	10.8	B	10.9	B	0.1
		PM		10.2	B	10.3	B	0.1
7	Main Street/Grant Street	AM	Two-Way Stop	10.8	B	11.1	B	0.3
		PM		10.4	B	10.5	B	0.1
8	Main Street/Aurora Street	AM	Two-Way Stop	11.6	B	11.9	B	0.3
		PM		10.7	B	10.9	B	0.2
9	Main Street/Union Street	AM	All-Way Stop	8.1	A	8.2	A	0.1
		PM		8.0	A	8.0	A	0.0
10	Main Street/Pilgrim Street	AM	Two-Way Stop	10.5	B	10.7	B	0.2
		PM		10.1	B	10.2	B	0.1
11	Main Street/Airport Way	AM	Signal	6.3	A	7.2	A	0.9
		PM		5.5	A	5.8	A	0.3
12	Main Street/Sierra Nevada Street	AM	Two-Way Stop	10.6	B	10.8	B	0.2
		PM		11.2	B	11.3	B	0.1
13	Main Street/Wilson Way	AM	Signal	10.5	B	10.8	B	0.3
		PM		8.6	A	8.8	A	0.2
14	Main Street/Market Street	AM	Signal	3.9	A	3.9	A	0.0
		PM		3.7	A	3.6	A	-0.1
15	Main Street/B Street	AM	Two-Way Stop	11.7	B	11.9	B	0.2
		PM		13.6	B	14.0	B	0.4
16	Main Street/C Street-Lafayette Street	AM	Two-Way Stop	13.8	B	14.1	B	0.3
		PM		12.6	B	12.9	B	0.3
17	Main Street/D Street	AM	Signal	3.5	A	3.5	A	0.0
		PM		3.5	A	3.6	A	0.1
18	Main Street/E Street-Marsh Street	AM	Two-Way Stop	16.0	C	16.7	C	0.7
		PM		16.6	C	17.3	C	0.7
19	Main Street/F Street-Alma Street	AM	Two-Way Stop	14.9	B	15.3	C	0.4
		PM		16.8	C	17.5	C	0.7
20	Main Street/Filbert Street*	AM	Signal	15.4	B	15.5	B	0.1
		PM		19.3	B	19.6	B	0.3

#	Intersection	Peak Hour ¹	Control	Existing Conditions		Background Conditions		Change in Delay ⁴
				Delay ²	LOS ³	Delay ²	LOS ³	
21	Main Street/Burkett Avenue	AM	Two-Way Stop	17.4	C	17.8	C	0.4
		PM		19.5	C	20.2	C	0.7
22	Main Street/Shasta Avenue	AM	Two-Way Stop	16.6	C	16.9	C	0.3
		PM		17.7	C	18.3	C	0.6
23	Main Street/David Avenue	AM	Two-Way Stop	17.1	C	17.6	C	0.5
		PM		27.7	D	29.2	D	1.5
24	Main Street/Rendon Avenue	AM	Two-Way Stop	19.1	C	19.7	C	0.6
		PM		25.2	D	26.6	D	1.4
25	Main Street/Golden Gate Avenue	AM	Signal	9.0	A	10.2	B	1.2
		PM		10.8	B	13.4	B	2.6
26	Main Street/Windsor Avenue	AM	Two-Way Stop	14.5	B	15.5	C	1.0
		PM		15.9	C	18.1	C	2.2
27	Main Street/Netherton Avenue	AM	Signal	13.6	B	12.0	B	-1.6
		PM		16.3	B	14.1	B	-2.2
28	Main Street/Broadway Avenue	AM	Two-Way Stop	20.1	C	24.0	C	3.9
		PM		16.0	C	18.1	C	2.1
29	Market Street/Center Street	AM	Signal	10.5	B	10.6	B	0.1
		PM		12.9	B	13.0	B	0.1
30	Market Street/El Dorado Street	AM	Signal	10.8	B	11.0	B	0.2
		PM		10.8	B	10.6	B	-0.2
31	Market Street/Hunter Street	AM	All-Way Stop	8.9	A	9.0	A	0.1
		PM		7.8	A	7.9	A	0.1
32	Market Street/San Joaquin Street	AM	Signal	10.9	B	11.0	B	0.1
		PM		9.2	A	9.6	A	0.4
33	Market Street/Sutter Street	AM	Signal	15.3	B	15.8	B	0.5
		PM		12.6	B	13.5	B	0.9
34	Market Street/California Street	AM	Signal	6.7	A	6.8	A	0.1
		PM		7.1	A	7.7	A	0.6
35	Market Street/American Street	AM	Signal	10.6	B	10.3	B	-0.3
		PM		6.3	A	5.8	A	-0.5
36	Market Street/Stanslaus Street	AM	Signal	11.8	B	11.7	B	-0.1
		PM		8.4	A	8.3	A	-0.1
37	Market Street/Grant Street	AM	Two-Way Stop	11.4	B	11.5	B	0.1
		PM		10.0	B	10.2	B	0.2
38	Market Street/Aurora Street	AM	Two-Way Stop	10.9	B	11.0	B	0.1
		PM		11.2	B	11.4	B	0.2
39	Market Street/Union Street	AM	Two-Way Stop	10.3	B	10.4	B	0.1
		PM		11.2	B	11.5	B	0.3
40	Market Street/Pilgrim Street	AM	Two-Way Stop	9.7	A	9.7	A	0.0
		PM		9.9	A	10.0	B	0.1
41	Market Street/Airport Way	AM	Signal	4.7	A	4.9	A	0.2
		PM		5.9	A	6.4	A	0.5
42		AM		10.1	B	10.1	B	0.0

#	Intersection	Peak Hour ¹	Control	Existing Conditions		Background Conditions		Change in Delay ⁴
				Delay ²	LOS ³	Delay ²	LOS ³	
	Market Street/Sierra Nevada Street	PM	Two-Way Stop	11.5	B	11.7	B	0.2
43	Market Street/Wilson Way	AM	Signal	11.8	B	12.0	B	0.2
		PM		16.8	B	17.2	B	0.4
44	Market Street/Eugenia Street	AM	Two-Way Stop	9.5	A	9.6	A	0.1
		PM		10.7	B	10.8	B	0.1
45	Market Street/Della Street	AM	Two-Way Stop	12.8	B	12.9	B	0.1
		PM		17.0	C	17.5	C	0.5

Notes:

1. AM – morning peak hour, PM – afternoon peak hour
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.
3. LOS – Level of Service.
4. Change in delay between existing conditions and background conditions

95TH PERCENTILE QUEUE ANALYSIS

TJKM conducted a vehicle queuing and turn lane storage analysis for study signalized intersections existing conditions. The 95th percentile queues were analyzed using the HCM Queue methodology contained in Synchro 12 software. **Table 13** presents the existing queues (in feet) at the study signalized intersections. **Appendix C** contains the queue output worksheets for existing conditions.

Under existing conditions, the southbound left-turn movement at Main Street/Filbert Street & Market Street/Wilson Way experiences queue lengths that exceed storage lengths for the a.m. and p.m. peak hours.

Table 13: 95th Percentile Queueing Analysis – Background Conditions

#	Intersection	Lane Group	Storage Length	Existing Conditions		Background Conditions		Change in Queue	
				AM	PM	AM	PM	AM	PM
1	Main Street/Hunter Street	EBR	-	-	-	-	-	-	-
		WBLT	-	-	-	-	-	-	-
2	Main Street/San Joaquin Street	WBT	-	34	37	43	45	9	8
		NBT	-	42	21	42	21	0	0
		SBT	-	60	40	61	41	1	1
3	Main Street/Sutter Street	WBT	-	16	27	27	34	11	7
		NBT	-	36	55	36	56	0	1
		SBT	-	41	38	41	38	0	0
4	Main Street/California Street	WBT	-	47	47	53	54	6	7
		NBT	-	85	75	85	75	0	0
		SBT	-	70	81	70	81	0	0
5	Main Street/American Street	WBT	-	72	49	80	54	8	5
		NBT	-	11	11	11	12	0	1
		SBT	-	24	14	24	14	0	0

#	Intersection	Lane Group	Storage Length	Existing Conditions		Background Conditions		Change in Queue	
				AM	PM	AM	PM	AM	PM
		SBR	-	18	17	18	17	0	0
6	Main Street/Stanislaus Street	WBT	-	36	37	41	40	5	3
		NBT	-	73	40	73	39	0	-1
		SBT	-	42	59	42	59	0	0
7	Main Street/Grant Street	NBLT	-	10	5	10	5	0	0
		SBTR	-	5	10	5	8	0	-2
8	Main Street/Aurora Street	NBLT	-	25	15	25	15	0	0
		SBTR	-	5	5	5	5	0	0
9	Main Street/Union Street	NBLT	-	15	15	13	13	-2	-2
		SBTR	-	10	10	10	8	0	-2
		WBLTR	-	10	5	10	8	0	-2
10	Main Street/Pilgrim Street	NBLT	-	5	5	3	3	-2	-2
		SBTR	-	5	5	3	3	-2	-2
		WBLTR	-	0	0	0	0	0	0
11	Main Street/Airport Way	NBLT	-	11	10	40	40	29	30
		SBTR	-	115	130	11	10	-104	-120
		WBLTR	-	54	51	115	130	61	79
12	Main Street/Sierra Nevada Street	NBLT	-	5	10	5	8	0	-2
		SBTR	-	5	10	5	10	0	0
		WBLTR	-	0	5	0	3	0	-2
13	Main Street/Wilson Way	WBT	-	91	84	98	90	7	6
		WBR	215	53	72	53	72	0	0
		NBL	70	36	23	36	23	0	0
		NBT	-	215	286	215	287	0	1
		SBTR	-	112	176	112	176	0	0
14	Main Street/Market Street	WBTR	-	26	21	27	22	1	1
		NBT	-	0	0	0	0	0	0
		SBT	-	0	0	0	0	0	0
15	Main Street/B Street	NBLTR	-	10	15	8	13	-2	-2
		SBLTR	-	0	5	0	3	0	-2
		EBL	-	0	0	0	0	0	0
		WBL	-	0	0	0	0	0	0
16	Main Street/Lafayette Street	NBLTR	-	5	10	8	8	3	-2
		SBLTR	-	5	5	5	3	0	-2
		EBL	-	5	5	3	3	-2	-2
		WBL	-	0	5	0	3	0	-2
17	Main Street/D Street	EBLT	-	20	32	20	33	0	1
		WBTR	-	29	26	31	27	2	1
		SBLR	-	9	10	9	10	0	0
18		NBLTR	-	0	5	0	5	0	0

#	Intersection	Lane Group	Storage Length	Existing Conditions		Background Conditions		Change in Queue	
				AM	PM	AM	PM	AM	PM
	Main Street/Marsh Street-E Street	SBLTR	-	10	25	13	23	3	-2
		EBL	-	5	0	3	0	-2	0
		WBL	-	0	5	0	3	0	-2
19	Main Street/Alma Street	NBLTR	-	5	5	3	3	-2	-2
		SBLTR	-	5	5	3	5	-2	0
		EBL	-	0	0	0	0	0	0
		WBL	-	0	5	0	3	0	-2
20	Main Street/Filbert Street	EBT	-	95	161	98	172	3	11
		WBT	-	159	138	176	148	17	10
		NBT	-	61	84	63	86	2	2
		SBL	50	193	289	197	300	4	11
		SBT	-	46	47	46	49	0	2
21	Main Street/Burkett Avenue	NBLTR	-	5	10	5	10	0	0
		SBLTR	-	5	5	5	3	0	-2
		EBL	-	5	5	3	3	-2	-2
		WBL	-	0	0	0	0	0	0
22	Main Street/Shasta Avenue	NBLTR	-	5	5	5	5	0	0
		SBLTR	-	0	5	0	3	0	-2
		EBL	-	0	0	0	0	0	0
		WBL	-	0	0	0	0	0	0
23	Main Street/David Avenue	NBLTR	-	5	10	5	8	0	-2
		SBLTR	-	5	5	3	3	-2	-2
		EBL	-	0	0	0	0	0	0
		WBL	-	0	0	0	0	0	0
24	Main Street/Rendon Avenue	NBLTR	-	5	15	5	15	0	0
		SBLTR	-	10	5	8	8	-2	3
		EBL	-	0	0	0	0	0	0
		WBL	-	0	5	0	3	0	-2
25	Main Street/Golden Gate Avenue	EBL	95	9	18	10	20	1	2
		EBT	-	117	185	129	207	12	22
		WBL	95	35	33	82	72	47	39
		WBT	-	137	110	141	112	4	2
		NBT	-	65	122	80	174	15	52
		SBT	-	33	39	37	45	4	6
26	Main Street/Windsor Avenue	NBLTR	-	5	5	3	5	-2	0
		SBLTR	-	5	5	5	3	0	-2
		EBL	-	0	0	0	0	0	0
		WBL	-	0	0	0	0	0	0
27		EBL	90	10	19	10	18	0	-1
		EBT	-	100	130	107	153	7	23

#	Intersection	Lane Group	Storage Length	Existing Conditions		Background Conditions		Change in Queue	
				AM	PM	AM	PM	AM	PM
	Main Street/Netherton Avenue	WBL	90	36	40	38	40	2	0
		WBT	-	132	103	156	117	24	14
		NBT	-	28	33	30	33	2	0
		SBT	-	39	35	41	35	2	0
28	Main Street/Broadway Avenue	NBLTR	-	5	5	5	8	0	2.5
		SBLTR	-	30	10	33	8	3	-2
		EBL	-	10	5	10	3	0	-2.5
		WBL	-	0	0	0	0	0	0
29	Market Street/Center Street	EBT	-	32	38	34	46	2	8
		SBT	-	169	281	169	281	0	0
30	Market Street/El Dorado Street	EBT	-	82	33	84	33	2	0
		NBT	-	163	142	163	142	0	0
31	Market Street/Hunter Street	EBT	-	20	10	20	10	0	0
		NBR	-	5	5	5	3	0	-2
		SBL	-	15	5	13	5	-2	0
		SBT	-	15	5	15	5	0	0
32	Market Street/San Joaquin Street	EBT	-	54	35	56	41	2	6
		NBT	-	35	28	35	28	0	0
		SBT	-	8	7	8	7	0	0
33	Market Street/Sutter Street	EBT	-	42	35	46	46	4	11
		NBT	-	55	59	55	59	0	0
		NBR	-	6	13	6	13	0	0
		SBT	-	5	20	5	20	0	0
34	Market Street/California Street	EBT	-	13	28	14	28	1	0
		NBT	-	43	33	43	33	0	0
		SBT	-	1	0	1	0	0	0
35	Market Street/American Street	EBT	-	27	21	27	21	0	0
		SBT	-	55	28	56	28	1	0
36	Market Street/Stanslaus Street	EBT	-	30	1	30	1	0	0
		NBT	-	106	55	106	55	0	0
		SBT	-	18	32	18	32	0	0
37	Market Street/Grant Street	NBTR	-	5	0	3	0	-2	0
		SBLT	-	5	5	3	5	-2	0
		EBL	-	5	5	3	3	-2	-2
38	Market Street/Aurora Street	NBTR	-	20	20	18	20	-2	0
		SBLT	-	5	10	5	8	0	-2
		EBL	-	0	5	0	3	0	-2
39	Market Street/Union Street	NBTR	-	15	15	13	15	-2	0
		SBLT	-	10	15	8	15	-2	0
		EBL	-	0	0	0	-	0	-

#	Intersection	Lane Group	Storage Length	Existing Conditions		Background Conditions		Change in Queue	
				AM	PM	AM	PM	AM	PM
40	Market Street/Pilgrim Street	NBTR	-	5	5	3	3	-2	-2
		SBLT	-	5	5	3	3	-2	-2
		EBL	-	0	0	0	-	0	-
41	Market Street/Airport Way	EBT	-	50	72	53	82	3	10
		NBT	-	158	167	158	167	0	0
		SBT	-	56	67	56	66	0	-1
42	Market Street/Sierra Nevada Street	NBTR	-	5	5	3	5	-2	0
		SBLT	-	5	15	3	15	-2	0
		EBL	-	0	0	0	0	0	0
43	Market Street/Wilson Way	EBT	-	61	97	61	111	0	14
		NBT	-	211	286	211	286	0	0
		SBL	90	126	220	126	220	0	0
		SBT	-	135	191	135	191	0	0
44	Market Street/Eugenia Street	NBR	-	5	5	5	5	0	0
		EBTR	-	0	0	-	-	-	-
45	Market Street/Della Street	NBTR	-	0	0	0	0	0	0
		SBLT	-	10	25	10	23	0	-2
		EBL	-	0	5	-	3	-	-2

Notes: Storage length and 95th percentile queue is expressed in feet per lane.

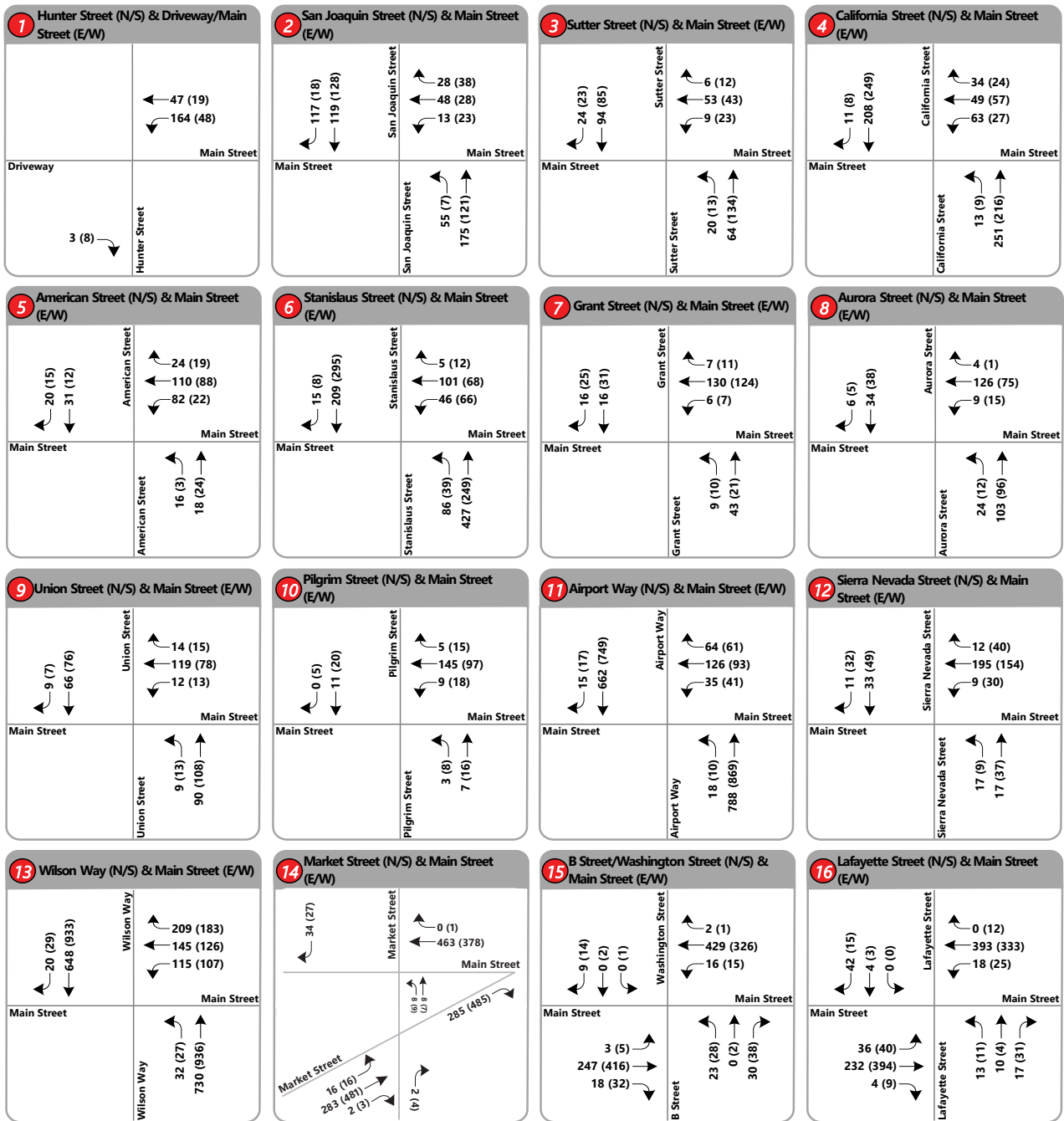
AM – morning peak hour, PM – afternoon peak hour

L – left turn, T – through, R- right turn

- indicates 95th percentile volume exceeds capacity, queue may be longer.

Bold indicates queue lengths exceeding capacity.

Figure 9a: Existing Plus Project Conditions Peak Hour Traffic Volumes and Traffic Control



LEGEND



Study Intersection

XX

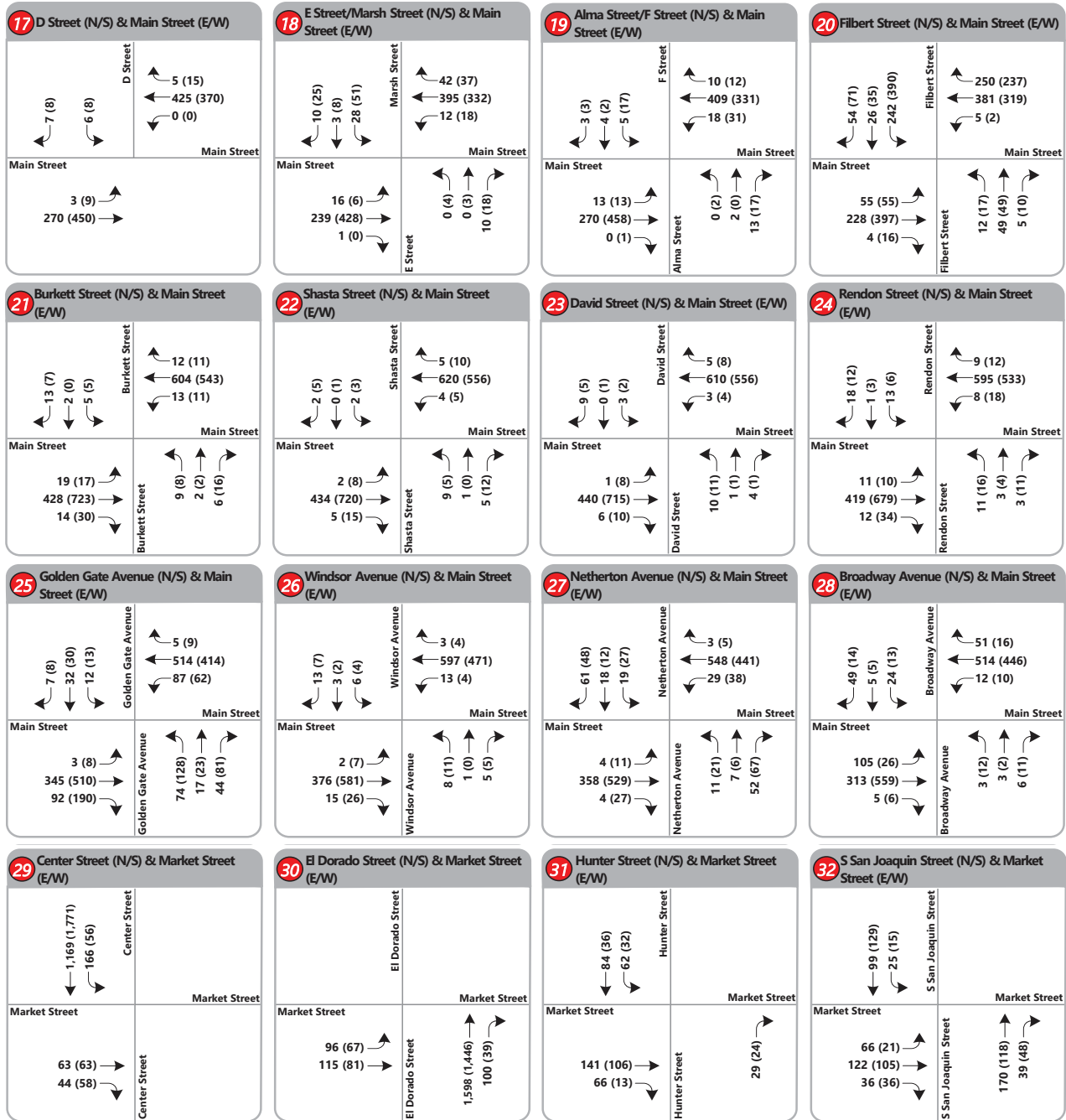
AM Peak Hour Volumes

(XX)

PM Peak Hour Volumes



Figure 9b: Existing Plus Project Conditions Peak Hour Traffic Volumes and Traffic Control



LEGEND



Study Intersection

XX

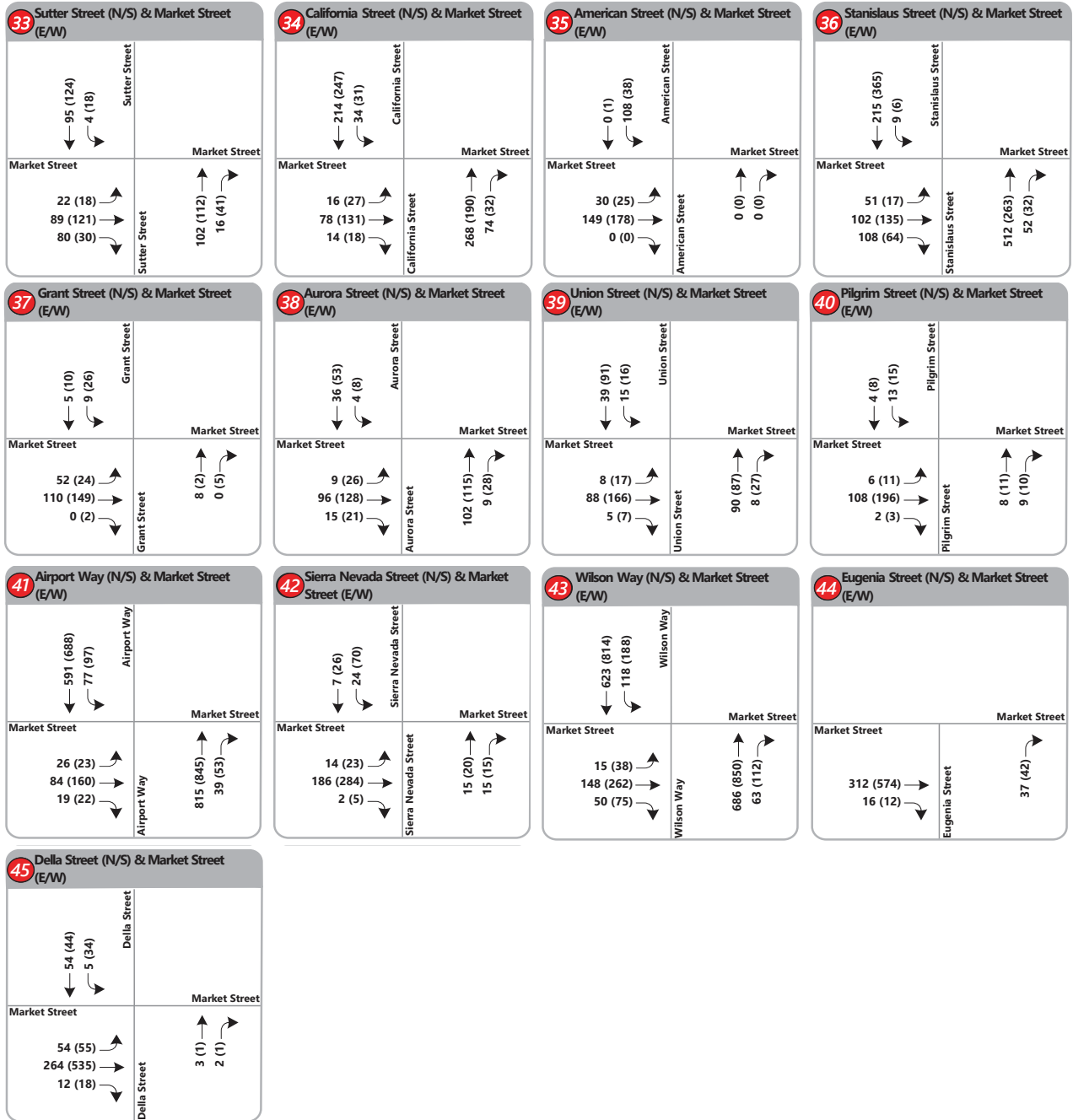
AM Peak Hour Volumes

(XX)

PM Peak Hour Volumes



Figure 9c: Existing Plus Project Conditions Peak Hour Traffic Volumes and Traffic Control



LEGEND



Study Intersection

XX

AM Peak Hour Volumes

(XX)

PM Peak Hour Volumes



BACKGROUND BUILD CONDITIONS

This scenario is identical to existing build conditions with the addition of project trips of the three residential developments as mentioned in background conditions.

INTERSECTION LEVEL OF SERVICE ANALYSIS – BACKGROUND BUILD CONDITIONS

The results of the LOS analysis using the Synchro 12 software program for existing Build conditions are summarized in **Table 14**. LOS worksheets are provided in **Appendix C**.

Under this scenario, all of the study intersections operate at acceptable service levels (LOS D or better) during a.m., and p.m. peak hours, except at the following intersections:

- Main Street/American Street operates at unacceptable LOS E only during the a.m. peak hour
- Main Street/David Avenue operates at unacceptable LOS E only during the p.m. peak hour.
- Main Street/Rendon Avenue operates at unacceptable LOS E only during the p.m. peak hour.

Table 14: Intersection Level of Service Analysis – Background Build Conditions

#	Intersection	Peak Hour ¹	Control	Existing Build Conditions		Background Build Conditions		Change in Delay ⁴
				Delay ²	LOS ³	Delay ²	LOS ³	
1	Main Street/S Hunter Street	AM	No Control	-	-	-	-	-
		PM		-	-	-	-	-
2	Main Street/San Joaquin Street	AM	Signal	14.8	B	17.2	B	2.4
		PM		16.1	B	18.5	B	2.4
3	Main Street/Sutter Street	AM	Signal	16.7	B	16.6	B	-0.1
		PM		17.5	B	17.6	B	0.1
4	Main Street/California Street	AM	Signal	26.1	C	27.1	C	1.0
		PM		27.1	C	27.7	C	0.6
5	Main Street/American Street <i>Mitigation – Optimize signal timing</i>	AM	Signal	49.8	D	66.4	E	16.6
		PM		24.9	C	26.4	C	1.5
		AM		-	-	25.8	C	-24.0
		PM		24.9	C	26.4	C	1.5
6	Main Street/Stanslaus Street	AM	Signal	10.7	B	11.0	B	0.3
		PM		10.3	B	10.5	B	0.2
7	Main Street/Grant Street	AM	Two-Way Stop	10.9	B	11.3	B	0.4
		PM		10.6	B	10.8	B	0.2
8	Main Street/Aurora Street	AM	Two-Way Stop	11.7	B	12.1	B	0.4
		PM		10.7	B	10.9	B	0.2
9	Main Street/Union Street	AM	All-Way Stop	8.1	A	8.3	A	0.2
		PM		7.9	A	8.0	A	0.1
10		AM		10.5	B	10.7	B	0.2

#	Intersection	Peak Hour ¹	Control	Existing Build Conditions		Background Build Conditions		Change in Delay ⁴
				Delay ²	LOS ³	Delay ²	LOS ³	
	Main Street/Pilgrim Street	PM	Two-Way Stop	10.2	B	10.4	B	0.2
11	Main Street/Airport Way	AM	Signal	7.4	A	8.3	A	0.9
		PM		6.4	A	6.8	A	0.4
12	Main Street/Sierra Nevada Street	AM	Two-Way Stop	11.0	B	11.3	B	0.3
		PM		11.2	B	11.3	B	0.1
13	Main Street/Wilson Way	AM	Signal	11.1	B	11.6	B	0.5
		PM		8.9	A	9.2	A	0.3
14	Main Street/Market Street	AM	Signal	1.9	A	2.1	A	0.2
		PM		1.9	A	2.0	A	0.1
15	Main Street/B Street	AM	Two-Way Stop	13.7	B	14.1	B	0.4
		PM		15.8	C	16.5	C	0.7
16	Main Street/C Street-Lafayette Street	AM	Two-Way Stop	15.4	C	16.0	C	0.6
		PM		11.7	B	12.0	B	0.3
17	Main Street/D Street	AM	Signal	4.3	A	4.3	A	0.0
		PM		4.5	A	4.6	A	0.1
18	Main Street/E Street-Marsh Street	AM	Two-Way Stop	18.0	C	18.9	C	0.9
		PM		20.1	C	20.2	C	0.1
19	Main Street/F Street-Alma Street	AM	Two-Way Stop	16.0	C	16.5	C	0.5
		PM		20.7	C	21.0	C	0.3
20	Main Street/Filbert Street	AM	Signal	4.0	A	5.5	A	1.5
		PM		5.7	A	7.7	A	2.0
21	Main Street/Burkett Avenue	AM	Two-Way Stop	22.5	C	23.4	C	0.9
		PM		25.7	D	26.9	D	1.2
22	Main Street/Shasta Avenue	AM	Two-Way Stop	21.9	C	22.9	C	1.0
		PM		23.5	C	24.6	C	1.1
23	Main Street/David Avenue	AM	Two-Way Stop	22.8	C	23.9	C	1.1
		PM		37.4	E	40.0	E	2.6
24	Main Street/Rendon Avenue	AM	Two-Way Stop	25.2	D	26.4	D	1.2
		PM		33.5	D	36.0	E	2.5
25	Main Street/Golden Gate Avenue	AM	Signal	10.7	B	12.4	B	1.7
		PM		14.4	B	18.9	B	4.5
26	Main Street/Windsor Avenue	AM	Two-Way Stop	17.8	C	20.2	C	2.4
		PM		19.4	C	23.0	C	3.6
27	Main Street/Netherton Avenue	AM	Signal	10.8	B	10.9	B	0.1
		PM		17.6	B	12.2	B	-5.4
28	Main Street/Broadway Avenue	AM	Two-Way Stop	22.6	C	27.8	D	5.2
		PM		18.9	C	22.3	C	3.4
29	Market Street/Center Street	AM	Signal	10.6	B	10.7	B	0.1
		PM		12.9	B	13.1	B	0.2
30	Market Street/El Dorado Street	AM	Signal	12.8	B	13.0	B	0.2
		PM		12.0	B	11.7	B	-0.3

#	Intersection	Peak Hour ¹	Control	Existing Build Conditions		Background Build Conditions		Change in Delay ⁴
				Delay ²	LOS ³	Delay ²	LOS ³	
31	Market Street/Hunter Street	AM	All-Way Stop	9.2	A	9.3	A	0.1
		PM		7.7	A	7.9	A	0.2
32	Market Street/San Joaquin Street	AM	Signal	12.2	B	12.4	B	0.2
		PM		9.6	A	10.2	B	0.6
33	Market Street/Sutter Street	AM	Signal	15.0	B	15.3	B	0.3
		PM		13.1	B	14.2	B	1.1
34	Market Street/California Street	AM	Signal	7.8	A	8.8	A	1.0
		PM		9.0	A	9.8	A	0.8
35	Market Street/American Street	AM	Signal	12.3	B	12.0	B	-0.3
		PM		6.6	A	6.2	A	-0.4
36	Market Street/Stanslaus Street	AM	Signal	12.7	B	12.7	B	0.0
		PM		9.4	A	9.3	A	-0.1
37	Market Street/Grant Street	AM	Two-Way Stop	11.4	B	11.5	B	0.1
		PM		10.4	B	10.7	B	0.3
38	Market Street/Aurora Street	AM	Two-Way Stop	11.0	B	11.1	B	0.1
		PM		11.2	B	11.5	B	0.3
39	Market Street/Union Street	AM	Two-Way Stop	10.3	B	10.4	B	0.1
		PM		11.4	B	11.7	B	0.3
40	Market Street/Pilgrim Street	AM	Two-Way Stop	10.1	B	10.2	B	0.1
		PM		10.3	B	10.6	B	0.3
41	Market Street/Airport Way	AM	Signal	5.1	A	5.4	A	0.3
		PM		6.6	A	7.2	A	0.6
42	Market Street/Sierra Nevada Street	AM	Two-Way Stop	10.7	B	10.8	B	0.1
		PM		12.7	B	13.0	B	0.3
43	Market Street/Wilson Way	AM	Signal	13.2	B	13.6	B	0.4
		PM		23.4	C	25.4	C	2.0
44	Market Street/Eugenia Street	AM	Two-Way Stop	10.5	B	10.5	B	0.0
		PM		13.1	B	13.4	B	0.3
45	Market Street/Della Street	AM	Two-Way Stop	12.9	B	13.0	B	0.1
		PM		19.7	C	20.6	C	0.9

Notes:

1. AM – morning peak hour, PM – afternoon peak hour

2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.

3. LOS – Level of Service.

4. Change in delay between existing build conditions and background build conditions

Bold indicates unacceptable LOS and Delay

The signal timing at the Main Street/American Street intersection needs to be optimized to maintain an acceptable level of service due to road diet and increased traffic. Once optimized, the intersection is expected to operate at Level of Service (LOS) C, with a delay of 25.8 seconds per vehicle. Synchro results are attached in **Appendix C**.

The peak-hour signal warrant from the California Manual of Uniform Traffic Control Devices (CA MUTCD) was evaluated for the unsignalized intersection of Main Street/David Avenue and Main Street/Rendon Avenue, operating at LOS E, to determine if a traffic signal is warranted. Under this scenario, the MUTCD peak hour signal warrant is not met for both the unsignalized intersections of Main Street/David Avenue and Main Street/Rendon Avenue during weekday a.m., and p.m. peak hour. Peak Hour Signal Warrant sheets are provided in **Appendix D**.

95TH PERCENTILE QUEUE ANALYSIS

TJKM conducted a vehicle queuing and turn lane storage analysis for study signalized intersections existing conditions. The 95th percentile queues were analyzed using the HCM Queue methodology contained in Synchro 12 software. **Table 15** presents the existing queues (in feet) at the study signalized intersections. **Appendix C** contains the queue output worksheets for existing conditions.

Under existing conditions, the southbound left-turn movement at Main Street/Filbert Street & Market Street/Wilson Way for the a.m. and p.m. peak hours and westbound left-turn movement at Main Street/Golden Gate Avenue for the a.m. peak hour experiences queue lengths that exceed storage lengths.

Table 15: 95th Percentile Queueing Analysis – Background Build Conditions

#	Intersection	Lane Group	Storage Length	Existing Build Conditions		Background Build Conditions		Change in Queue	
				AM	PM	AM	PM	AM	PM
1	Main Street/Hunter Street	EBR	-	-	-	-	-	-	-
		WBLT	-	-	-	-	-	-	-
2	Main Street/San Joaquin Street	WBT	-	60	69	79	83	19	14
		NBT	-	43	22	44	22	1	0
		SBT	-	65	44	67	45	2	1
3	Main Street/Sutter Street	WBT	-	33	54	56	67	23	13
		NBT	-	36	56	36	56	0	0
		SBT	-	41	38	41	38	0	0
4	Main Street/California Street	WBT	-	79	92	86	105	7	13
		NBT	-	181	160	181	160	0	0
		SBT	-	150	177	150	177	0	0
5	Main Street/American Street	WBT	-	141	98	156	110	15	12
		NBT	-	19	16	20	18	1	2
		SBT	-	27	14	27	14	0	0
		SBR	-	20	17	20	17	0	0
6	Main Street/Stanslaus Street	WBT	-	76	81	88	89	12	8
		NBT	-	67	38	67	38	0	0
		SBT	-	42	59	42	59	0	0
7	Main Street/Grant Street	NBLT	-	10	5	10	5	0	0
		SBTR	-	5	10	5	10	0	0
8		NBLT	-	25	15	25	15	0	0

#	Intersection	Lane Group	Storage Length	Existing Build Conditions		Background Build Conditions		Change in Queue	
				AM	PM	AM	PM	AM	PM
	Main Street/Aurora Street	SBTR	-	10	5	8	5	-2	0
9	Main Street/Union Street	NBLT	-	15	15	13	13	-2	-2
		SBTR	-	10	10	10	8	0	-2
		WBLTR	-	15	5	20	13	5	8
10	Main Street/Pilgrim Street	NBLT	-	5	5	3	3	-2	-2
		SBTR	-	5	5	3	3	-2	-2
		WBLTR	-	0	0	0	0	0	0
11	Main Street/Airport Way	NBLT	-	11	11	169	150	158	139
		SBTR	-	115	130	11	11	-104	-119
		WBLTR	-	177	156	115	130	-62	-26
12	Main Street/Sierra Nevada Street	NBLT	-	5	10	5	8	0	-3
		SBTR	-	5	10	5	10	0	0
		WBLTR	-	0	5	0	3	0	-3
13	Main Street/Wilson Way	WBT	-	195	179	213	191	18	12
		WBR	215	53	72	53	72	0	0
		NBL	70	34	20	33	20	-1	0
		NBT	-	213	283	213	282	0	-1
		SBTR	-	112	176	112	176	0	0
14	Main Street/Market Street	WBTR	-	65	50	70	50	5	0
		NBT	-	0	0	0	0	0	0
		SBT	-	10	5	10	5	0	0
15	Main Street/B Street	NBLTR	-	10	15	10	18	0	3
		SBLTR	-	0	5	3	3	3	-2
		EBL	-	0	0	0	0	0	0
		WBL	-	0	0	0	0	0	0
16	Main Street/Lafayette Street	NBLTR	-	10	5	10	-	0	-
		SBLTR	-	10	5	8	-	-2	-
		EBL	-	5	5	3	3	-2	-2
		WBL	-	0	5	0	3	0	-2
17	Main Street/D Street	EBLT	-	46	80	48	87	2	7
		WBTR	-	75	65	80	69	5	4
		SBLR	-	11	12	11	13	0	1
18	Main Street/Marsh Street-E Street	NBLTR	-	0	5	0	-	0	-
		SBLTR	-	15	25	15	25	0	0
		EBL	-	5	0	3	0	-2	0
		WBL	-	0	5	0	3	0	-2
19	Main Street/Alma Street	NBLTR	-	5	5	3	-	-2	-
		SBLTR	-	5	10	3	8	-2	-2
		EBL	-	0	5	0	0	0	-5

#	Intersection	Lane Group	Storage Length	Existing Build Conditions		Background Build Conditions		Change in Queue	
				AM	PM	AM	PM	AM	PM
		WBL	-	0	0	0	3	0	3
20	Main Street/Filbert Street	EBT	-	55	155	60	175	5	20
		WBT	-	140	115	150	120	10	5
		NBT	-	15	30	15	30	0	0
		SBL	50	70	155	75	160	5	5
		SBT	-	70	155	75	160	5	5
21	Main Street/Burkett Avenue	NBLTR	-	10	15	8	13	-2	-2
		SBLTR	-	5	5	5	5	0	0
		EBL	-	5	5	3	3	-2	-2
		WBL	-	0	0	0	0	0	0
22	Main Street/Shasta Avenue	NBLTR	-	5	10	5	8	0	-2
		SBLTR	-	5	5	3	5	-2	0
		EBL	-	0	0	0	0	0	0
		WBL	-	0	0	0	0	0	0
23	Main Street/David Avenue	NBLTR	-	5	10	8	10	3	0
		SBLTR	-	5	5	3	3	-2	-2
		EBL	-	0	0	0	0	0	0
		WBL	-	0	0	0	0	0	0
24	Main Street/Rendon Avenue	NBLTR	-	10	20	8	20	-2	0
		SBLTR	-	10	10	13	10	3	0
		EBL	-	0	0	0	0	0	0
		WBL	-	0	5	0	3	0	-2
25	Main Street/Golden Gate Avenue	EBL	95	10	21	11	22	1	1
		EBT	-	288	590	324	687	36	97
		WBL	95	41	40	101	84	60	44
		WBT	-	320	246	331	264	11	18
		NBT	-	89	161	112	212	23	51
		SBT	-	45	52	51	54	6	2
26	Main Street/Windsor Avenue	NBLTR	-	5	5	5	5	0	0
		SBLTR	-	5	5	5	3	0	-2
		EBL	-	0	0	0	0	0	0
		WBL	-	0	0	0	0	0	0
27	Main Street/Netherton Avenue	EBL	90	12	20	12	21	0	1
		EBT	-	220	311	236	414	16	103
		WBL	90	43	45	44	47	1	2
		WBT	-	309	232	385	268	76	36
		NBT	-	38	40	39	42	1	2
		SBT	-	52	43	53	46	1	3
28		NBLTR	-	5	10	5	10	0	0
		SBLTR	-	30	10	40	10	10	0

#	Intersection	Lane Group	Storage Length	Existing Build Conditions		Background Build Conditions		Change in Queue	
				AM	PM	AM	PM	AM	PM
	Main Street/Broadway Avenue	EBL	-	10	5	10	3	0	-2
		WBL	-	0	0	0	0	0	0
29	Market Street/Center Street	EBT	-	65	78	74	95	9	17
		SBT	-	169	281	169	281	0	0
30	Market Street/El Dorado Street	EBT	-	169	64	174	64	5	0
		NBT	-	236	200	236	200	0	0
31	Market Street/Hunter Street	EBT	-	35	10	38	15	3	5
		NBR	-	5	5	5	3	0	-2
		SBL	-	15	5	13	5	-2	0
		SBT	-	15	5	15	5	0	0
32	Market Street/San Joaquin Street	EBT	-	125	77	130	93	5	16
		NBT	-	35	28	35	28	0	0
		SBT	-	8	7	8	7	0	0
33	Market Street/Sutter Street	EBT	-	85	89	92	108	7	19
		NBT	-	55	59	55	59	0	0
		NBR	-	6	13	6	13	0	0
		SBT	-	5	20	5	20	0	0
34	Market Street/California Street	EBT	-	27	54	29	54	2	0
		NBT	-	111	74	111	74	0	0
		SBT	-	2	0	2	0	0	0
35	Market Street/American Street	EBT	-	59	39	59	40	0	1
		SBT	-	75	24	73	24	-2	0
36	Market Street/Stanislaus Street	EBT	-	140	47	140	48	0	1
		NBT	-	106	55	106	55	0	0
		SBT	-	18	32	18	32	0	0
37	Market Street/Grant Street	NBTR	-	5	0	3	0	-2	0
		SBLT	-	5	5	3	5	-2	0
		EBL	-	5	5	3	3	-2	-2
38	Market Street/Aurora Street	NBTR	-	20	20	18	20	-2	0
		SBLT	-	5	10	5	8	0	-2
		EBL	-	0	5	0	3	0	-2
39	Market Street/Union Street	NBTR	-	15	15	13	15	-2	0
		SBLT	-	10	15	8	15	-2	0
		EBL	-	0	0	0	-	0	-
40	Market Street/Pilgrim Street	NBTR	-	5	5	3	3	-2	-2
		SBLT	-	5	5	3	3	-2	-2
		EBL	-	0	0	0	-	0	-
41	Market Street/Airport Way	EBT	-	113	161	119	182	6	21
		NBT	-	159	167	159	167	0	0
		SBT	-	55	69	54	68	-1	-1

#	Intersection	Lane Group	Storage Length	Existing Build Conditions		Background Build Conditions		Change in Queue	
				AM	PM	AM	PM	AM	PM
42	Market Street/Sierra Nevada Street	NBTR	-	5	5	3	5	-2	0
		SBLT	-	5	15	5	18	0	3
		EBL	-	0	0	0	0	0	0
43	Market Street/Wilson Way	EBT	-	156	348	171	383	15	35
		NBT	-	211	286	211	286	0	0
		SBL	90	126	221	126	220	0	-1
		SBT	-	153	205	154	206	1	1
44	Market Street/Eugenia Street	NBR	-	10	10	5	8	-5	-2
		EBTR	-	0	0	-	-	-	-
45	Market Street/Della Street	NBTR	-	0	0	0	0	0	0
		SBLT	-	10	25	10	28	0	3
		EBL	-	0	5	-	3	-	-2

Notes: Storage length and 95th percentile queue is expressed in feet per lane.

AM – morning peak hour, PM – afternoon peak hour

L – left turn, T – through, R- right turn

- indicates 95th percentile volume exceeds capacity, queue may be longer.

Bold indicates queue lengths exceeding capacity.

EVALUATION OF RRFB AND PHB AT MAIN STREET/ D STREET INTERSECTION

TJKM conducted a warrant analysis to determine pedestrian safety enhancement devices such as Rectangular Rapid Flashing Beacon (RRFB), and Pedestrian Hybrid Beacon (PHB) at Main Street/D Street intersection. TJKM evaluated the feasibility of pedestrian crossing safety enhancements at this location, including High Intensity Activated Crosswalk (HAWK) signal (or Pedestrian Hybrid Beacon (PHB)) and Rectangular Rapid Flashing Beacon (RRFB) systems. To enhance pedestrian safety and evaluate appropriate enhancements, Section 4F.01 and 4N.01 of the 2014 Revision 8 *California Manual on Uniform Traffic Control Devices (CA MUTCD)* was used. The following is a brief description of various pedestrian safety measures:



High Intensity Activated Crosswalk (HAWK) Signal

A HAWK signal, or a Pedestrian Hybrid Beacon (PHB), is a special type of hybrid beacon used to warn and control traffic at an uncontrolled location to assist pedestrians in crossing a street at a marked crosswalk. This type of pedestrian activated traffic control device has a higher compliance rate compared to In-Roadway Warning Lights (IRWL) and RRFB systems.



Rectangular Rapid Flashing Beacon (RRFB)

The RRFB uses rectangular-shaped high intensity light-emitting-diode (LED) based indicators, flashes rapidly in a combination wig-wag and simultaneous flash pattern, and may be mounted immediately adjacent to the crossing sign. Research studies have shown this type of pedestrian activated traffic control device has a higher compliance rate than IRWL systems.

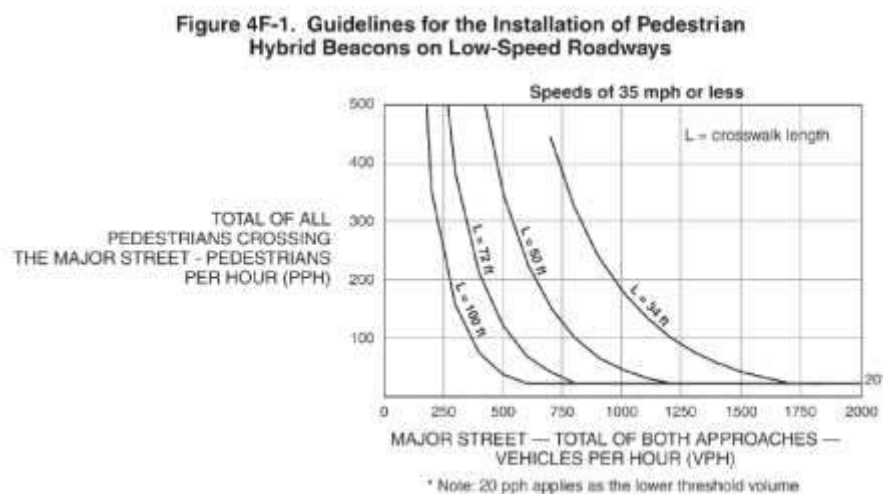
HIGH INTENSITY ACTIVATED CROSSWALK (HAWK) SIGNAL WARRANT

Chapter 4F of the CA MUTCD describes the guidelines for application of HAWK signals. The following refers to the warrant applicable to the study area:

- *For a major street where the posted or statutory speed limit or the 85th-percentile speed is 35 mph or less, the need for a pedestrian hybrid beacon should be considered if the engineering study finds that the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding total of all pedestrians crossing the major street for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4F-1 for the length of the crosswalk.*

Figure 10 is a screenshot of Figure 4F-1 of the CA MUTCD which was used for the HAWK warrant. Detailed HAWK signal warrant guidelines are contained in **Appendix D**.

Figure 10: Pedestrian Hybrid Beacons Guidelines for Low-Speed Roadways



Source: CA MUTCD 2014 Edition Revision 8 (January 11,2024)

Table 16 shows Pedestrian Hybrid Beacon (PHB) warrant analysis with the max hourly vehicle and pedestrian volume. **Appendix D** contains the detailed graph of the PHB analysis.

Table 16: PHB Warrant Analysis

#	Intersection	Crosswalk Leg	Pedestrian crossing major street per hour	Total vehicular volume for both approaches per hour ¹	Crosswalk Length (ft.)	HAWK Signal Warrant
1	Main Street/D Street	East	4	805	60	Not Met
		North	5	16	45	Not Met

RECTANGULAR RAPID FLASHING BEACON (RRFB) WARRANT

City of Stockton Pedestrian Safety and Crosswalk Installation Guidelines (2020 Update) with regard to installing a RRFB. For the purpose of this analysis, the In-Roadway Warning Lights warrant criteria in Chapter 4N of the CAMUTCD is used to warrant for RRFB's. The following are the applicable standards listed in Section 4N.02 (Line 14) to consider for the IRWL warrant in the study area:

1. Whether the crossing is controlled or uncontrolled.
2. An engineering traffic study to determine if In-Roadway Warning Lights are compatible with the safety and operation of nearby intersections, which may or may not be, controlled by traffic signals or STOP/YIELD signs.
3. Standard traffic signs for crossings and crosswalk pavement markings are provided.
4. At least 40 pedestrians regularly use the crossing during each of any two hours (not necessarily consecutive) during a 24-hour period.
5. The vehicular volume through the crossing exceeds 200 vehicles per hour in urban areas or 140 vehicles per hour in rural areas during peak-hour pedestrian usage.
6. The critical approach speed (85th percentile) is 45 mph or less.
7. In-Roadway Warning Lights are visible to drivers at the minimum stopping sight distance for the posted speed limit.
8. Public education on In-Roadway Warning Lights is conducted for new installations.

Table 17 shows Rectangular Rapid Flashing Beacon (RRFB) warrant analysis with the maximum hourly vehicle and pedestrian volume. Detailed Guidelines are contained in **Appendix D**.

Table 17: RRFB Warrant Analysis

#	Intersection	Crosswalk Leg	Pedestrian crossing major street per hour	Total vehicular volume for both approaches per hour ¹	RRFB Signal Warrant
1	Main Street/D Street	East	4	805	Not Met
		North	5	16	Not Met



EVALUATION OF RRFB OR HAWK AT FAIR OAKS LIBRARY

TJKM did a qualitative analysis of RRFB and HAWK at the existing pedestrian signal crossing at Fair Oaks Library on Main Street. Currently, there is a pedestrian signal operating for crossing the pedestrians and as well as bicycles. There are collisions along Main Street nearby the library but none of them involve pedestrian or bike collisions over a period of 2015-2022. Existing signal present at the midblock crossing is safer than providing RRFB or HAWK. However in future, a detailed analysis should be conducted to see the feasibility to provide RRFB or HAWK.

SUMMARY

The results of the analysis on Main Street and Market Street are summarized here:

- Collision Analysis – during the eight year period, there were 371 collisions, 349 of which occurred at intersections. Broadside (219 collisions, 63 %) and rear-end (49 collisions, 14%) collisions were the most common collisions types at intersections. 72% of collisions at intersections resulted in complaint of pain (250 collisions). Traffic signals and signs violations (124 collisions, 36%), Automobile right-of-way (86 collisions, 25 %) and unsafe speeding (54 collisions, 15%) were the most common collision factors. Market Street/Airport Way, Main Street/Filbert Street, Main Street/Airport Way, Main Street/Wilson Way, and Market Street/Wilson Way experienced the highest number of collisions. 22 out of the 45 study intersections experienced a collision rate higher than the Caltrans' 2021 statewide average.
- Vehicle-pedestrian collisions accounted for 9% (30 collisions) and vehicle-bicycle collisions accounted for 4% (15 collisions) of all collisions.
- Intersection Level of Service – under existing conditions, all of the study intersections operate at acceptable service levels (LOS D or better) during a.m., and p.m. peak hours. Under existing build conditions, all of the study intersections operate at acceptable service levels (LOS D or better) during a.m., and p.m. peak hours, except at Main Street/David Avenue operates at unacceptable LOS E only during the p.m. peak hour. Under background conditions, all of the study intersections operate at acceptable service levels (LOS D or better) during a.m., and p.m. peak hours. Under background build conditions, Main Street/American Street during a.m. peak hour, Main Street/David Avenue during p.m. peak hour, and Main Street/Rendon Avenue during p.m. peak hour, operates at unacceptable LOS E, rest all the other intersection are under acceptable level of service (LOS D or better).
- Main Street/American Street needs optimizing signal timing. After the mitigation, it is expected to operate at acceptable level of service (LOS C).
- Roadway Segment Level of Service – under existing conditions, all of the study roadway segments are operating at LOS C or better.
- 95th percentile Queueing Analysis – under existing conditions, the southbound left turn movement at Main Street/Filbert Street and Market Street/Wilson Way experiences queue



lengths that exceed storage lengths for the a.m. and p.m. peak hours. Under existing build conditions and background conditions, queue length exceeds the available storage length of roadway. Under background build conditions, additional westbound left-turn lane at Main Street/Golden Gate Avenue exceeds the available storage length.

- At Main Street/D Street intersection, Pedestrian Hybrid Beacon and Rectangular Rapid Flashing Beacon is not warranted.



APPENDIX A – COLLISION DATA SET



APPENDIX B – TRAFFIC COUNT SHEETS

Location: Main St, Between San Joaquin Street and Sutter Street
 Date Range: 4/3/2024 - 4/9/2024
 Site Code: 01

Time	Wednesday 4/3/2024			Thursday 4/4/2024			Friday 4/5/2024			Saturday 4/6/2024			Sunday 4/7/2024			Monday 4/8/2024			Tuesday 4/9/2024			Mid-Week Average		
	WB	EB	Total	WB	EB	Total	WB	EB	Total	WB	EB	Total	WB	EB	Total	WB	EB	Total	WB	EB	Total	WB	EB	Total
12:00 AM	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2
1:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
2:00 AM	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2
3:00 AM	3	0	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0	3
4:00 AM	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1
5:00 AM	6	0	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	0	6
6:00 AM	14	0	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	0	14
7:00 AM	34	0	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	0	34
8:00 AM	75	0	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75	0	75
9:00 AM	67	0	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	0	67
10:00 AM	98	0	98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	0	98
11:00 AM	96	0	96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	0	96
12:00 PM	109	0	109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	109	0	109
1:00 PM	116	0	116	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	116	0	116
2:00 PM	77	0	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	0	77
3:00 PM	77	0	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	0	77
4:00 PM	64	0	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64	0	64
5:00 PM	39	0	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	0	39
6:00 PM	33	0	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	0	33
7:00 PM	12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	0	12
8:00 PM	12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	0	12
9:00 PM	9	0	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	0	9
10:00 PM	3	0	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0	3
11:00 PM	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2
Total	951	-	951	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	951	-	951
Percent	100%	-		-	-		-	-		-	-		-	-		-	-		-	-		100%	-	
AM Peak	10:00	-	10:00	-	-		-	-		-	-		-	-		-	-		-	-		10:00	-	10:00
Vol.	98	-	98	-	-		-	-		-	-		-	-		-	-		-	-		98	-	98
PM Peak	13:00	-	13:00	-	-		-	-		-	-		-	-		-	-		-	-		13:00	-	13:00
Vol.	116	-	116	-	-		-	-		-	-		-	-		-	-		-	-		116	-	116

1. Mid-week average includes data between Tuesday and Thursday.

Location: Main St, Between American Street and Stanislaus Street
Date Range: 4/3/2024 - 4/9/2024
Site Code: 02

Time	Wednesday 4/3/2024			Thursday 4/4/2024			Friday 4/5/2024			Saturday 4/6/2024			Sunday 4/7/2024			Monday 4/8/2024			Tuesday 4/9/2024			Mid-Week Average		
	WB	EB	Total	WB	EB	Total	WB	EB	Total	WB	EB	Total	WB	EB	Total	WB	EB	Total	WB	EB	Total	WB	EB	Total
12:00 AM	5	0	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	0	5
1:00 AM	7	0	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	0	7
2:00 AM	3	0	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0	3
3:00 AM	4	0	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0	4
4:00 AM	6	0	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	0	6
5:00 AM	14	0	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	0	14
6:00 AM	32	0	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	0	32
7:00 AM	181	0	181	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	181	0	181
8:00 AM	106	0	106	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	106	0	106
9:00 AM	75	0	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75	0	75
10:00 AM	69	0	69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	69	0	69
11:00 AM	110	0	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	0	110
12:00 PM	145	0	145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	145	0	145
1:00 PM	90	0	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	0	90
2:00 PM	108	0	108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	108	0	108
3:00 PM	98	0	98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	0	98
4:00 PM	111	0	111	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	111	0	111
5:00 PM	65	0	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65	0	65
6:00 PM	31	0	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	0	31
7:00 PM	25	0	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	0	25
8:00 PM	20	0	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	0	20
9:00 PM	23	0	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	0	23
10:00 PM	10	0	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	0	10
11:00 PM	5	0	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	0	5
Total	1,343	-	1,343	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,343	-	1,343
Percent	100%	-		-	-		-	-		-	-		-	-		-	-		-	-		100%	-	
AM Peak	07:00	-	07:00	-	-		-	-		-	-		-	-		-	-		-	-		07:00	-	07:00
Vol.	181	-	181	-	-		-	-		-	-		-	-		-	-		-	-		181	-	181
PM Peak	12:00	-	12:00	-	-		-	-		-	-		-	-		-	-		-	-		12:00	-	12:00
Vol.	145	-	145	-	-		-	-		-	-		-	-		-	-		-	-		145	-	145

1. Mid-week average includes data between Tuesday and Thursday.

Location: Main St, Between Grant Street and Aurora Street
Date Range: 4/3/2024 - 4/9/2024
Site Code: 03

Time	Wednesday 4/3/2024			Thursday 4/4/2024			Friday 4/5/2024			Saturday 4/6/2024			Sunday 4/7/2024			Monday 4/8/2024			Tuesday 4/9/2024			Mid-Week Average		
	WB	EB	Total	WB	EB	Total	WB	EB	Total	WB	EB	Total	WB	EB	Total	WB	EB	Total	WB	EB	Total	WB	EB	Total
12:00 AM	13	0	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	0	13
1:00 AM	13	0	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	0	13
2:00 AM	11	0	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	0	11
3:00 AM	7	0	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	0	7
4:00 AM	13	0	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	0	13
5:00 AM	22	0	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	0	22
6:00 AM	34	0	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	0	34
7:00 AM	91	0	91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	91	0	91
8:00 AM	89	0	89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	89	0	89
9:00 AM	77	0	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	0	77
10:00 AM	74	0	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74	0	74
11:00 AM	97	0	97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	97	0	97
12:00 PM	121	0	121	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	121	0	121
1:00 PM	113	0	113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	113	0	113
2:00 PM	118	0	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	118	0	118
3:00 PM	131	0	131	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	131	0	131
4:00 PM	125	0	125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	125	0	125
5:00 PM	108	0	108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	108	0	108
6:00 PM	68	0	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	0	68
7:00 PM	47	0	47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	0	47
8:00 PM	32	0	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	0	32
9:00 PM	36	0	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	0	36
10:00 PM	12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	0	12
11:00 PM	7	0	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	0	7
Total	1,459	-	1,459	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,459	-	1,459
Percent	100%	-		-	-		-	-		-	-		-	-		-	-		-	-		100%	-	
AM Peak	11:00	-	11:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11:00	-	11:00
Vol.	97	-	97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	97	-	97
PM Peak	15:00	-	15:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15:00	-	15:00
Vol.	131	-	131	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	131	-	131

1. Mid-week average includes data between Tuesday and Thursday.

Location: 01 - Main St, Between Aurora Street and Union Street
Date Range: 9/28/2023 - 10/4/2023
Site Code:

Time	Thursday 9/28/2023			Friday 9/29/2023			Saturday 9/30/2023			Sunday 10/1/2023			Monday 10/2/2023			Tuesday 10/3/2023			Wednesday 10/4/2023			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	0	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	6	6
1:00 AM	0	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	4	4
2:00 AM	0	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	3	3
3:00 AM	0	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	3	3
4:00 AM	0	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	10	10
5:00 AM	0	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	9	9
6:00 AM	0	27	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	27	27
7:00 AM	0	92	92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	92	92
8:00 AM	0	91	91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	91	91
9:00 AM	0	90	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	90	90
10:00 AM	0	68	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	68	68
11:00 AM	0	70	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	70	70
12:00 PM	0	85	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	85	85
1:00 PM	0	95	95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	95	95
2:00 PM	0	104	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	104	104
3:00 PM	0	92	92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	92	92
4:00 PM	0	84	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	84	84
5:00 PM	0	68	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	68	68
6:00 PM	0	44	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	44	44
7:00 PM	0	34	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	34	34
8:00 PM	0	27	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	27	27
9:00 PM	0	27	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	27	27
10:00 PM	0	15	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	15	15
11:00 PM	0	15	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	15	15
Total	-	1,163	1,163	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,163	1,163
Percent	-	100%		-	-		-	-		-	-		-	-		-	-		-	-		-	100%	
AM Peak	-	07:00	07:00	-	-		-	-		-	-		-	-		-	-		-	-		-	07:00	07:00
Vol.	-	92	92	-	-		-	-		-	-		-	-		-	-		-	-		-	92	92
PM Peak	-	14:00	14:00	-	-		-	-		-	-		-	-		-	-		-	-		-	14:00	14:00
Vol.	-	104	104	-	-		-	-		-	-		-	-		-	-		-	-		-	104	104

1. Mid-week average includes data between Tuesday and Thursday.

Location: 02 - Main St, Between Airport Way and Sierra Nevada Street
Date Range: 9/28/2023 - 10/4/2023
Site Code:

Time	Thursday 9/28/2023			Friday 9/29/2023			Saturday 9/30/2023			Sunday 10/1/2023			Monday 10/2/2023			Tuesday 10/3/2023			Wednesday 10/4/2023			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	0	18	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	18	18
1:00 AM	0	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	9	9
2:00 AM	0	11	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	11	11
3:00 AM	0	8	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	8	8
4:00 AM	0	25	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	25	25
5:00 AM	0	41	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	41	41
6:00 AM	0	57	57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	57	57
7:00 AM	0	124	124	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	124	124
8:00 AM	0	181	181	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	181	181
9:00 AM	0	157	157	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	157	157
10:00 AM	0	129	129	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	129	129
11:00 AM	0	146	146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	146	146
12:00 PM	0	26	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	26	26
1:00 PM	0	96	96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	96	96
2:00 PM	0	207	207	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	207	207
3:00 PM	0	169	169	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	169	169
4:00 PM	0	177	177	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	177	177
5:00 PM	0	170	170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	170	170
6:00 PM	0	119	119	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	119	119
7:00 PM	0	106	106	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	106	106
8:00 PM	0	70	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	70	70
9:00 PM	0	70	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	70	70
10:00 PM	0	28	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	28	28
11:00 PM	0	40	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	40	40
Total	-	2,184	2,184	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,184	2,184
Percent	-	100%		-	-		-	-		-	-		-	-		-	-		-	-		-	100%	
AM Peak	-	08:00	08:00	-	-		-	-		-	-		-	-		-	-		-	-		-	08:00	08:00
Vol.	-	181	181	-	-		-	-		-	-		-	-		-	-		-	-		-	181	181
PM Peak	-	14:00	14:00	-	-		-	-		-	-		-	-		-	-		-	-		-	14:00	14:00
Vol.	-	207	207	-	-		-	-		-	-		-	-		-	-		-	-		-	207	207

1. Mid-week average includes data between Tuesday and Thursday.

Location: 03 - Main St, Between Wilson Way and Della Street
Date Range: 9/28/2023 - 10/4/2023
Site Code:

Time	Thursday 9/28/2023			Friday 9/29/2023			Saturday 9/30/2023			Sunday 10/1/2023			Monday 10/2/2023			Tuesday 10/3/2023			Wednesday 10/4/2023			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	0	35	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	35	35
1:00 AM	0	27	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	27	27
2:00 AM	0	26	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	26	26
3:00 AM	0	37	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	37	37
4:00 AM	0	66	66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	66	66
5:00 AM	0	86	86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	86	86
6:00 AM	0	154	154	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	154	154
7:00 AM	0	306	306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	306	306
8:00 AM	0	435	435	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	435	435
9:00 AM	0	296	296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	296	296
10:00 AM	0	256	256	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	256	256
11:00 AM	0	282	282	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	282	282
12:00 PM	0	306	306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	306	306
1:00 PM	0	364	364	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	364	364
2:00 PM	0	448	448	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	448	448
3:00 PM	0	450	450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	450	450
4:00 PM	0	389	389	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	389	389
5:00 PM	0	382	382	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	382	382
6:00 PM	0	326	326	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	326	326
7:00 PM	0	282	282	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	282	282
8:00 PM	0	195	195	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	195	195
9:00 PM	0	189	189	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	189	189
10:00 PM	0	140	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	140	140
11:00 PM	0	72	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	72	72
Total	-	5,549	5,549	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,549	5,549
Percent	-	100%		-	-		-	-		-	-		-	-		-	-		-	-		-	100%	
AM Peak	-	08:00	08:00	-	-		-	-		-	-		-	-		-	-		-	-		-	08:00	08:00
Vol.	-	435	435	-	-		-	-		-	-		-	-		-	-		-	-		-	435	435
PM Peak	-	15:00	15:00	-	-		-	-		-	-		-	-		-	-		-	-		-	15:00	15:00
Vol.	-	450	450	-	-		-	-		-	-		-	-		-	-		-	-		-	450	450

1. Mid-week average includes data between Tuesday and Thursday.

Location: 04 - Main St, Between Market Street and A Street
Date Range: 9/28/2023 - 10/4/2023
Site Code:

Time	Thursday 9/28/2023			Friday 9/29/2023			Saturday 9/30/2023			Sunday 10/1/2023			Monday 10/2/2023			Tuesday 10/3/2023			Wednesday 10/4/2023			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	21	35	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	35	56
1:00 AM	27	28	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	28	55
2:00 AM	14	24	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	24	38
3:00 AM	11	46	57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	46	57
4:00 AM	21	75	96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	75	96
5:00 AM	49	101	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	101	150
6:00 AM	62	156	218	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62	156	218
7:00 AM	89	315	404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	89	315	404
8:00 AM	178	383	561	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	178	383	561
9:00 AM	113	277	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	113	277	390
10:00 AM	126	246	372	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	126	246	372
11:00 AM	188	269	457	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	188	269	457
12:00 PM	193	279	472	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	193	279	472
1:00 PM	224	360	584	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	224	360	584
2:00 PM	236	437	673	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	236	437	673
3:00 PM	276	392	668	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	276	392	668
4:00 PM	281	366	647	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	281	366	647
5:00 PM	284	381	665	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	284	381	665
6:00 PM	229	332	561	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	229	332	561
7:00 PM	194	294	488	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	194	294	488
8:00 PM	135	201	336	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	135	201	336
9:00 PM	111	183	294	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	111	183	294
10:00 PM	59	129	188	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59	129	188
11:00 PM	31	69	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	69	100
Total	3,152	5,378	8,530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,152	5,378	8,530
Percent	37%	63%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37%	63%	
AM Peak	11:00	08:00	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11:00	08:00	08:00
Vol.	188	383	561	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	188	383	561
PM Peak	17:00	14:00	14:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17:00	14:00	14:00
Vol.	284	437	673	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	284	437	673

1. Mid-week average includes data between Tuesday and Thursday.

Location: 05 - Main St, Between B Street and C Street
Date Range: 9/28/2023 - 10/4/2023
Site Code:

Time	Thursday 9/28/2023			Friday 9/29/2023			Saturday 9/30/2023			Sunday 10/1/2023			Monday 10/2/2023			Tuesday 10/3/2023			Wednesday 10/4/2023			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	30	36	66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	36	66
1:00 AM	35	27	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	27	62
2:00 AM	20	21	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	21	41
3:00 AM	15	37	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	37	52
4:00 AM	39	68	107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	68	107
5:00 AM	55	95	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	95	150
6:00 AM	104	146	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	146	250
7:00 AM	183	294	477	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	183	294	477
8:00 AM	248	374	622	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	248	374	622
9:00 AM	154	260	414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	154	260	414
10:00 AM	192	229	421	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	192	229	421
11:00 AM	225	244	469	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	225	244	469
12:00 PM	273	272	545	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	273	272	545
1:00 PM	365	341	706	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365	341	706
2:00 PM	370	444	814	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	370	444	814
3:00 PM	406	383	789	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	406	383	789
4:00 PM	481	353	834	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	481	353	834
5:00 PM	496	342	838	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	496	342	838
6:00 PM	339	332	671	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	339	332	671
7:00 PM	286	274	560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	286	274	560
8:00 PM	226	180	406	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	226	180	406
9:00 PM	136	176	312	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	136	176	312
10:00 PM	102	125	227	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	125	227
11:00 PM	46	65	111	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	65	111
Total	4,826	5,118	9,944	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,826	5,118	9,944
Percent	49%	51%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49%	51%	
AM Peak	08:00	08:00	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	08:00	08:00	08:00
Vol.	248	374	622	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	248	374	622
PM Peak	17:00	14:00	17:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17:00	14:00	17:00
Vol.	496	444	838	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	496	444	838

1. Mid-week average includes data between Tuesday and Thursday.

Location: 06 - Main St, Between D Street and Sonora Street
Date Range: 9/28/2023 - 10/4/2023
Site Code:

Time	Thursday 9/28/2023			Friday 9/29/2023			Saturday 9/30/2023			Sunday 10/1/2023			Monday 10/2/2023			Tuesday 10/3/2023			Wednesday 10/4/2023			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	29	36	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	36	65
1:00 AM	31	25	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	25	56
2:00 AM	20	18	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	18	38
3:00 AM	17	38	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	38	55
4:00 AM	45	60	105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	60	105
5:00 AM	68	84	152	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	84	152
6:00 AM	117	126	243	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	117	126	243
7:00 AM	160	252	412	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	160	252	412
8:00 AM	239	366	605	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	239	366	605
9:00 AM	161	246	407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	161	246	407
10:00 AM	195	211	406	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	195	211	406
11:00 AM	202	237	439	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	202	237	439
12:00 PM	236	276	512	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	236	276	512
1:00 PM	298	346	644	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	298	346	644
2:00 PM	315	428	743	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	315	428	743
3:00 PM	359	362	721	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	359	362	721
4:00 PM	401	348	749	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	401	348	749
5:00 PM	395	359	754	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	395	359	754
6:00 PM	277	319	596	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	277	319	596
7:00 PM	250	275	525	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	250	275	525
8:00 PM	189	184	373	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	189	184	373
9:00 PM	137	147	284	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	137	147	284
10:00 PM	89	105	194	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	89	105	194
11:00 PM	54	60	114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	60	114
Total	4,284	4,908	9,192	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,284	4,908	9,192
Percent	47%	53%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47%	53%	
AM Peak	08:00	08:00	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	08:00	08:00	08:00
Vol.	239	366	605	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	239	366	605
PM Peak	16:00	14:00	17:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16:00	14:00	17:00
Vol.	401	428	754	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	401	428	754

1. Mid-week average includes data between Tuesday and Thursday.

Location: 07 - Main St, Between E Street and Sharon Avenue
Date Range: 9/28/2023 - 10/4/2023
Site Code:

Time	Thursday 9/28/2023			Friday 9/29/2023			Saturday 9/30/2023			Sunday 10/1/2023			Monday 10/2/2023			Tuesday 10/3/2023			Wednesday 10/4/2023			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	24	37	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	37	61
1:00 AM	27	25	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	25	52
2:00 AM	20	16	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	16	36
3:00 AM	15	40	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	40	55
4:00 AM	46	59	105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	59	105
5:00 AM	69	79	148	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	69	79	148
6:00 AM	121	122	243	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	121	122	243
7:00 AM	174	256	430	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	174	256	430
8:00 AM	237	384	621	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	237	384	621
9:00 AM	172	241	413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	172	241	413
10:00 AM	196	222	418	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	196	222	418
11:00 AM	218	242	460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	218	242	460
12:00 PM	246	270	516	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	246	270	516
1:00 PM	323	313	636	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	323	313	636
2:00 PM	333	451	784	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	333	451	784
3:00 PM	360	363	723	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	360	363	723
4:00 PM	440	340	780	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	440	340	780
5:00 PM	396	357	753	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	396	357	753
6:00 PM	267	335	602	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	267	335	602
7:00 PM	258	284	542	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	258	284	542
8:00 PM	179	212	391	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	179	212	391
9:00 PM	136	131	267	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	136	131	267
10:00 PM	90	99	189	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	99	189
11:00 PM	57	57	114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57	57	114
Total	4,404	4,935	9,339	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,404	4,935	9,339
Percent	47%	53%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47%	53%	
AM Peak	08:00	08:00	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	08:00	08:00	08:00
Vol.	237	384	621	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	237	384	621
PM Peak	16:00	14:00	14:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16:00	14:00	14:00
Vol.	440	451	784	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	440	451	784

1. Mid-week average includes data between Tuesday and Thursday.

Location: 08 - Main St, Between Searchlight Avenue and Filbert Street
 Date Range: 9/28/2023 - 10/4/2023
 Site Code:

Time	Thursday 9/28/2023			Friday 9/29/2023			Saturday 9/30/2023			Sunday 10/1/2023			Monday 10/2/2023			Tuesday 10/3/2023			Wednesday 10/4/2023			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	27	35	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	35	62
1:00 AM	27	24	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	24	51
2:00 AM	20	19	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	19	39
3:00 AM	17	36	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	36	53
4:00 AM	69	59	128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	69	59	128
5:00 AM	109	64	173	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	109	64	173
6:00 AM	130	112	242	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130	112	242
7:00 AM	207	230	437	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	207	230	437
8:00 AM	254	368	622	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	254	368	622
9:00 AM	198	231	429	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	198	231	429
10:00 AM	192	217	409	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	192	217	409
11:00 AM	246	226	472	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	246	226	472
12:00 PM	264	235	499	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	264	235	499
1:00 PM	255	242	497	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	255	242	497
2:00 PM	357	442	799	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	357	442	799
3:00 PM	403	379	782	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	403	379	782
4:00 PM	459	363	822	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	459	363	822
5:00 PM	418	344	762	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	418	344	762
6:00 PM	298	318	616	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	298	318	616
7:00 PM	266	290	556	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	266	290	556
8:00 PM	207	195	402	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	207	195	402
9:00 PM	156	134	290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156	134	290
10:00 PM	99	96	195	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	99	96	195
11:00 PM	56	58	114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	58	114
Total	4,734	4,717	9,451	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,734	4,717	9,451
Percent	50%	50%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50%	50%	
AM Peak	08:00	08:00	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	08:00	08:00	08:00
Vol.	254	368	622	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	254	368	622
PM Peak	16:00	14:00	16:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16:00	14:00	16:00
Vol.	459	442	822	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	459	442	822

1. Mid-week average includes data between Tuesday and Thursday.

Location: 09 - Main St, Between Sullivan Avenue and Burkett Avenue
Date Range: 9/28/2023 - 10/4/2023
Site Code:

Time	Thursday 9/28/2023			Friday 9/29/2023			Saturday 9/30/2023			Sunday 10/1/2023			Monday 10/2/2023			Tuesday 10/3/2023			Wednesday 10/4/2023			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	43	60	103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	60	103
1:00 AM	41	36	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	36	77
2:00 AM	33	45	78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	45	78
3:00 AM	25	85	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	85	110
4:00 AM	63	145	208	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63	145	208
5:00 AM	138	147	285	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	138	147	285
6:00 AM	197	242	439	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	197	242	439
7:00 AM	280	431	711	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	280	431	711
8:00 AM	435	546	981	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	435	546	981
9:00 AM	316	343	659	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	316	343	659
10:00 AM	322	378	700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	322	378	700
11:00 AM	357	370	727	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	357	370	727
12:00 PM	435	406	841	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	435	406	841
1:00 PM	500	431	931	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500	431	931
2:00 PM	582	619	1,201	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	582	619	1,201
3:00 PM	596	519	1,115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	596	519	1,115
4:00 PM	733	524	1,257	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	733	524	1,257
5:00 PM	675	498	1,173	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	675	498	1,173
6:00 PM	464	449	913	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	464	449	913
7:00 PM	236	221	457	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	236	221	457
8:00 PM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
9:00 PM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
10:00 PM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
11:00 PM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
Total	6,471	6,495	12,966	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,471	6,495	12,966
Percent	50%	50%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50%	50%	
AM Peak	08:00	08:00	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	08:00	08:00	08:00
Vol.	435	546	981	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	435	546	981
PM Peak	16:00	14:00	16:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16:00	14:00	16:00
Vol.	733	619	1,257	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	733	619	1,257

1. Mid-week average includes data between Tuesday and Thursday.

Location: 10 - Main St, Between David Avenue and Rendon Avenue
Date Range: 9/28/2023 - 10/4/2023
Site Code:

Time	Thursday 9/28/2023			Friday 9/29/2023			Saturday 9/30/2023			Sunday 10/1/2023			Monday 10/2/2023			Tuesday 10/3/2023			Wednesday 10/4/2023			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	42	64	106	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	64	106
1:00 AM	36	36	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	36	72
2:00 AM	36	42	78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	42	78
3:00 AM	33	81	114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	81	114
4:00 AM	57	143	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57	143	200
5:00 AM	143	157	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	143	157	300
6:00 AM	204	236	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	204	236	440
7:00 AM	283	426	709	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	283	426	709
8:00 AM	395	550	945	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	395	550	945
9:00 AM	273	355	628	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	273	355	628
10:00 AM	305	394	699	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	305	394	699
11:00 AM	336	396	732	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	336	396	732
12:00 PM	389	438	827	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	389	438	827
1:00 PM	476	435	911	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	476	435	911
2:00 PM	529	646	1,175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	529	646	1,175
3:00 PM	533	577	1,110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	533	577	1,110
4:00 PM	651	560	1,211	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	651	560	1,211
5:00 PM	614	503	1,117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	614	503	1,117
6:00 PM	430	432	862	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	430	432	862
7:00 PM	418	398	816	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	418	398	816
8:00 PM	280	283	563	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	280	283	563
9:00 PM	212	226	438	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	212	226	438
10:00 PM	129	119	248	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	129	119	248
11:00 PM	72	63	135	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	63	135
Total	6,876	7,560	14,436	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,876	7,560	14,436
Percent	48%	52%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48%	52%	
AM Peak	08:00	08:00	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	08:00	08:00	08:00
Vol.	395	550	945	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	395	550	945
PM Peak	16:00	14:00	16:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16:00	14:00	16:00
Vol.	651	646	1,211	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	651	646	1,211

1. Mid-week average includes data between Tuesday and Thursday.

Location: 11 - Main St, Between Golden Gate Avenue and Netherton Avenue
Date Range: 9/28/2023 - 10/4/2023
Site Code:

Time	Thursday 9/28/2023			Friday 9/29/2023			Saturday 9/30/2023			Sunday 10/1/2023			Monday 10/2/2023			Tuesday 10/3/2023			Wednesday 10/4/2023			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	39	44	83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	44	83
1:00 AM	30	34	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	34	64
2:00 AM	27	35	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	35	62
3:00 AM	20	71	91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	71	91
4:00 AM	35	104	139	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	104	139
5:00 AM	98	121	219	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	121	219
6:00 AM	167	185	352	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	167	185	352
7:00 AM	255	338	593	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	255	338	593
8:00 AM	365	445	810	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365	445	810
9:00 AM	247	287	534	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	247	287	534
10:00 AM	245	283	528	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	245	283	528
11:00 AM	289	295	584	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	289	295	584
12:00 PM	333	315	648	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	333	315	648
1:00 PM	394	342	736	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	394	342	736
2:00 PM	469	465	934	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	469	465	934
3:00 PM	436	405	841	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	436	405	841
4:00 PM	475	398	873	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	475	398	873
5:00 PM	476	375	851	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	476	375	851
6:00 PM	356	326	682	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	356	326	682
7:00 PM	345	308	653	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	345	308	653
8:00 PM	237	212	449	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	237	212	449
9:00 PM	185	163	348	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	185	163	348
10:00 PM	97	88	185	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	97	88	185
11:00 PM	70	55	125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	55	125
Total	5,690	5,694	11,384	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,690	5,694	11,384
Percent	50%	50%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50%	50%	
AM Peak	08:00	08:00	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	08:00	08:00	08:00
Vol.	365	445	810	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365	445	810
PM Peak	17:00	14:00	14:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17:00	14:00	14:00
Vol.	476	465	934	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	476	465	934

1. Mid-week average includes data between Tuesday and Thursday.

Location: Market St, Between Main Street and Wilson Way
Date Range: 4/3/2024 - 4/9/2024
Site Code: 04

Time	Wednesday 4/3/2024			Thursday 4/4/2024			Friday 4/5/2024			Saturday 4/6/2024			Sunday 4/7/2024			Monday 4/8/2024			Tuesday 4/9/2024			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	57	0	57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57	0	57
1:00 AM	35	0	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	0	35
2:00 AM	26	0	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	0	26
3:00 AM	23	0	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	0	23
4:00 AM	40	0	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	0	40
5:00 AM	62	0	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62	0	62
6:00 AM	109	0	109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	109	0	109
7:00 AM	212	0	212	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	212	0	212
8:00 AM	299	0	299	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	299	0	299
9:00 AM	236	0	236	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	236	0	236
10:00 AM	245	0	245	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	245	0	245
11:00 AM	259	0	259	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	259	0	259
12:00 PM	352	0	352	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	352	0	352
1:00 PM	372	0	372	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	372	0	372
2:00 PM	356	0	356	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	356	0	356
3:00 PM	425	0	425	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	425	0	425
4:00 PM	532	0	532	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	532	0	532
5:00 PM	501	0	501	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	501	0	501
6:00 PM	362	0	362	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	362	0	362
7:00 PM	295	0	295	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	295	0	295
8:00 PM	239	0	239	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	239	0	239
9:00 PM	188	0	188	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	188	0	188
10:00 PM	113	0	113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	113	0	113
11:00 PM	73	0	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	0	73
Total	5,411	-	5,411	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,411	-	5,411
Percent	100%	-		-	-		-	-		-	-		-	-		-	-		-	-		100%	-	
AM Peak	08:00	-	08:00	-	-		-	-		-	-		-	-		-	-		-	-		08:00	-	08:00
Vol.	299	-	299	-	-		-	-		-	-		-	-		-	-		-	-		299	-	299
PM Peak	16:00	-	16:00	-	-		-	-		-	-		-	-		-	-		-	-		16:00	-	16:00
Vol.	532	-	532	-	-		-	-		-	-		-	-		-	-		-	-		532	-	532

1. Mid-week average includes data between Tuesday and Thursday.

Location: Market St, Between Airport Way and Pilgrim Street
 Date Range: 4/3/2024 - 4/9/2024
 Site Code: 05

Time	Wednesday 4/3/2024			Thursday 4/4/2024			Friday 4/5/2024			Saturday 4/6/2024			Sunday 4/7/2024			Monday 4/8/2024			Tuesday 4/9/2024			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	5	0	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	0	5
1:00 AM	9	0	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	0	9
2:00 AM	5	0	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	0	5
3:00 AM	13	0	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	0	13
4:00 AM	18	0	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	0	18
5:00 AM	37	0	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	0	37
6:00 AM	40	0	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	0	40
7:00 AM	71	0	71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	0	71
8:00 AM	100	0	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	0	100
9:00 AM	79	0	79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79	0	79
10:00 AM	88	0	88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88	0	88
11:00 AM	107	0	107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	107	0	107
12:00 PM	161	0	161	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	161	0	161
1:00 PM	125	0	125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	125	0	125
2:00 PM	128	0	128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	128	0	128
3:00 PM	146	0	146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	146	0	146
4:00 PM	179	0	179	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	179	0	179
5:00 PM	166	0	166	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	166	0	166
6:00 PM	92	0	92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	92	0	92
7:00 PM	77	0	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	0	77
8:00 PM	53	0	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	0	53
9:00 PM	44	0	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	0	44
10:00 PM	31	0	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	0	31
11:00 PM	15	0	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	0	15
Total	1,789	-	1,789	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,789	-	1,789
Percent	100%	-		-	-		-	-		-	-		-	-		-	-		-	-		100%	-	
AM Peak	11:00	-	11:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11:00	-	11:00
Vol.	107	-	107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	107	-	107
PM Peak	16:00	-	16:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16:00	-	16:00
Vol.	179	-	179	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	179	-	179

1. Mid-week average includes data between Tuesday and Thursday.

Location: Market St, Between Union Street and Aurora Street
Date Range: 4/3/2024 - 4/9/2024
Site Code: 06

Time	Wednesday 4/3/2024			Thursday 4/4/2024			Friday 4/5/2024			Saturday 4/6/2024			Sunday 4/7/2024			Monday 4/8/2024			Tuesday 4/9/2024			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	5	0	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	0	5
1:00 AM	9	0	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	0	9
2:00 AM	5	0	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	0	5
3:00 AM	13	0	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	0	13
4:00 AM	18	0	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	0	18
5:00 AM	37	0	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	0	37
6:00 AM	40	0	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	0	40
7:00 AM	71	0	71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	0	71
8:00 AM	100	0	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	0	100
9:00 AM	79	0	79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79	0	79
10:00 AM	88	0	88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88	0	88
11:00 AM	107	0	107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	107	0	107
12:00 PM	161	0	161	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	161	0	161
1:00 PM	125	0	125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	125	0	125
2:00 PM	128	0	128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	128	0	128
3:00 PM	146	0	146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	146	0	146
4:00 PM	179	0	179	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	179	0	179
5:00 PM	166	0	166	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	166	0	166
6:00 PM	92	0	92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	92	0	92
7:00 PM	77	0	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	0	77
8:00 PM	53	0	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	0	53
9:00 PM	44	0	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	0	44
10:00 PM	31	0	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	0	31
11:00 PM	15	0	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	0	15
Total	1,789	-	1,789	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,789	-	1,789
Percent	100%	-		-	-		-	-		-	-		-	-		-	-		-	-		100%	-	
AM Peak	11:00	-	11:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11:00	-	11:00
Vol.	107	-	107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	107	-	107
PM Peak	16:00	-	16:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16:00	-	16:00
Vol.	179	-	179	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	179	-	179

1. Mid-week average includes data between Tuesday and Thursday.

Location: Market St, Between Stanislaus Street and California Street
Date Range: 4/3/2024 - 4/9/2024
Site Code: 07

Time	Wednesday 4/3/2024			Thursday 4/4/2024			Friday 4/5/2024			Saturday 4/6/2024			Sunday 4/7/2024			Monday 4/8/2024			Tuesday 4/9/2024			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	9	0	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	0	9
1:00 AM	5	0	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	0	5
2:00 AM	3	0	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0	3
3:00 AM	3	0	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0	3
4:00 AM	4	0	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0	4
5:00 AM	17	0	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	0	17
6:00 AM	20	0	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	0	20
7:00 AM	113	0	113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	113	0	113
8:00 AM	76	0	76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	0	76
9:00 AM	62	0	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62	0	62
10:00 AM	69	0	69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	69	0	69
11:00 AM	93	0	93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	93	0	93
12:00 PM	148	0	148	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	148	0	148
1:00 PM	116	0	116	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	116	0	116
2:00 PM	108	0	108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	108	0	108
3:00 PM	124	0	124	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	124	0	124
4:00 PM	134	0	134	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	134	0	134
5:00 PM	118	0	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	118	0	118
6:00 PM	44	0	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	0	44
7:00 PM	30	0	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	0	30
8:00 PM	20	0	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	0	20
9:00 PM	28	0	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	0	28
10:00 PM	12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	0	12
11:00 PM	6	0	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	0	6
Total	1,362	-	1,362	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,362	-	1,362
Percent	100%	-		-	-		-	-		-	-		-	-		-	-		-	-		100%	-	
AM Peak	07:00	-	07:00	-	-		-	-		-	-		-	-		-	-		-	-		07:00	-	07:00
Vol.	113	-	113	-	-		-	-		-	-		-	-		-	-		-	-		113	-	113
PM Peak	12:00	-	12:00	-	-		-	-		-	-		-	-		-	-		-	-		12:00	-	12:00
Vol.	148	-	148	-	-		-	-		-	-		-	-		-	-		-	-		148	-	148

1. Mid-week average includes data between Tuesday and Thursday.

Location: Market St, Between California Street and Sutter Street
 Date Range: 4/3/2024 - 4/9/2024
 Site Code: 08

Time	Wednesday 4/3/2024			Thursday 4/4/2024			Friday 4/5/2024			Saturday 4/6/2024			Sunday 4/7/2024			Monday 4/8/2024			Tuesday 4/9/2024			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	8	0	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	0	8
1:00 AM	4	0	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0	4
2:00 AM	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2
3:00 AM	5	0	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	0	5
4:00 AM	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2
5:00 AM	7	0	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	0	7
6:00 AM	13	0	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	0	13
7:00 AM	74	0	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74	0	74
8:00 AM	80	0	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	0	80
9:00 AM	81	0	81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81	0	81
10:00 AM	80	0	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	0	80
11:00 AM	98	0	98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	0	98
12:00 PM	140	0	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140	0	140
1:00 PM	125	0	125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	125	0	125
2:00 PM	99	0	99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	99	0	99
3:00 PM	129	0	129	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	129	0	129
4:00 PM	126	0	126	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	126	0	126
5:00 PM	116	0	116	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	116	0	116
6:00 PM	32	0	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	0	32
7:00 PM	28	0	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	0	28
8:00 PM	20	0	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	0	20
9:00 PM	19	0	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	0	19
10:00 PM	10	0	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	0	10
11:00 PM	5	0	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	0	5
Total	1,303	-	1,303	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,303	-	1,303
Percent	100%	-		-	-		-	-		-	-		-	-		-	-		-	-		100%	-	
AM Peak	11:00	-	11:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11:00	-	11:00
Vol.	98	-	98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	-	98
PM Peak	12:00	-	12:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12:00	-	12:00
Vol.	140	-	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140	-	140

1. Mid-week average includes data between Tuesday and Thursday.

Location: Market St, Between San Joaquin Street and Hunter Street
Date Range: 4/3/2024 - 4/9/2024
Site Code: 09

Time	Wednesday 4/3/2024			Thursday 4/4/2024			Friday 4/5/2024			Saturday 4/6/2024			Sunday 4/7/2024			Monday 4/8/2024			Tuesday 4/9/2024			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	9	0	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	0	9
1:00 AM	4	0	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0	4
2:00 AM	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2
3:00 AM	7	0	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	0	7
4:00 AM	4	0	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0	4
5:00 AM	14	0	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	0	14
6:00 AM	41	0	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	0	41
7:00 AM	181	0	181	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	181	0	181
8:00 AM	179	0	179	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	179	0	179
9:00 AM	161	0	161	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	161	0	161
10:00 AM	149	0	149	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	149	0	149
11:00 AM	174	0	174	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	174	0	174
12:00 PM	220	0	220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	220	0	220
1:00 PM	190	0	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	190	0	190
2:00 PM	158	0	158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	158	0	158
3:00 PM	169	0	169	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	169	0	169
4:00 PM	138	0	138	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	138	0	138
5:00 PM	99	0	99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	99	0	99
6:00 PM	55	0	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	0	55
7:00 PM	27	0	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	0	27
8:00 PM	12	0	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	0	12
9:00 PM	21	0	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	0	21
10:00 PM	8	0	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	0	8
11:00 PM	9	0	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	0	9
Total	2,031	-	2,031	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,031	-	2,031
Percent	100%	-		-	-		-	-		-	-		-	-		-	-		-	-		100%	-	
AM Peak	07:00	-	07:00	-	-		-	-		-	-		-	-		-	-		-	-		07:00	-	07:00
Vol.	181	-	181	-	-		-	-		-	-		-	-		-	-		-	-		181	-	181
PM Peak	12:00	-	12:00	-	-		-	-		-	-		-	-		-	-		-	-		12:00	-	12:00
Vol.	220	-	220	-	-		-	-		-	-		-	-		-	-		-	-		220	-	220

1. Mid-week average includes data between Tuesday and Thursday.

Location: Market St, Between El Dorado Street and Center Street
Date Range: 4/10/2024 - 4/16/2024
Site Code: 10

Time	Wednesday 4/10/2024			Thursday 4/11/2024			Friday 4/12/2024			Saturday 4/13/2024			Sunday 4/14/2024			Monday 4/15/2024			Tuesday 4/16/2024			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	11	0	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	0	11
1:00 AM	8	0	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	0	8
2:00 AM	8	0	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	0	8
3:00 AM	6	0	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	0	6
4:00 AM	5	0	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	0	5
5:00 AM	18	0	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	0	18
6:00 AM	62	0	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62	0	62
7:00 AM	148	0	148	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	148	0	148
8:00 AM	161	0	161	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	161	0	161
9:00 AM	108	0	108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	108	0	108
10:00 AM	122	0	122	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	122	0	122
11:00 AM	139	0	139	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	139	0	139
12:00 PM	164	0	164	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	164	0	164
1:00 PM	155	0	155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	155	0	155
2:00 PM	140	0	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140	0	140
3:00 PM	144	0	144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	144	0	144
4:00 PM	109	0	109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	109	0	109
5:00 PM	81	0	81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81	0	81
6:00 PM	59	0	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59	0	59
7:00 PM	59	0	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59	0	59
8:00 PM	30	0	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	0	30
9:00 PM	26	0	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	0	26
10:00 PM	21	0	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	0	21
11:00 PM	22	0	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	0	22
Total	1,806	-	1,806	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,806	-	1,806
Percent	100%	-		-	-		-	-		-	-		-	-		-	-		-	-		100%	-	
AM Peak	08:00	-	08:00	-	-		-	-		-	-		-	-		-	-		-	-		08:00	-	08:00
Vol.	161	-	161	-	-		-	-		-	-		-	-		-	-		-	-		161	-	161
PM Peak	12:00	-	12:00	-	-		-	-		-	-		-	-		-	-		-	-		12:00	-	12:00
Vol.	164	-	164	-	-		-	-		-	-		-	-		-	-		-	-		164	-	164

1. Mid-week average includes data between Tuesday and Thursday.

S Hunter St W Main St

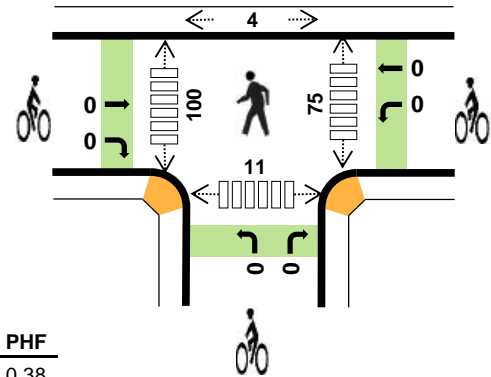
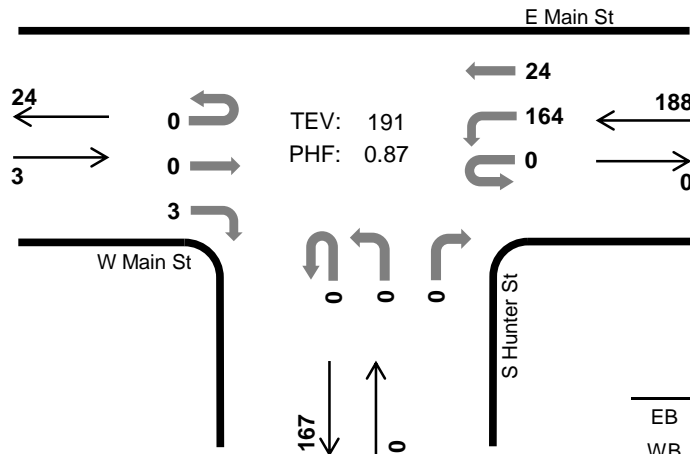


Peak Hour

Date: 04/03/2024

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	0.0%	0.38
WB	0.5%	0.87
NB	-	-
SB	-	-
TOTAL	0.5%	0.87

Two-Hour Count Summaries

Interval Start		W Main St				E Main St				S Hunter St				N/A				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	4	2	0	0	0	0	0	0	0	0	0	6	0
7:15 AM		0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	7	0
7:30 AM		0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	16	0
7:45 AM		0	0	0	0	0	33	3	0	0	0	0	0	0	0	0	0	36	65
8:00 AM		0	0	0	0	0	37	8	0	0	0	0	0	0	0	0	0	45	104
8:15 AM		0	0	0	1	0	44	10	0	0	0	0	0	0	0	0	0	55	152
8:30 AM		0	0	0	2	0	50	3	0	0	0	0	0	0	0	0	0	55	191
8:45 AM		0	0	0	0	0	23	3	0	0	0	0	0	0	0	0	0	26	181
Count Total		0	0	0	3	0	214	29	0	0	0	0	0	0	0	0	0	246	0
Peak Hour	All	0	0	0	3	0	164	24	0	0	0	0	0	0	0	0	0	191	0
	HV	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
	HV%	-	-	-	0%	-	0%	4%	-	-	-	-	-	-	-	-	-	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	2	0	0	2	0	0	0	0	0	3	6	0	4	13
7:15 AM	0	0	0	0	0	0	0	0	0	0	7	0	0	1	8
7:30 AM	0	0	0	0	0	0	0	0	0	0	40	13	0	2	55
7:45 AM	0	0	0	0	0	0	0	0	0	0	24	22	3	3	52
8:00 AM	0	1	0	0	1	0	0	0	0	0	15	30	0	3	48
8:15 AM	0	0	0	0	0	0	0	0	0	0	16	25	1	2	44
8:30 AM	0	0	0	0	0	0	0	0	0	0	20	23	0	3	46
8:45 AM	0	0	0	0	0	0	1	0	0	1	15	24	0	6	45
Count Total	0	3	0	0	3	0	1	0	0	1	140	143	4	24	311
Peak Hr	0	1	0	0	1	0	0	0	0	0	75	100	4	11	190

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	W Main St				E Main St				S Hunter St				N/A				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0
7:15 AM	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	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3	0
Peak Hour	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0

Two-Hour Count Summaries - Bikes

Interval Start	W Main St			E Main St			S Hunter St			N/A			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	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
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	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
8:15 AM	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
8:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	1
Count Total	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Hunter St W Main St

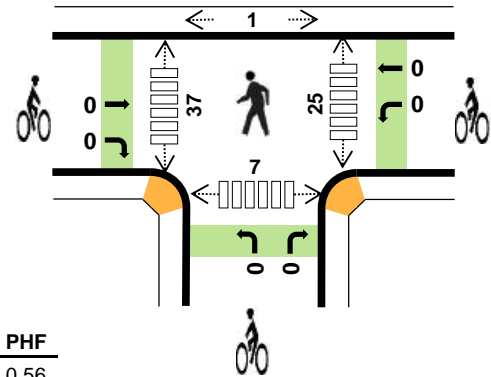
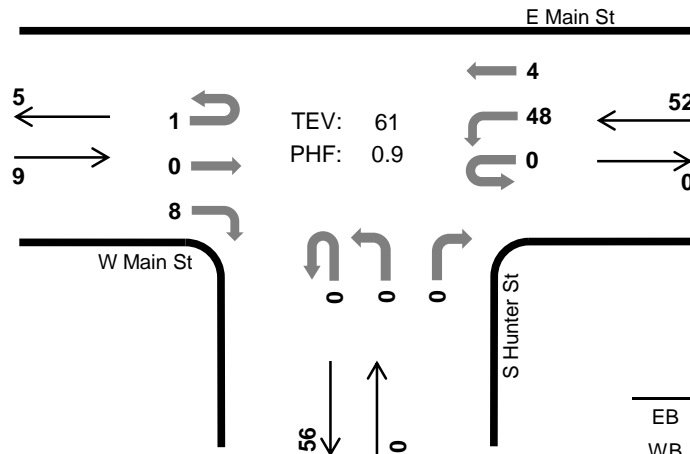


Peak Hour

Date: 04/03/2024

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	11.1%	0.56
WB	1.9%	0.81
NB	-	-
SB	-	-
TOTAL	3.3%	0.90

Two-Hour Count Summaries

Interval Start		W Main St				E Main St				S Hunter St				N/A				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	1	0	13	3	0	0	0	0	0	0	0	0	0	17	0
4:15 PM		1	0	0	3	0	12	1	0	0	0	0	0	0	0	0	0	17	0
4:30 PM		0	0	0	1	0	11	0	0	0	0	0	0	0	0	0	0	12	0
4:45 PM		0	0	0	3	0	12	0	0	0	0	0	0	0	0	0	0	15	61
5:00 PM		0	0	0	1	0	15	0	0	0	0	0	0	0	0	0	0	16	60
5:15 PM		0	0	0	2	0	5	0	0	0	0	0	0	0	0	0	0	7	50
5:30 PM		0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	40
5:45 PM		0	0	0	1	0	6	0	0	0	0	0	0	0	0	0	0	7	32
Count Total		1	0	0	13	0	75	4	0	0	0	0	0	0	0	0	0	93	0
Peak Hour	All	1	0	0	8	0	48	4	0	0	0	0	0	0	0	0	0	61	0
	HV	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	0
	HV%	0%	-	-	13%	-	0%	25%	-	-	-	-	-	-	-	-	-	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	6	12	1	0	19
4:15 PM	1	1	0	0	2	0	0	0	0	0	5	9	0	0	14
4:30 PM	0	0	0	0	0	0	0	0	0	0	7	8	0	2	17
4:45 PM	0	0	0	0	0	0	0	0	0	0	7	8	0	5	20
5:00 PM	0	0	0	0	0	0	0	0	0	0	7	8	0	6	21
5:15 PM	0	0	0	0	0	0	0	0	0	0	6	3	1	8	18
5:30 PM	0	0	0	0	0	0	0	0	0	0	2	1	0	3	6
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	11	0	11	23
Count Total	1	1	0	0	2	0	0	0	0	0	41	60	2	35	138
Peak Hr	1	1	0	0	2	0	0	0	0	0	25	37	1	7	70

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	W Main St				E Main St				S Hunter St				N/A				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	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	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	0
Peak Hour	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	0

Two-Hour Count Summaries - Bikes

Interval Start	W Main St			E Main St			S Hunter St			N/A			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	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
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S San Joaquin St E Main St

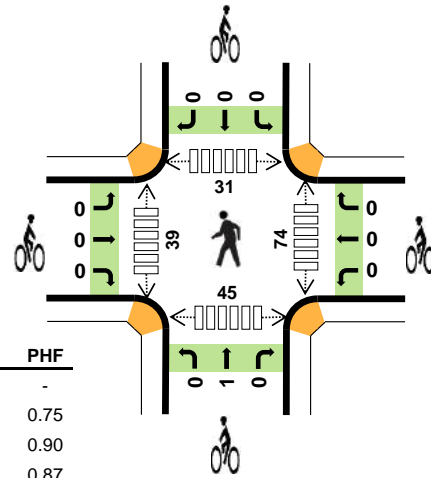
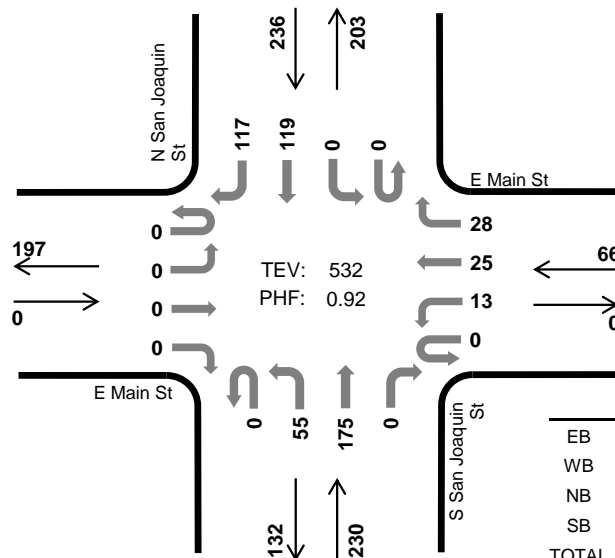


Peak Hour

Date: 04/03/2024

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	-	-
WB	1.5%	0.75
NB	2.6%	0.90
SB	1.7%	0.87
TOTAL	2.1%	0.92

Two-Hour Count Summaries

Interval Start		E Main St				E Main St				S San Joaquin St				N San Joaquin St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	2	0	2	0	8	12	0	0	0	9	2	35	0
7:15 AM		0	0	0	0	0	4	2	2	0	1	40	0	0	0	16	6	71	0
7:30 AM		0	0	0	0	0	1	6	3	0	3	25	0	0	0	28	12	78	0
7:45 AM		0	0	0	0	0	2	6	4	0	10	52	0	0	0	35	24	133	317
8:00 AM		0	0	0	0	0	1	8	5	0	9	44	0	0	0	35	33	135	417
8:15 AM		0	0	0	0	0	6	4	8	0	21	43	0	0	0	31	31	144	490
8:30 AM		0	0	0	0	0	4	7	11	0	15	36	0	0	0	18	29	120	532
8:45 AM		0	0	0	0	0	3	6	8	0	11	32	0	0	0	14	7	81	480
Count Total		0	0	0	0	0	23	39	43	0	78	284	0	0	0	186	144	797	0
Peak Hour	All	0	0	0	0	0	13	25	28	0	55	175	0	0	0	119	117	532	0
	HV	0	0	0	0	0	0	1	0	0	1	5	0	0	0	4	0	11	0
	HV%	-	-	-	-	-	0%	4%	0%	-	2%	3%	-	-	-	3%	0%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	3	1	4	0	0	0	0	0	3	4	1	4	12
7:15 AM	0	0	1	1	2	0	0	0	0	0	14	6	1	3	24
7:30 AM	0	1	0	2	3	0	0	1	0	1	8	6	5	4	23
7:45 AM	0	0	1	0	1	0	0	0	0	0	19	7	4	5	35
8:00 AM	0	1	3	1	5	0	0	0	0	0	14	5	1	9	29
8:15 AM	0	0	2	2	4	0	0	1	0	1	25	14	22	17	78
8:30 AM	0	0	0	1	1	0	0	0	0	0	16	13	4	14	47
8:45 AM	0	0	1	0	1	0	1	0	0	1	19	10	9	17	55
Count Total	0	2	11	8	21	0	1	2	0	3	118	65	47	73	303
Peak Hour	0	1	6	4	11	0	0	1	0	1	74	39	31	45	189

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Main St				E Main St				S San Joaquin St				N San Joaquin St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	2	1	0	0	0	1	0	4	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0
7:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	3	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	10
8:00 AM	0	0	0	0	0	0	1	0	0	1	2	0	0	0	1	0	5	11
8:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	4	13
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	11
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	11
Count Total	0	0	0	0	0	0	2	0	0	3	8	0	0	0	8	0	21	0
Peak Hour	0	0	0	0	0	0	1	0	0	1	5	0	0	0	4	0	11	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Main St			E Main St			S San Joaquin St			N San Joaquin St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	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			
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	2			
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
8:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	2			
Count Total	0	0	0	0	1	0	0	2	0	0	0	0	3	0			
Peak Hour	0	0	0	0	0	0	0	1	0	0	0	0	1	0			

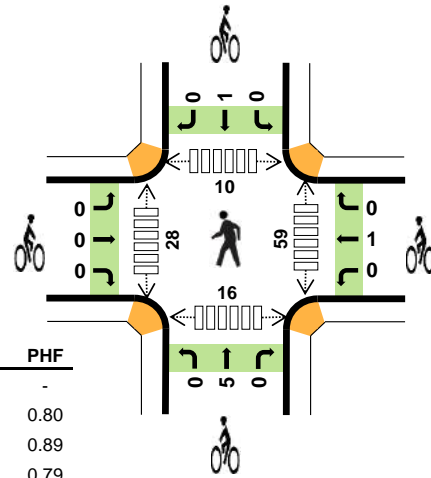
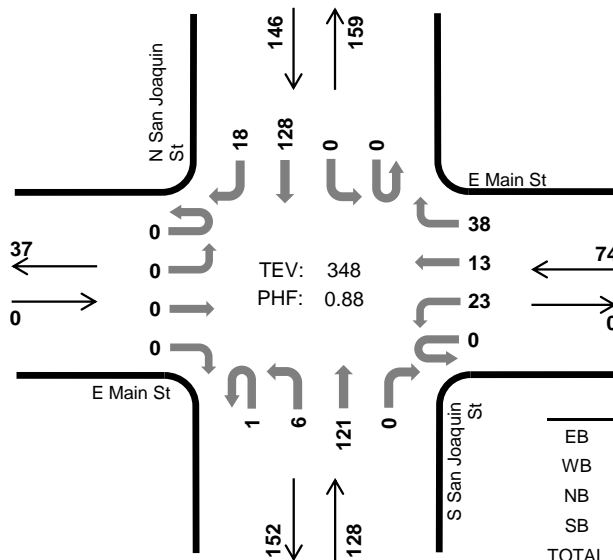
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S San Joaquin St E Main St



Peak Hour

Date: 04/03/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	-	-
WB	0.0%	0.80
NB	2.3%	0.89
SB	2.1%	0.79
TOTAL	1.7%	0.88

Two-Hour Count Summaries

Interval Start		E Main St				E Main St				S San Joaquin St				N San Joaquin St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	3	3	5	0	5	39	0	0	0	33	6	94	0
4:15 PM		0	0	0	0	0	7	3	13	0	1	28	0	0	0	32	4	88	0
4:30 PM		0	0	0	0	0	3	4	11	0	0	28	0	0	0	36	4	86	0
4:45 PM		0	0	0	0	0	7	3	6	1	1	33	0	0	0	19	5	75	343
5:00 PM		0	0	0	0	0	6	3	8	0	4	32	0	0	0	41	5	99	348
5:15 PM		0	0	0	0	0	6	2	4	0	2	25	0	0	0	28	1	68	328
5:30 PM		0	0	0	0	0	0	1	4	0	2	13	0	0	0	21	0	41	283
5:45 PM		0	0	0	0	0	3	4	2	0	1	17	0	0	0	14	0	41	249
Count Total		0	0	0	0	0	35	23	53	1	16	215	0	0	0	224	25	592	0
Peak Hour	All	0	0	0	0	0	23	13	38	1	6	121	0	0	0	128	18	348	0
	HV	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	6	0
	HV%	-	-	-	-	-	0%	0%	0%	0%	0%	2%	-	-	-	2%	0%	2%	0

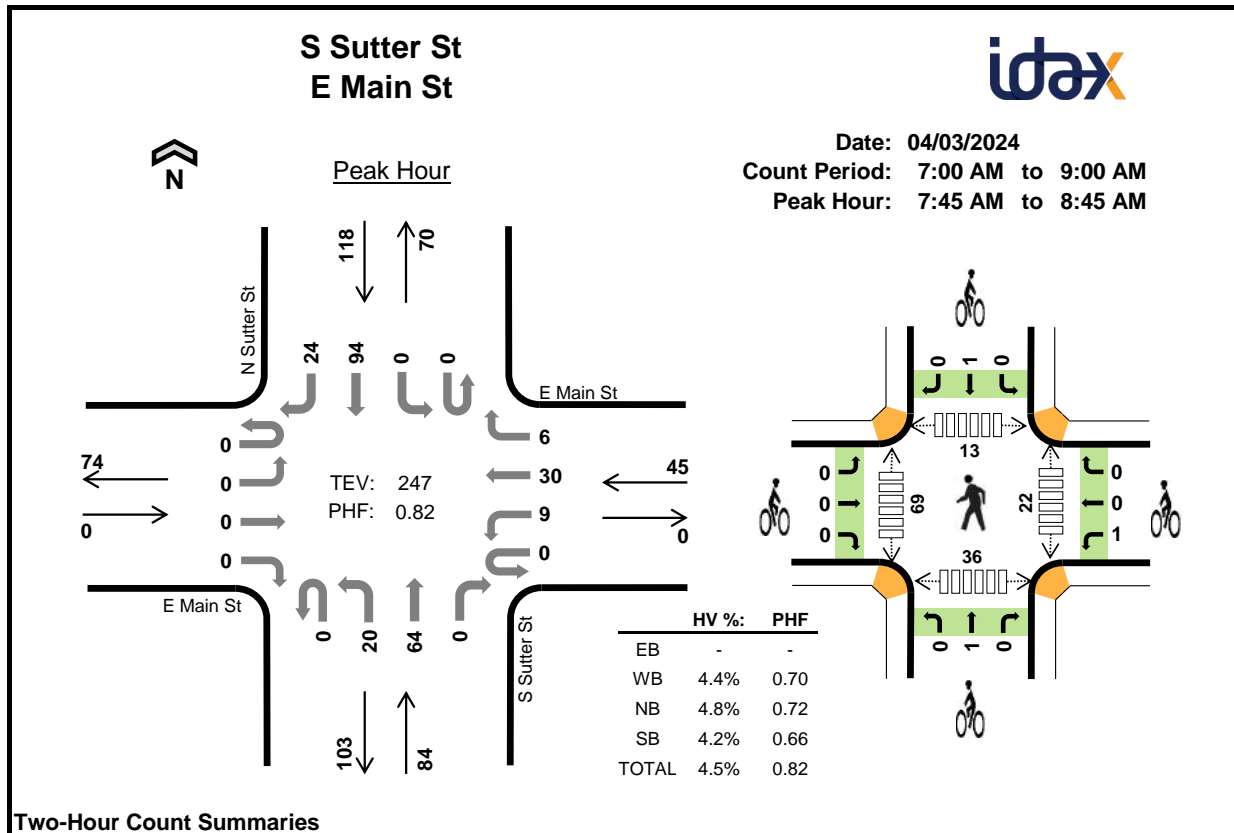
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	1	1	0	2	0	0	0	0	0	17	6	6	10	39
4:15 PM	0	0	2	1	3	0	0	1	1	2	10	9	3	1	23
4:30 PM	0	0	0	1	1	0	0	3	0	3	23	7	2	2	34
4:45 PM	0	0	1	0	1	0	0	0	0	0	11	6	1	4	22
5:00 PM	0	0	0	1	1	0	1	1	0	2	15	6	4	9	34
5:15 PM	0	0	1	0	1	0	0	1	0	1	5	4	1	4	14
5:30 PM	0	0	1	0	1	0	0	1	1	2	2	7	1	4	14
5:45 PM	0	0	1	1	2	0	0	0	0	0	1	4	2	11	18
Count Total	0	1	7	4	12	0	1	7	2	10	84	49	20	45	198
Peak Hour	0	0	3	3	6	0	1	5	1	7	59	28	10	16	113

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Main St				E Main St				S San Joaquin St				N San Joaquin St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	7
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	6
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	5
Count Total	0	0	0	0	0	0	1	0	0	0	7	0	0	0	4	0	12	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	6	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Main St			E Main St			S San Joaquin St			N San Joaquin St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	0			
4:30 PM	0	0	0	0	0	0	0	3	0	0	0	0	3	0			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5			
5:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	2	7			
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	6			
5:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	5			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5			
Count Total	0	0	0	0	1	0	0	7	0	0	2	0	10	0			
Peak Hour	0	0	0	0	1	0	0	5	0	0	1	0	7	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Main St				E Main St				S Sutter St				N Sutter St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	1	1	0	0	4	4	0	0	0	10	2	22	0
7:15 AM		0	0	0	0	0	5	2	1	0	2	11	0	0	0	15	4	40	0
7:30 AM		0	0	0	0	0	6	7	1	0	1	15	0	0	0	20	2	52	0
7:45 AM		0	0	0	0	0	3	6	1	0	5	24	0	0	0	33	3	75	189
8:00 AM		0	0	0	0	0	2	4	1	0	6	12	0	0	0	36	9	70	237
8:15 AM		0	0	0	0	0	2	12	2	0	3	13	0	0	0	10	3	45	242
8:30 AM		0	0	0	0	0	2	8	2	0	6	15	0	0	0	15	9	57	247
8:45 AM		0	0	0	0	0	3	8	1	0	5	14	0	0	0	16	7	54	226
Count Total		0	0	0	0	0	24	48	9	0	32	108	0	0	0	155	39	415	0
Peak Hour	All	0	0	0	0	0	9	30	6	0	20	64	0	0	0	94	24	247	0
	HV	0	0	0	0	0	1	1	0	0	0	4	0	0	0	5	0	11	0
	HV%	-	-	-	-	-	11%	3%	0%	-	0%	6%	-	-	-	5%	0%	4%	0

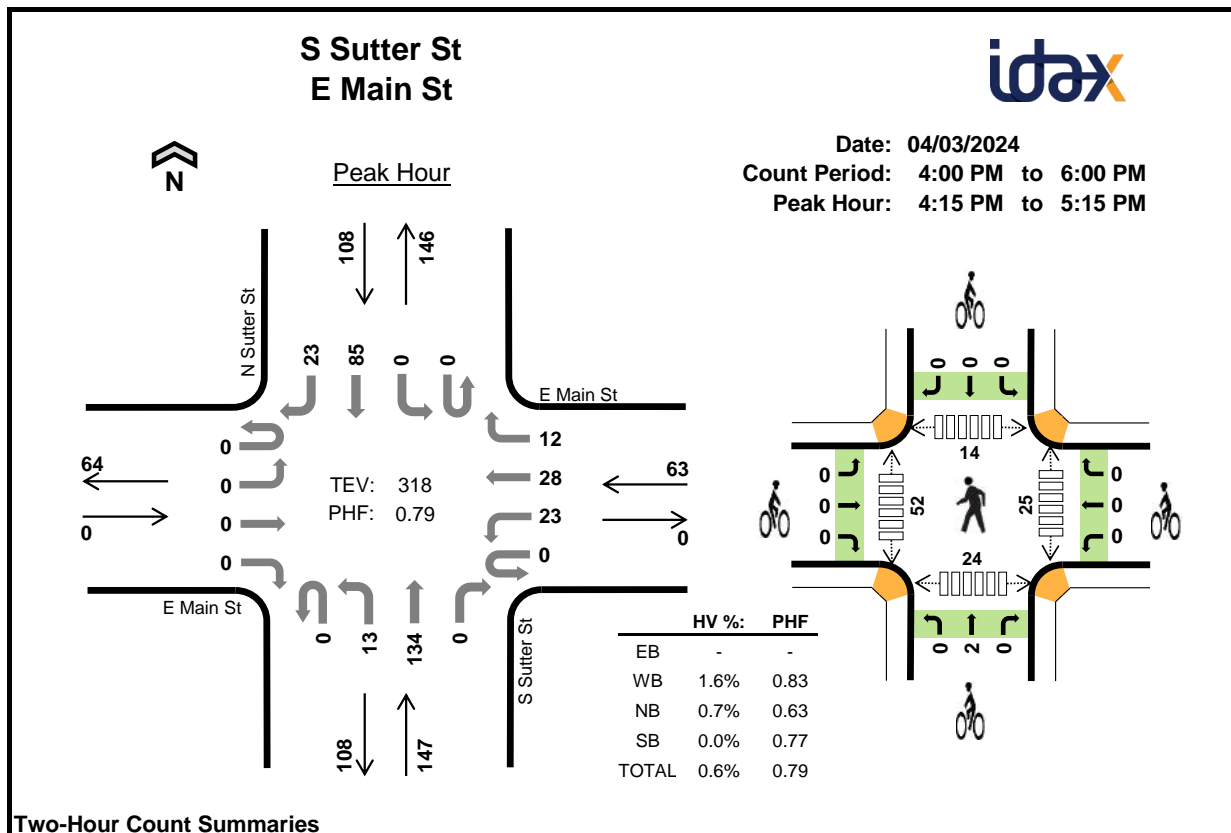
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	0	1	0	0	0	0	0	2	8	1	3	14
7:15 AM	0	0	0	1	1	0	0	0	0	0	3	6	1	4	14
7:30 AM	0	1	1	0	2	0	0	1	0	1	6	8	0	7	21
7:45 AM	0	2	2	2	6	0	0	0	0	0	5	11	1	9	26
8:00 AM	0	0	0	1	1	0	0	0	1	1	5	14	1	6	26
8:15 AM	0	0	1	1	2	0	1	1	0	2	5	31	7	11	54
8:30 AM	0	0	1	1	2	0	0	0	0	0	7	13	4	10	34
8:45 AM	0	0	1	0	1	0	0	0	0	0	1	14	4	20	39
Count Total	0	3	7	6	16	0	1	2	1	4	34	105	19	70	228
Peak Hour	0	2	4	5	11	0	1	1	1	3	22	69	13	36	140

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Main St				E Main St				S Sutter St				N Sutter St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:30 AM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2	0
7:45 AM	0	0	0	0	0	1	1	0	0	0	0	2	0	0	0	2	6	10
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	10
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	11
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	11
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	6
Count Total	0	0	0	0	0	2	1	0	0	0	7	0	0	0	6	0	16	0
Peak Hour	0	0	0	0	0	1	1	0	0	0	4	0	0	0	5	0	11	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Main St			E Main St			S Sutter St			N Sutter St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	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		
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2		
8:15 AM	0	0	0	1	0	0	0	1	0	0	0	0	2	0	4		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3		
Count Total	0	0	0	1	0	0	0	2	0	0	1	0	4	0	0		
Peak Hour	0	0	0	1	0	0	0	1	0	0	1	0	3	0	0		

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Main St				E Main St				S Sutter St				N Sutter St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	4:00 PM	0	0	0	0	0	2	4	4	0	3	22	0	1	0	14	4	54	0
	4:15 PM	0	0	0	0	0	6	6	1	0	1	21	0	0	0	20	15	70	0
	4:30 PM	0	0	0	0	0	6	9	1	0	2	37	0	0	0	21	4	80	0
	4:45 PM	0	0	0	0	0	5	8	6	0	5	23	0	0	0	18	2	67	271
	5:00 PM	0	0	0	0	0	6	5	4	0	5	53	0	0	0	26	2	101	318
	5:15 PM	0	0	0	0	0	2	8	5	0	2	22	0	1	0	26	1	67	315
	5:30 PM	0	0	0	0	0	2	3	2	0	3	34	0	0	0	10	0	54	289
	5:45 PM	0	0	0	0	0	2	7	1	0	2	16	0	0	0	12	1	41	263
Count Total		0	0	0	0	0	31	50	24	0	23	228	0	2	0	147	29	534	0
Peak Hour	All	0	0	0	0	0	23	28	12	0	13	134	0	0	0	85	23	318	0
	HV	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2	0
	HV%	-	-	-	-	-	4%	0%	0%	-	0%	1%	-	-	-	0%	0%	1%	0

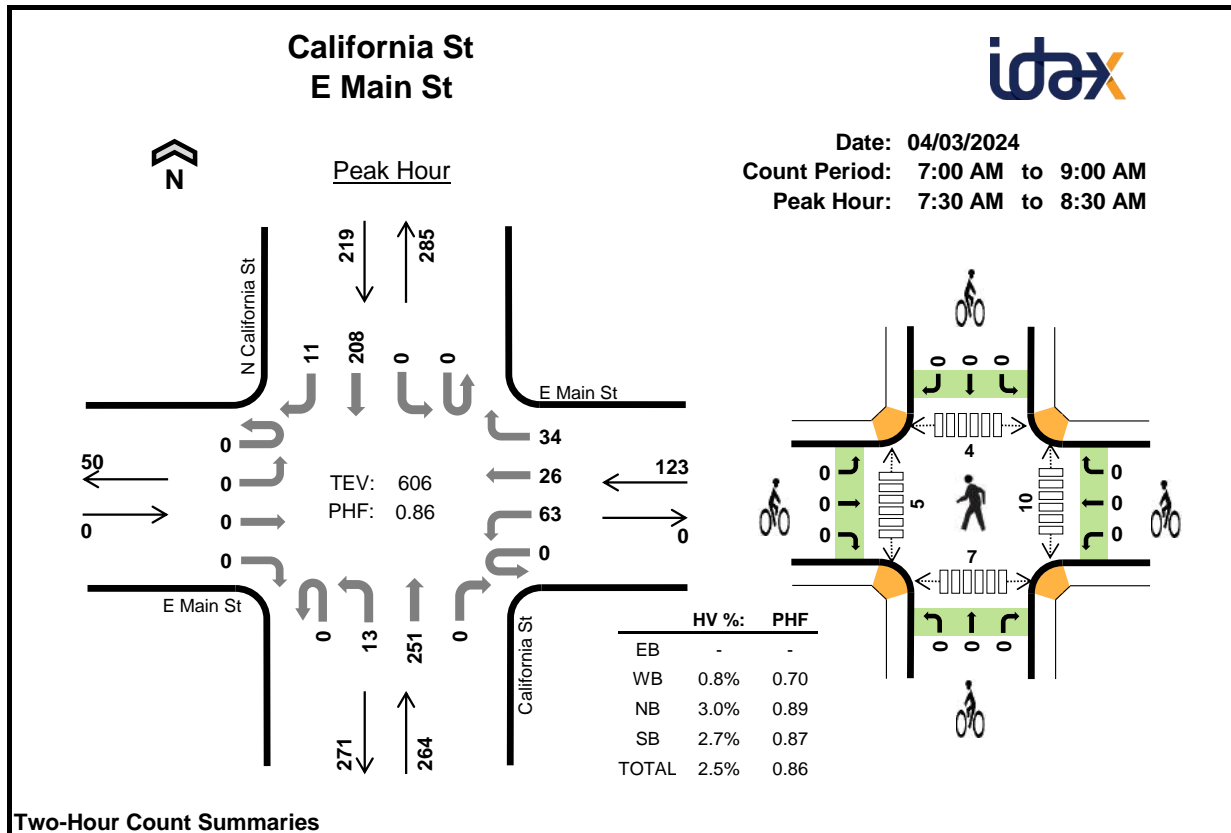
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	1	1	0	0	0	0	0	2	10	0	4	16
4:15 PM	0	1	0	0	1	0	0	1	0	1	6	13	5	5	29
4:30 PM	0	0	1	0	1	0	0	0	0	0	12	11	3	8	34
4:45 PM	0	0	0	0	0	0	0	0	0	0	4	22	1	7	34
5:00 PM	0	0	0	0	0	0	0	1	0	1	3	6	5	4	18
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	9	0	7	17
5:30 PM	0	0	0	0	0	0	0	0	0	0	2	10	1	2	15
5:45 PM	0	0	1	0	1	0	0	0	0	0	4	1	2	2	9
Count Total	0	1	2	1	4	0	0	2	0	2	34	82	17	39	172
Peak Hour	0	1	1	0	2	0	0	2	0	2	25	52	14	24	115

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	E Main St				E Main St				S Sutter St				N Sutter St				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	2
5:15 PM	0	0	0	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
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
Count Total	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	1	4	0
Peak Hour	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Main St			E Main St			S Sutter St			N Sutter St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0		
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	2	0		
5:15 PM	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	1		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Count Total	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0		
Peak Hour	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0		

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Main St				E Main St				California St				N California St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	0	1	1	0	0	26	0	0	0	34	2	64	0
7:15 AM		0	0	0	0	0	3	4	0	0	2	37	0	0	0	40	3	89	0
7:30 AM		0	0	0	0	0	11	8	8	0	4	51	0	0	0	47	2	131	0
7:45 AM		0	0	0	0	0	23	4	17	0	0	70	0	0	0	58	5	177	461
8:00 AM		0	0	0	0	0	23	5	8	0	2	72	0	0	0	45	4	159	556
8:15 AM		0	0	0	0	0	6	9	1	0	7	58	0	0	0	58	0	139	606
8:30 AM		0	0	0	0	0	6	10	4	0	0	55	0	0	0	44	2	121	596
8:45 AM		0	0	0	0	0	5	9	5	0	2	44	0	0	0	32	1	98	517
Count Total		0	0	0	0	0	77	50	44	0	17	413	0	0	0	358	19	978	0
Peak Hour	All	0	0	0	0	0	63	26	34	0	13	251	0	0	0	208	11	606	0
	HV	0	0	0	0	0	1	0	0	0	1	7	0	0	0	4	2	15	0
	HV%	-	-	-	-	-	2%	0%	0%	-	8%	3%	-	-	-	2%	18%	2%	0

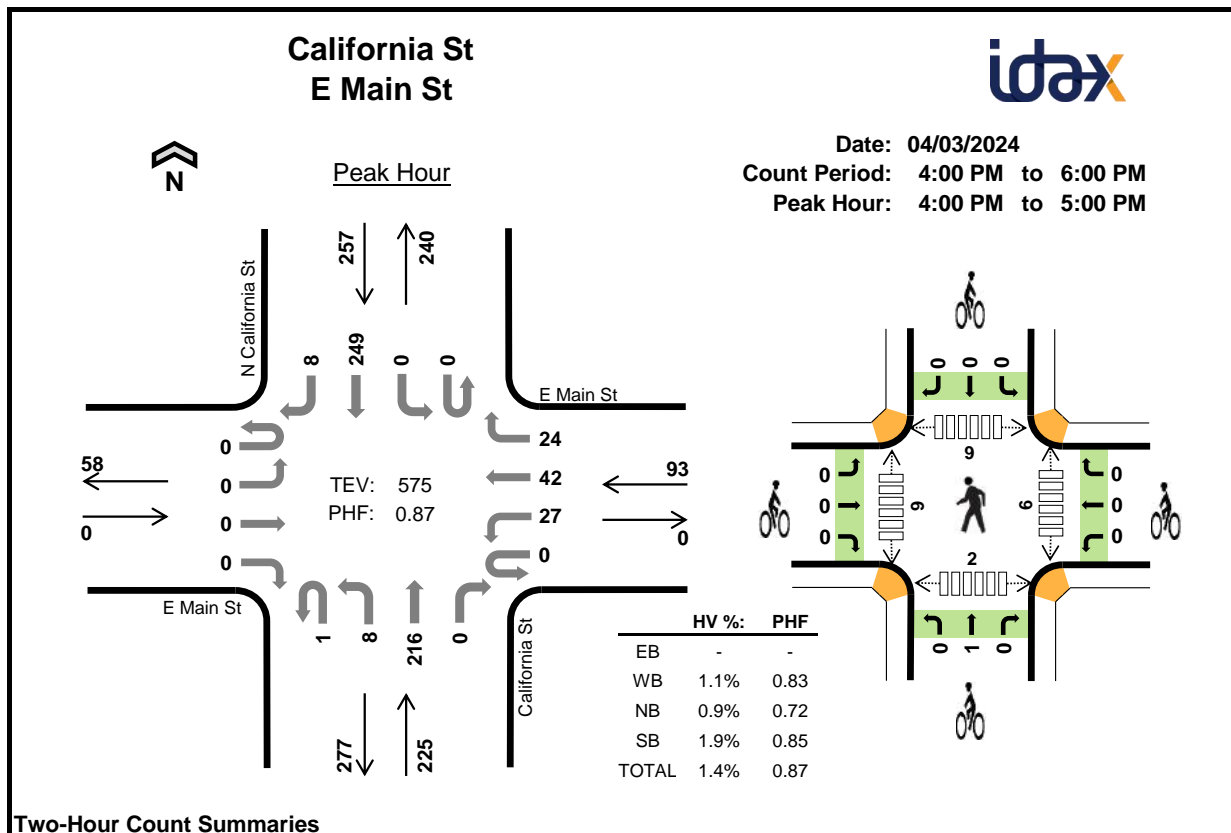
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	0	1	0	0	0	0	0	4	2	0	0	6
7:15 AM	0	0	2	0	2	0	0	0	0	0	4	1	0	0	5
7:30 AM	0	0	4	1	5	0	0	0	0	0	3	2	2	1	8
7:45 AM	0	0	3	5	8	0	0	0	0	0	4	2	0	0	6
8:00 AM	0	1	1	0	2	0	0	0	0	0	3	1	2	4	10
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
8:30 AM	0	0	4	1	5	0	0	0	0	0	2	1	2	0	5
8:45 AM	0	0	0	3	3	0	0	0	0	0	3	0	2	0	5
Count Total	0	1	15	10	26	0	0	0	0	0	23	9	8	7	47
Peak Hour	0	1	8	6	15	0	0	0	0	0	10	5	4	7	26

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	E Main St				E Main St				California St				N California St				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	
7:30 AM	0	0	0	0	0	0	0	0	0	1	3	0	0	0	1	0	5	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	2	8	16	
8:00 AM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2	17	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	
8:30 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	5	15	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	10	
Count Total	0	0	0	0	0	1	0	0	0	0	1	14	0	0	0	8	2	26	0
Peak Hour	0	0	0	0	0	1	0	0	0	0	1	7	0	0	0	4	2	15	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Main St			E Main St			California St			N California St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	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	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	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	
8:15 AM	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	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Main St				E Main St				California St				N California St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	7	10	6	0	0	43	0	0	0	76	0	142	0
4:15 PM		0	0	0	0	0	8	10	4	0	1	49	0	0	0	58	2	132	0
4:30 PM		0	0	0	0	0	6	13	9	1	3	74	0	0	0	59	0	165	0
4:45 PM		0	0	0	0	0	6	9	5	0	4	50	0	0	0	56	6	136	575
5:00 PM		0	0	0	0	0	5	5	2	1	2	43	0	0	0	72	2	132	565
5:15 PM		0	0	0	0	0	5	9	0	0	2	52	0	0	0	54	6	128	561
5:30 PM		0	0	0	0	0	3	4	6	0	1	38	0	0	0	37	1	90	486
5:45 PM		0	0	0	0	0	1	10	2	0	0	30	0	0	0	36	1	80	430
Count Total		0	0	0	0	0	41	70	34	2	13	379	0	0	0	448	18	1,005	0
Peak Hour	All	0	0	0	0	0	27	42	24	1	8	216	0	0	0	249	8	575	0
	HV	0	0	0	0	0	0	1	0	0	0	2	0	0	0	5	0	8	0
	HV%	-	-	-	-	-	0%	2%	0%	0%	0%	1%	-	-	-	2%	0%	1%	0

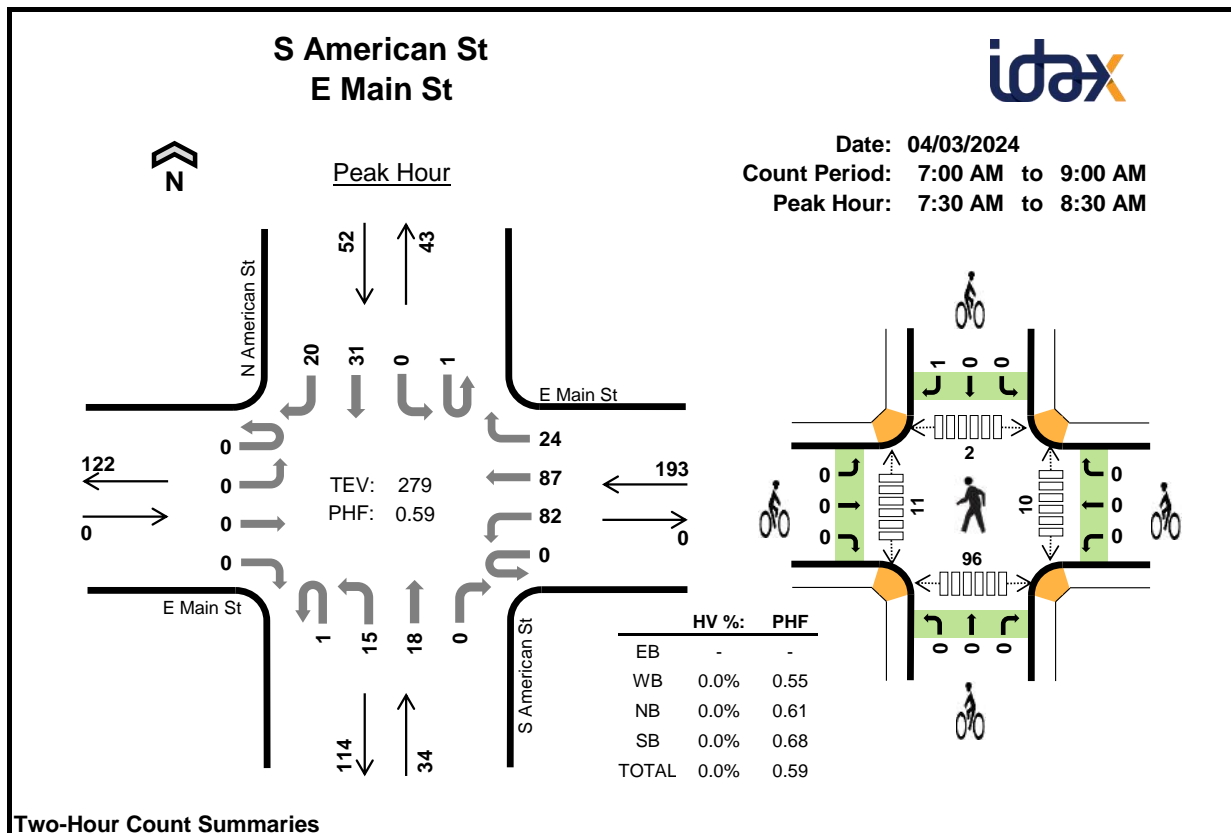
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	1	1	0	0	0	0	0	0	1	0	1	2
4:15 PM	0	1	1	1	3	0	0	1	0	1	4	2	0	1	7
4:30 PM	0	0	1	3	4	0	0	0	0	0	1	2	4	0	7
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	4	5	0	10
5:00 PM	0	0	0	2	2	0	0	0	0	0	1	3	0	0	4
5:15 PM	0	0	0	1	1	0	0	0	0	0	0	3	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3
5:45 PM	0	0	1	0	1	0	0	0	0	0	2	0	0	0	2
Count Total	0	1	3	8	12	0	0	1	0	1	9	17	10	2	38
Peak Hour	0	1	2	5	8	0	0	1	0	1	6	9	9	2	26

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	E Main St				E Main St				California St				N California St				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	3	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	9	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	7	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	4	0
Count Total	0	0	0	0	0	0	1	0	0	0	3	0	0	0	8	0	12	0	0
Peak Hour	0	0	0	0	0	0	1	0	0	0	2	0	0	0	5	0	8	0	0

Two-Hour Count Summaries - Bikes																			
Interval Start	E Main St			E Main St			California St			N California St			15-min Total	Rolling One Hour					
	Eastbound			Westbound			Northbound			Southbound									
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT							
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
5:15 PM	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	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
Peak Hour	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Main St				E Main St				S American St				N American St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	1	1	3	0	0	1	0	0	0	1	0	7	0
7:15 AM		0	0	0	0	0	6	7	3	0	0	0	0	0	0	5	1	22	0
7:30 AM		0	0	0	0	0	23	17	6	0	0	4	0	0	0	11	8	69	0
7:45 AM		0	0	0	0	0	44	34	9	0	10	4	0	1	0	13	4	119	217
8:00 AM		0	0	0	0	0	13	20	6	1	4	7	0	0	0	4	8	63	273
8:15 AM		0	0	0	0	0	2	16	3	0	1	3	0	0	0	3	0	28	279
8:30 AM		0	0	0	0	0	6	23	5	0	0	0	0	1	0	0	0	35	245
8:45 AM		0	0	0	0	0	1	15	7	0	0	0	0	2	0	3	4	32	158
Count Total		0	0	0	0	0	96	133	42	1	15	19	0	4	0	40	25	375	0
Peak Hour	All	0	0	0	0	0	82	87	24	1	15	18	0	1	0	31	20	279	0
	HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HV%	-	-	-	-	-	0%	0%	0%	0%	0%	0%	-	0%	-	0%	0%	0%	0

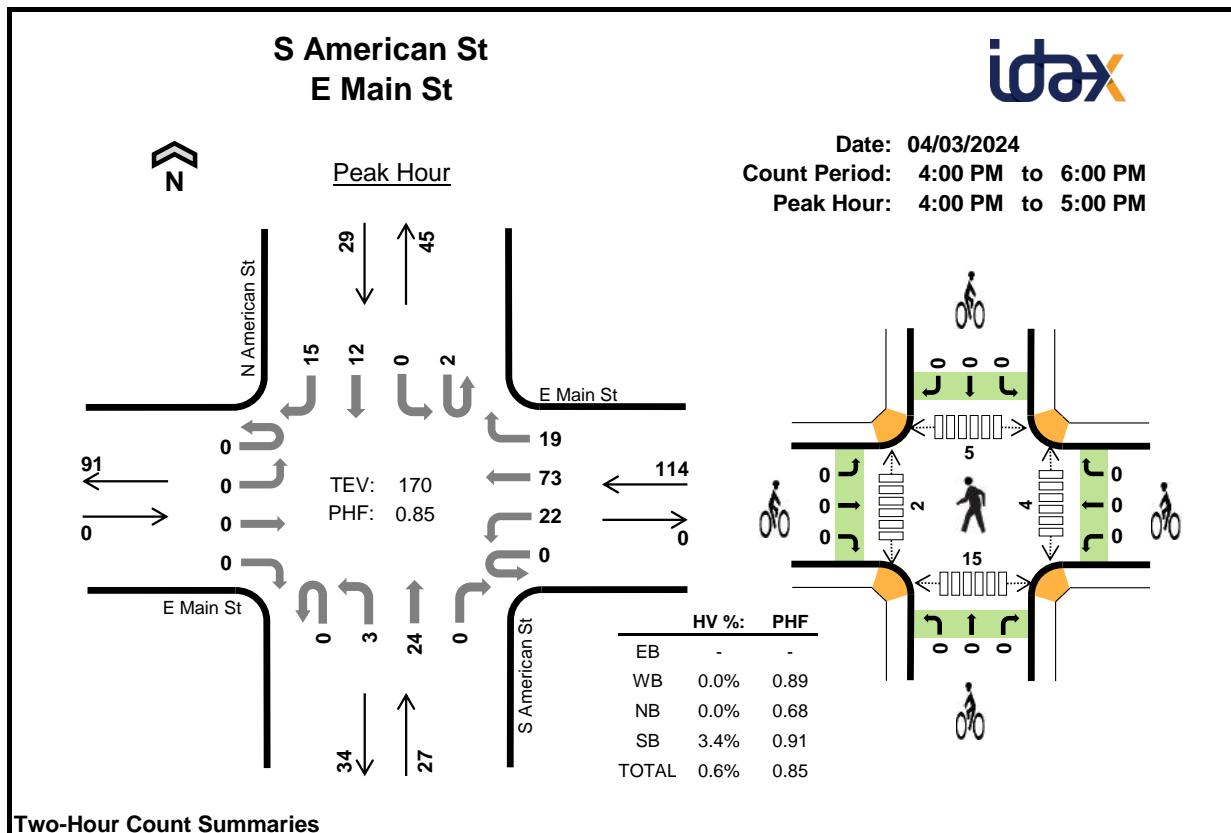
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	3	5
7:15 AM	0	0	0	0	0	0	0	0	0	0	5	3	0	6	14
7:30 AM	0	0	0	0	0	0	0	0	0	0	4	1	0	27	32
7:45 AM	0	0	0	0	0	0	0	0	0	0	4	6	2	47	59
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	15	19
8:15 AM	0	0	0	0	0	0	0	0	1	1	2	0	0	7	9
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	2	24	28
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	4	1	2	8
Count Total	0	0	0	0	0	0	0	0	1	1	17	20	6	131	174
Peak Hour	0	0	0	0	0	0	0	0	1	1	10	11	2	96	119

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Main St				E Main St				S American St				N American St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	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	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Two-Hour Count Summaries - Bikes																	
Interval Start	E Main St			E Main St			S American St			N American St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	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			
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 AM	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			
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	1			
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
Count Total	0	0	0	0	0	0	0	0	0	0	0	1	1	0			
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	1	1	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Main St				E Main St				S American St				N American St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	6	17	9	0	1	9	0	1	0	3	4	50	0
4:15 PM		0	0	0	0	0	5	19	4	0	1	3	0	0	0	3	2	37	0
4:30 PM		0	0	0	0	0	5	21	3	0	0	4	0	1	0	3	4	41	0
4:45 PM		0	0	0	0	0	6	16	3	0	1	8	0	0	0	3	5	42	170
5:00 PM		0	0	0	0	0	9	8	1	0	2	6	0	0	0	7	4	37	157
5:15 PM		0	0	0	0	0	5	8	1	0	1	3	0	0	0	3	4	25	145
5:30 PM		0	0	0	0	0	3	8	3	1	1	2	0	0	0	6	2	26	130
5:45 PM		0	0	0	0	0	3	11	2	0	1	1	0	0	0	1	0	19	107
Count Total		0	0	0	0	0	42	108	26	1	8	36	0	2	0	29	25	277	0
Peak Hour	All	0	0	0	0	0	22	73	19	0	3	24	0	2	0	12	15	170	0
	HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
	HV%	-	-	-	-	-	0%	0%	0%	-	0%	0%	-	0%	-	0%	7%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	1	0	4	7
4:15 PM	0	0	0	1	1	0	0	0	0	0	2	0	3	3	8
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	2	6	9
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:15 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	4	5
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	2	4
Count Total	0	1	0	1	2	0	0	0	0	0	7	2	7	21	37
Peak Hour	0	0	0	1	1	0	0	0	0	0	4	2	5	15	26

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Main St				E Main St				S American St				N American St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
5:15 PM	0	0	0	0	0	1	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	1	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Count Total	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2	
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	

Two-Hour Count Summaries - Bikes																	
Interval Start	E Main St			E Main St			S American St			N American St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:00 PM	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		
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Stanislaus St E Main St

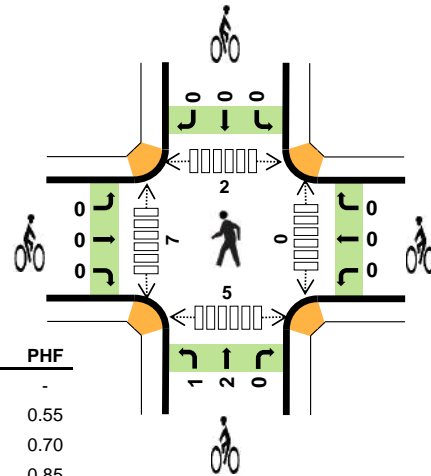
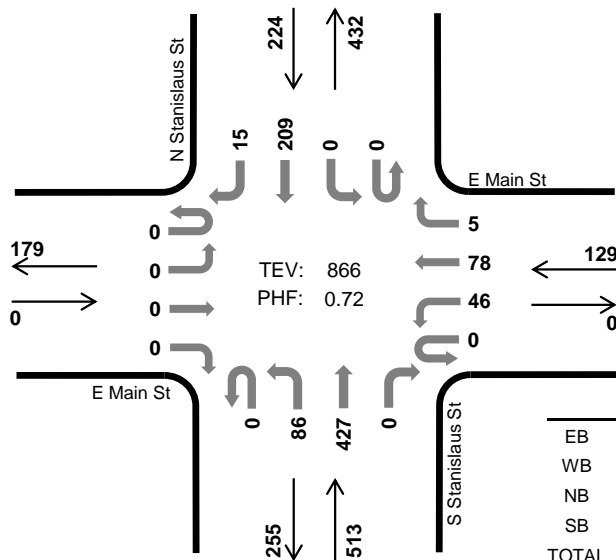


Peak Hour

Date: 04/03/2024

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	-	-
WB	3.1%	0.55
NB	1.9%	0.70
SB	5.4%	0.85
TOTAL	3.0%	0.72

Two-Hour Count Summaries

Interval Start		E Main St				E Main St				S Stanislaus St				N Stanislaus St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	2	2	0	0	4	33	0	0	0	19	2	62	0
7:15 AM		0	0	0	0	0	3	9	0	0	12	65	0	0	0	29	1	119	0
7:30 AM		0	0	0	0	0	9	16	3	0	34	91	0	0	0	37	5	195	0
7:45 AM		0	0	0	0	0	19	39	1	0	48	134	0	0	0	51	7	299	675
8:00 AM		0	0	0	0	0	9	13	3	0	17	108	0	0	0	40	4	194	807
8:15 AM		0	0	0	0	0	7	10	1	0	8	94	0	0	0	55	1	176	864
8:30 AM		0	0	0	0	0	11	16	0	0	13	91	0	0	0	63	3	197	866
8:45 AM		0	0	0	0	0	6	11	3	0	11	69	0	0	0	40	1	141	708
Count Total		0	0	0	0	0	66	116	11	0	147	685	0	0	0	334	24	1,383	0
Peak Hour	All	0	0	0	0	0	46	78	5	0	86	427	0	0	0	209	15	866	0
	HV	0	0	0	0	0	4	0	0	0	0	10	0	0	0	12	0	26	0
	HV%	-	-	-	-	-	9%	0%	0%	-	0%	2%	-	-	-	6%	0%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	1	1	4	6	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	3	1	4	0	0	1	0	1	0	0	0	1	1
7:30 AM	0	1	4	1	6	0	1	0	1	2	0	3	1	1	5
7:45 AM	0	2	2	1	5	0	0	0	0	0	0	3	0	0	3
8:00 AM	0	1	1	5	7	0	0	1	0	1	0	1	0	0	1
8:15 AM	0	1	0	1	2	0	0	1	0	1	0	3	2	1	6
8:30 AM	0	0	7	5	12	0	0	1	0	1	0	0	0	4	4
8:45 AM	0	0	2	2	4	0	0	0	0	0	0	2	1	5	8
Count Total	0	6	20	20	46	0	1	4	1	6	0	12	4	12	28
Peak Hour	0	4	10	12	26	0	0	3	0	3	0	7	2	5	14

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	E Main St				E Main St				S Stanislaus St				N Stanislaus St				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	4	0	6	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	4	0
7:30 AM	0	0	0	0	0	1	0	0	0	0	0	4	0	0	0	1	0	6	0
7:45 AM	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	1	0	5	21
8:00 AM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	5	0	7	22
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	20
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	5	0	12	26
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	4	25
Count Total	0	0	0	0	0	6	0	0	0	0	0	20	0	0	0	20	0	46	0
Peak Hour	0	0	0	0	0	4	0	0	0	0	0	10	0	0	0	12	0	26	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Main St			E Main St			S Stanislaus St			N Stanislaus St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
7:30 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	2	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	4	0
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	4	0
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	3	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
Count Total	0	0	0	1	0	0	1	3	0	0	0	1	0	6	0	0	0
Peak Hour	0	0	0	0	0	0	1	2	0	0	0	0	0	3	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Stanislaus St E Main St

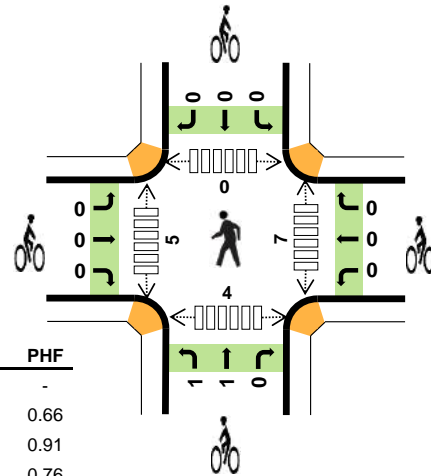
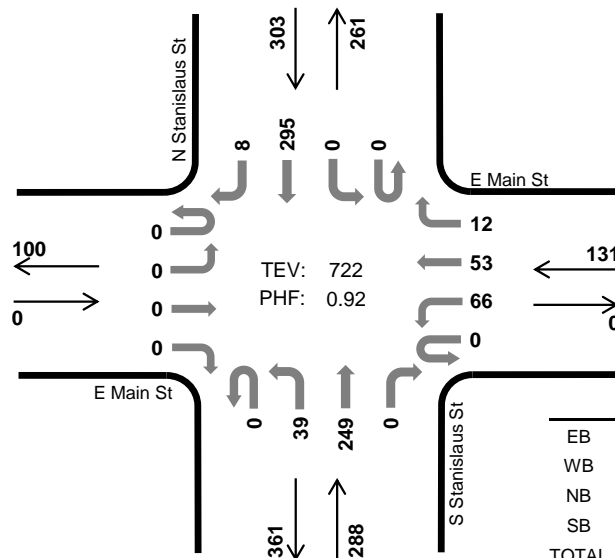


Peak Hour

Date: 04/03/2024

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	-	-
WB	0.8%	0.66
NB	2.1%	0.91
SB	1.3%	0.76
TOTAL	1.5%	0.92

Two-Hour Count Summaries

Interval Start		E Main St				E Main St				S Stanislaus St				N Stanislaus St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	11	17	3	0	14	78	0	0	0	54	3	180	0
4:15 PM		0	0	0	0	0	26	19	5	0	8	68	0	0	0	49	3	178	0
4:30 PM		0	0	0	0	0	19	12	5	0	10	55	0	0	0	77	3	181	0
4:45 PM		0	0	0	0	0	11	14	2	0	10	58	0	0	0	69	2	166	705
5:00 PM		0	0	0	0	0	10	8	0	0	11	68	0	0	0	100	0	197	722
5:15 PM		0	0	0	0	0	8	7	3	0	5	34	0	0	0	72	2	131	675
5:30 PM		0	0	0	0	0	9	5	2	0	9	60	0	0	0	49	2	136	630
5:45 PM		0	0	0	0	0	37	6	9	0	9	35	0	0	0	48	2	146	610
Count Total		0	0	0	0	0	131	88	29	0	76	456	0	0	0	518	17	1,315	0
Peak Hour	All	0	0	0	0	0	66	53	12	0	39	249	0	0	0	295	8	722	0
	HV	0	0	0	0	0	1	0	0	0	0	6	0	0	0	4	0	11	0
	HV%	-	-	-	-	-	2%	0%	0%	-	0%	2%	-	-	-	1%	0%	2%	0

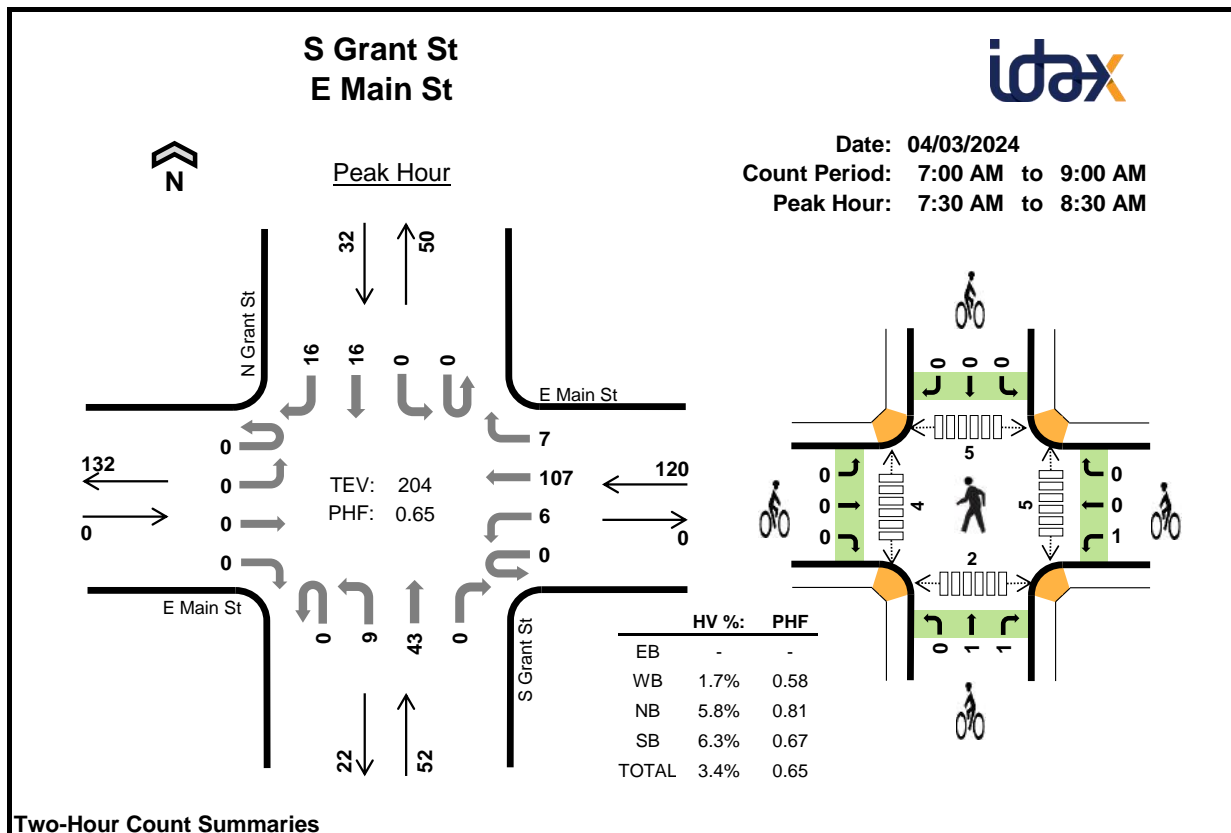
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	2	1	3	0	0	1	0	1	3	0	0	2	5
4:15 PM	0	0	2	1	3	0	0	0	0	0	4	0	0	3	7
4:30 PM	0	1	1	2	4	0	0	1	0	1	2	0	0	0	2
4:45 PM	0	0	3	0	3	0	0	0	0	0	1	1	0	0	2
5:00 PM	0	0	0	1	1	0	0	1	0	1	0	4	0	1	5
5:15 PM	0	0	2	1	3	0	0	0	0	0	0	2	0	3	5
5:30 PM	0	0	1	1	2	0	2	0	0	2	1	0	2	2	5
5:45 PM	0	0	2	0	2	0	0	0	0	0	0	0	1	0	1
Count Total	0	1	13	7	21	0	2	3	0	5	11	7	3	11	32
Peak Hour	0	1	6	4	11	0	0	2	0	2	7	5	0	4	16

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Main St				E Main St				S Stanislaus St				N Stanislaus St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
4:30 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2	0	4	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	13
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	11
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	11
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	9
5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	8
Count Total	0	0	0	0	0	1	0	0	0	0	13	0	0	0	7	0	21	0
Peak Hour	0	0	0	0	0	1	0	0	0	0	6	0	0	0	4	0	11	0

Two-Hour Count Summaries - Bikes																		
Interval Start	E Main St			E Main St			S Stanislaus St			N Stanislaus St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0				
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0				
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	2				
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
5:30 PM	0	0	0	1	0	1	0	0	0	0	0	0	2	3				
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3				
Count Total	0	0	0	1	0	1	1	2	0	0	0	0	5	0				
Peak Hour	0	0	0	0	0	0	1	1	0	0	0	0	2	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Main St				E Main St				S Grant St				N Grant St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	7:00 AM	0	0	0	0	0	0	2	0	0	0	5	0	0	0	2	2	11	0
	7:15 AM	0	0	0	0	0	1	11	0	0	1	3	0	0	0	2	1	19	0
	7:30 AM	0	0	0	0	0	0	24	1	0	3	9	0	0	0	1	3	41	0
	7:45 AM	0	0	0	0	0	0	50	2	0	1	13	0	0	0	6	6	78	149
	8:00 AM	0	0	0	0	0	4	19	1	0	2	14	0	0	0	4	3	47	185
	8:15 AM	0	0	0	0	0	2	14	3	0	3	7	0	0	0	5	4	38	204
	8:30 AM	0	0	0	0	0	4	22	4	0	1	3	0	0	0	4	3	41	204
	8:45 AM	0	0	0	0	0	2	15	1	0	2	6	0	0	0	1	1	28	154
Count Total		0	0	0	0	0	13	157	12	0	13	60	0	0	0	25	23	303	0
Peak Hour	All	0	0	0	0	0	6	107	7	0	9	43	0	0	0	16	16	204	0
	HV	0	0	0	0	0	0	2	0	0	1	2	0	0	0	1	1	7	0
	HV%	-	-	-	-	-	0%	2%	0%	-	11%	5%	-	-	-	6%	6%	3%	0

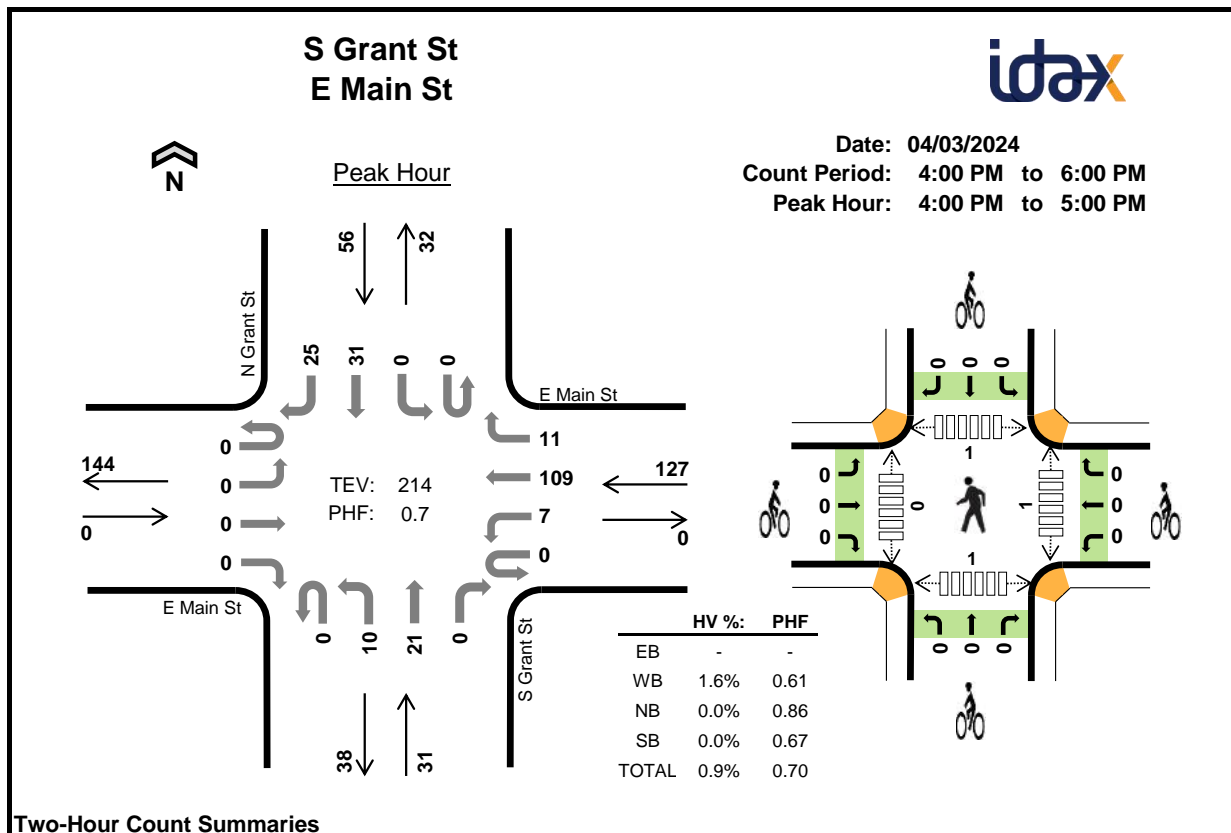
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	1	1	0	2	0	0	1	0	1	0	0	1	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7:30 AM	0	0	2	0	2	0	0	0	0	0	1	2	1	0	4
7:45 AM	0	2	0	1	3	0	0	0	0	0	0	1	1	0	2
8:00 AM	0	0	0	0	0	0	0	1	0	1	2	1	1	2	6
8:15 AM	0	0	1	1	2	0	1	1	0	2	2	0	2	0	4
8:30 AM	0	0	1	0	1	0	0	1	0	1	1	0	1	1	3
8:45 AM	0	0	0	0	0	0	0	0	1	1	1	0	0	1	2
Count Total	0	3	5	2	10	0	1	4	1	6	7	4	7	5	23
Peak Hour	0	2	3	2	7	0	1	2	0	3	5	4	5	2	16

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Main St				E Main St				S Grant St				N Grant St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0
7:15 AM	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	1	1	0	0	0	0	0	2	0
7:45 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	3	7
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	7
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	6
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Count Total	0	0	0	0	0	0	3	0	0	1	4	0	0	0	1	1	10	0
Peak Hour	0	0	0	0	0	0	2	0	0	1	2	0	0	0	1	1	7	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Main St			E Main St			S Grant St			N Grant St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	1	0			
7:15 AM	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	0	0	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	1			
8:15 AM	0	0	0	1	0	0	0	0	1	0	0	0	2	3			
8:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	4			
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	5			
Count Total	0	0	0	1	0	0	1	1	2	0	1	0	6	0			
Peak Hour	0	0	0	1	0	0	0	1	1	0	0	0	3	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Main St				E Main St				S Grant St				N Grant St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	4:00 PM	0	0	0	0	0	0	25	2	0	1	8	0	0	0	6	4	46	0
	4:15 PM	0	0	0	0	0	4	43	5	0	5	4	0	0	0	9	6	76	0
	4:30 PM	0	0	0	0	0	1	20	2	0	4	5	0	0	0	12	9	53	0
	4:45 PM	0	0	0	0	0	2	21	2	0	0	4	0	0	0	4	6	39	214
	5:00 PM	0	0	0	0	0	1	14	3	0	2	4	0	0	0	8	2	34	202
	5:15 PM	0	0	0	0	0	0	13	3	0	2	0	1	1	0	3	2	25	151
	5:30 PM	0	0	0	0	0	3	16	2	0	0	3	0	0	0	4	2	30	128
	5:45 PM	0	0	0	0	0	1	49	3	0	0	3	0	0	0	3	4	63	152
Count Total		0	0	0	0	0	12	201	22	0	14	31	1	1	0	49	35	366	0
Peak Hour	All	0	0	0	0	0	7	109	11	0	10	21	0	0	0	31	25	214	0
	HV	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	0
	HV%	-	-	-	-	-	0%	1%	9%	-	0%	0%	-	-	-	0%	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	1	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
5:00 PM	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	2	1	1	4
5:30 PM	0	0	1	0	1	0	0	2	1	3	0	0	0	38	38
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10
Count Total	0	2	1	0	3	0	0	2	1	3	1	2	2	50	55
Peak Hour	0	2	0	0	2	0	0	0	0	0	1	0	1	1	3

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Main St				E Main St				S Grant St				N Grant St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
4:15 PM	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	1	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	3	0
Peak Hour	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Main St			E Main St			S Grant St			N Grant St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:00 PM	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			
5:30 PM	0	0	0	0	0	0	1	1	0	0	0	1	3	3			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3			
Count Total	0	0	0	0	0	0	1	1	0	0	0	1	3	0			
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

N Aurora St E Main St

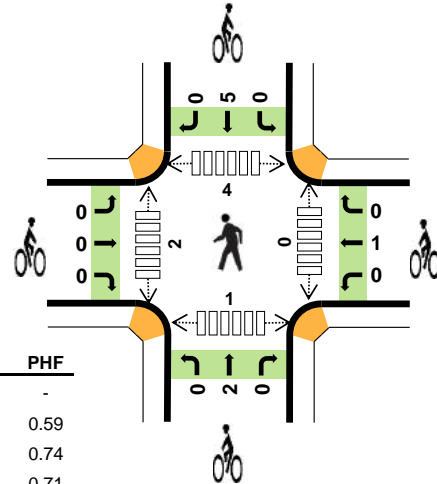
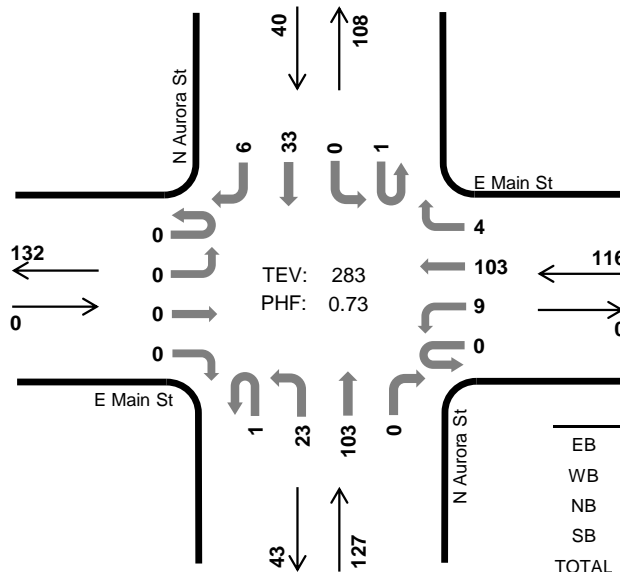


Peak Hour

Date: 09/28/2023

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	-	-
WB	2.6%	0.59
NB	3.1%	0.74
SB	5.0%	0.71
TOTAL	3.2%	0.73

Two-Hour Count Summaries

Interval Start		E Main St				E Main St				N Aurora St				N Aurora St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	2	6	2	0	1	9	0	0	0	4	0	24	0
7:15 AM		0	0	0	0	0	0	12	0	0	1	15	0	0	0	6	1	35	0
7:30 AM		0	0	0	0	0	2	14	0	0	2	19	0	0	0	7	3	47	0
7:45 AM		0	0	0	0	0	3	43	3	0	11	32	0	0	0	5	0	97	203
8:00 AM		0	0	0	0	0	2	32	1	0	3	19	0	0	0	13	1	71	250
8:15 AM		0	0	0	0	0	1	14	0	0	3	26	0	0	0	7	3	54	269
8:30 AM		0	0	0	0	0	3	14	0	1	6	26	0	1	0	8	2	61	283
8:45 AM		0	0	0	0	0	3	20	0	0	3	16	0	1	0	6	2	51	237
Count Total		0	0	0	0	0	16	155	6	1	30	162	0	2	0	56	12	440	0
Peak Hour	All	0	0	0	0	0	9	103	4	1	23	103	0	1	0	33	6	283	0
	HV	0	0	0	0	0	1	2	0	0	3	1	0	0	0	2	0	9	0
	HV%	-	-	-	-	-	11%	2%	0%	0%	13%	1%	-	0%	-	6%	0%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	0	1	0	0	1	3	4	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
7:45 AM	0	0	1	0	1	0	1	2	3	6	0	0	1	0	1
8:00 AM	0	2	2	2	6	0	0	0	0	0	0	0	1	0	1
8:15 AM	0	1	0	0	1	0	0	0	1	1	0	1	1	1	3
8:30 AM	0	0	1	0	1	0	0	0	1	1	0	1	1	0	2
8:45 AM	0	0	0	0	0	0	0	0	1	1	0	1	0	0	1
Count Total	0	3	5	2	10	0	1	3	9	13	0	3	4	5	12
Peak Hour	0	3	4	2	9	0	1	2	5	8	0	2	4	1	7

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Main St				E Main St				N Aurora St				N Aurora St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
8:00 AM	0	0	0	0	0	1	1	0	0	1	1	0	0	0	2	0	6	
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	1	2	0	0	3	2	0	0	0	2	0	10	
Peak Hour	0	0	0	0	0	1	2	0	0	3	1	0	0	0	2	0	9	

Two-Hour Count Summaries - Bikes																	
Interval Start	E Main St			E Main St			N Aurora St			N Aurora St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:15 AM	0	0	0	0	0	0	0	1	0	0	3	0	4	0			
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 AM	0	0	0	0	1	0	0	2	0	0	3	0	6	10			
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	10			
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	7			
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	8			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	3			
Count Total	0	0	0	0	1	0	0	3	0	0	8	1	13	0			
Peak Hour	0	0	0	0	1	0	0	2	0	0	5	0	8	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

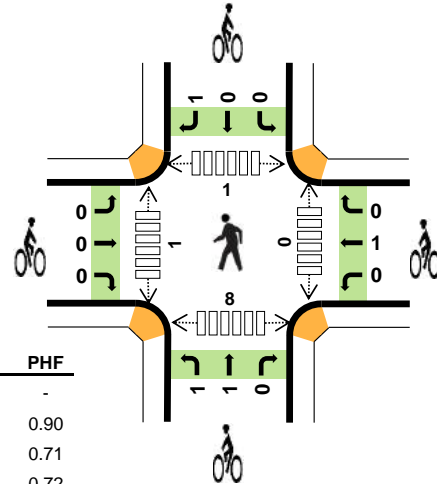
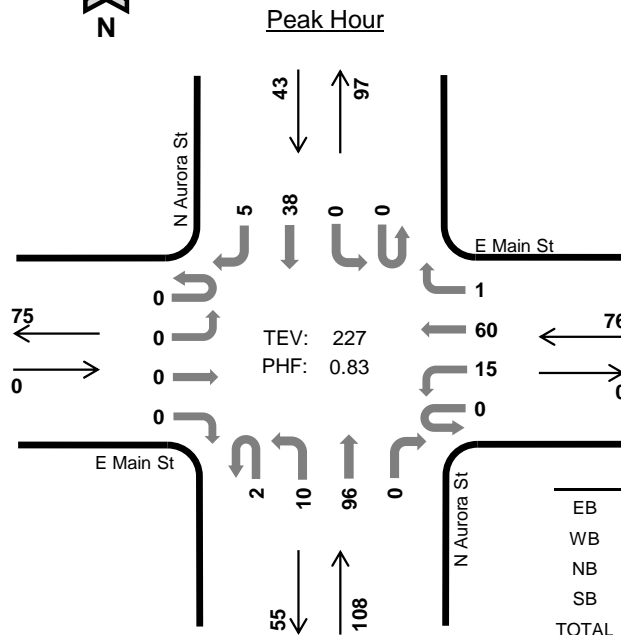
N Aurora St E Main St



Date: 09/28/2023

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	-	-
WB	1.3%	0.90
NB	0.9%	0.71
SB	4.7%	0.72
TOTAL	1.8%	0.83

Two-Hour Count Summaries

Interval Start		E Main St				E Main St				N Aurora St				N Aurora St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	4	16	1	1	4	31	0	0	0	5	2	64	0
4:15 PM		0	0	0	0	0	2	17	0	0	1	26	0	0	0	12	3	61	0
4:30 PM		0	0	0	0	0	4	17	0	0	2	18	0	0	0	11	1	53	0
4:45 PM		0	0	0	0	0	0	16	0	0	3	20	0	0	0	5	1	45	223
5:00 PM		0	0	0	0	0	9	10	1	2	4	32	0	0	0	10	0	68	227
5:15 PM		0	0	0	0	0	3	14	0	0	1	12	0	0	0	7	1	38	204
5:30 PM		0	0	0	0	0	6	6	1	0	3	17	0	0	0	7	1	41	192
5:45 PM		0	0	0	0	0	3	36	5	1	2	21	0	1	0	6	2	77	224
Count Total		0	0	0	0	0	31	132	8	4	20	177	0	1	0	63	11	447	0
Peak Hour	All	0	0	0	0	0	15	60	1	2	10	96	0	0	0	38	5	227	0
	HV	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2	0	4	0
	HV%	-	-	-	-	-	0%	2%	0%	0%	0%	1%	-	-	-	5%	0%	2%	0

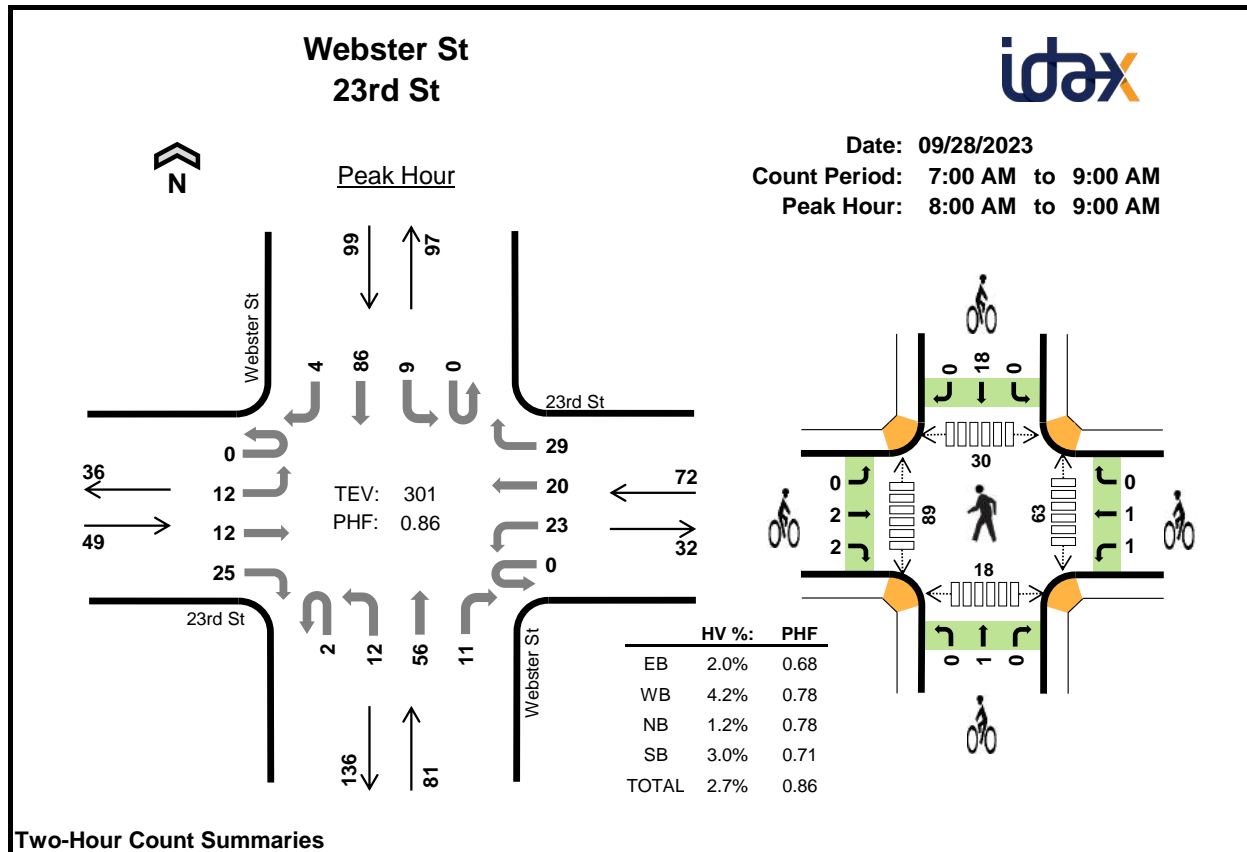
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	2	1	3	0	0	2	0	2	0	0	0	0	0
4:15 PM	0	0	0	2	2	0	0	1	0	1	0	0	1	1	2
4:30 PM	0	0	1	0	1	0	0	1	1	2	0	0	0	4	4
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	2	2
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	1	2
5:15 PM	0	0	0	0	0	0	0	2	0	2	0	2	1	0	3
5:30 PM	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2
5:45 PM	0	0	1	0	1	0	0	2	0	2	0	0	1	0	1
Count Total	0	1	4	3	8	0	1	9	1	11	0	5	3	8	16
Peak Hour	0	1	1	2	4	0	1	2	1	4	0	1	1	8	10

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Main St				E Main St				N Aurora St				N Aurora St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
Count Total	0	0	0	0	0	0	1	0	0	0	4	0	0	0	3	0	8	0
Peak Hour	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2	0	4	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Main St			E Main St			N Aurora St			N Aurora St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	0			
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0			
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	2	0			
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	6			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4			
5:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	2	5			
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	4			
5:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	5			
Count Total	0	0	0	0	1	0	3	6	0	0	0	1	11	0			
Peak Hour	0	0	0	0	1	0	1	1	0	0	0	1	4	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		23rd St				23rd St				Webster St				Webster St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	4	0	3	0	3	5	3	0	1	6	2	0	0	6	1	34	0
7:15 AM		0	4	4	1	0	2	6	3	0	0	6	0	0	0	13	2	41	0
7:30 AM		0	1	3	4	0	5	5	3	0	0	10	2	0	1	19	3	56	0
7:45 AM		0	3	1	5	0	7	4	1	0	1	5	0	0	1	20	1	49	180
8:00 AM		0	2	4	4	0	11	4	8	0	2	9	1	0	2	17	1	65	211
8:15 AM		0	2	2	6	0	4	6	8	0	4	18	3	0	4	30	1	88	258
8:30 AM		0	3	1	7	0	2	5	5	1	4	17	4	0	1	18	1	69	271
8:45 AM		0	5	5	8	0	6	5	8	1	2	12	3	0	2	21	1	79	301
Count Total		0	24	20	38	0	40	40	39	2	14	83	15	0	11	144	11	481	0
Peak Hour	All	0	12	12	25	0	23	20	29	2	12	56	11	0	9	86	4	301	0
	HV	0	1	0	0	0	2	0	1	0	1	0	0	0	2	1	0	8	0
	HV%	-	8%	0%	0%	-	9%	0%	3%	0%	8%	0%	0%	-	22%	1%	0%	3%	0

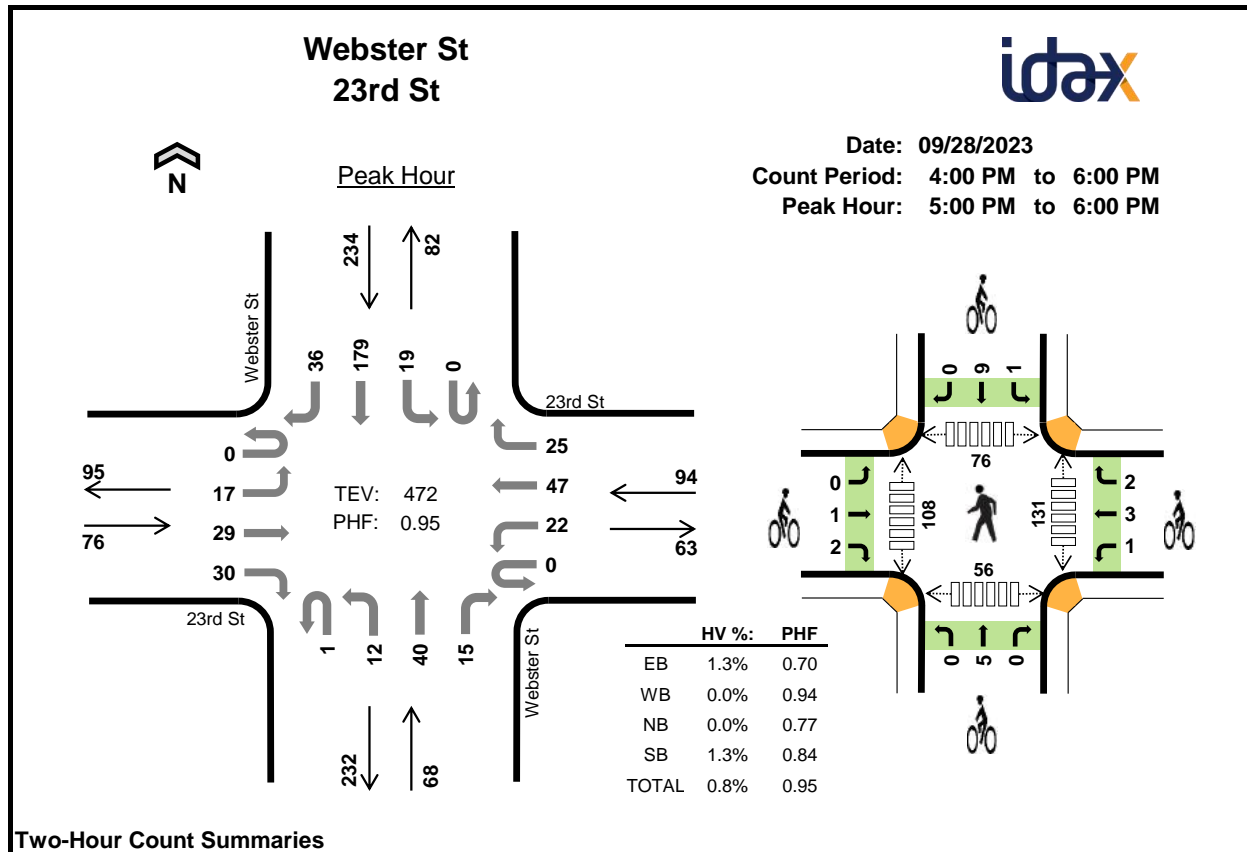
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	3	0	3	0	0	0	0	0	5	8	4	0	17
7:15 AM	0	0	0	2	2	0	0	1	1	2	3	15	5	1	24
7:30 AM	0	0	1	0	1	1	0	0	2	3	10	14	4	1	29
7:45 AM	0	0	0	0	0	0	3	2	3	8	7	23	8	0	38
8:00 AM	0	2	0	0	2	0	1	0	3	4	14	17	8	5	44
8:15 AM	0	0	1	2	3	2	1	0	4	7	21	26	6	6	59
8:30 AM	0	0	0	1	1	0	0	1	5	6	19	20	7	7	53
8:45 AM	1	1	0	0	2	2	0	0	6	8	9	26	9	0	44
Count Total	1	3	5	5	14	5	5	4	24	38	88	149	51	20	308
Peak Hour	1	3	1	3	8	4	2	1	18	25	63	89	30	18	200

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	23rd St				23rd St				Webster St				Webster St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	3	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
8:00 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	5
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	6
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	6
8:45 AM	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	8
Count Total	0	1	0	0	0	2	0	1	0	1	2	2	0	2	3	0	14	0
Peak Hour	0	1	0	0	0	2	0	1	0	1	0	0	0	2	1	0	8	0

Two-Hour Count Summaries - Bikes																		
Interval Start	23rd St			23rd St			Webster St			Webster St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:15 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	0				
7:30 AM	0	0	1	0	0	0	0	0	0	0	2	0	3	0				
7:45 AM	0	0	0	0	3	0	1	1	0	0	3	0	8	13				
8:00 AM	0	0	0	0	1	0	0	0	0	0	3	0	4	17				
8:15 AM	0	0	2	1	0	0	0	0	0	0	4	0	7	22				
8:30 AM	0	0	0	0	0	0	0	1	0	0	5	0	6	25				
8:45 AM	0	2	0	0	0	0	0	0	0	0	6	0	8	25				
Count Total	0	2	3	1	4	0	1	3	0	0	24	0	38	0				
Peak Hour	0	2	2	1	1	0	0	1	0	0	18	0	25	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		23rd St				23rd St				Webster St				Webster St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	4	6	7	0	6	5	7	0	1	13	2	0	2	37	0	90	0
4:15 PM		0	5	3	10	0	5	16	7	0	1	9	1	1	5	47	2	112	0
4:30 PM		0	5	7	4	0	3	8	11	0	3	5	1	0	2	35	6	90	0
4:45 PM		0	10	9	3	0	4	11	10	0	1	12	4	0	3	37	5	109	401
5:00 PM		0	5	6	8	0	7	12	6	0	3	13	3	0	3	40	5	111	422
5:15 PM		0	3	5	4	0	6	14	3	0	0	6	3	0	8	49	13	114	424
5:30 PM		0	7	7	13	0	4	9	9	0	1	13	4	0	2	48	7	124	458
5:45 PM		0	2	11	5	0	5	12	7	1	8	8	5	0	6	42	11	123	472
Count Total		0	41	54	54	0	40	87	60	1	18	79	23	1	31	335	49	873	0
Peak Hour	All	0	17	29	30	0	22	47	25	1	12	40	15	0	19	179	36	472	0
	HV	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	4	0
	HV%	-	0%	0%	3%	-	0%	0%	0%	0%	0%	0%	0%	-	0%	2%	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	0	0	0	2	2	0	2	1	5	13	24	10	15	62
4:15 PM	0	0	0	2	2	1	0	1	1	3	13	18	10	14	55
4:30 PM	0	0	0	1	1	0	0	2	1	3	17	30	15	8	70
4:45 PM	0	0	0	1	1	1	1	4	1	7	12	35	16	11	74
5:00 PM	0	0	0	1	1	3	1	0	1	5	31	46	27	13	117
5:15 PM	0	0	0	0	0	0	2	0	4	6	29	29	15	16	89
5:30 PM	1	0	0	2	3	0	1	1	3	5	44	22	17	15	98
5:45 PM	0	0	0	0	0	0	2	4	2	8	27	11	17	12	67
Count Total	3	0	0	7	10	7	7	14	14	42	186	215	127	104	632
Peak Hour	1	0	0	3	4	3	6	5	10	24	131	108	76	56	371

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	23rd St				23rd St				Webster St				Webster St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	3	5
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Count Total	0	0	2	1	0	0	0	0	0	0	0	0	0	2	5	0	10	0
Peak Hour	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	4	0

Two-Hour Count Summaries - Bikes																	
Interval Start	23rd St			23rd St			Webster St			Webster St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	2	0	0	0	0	0	2	0	0	1	0	5	0			
4:15 PM	0	1	0	0	0	0	0	1	0	0	1	0	3	0			
4:30 PM	0	0	0	0	0	0	0	2	0	0	1	0	3	0			
4:45 PM	1	0	0	0	1	0	1	3	0	0	1	0	7	18			
5:00 PM	0	1	2	0	0	1	0	0	0	0	1	0	5	18			
5:15 PM	0	0	0	0	2	0	0	0	0	0	4	0	6	21			
5:30 PM	0	0	0	0	1	0	0	1	0	1	2	0	5	23			
5:45 PM	0	0	0	1	0	1	0	4	0	0	2	0	8	24			
Count Total	1	4	2	1	4	2	1	13	0	1	13	0	42	0			
Peak Hour	0	1	2	1	3	2	0	5	0	1	9	0	24	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

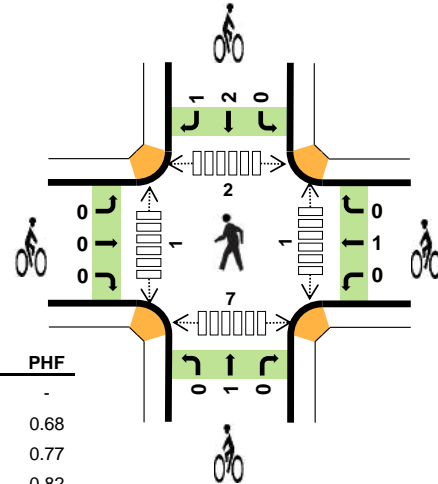
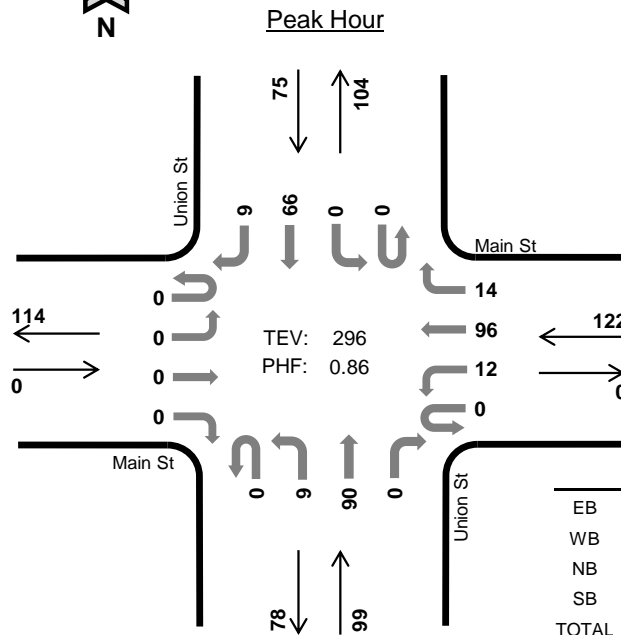
Union St Main St



Date: 09/28/2023

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	-	-
WB	1.6%	0.68
NB	3.0%	0.77
SB	1.3%	0.82
TOTAL	2.0%	0.86

Two-Hour Count Summaries

Interval Start		Main St				Main St				Union St				Union St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	2	6	0	0	1	3	0	0	0	5	4	21	0
7:15 AM		0	0	0	0	0	1	11	2	0	1	11	0	0	0	13	2	41	0
7:30 AM		0	0	0	0	0	3	17	0	0	3	12	0	0	0	10	2	47	0
7:45 AM		0	0	0	0	0	2	39	4	0	2	17	0	0	0	7	4	75	184
8:00 AM		0	0	0	0	0	9	28	4	0	3	23	0	0	0	16	3	86	249
8:15 AM		0	0	0	0	0	1	12	3	0	1	21	0	0	0	21	2	61	269
8:30 AM		0	0	0	0	0	0	17	3	0	3	29	0	0	0	22	0	74	296
8:45 AM		0	0	0	0	0	5	21	3	0	2	15	0	0	0	8	0	54	275
Count Total		0	0	0	0	0	23	151	19	0	16	131	0	0	0	102	17	459	0
Peak Hour	All	0	0	0	0	0	12	96	14	0	9	90	0	0	0	66	9	296	0
	HV	0	0	0	0	0	0	2	0	0	0	3	0	0	0	0	1	6	0
	HV%	-	-	-	-	-	0%	2%	0%	-	0%	3%	-	-	-	0%	11%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	3	0	5
7:15 AM	0	0	0	0	0	0	0	0	1	1	0	0	8	1	9
7:30 AM	0	0	0	1	1	0	0	1	0	1	0	0	0	4	4
7:45 AM	0	0	0	0	0	0	0	1	2	3	1	1	1	0	3
8:00 AM	0	1	0	1	2	0	0	0	0	0	0	0	0	4	4
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	2	2
8:30 AM	0	0	3	0	3	0	1	0	1	2	0	0	1	1	2
8:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
Count Total	0	2	3	2	7	0	1	3	4	8	3	1	13	12	29
Peak Hour	0	2	3	1	6	0	1	1	3	5	1	1	2	7	11

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Union St				Union St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
7:45 AM	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	1	0	0	0	0	0	0	0	0	1	2	
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
8:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	2	0	0	0	3	0	0	0	1	1	7	
Peak Hour	0	0	0	0	0	0	2	0	0	0	3	0	0	0	0	1	6	

Two-Hour Count Summaries - Bikes																	
Interval Start	Main St			Main St			Union St			Union St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	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	1	0	1	0			
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0			
7:45 AM	0	0	0	0	0	0	0	1	0	0	1	1	3	5			
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	5			
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4			
8:30 AM	0	0	0	0	1	0	0	0	0	0	1	0	2	5			
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	3			
Count Total	0	0	0	0	1	0	0	3	0	0	3	1	8	0			
Peak Hour	0	0	0	0	1	0	0	1	0	0	2	1	5	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

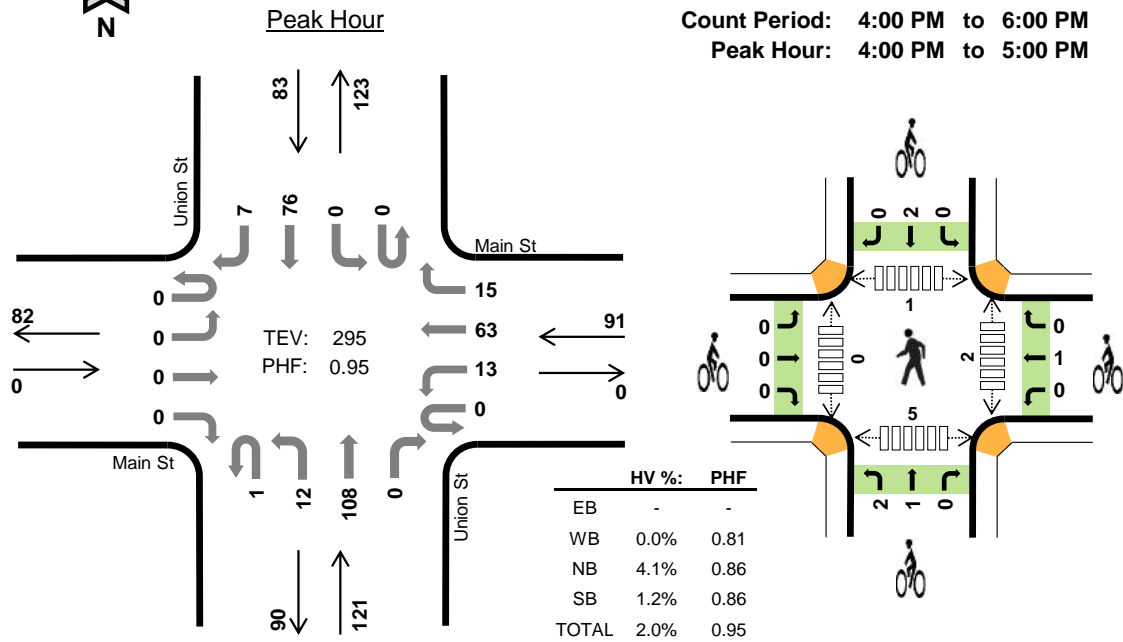
Union St Main St



Date: 09/28/2023

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:00 PM to 5:00 PM



Two-Hour Count Summaries

Interval Start		Main St				Main St				Union St				Union St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	1	13	4	0	5	21	0	0	0	21	3	68	0
4:15 PM		0	0	0	0	0	4	16	8	1	4	25	0	0	0	19	0	77	0
4:30 PM		0	0	0	0	0	4	19	2	0	1	29	0	0	0	21	2	78	0
4:45 PM		0	0	0	0	0	4	15	1	0	2	33	0	0	0	15	2	72	295
5:00 PM		0	0	0	0	0	2	13	5	0	1	26	0	0	0	16	4	67	294
5:15 PM		0	0	0	0	0	10	16	3	0	0	25	0	0	0	10	3	67	284
5:30 PM		0	0	0	0	0	4	9	2	0	2	17	0	0	0	24	3	61	267
5:45 PM		0	0	0	0	0	4	10	8	0	4	12	0	0	0	13	1	52	247
Count Total		0	0	0	0	0	33	111	33	1	19	188	0	0	0	139	18	542	0
Peak Hour	All	0	0	0	0	0	13	63	15	1	12	108	0	0	0	76	7	295	0
	HV	0	0	0	0	0	0	0	0	0	2	3	0	0	0	1	0	6	0
	HV%	-	-	-	-	-	0%	0%	0%	0%	17%	3%	-	-	-	1%	0%	2%	0

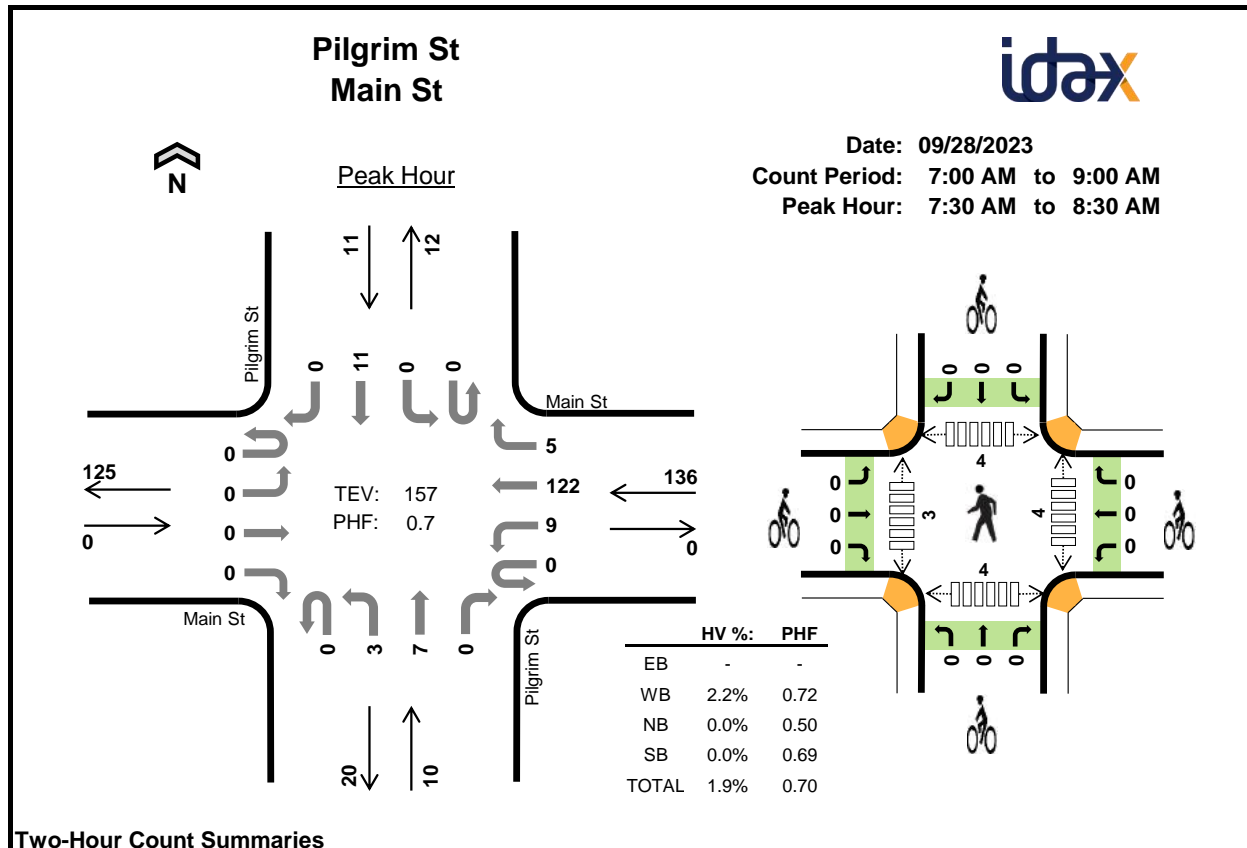
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	2	0	2	0	1	0	0	1	0	0	0	1	1
4:15 PM	0	0	1	0	1	0	0	1	0	1	0	0	1	0	1
4:30 PM	0	0	0	1	1	0	0	1	0	1	0	0	0	4	4
4:45 PM	0	0	2	0	2	0	0	1	2	3	2	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
5:15 PM	0	0	0	0	0	0	0	1	0	1	1	0	1	0	2
5:30 PM	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0
5:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	6	1	7	0	3	6	2	11	3	0	2	6	11
Peak Hour	0	0	5	1	6	0	1	3	2	6	2	0	1	5	8

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Union St				Union St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
Count Total	0	0	0	0	0	0	0	0	0	2	4	0	0	0	1	0	7	0
Peak Hour	0	0	0	0	0	0	0	0	0	2	3	0	0	0	1	0	6	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Main St			Main St			Union St			Union St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0			
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0			
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0			
4:45 PM	0	0	0	0	0	0	1	0	0	0	2	0	3	6			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5			
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	5			
5:30 PM	0	0	0	2	0	0	0	2	0	0	0	0	4	8			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5			
Count Total	0	0	0	2	1	0	2	4	0	0	2	0	11	0			
Peak Hour	0	0	0	0	1	0	2	1	0	0	2	0	6	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				Pilgrim St				Pilgrim St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	1	9	0	0	0	2	0	0	0	0	0	12	0
7:15 AM		0	0	0	0	0	1	9	0	0	2	4	0	0	0	0	0	16	0
7:30 AM		0	0	0	0	0	4	22	0	0	0	1	0	0	0	1	0	28	0
7:45 AM		0	0	0	0	0	2	44	1	0	1	4	0	0	0	4	0	56	112
8:00 AM		0	0	0	0	0	3	37	2	0	1	1	0	0	0	3	0	47	
8:15 AM		0	0	0	0	0	0	19	2	0	1	1	0	0	0	3	0	26	
8:30 AM		0	0	0	0	0	3	16	2	0	1	1	0	0	0	1	0	24	
8:45 AM		0	0	0	0	0	3	22	2	0	0	3	0	0	0	2	3	35	132
Count Total		0	0	0	0	0	17	178	9	0	6	17	0	0	0	14	3	244	0
Peak Hour	All	0	0	0	0	0	9	122	5	0	3	7	0	0	0	11	0	157	0
	HV	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	3	0
	HV%	-	-	-	-	-	0%	2%	20%	-	0%	0%	-	-	-	0%	-	2%	0

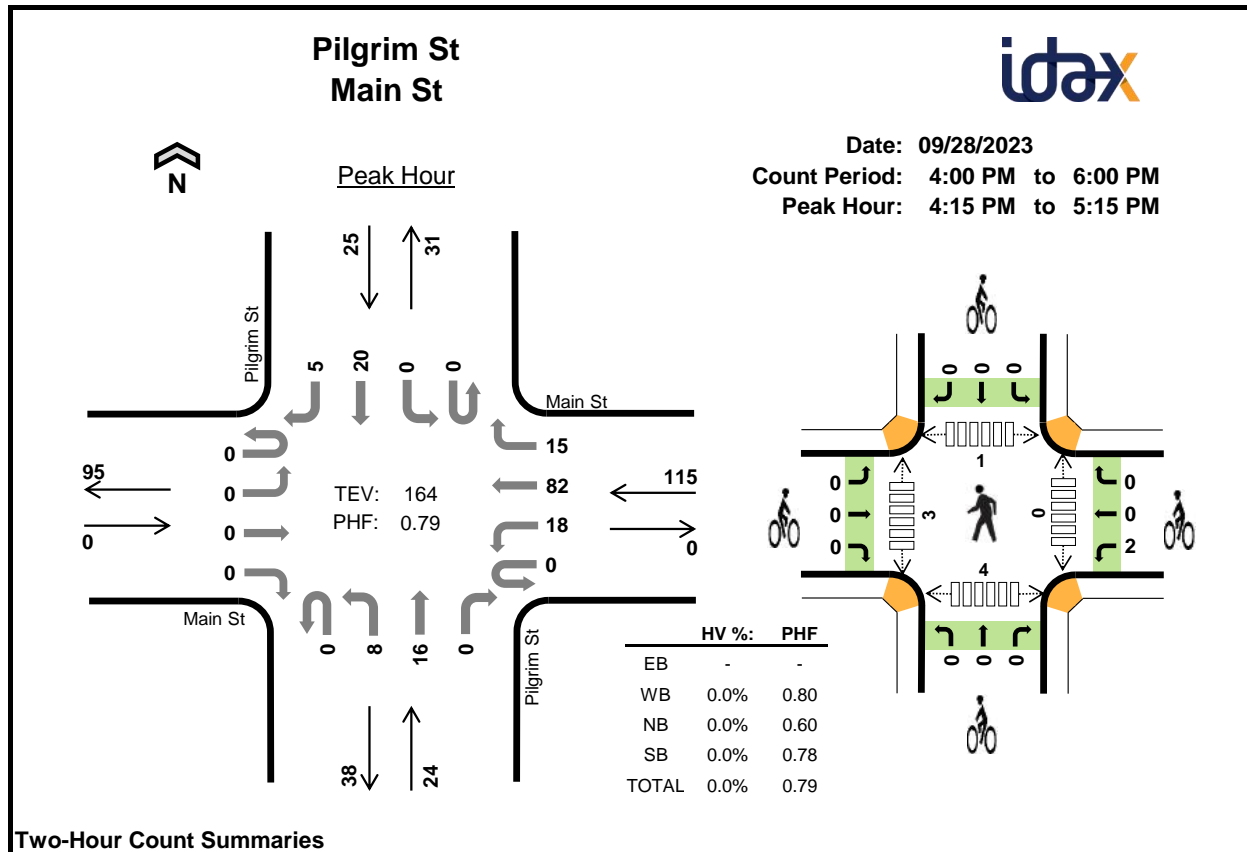
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	2	3
7:15 AM	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	2	2	0	4	8
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	2	0	2
8:15 AM	0	1	0	0	1	0	0	0	0	0	2	1	2	0	5
8:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	1	3
8:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
Count Total	0	3	1	0	4	0	0	0	0	0	7	3	4	7	21
Peak Hour	0	3	0	0	3	0	0	0	0	0	4	3	4	4	15

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Pilgrim St				Pilgrim St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	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	1	1	0	0	0	0	0	0	0	2	2	
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	3	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4	
Count Total	0	0	0	0	0	0	2	1	0	0	1	0	0	0	0	4	0	
Peak Hour	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3	0	

Two-Hour Count Summaries - Bikes																	
Interval Start	Main St			Main St			Pilgrim St			Pilgrim St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	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			
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 AM	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			
8:15 AM	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			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				Pilgrim St				Pilgrim St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	3	14	5	0	2	1	0	0	0	1	0	26	0
4:15 PM		0	0	0	0	0	7	24	5	0	4	6	0	0	0	6	0	52	0
4:30 PM		0	0	0	0	0	4	21	2	0	1	5	0	0	0	4	0	37	0
4:45 PM		0	0	0	0	0	2	19	2	0	3	3	0	0	0	4	4	37	152
5:00 PM		0	0	0	0	0	5	18	6	0	0	2	0	0	0	6	1	38	164
5:15 PM		0	0	0	0	0	6	24	2	0	1	1	0	0	0	1	2	37	149
5:30 PM		0	0	0	0	0	1	17	1	0	1	2	0	0	0	2	0	24	136
5:45 PM		0	0	0	0	0	3	16	1	0	2	3	0	0	0	4	0	29	128
Count Total		0	0	0	0	0	31	153	24	0	14	23	0	0	0	28	7	280	0
Peak Hour	All	0	0	0	0	0	18	82	15	0	8	16	0	0	0	20	5	164	0
	HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HV%	-	-	-	-	-	0%	0%	0%	-	0%	0%	-	-	-	0%	0%	0%	0

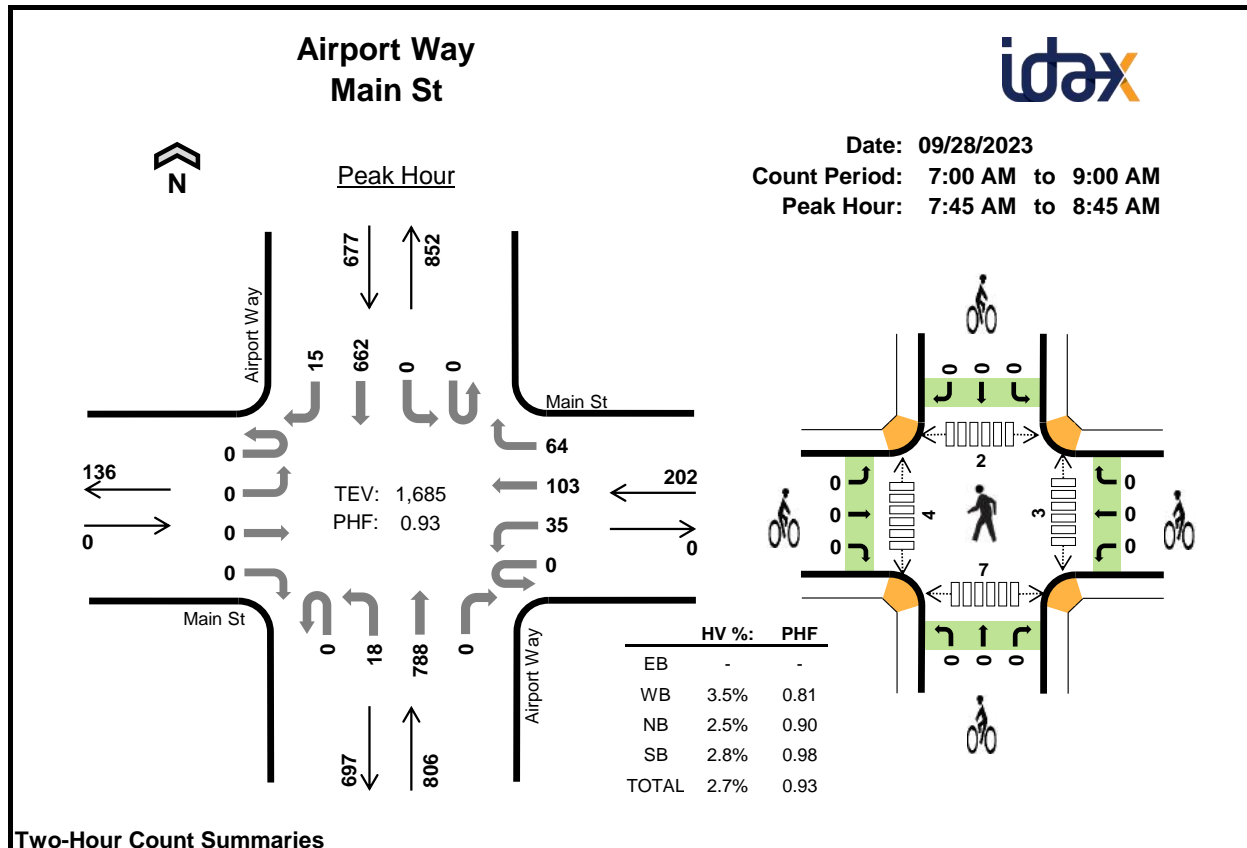
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	4	6
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:30 PM	0	0	0	0	0	0	2	0	0	2	2	2	2	0	6
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Count Total	0	0	0	0	0	0	5	0	0	5	3	6	3	5	17
Peak Hour	0	0	0	0	0	0	2	0	0	2	0	3	1	4	8

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Pilgrim St				Pilgrim St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	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	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Two-Hour Count Summaries - Bikes																	
Interval Start	Main St			Main St			Pilgrim St			Pilgrim St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0			
4:15 PM	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			
4:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	2			
5:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	2			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
5:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	4			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3			
Count Total	0	0	0	2	3	0	0	0	0	0	0	0	5	0			
Peak Hour	0	0	0	2	0	0	0	0	0	0	0	0	2	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				Airport Way				Airport Way				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	1	5	4	0	3	95	0	0	0	59	1	168	0
7:15 AM		0	0	0	0	0	2	9	7	0	4	107	0	0	0	108	1	238	0
7:30 AM		0	0	0	0	0	5	15	16	0	5	157	0	0	0	141	5	344	0
7:45 AM		0	0	0	0	0	4	37	17	0	10	212	0	0	0	166	1	447	1,197
8:00 AM		0	0	0	0	0	11	33	18	0	5	211	0	0	0	166	7	451	1,480
8:15 AM		0	0	0	0	0	10	19	14	0	0	223	0	0	0	163	2	431	1,673
8:30 AM		0	0	0	0	0	10	14	15	0	3	142	0	0	0	167	5	356	1,685
8:45 AM		0	0	0	0	0	7	24	11	0	7	135	0	0	0	113	2	299	1,537
Count Total		0	0	0	0	0	50	156	102	0	37	1,282	0	0	0	1,083	24	2,734	0
Peak Hour	All	0	0	0	0	0	35	103	64	0	18	788	0	0	0	662	15	1,685	0
	HV	0	0	0	0	0	2	2	3	0	1	19	0	0	0	19	0	46	0
	HV%	-	-	-	-	-	6%	2%	5%	-	6%	2%	-	-	-	3%	0%	3%	0

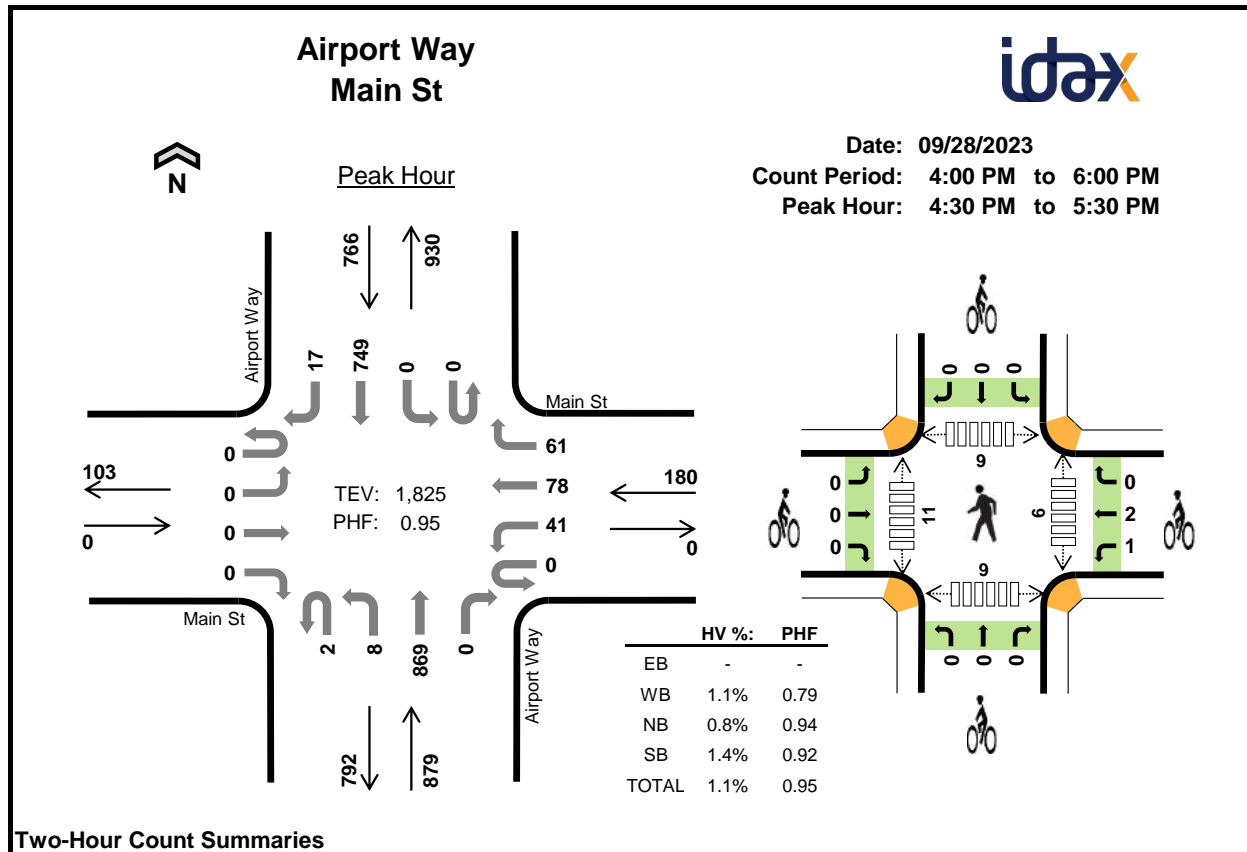
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	1	4	0	5	0	0	0	0	0	0	2	3	2	7
7:15 AM	0	1	3	8	12	0	0	0	0	0	0	0	1	1	2
7:30 AM	0	4	7	1	12	0	0	0	0	0	0	0	0	1	1
7:45 AM	0	1	5	6	12	0	0	0	0	0	0	2	1	1	4
8:00 AM	0	3	7	3	13	0	0	0	0	0	3	0	1	3	7
8:15 AM	0	1	4	9	14	0	0	0	0	0	0	2	0	2	4
8:30 AM	0	2	4	1	7	0	0	0	0	0	0	0	0	1	1
8:45 AM	0	1	5	8	14	0	0	0	0	0	0	0	0	1	1
Count Total	0	14	39	36	89	0	0	0	0	0	3	6	6	12	27
Peak Hour	0	7	20	19	46	0	0	0	0	0	3	4	2	7	16

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Airport Way				Airport Way				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	1	0	0	4	0	0	0	0	0	5	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	3	0	0	0	8	0	12	0
7:30 AM	0	0	0	0	0	3	0	1	0	0	7	0	0	0	1	0	12	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	5	0	0	0	6	0	12	41
8:00 AM	0	0	0	0	0	1	1	1	0	1	6	0	0	0	3	0	13	49
8:15 AM	0	0	0	0	0	0	1	0	0	0	4	0	0	0	9	0	14	51
8:30 AM	0	0	0	0	0	1	0	1	0	0	4	0	0	0	1	0	7	46
8:45 AM	0	0	0	0	0	0	0	1	0	0	5	0	0	0	8	0	14	48
Count Total	0	0	0	0	0	5	2	7	0	1	38	0	0	0	36	0	89	0
Peak Hour	0	0	0	0	0	2	2	3	0	1	19	0	0	0	19	0	46	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Main St			Main St			Airport Way			Airport Way			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	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			
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 AM	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			
8:15 AM	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			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				Airport Way				Airport Way				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	12	19	16	2	4	196	0	0	0	164	7	420	0
4:15 PM		0	0	0	0	0	13	26	10	1	6	204	0	0	0	172	5	437	0
4:30 PM		0	0	0	0	0	12	19	15	1	2	210	0	0	0	173	2	434	0
4:45 PM		0	0	0	0	0	10	14	12	0	3	230	0	0	0	189	3	461	1,752
5:00 PM		0	0	0	0	0	14	20	23	0	2	202	0	0	0	187	4	452	1,784
5:15 PM		0	0	0	0	0	5	25	11	1	1	227	0	0	0	200	8	478	1,825
5:30 PM		0	0	0	0	0	10	15	20	0	2	164	0	0	0	199	3	413	1,804
5:45 PM		0	0	0	0	0	7	21	11	0	1	153	0	0	0	168	0	361	1,704
Count Total		0	0	0	0	0	83	159	118	5	21	1,586	0	0	0	1,452	32	3,456	0
Peak Hour	All	0	0	0	0	0	41	78	61	2	8	869	0	0	0	749	17	1,825	0
	HV	0	0	0	0	0	0	0	2	0	0	7	0	0	0	11	0	20	0
	HV%	-	-	-	-	-	0%	0%	3%	0%	0%	1%	-	-	-	1%	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	2	4	6	0	1	1	1	3	0	0	2	1	3
4:15 PM	0	1	1	2	4	0	0	0	0	0	3	0	1	1	5
4:30 PM	0	1	2	0	3	0	0	0	0	0	0	2	0	5	7
4:45 PM	0	0	3	5	8	0	2	0	0	2	3	3	5	3	14
5:00 PM	0	0	1	3	4	0	1	0	0	1	2	4	3	0	9
5:15 PM	0	1	1	3	5	0	0	0	0	0	1	2	1	1	5
5:30 PM	0	1	2	1	4	0	2	0	0	2	0	0	6	1	7
5:45 PM	0	1	2	2	5	0	0	0	0	0	0	2	2	6	10
Count Total	0	5	14	20	39	0	6	1	1	8	9	13	20	18	60
Peak Hour	0	2	7	11	20	0	3	0	0	3	6	11	9	9	35

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Airport Way				Airport Way				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	6	0
4:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2	0	4	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	3	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	5	0	8	21
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	19
5:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	3	0	5	20
5:30 PM	0	0	0	0	0	0	0	1	0	0	2	0	0	0	1	0	4	21
5:45 PM	0	0	0	0	0	0	0	1	0	0	2	0	0	0	2	0	5	18
Count Total	0	0	0	0	0	0	0	5	0	0	14	0	0	0	20	0	39	0
Peak Hour	0	0	0	0	0	0	0	2	0	0	7	0	0	0	11	0	20	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Main St			Main St			Airport Way			Airport Way			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	1	0	0	1	0	0	1	0	3	0			
4:15 PM	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			
4:45 PM	0	0	0	1	1	0	0	0	0	0	0	0	2	5			
5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	3			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3			
5:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	5			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3			
Count Total	0	0	0	1	5	0	0	1	0	0	1	0	8	0			
Peak Hour	0	0	0	1	2	0	0	0	0	0	0	0	3	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

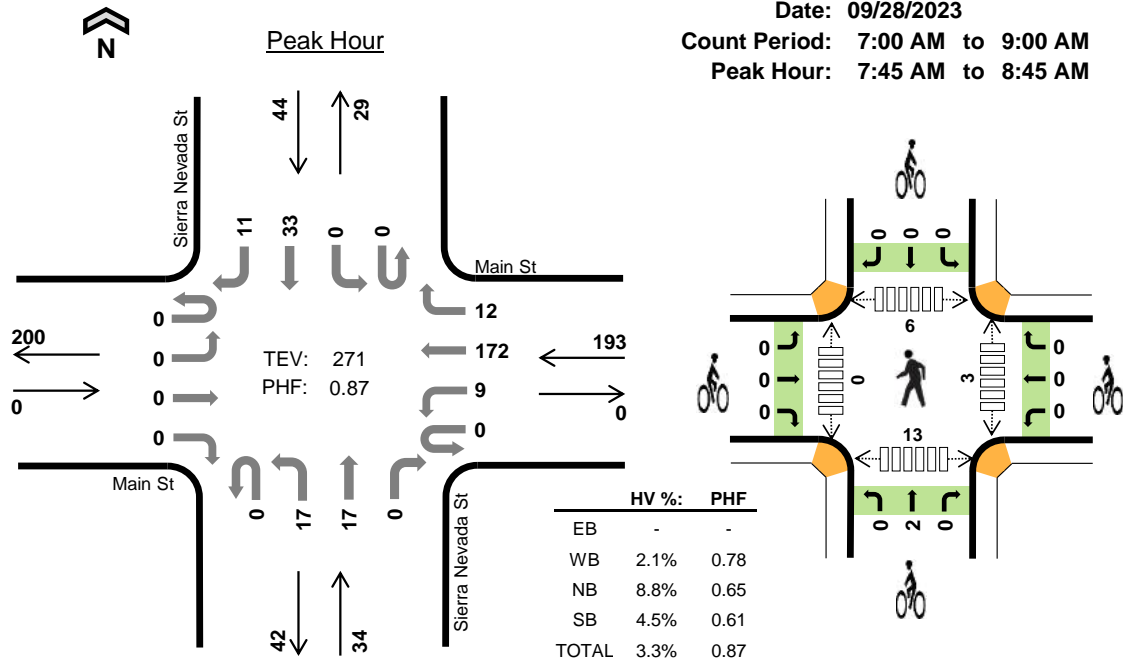
Sierra Nevada St Main St



Date: 09/28/2023

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM



Two-Hour Count Summaries

Interval Start		Main St				Main St				Sierra Nevada St				Sierra Nevada St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	0	9	1	0	0	5	0	0	0	0	1	16	0
7:15 AM		0	0	0	0	0	0	15	1	0	1	4	0	0	0	5	1	27	0
7:30 AM		0	0	0	0	0	2	31	1	0	1	0	0	0	0	4	2	41	0
7:45 AM		0	0	0	0	0	2	55	5	0	2	2	0	0	0	7	1	74	158
8:00 AM		0	0	0	0	0	1	55	3	0	6	4	0	0	0	8	1	78	220
8:15 AM		0	0	0	0	0	1	31	2	0	3	4	0	0	0	12	6	59	252
8:30 AM		0	0	0	0	0	5	31	2	0	6	7	0	0	0	6	3	60	271
8:45 AM		0	0	0	0	0	1	33	5	0	4	7	0	0	0	6	4	60	257
Count Total		0	0	0	0	0	12	260	20	0	23	33	0	0	0	48	19	415	0
Peak Hour	All	0	0	0	0	0	9	172	12	0	17	17	0	0	0	33	11	271	0
	HV	0	0	0	0	0	0	4	0	0	3	0	0	0	0	1	1	9	0
	HV%	-	-	-	-	-	0%	2%	0%	-	18%	0%	-	-	-	3%	9%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	1	0	0	1	0	1	0	1	2	0	0	2	1	3
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	4	1	1	6	0	0	0	0	0	1	1	0	0	2
7:45 AM	0	1	0	0	1	0	0	1	0	1	0	0	1	0	1
8:00 AM	0	1	2	0	3	0	0	0	0	0	3	0	5	8	16
8:15 AM	0	0	0	1	1	0	0	1	0	1	0	0	0	4	4
8:30 AM	0	2	1	1	4	0	0	0	0	0	0	0	0	1	1
8:45 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	2	4
Count Total	0	11	4	3	18	0	1	2	1	4	4	3	8	16	31
Peak Hour	0	4	3	2	9	0	0	2	0	2	3	0	6	13	22

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	Main St				Main St				Sierra Nevada St				Sierra Nevada St				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	
7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	
7:30 AM	0	0	0	0	0	1	3	0	0	1	0	0	0	0	0	1	6	0	
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	9	
8:00 AM	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	3	11	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	11	
8:30 AM	0	0	0	0	0	0	2	0	0	1	0	0	0	0	1	0	4	9	
8:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	9	
Count Total	0	0	0	0	0	1	10	0	0	4	0	0	0	0	0	2	1	18	0
Peak Hour	0	0	0	0	0	0	4	0	0	3	0	0	0	0	0	1	1	9	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Main St			Main St			Sierra Nevada St			Sierra Nevada St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	0	0	1	0	0	0	0	0	0	0	1	2	0			
7:15 AM	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	0	0	0			
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	3			
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	2			
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
Count Total	0	0	0	1	0	0	0	2	0	0	0	1	4	0			
Peak Hour	0	0	0	0	0	0	0	2	0	0	0	0	2	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

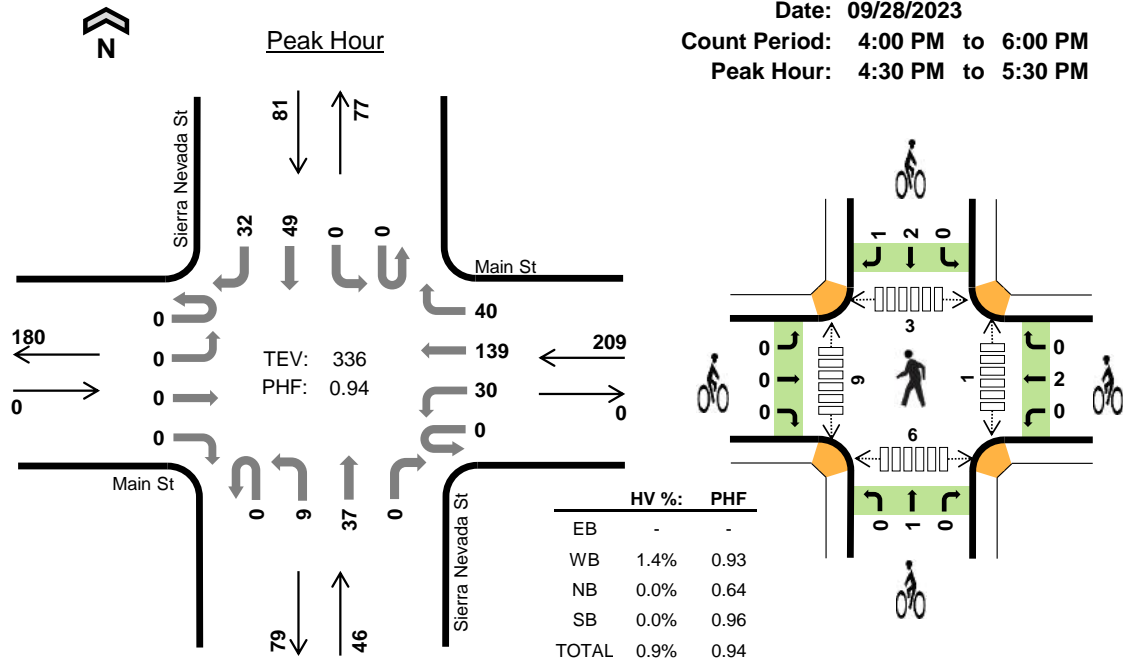
Sierra Nevada St Main St



Date: 09/28/2023

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:30 PM to 5:30 PM



Two-Hour Count Summaries

Interval Start		Main St				Main St				Sierra Nevada St				Sierra Nevada St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	1	27	9	0	5	13	0	0	0	15	13	83	0
4:15 PM		0	0	0	0	0	4	34	7	1	3	9	0	0	0	8	11	77	0
4:30 PM		0	0	0	0	0	5	38	8	0	2	8	0	0	0	15	6	82	0
4:45 PM		0	0	0	0	0	10	34	12	0	1	9	0	0	0	14	5	85	327
5:00 PM		0	0	0	0	0	5	38	8	0	5	13	0	0	0	8	12	89	333
5:15 PM		0	0	0	0	0	10	29	12	0	1	7	0	0	0	12	9	80	336
5:30 PM		0	0	0	0	0	6	36	4	0	2	8	0	0	0	12	4	72	326
5:45 PM		0	0	0	0	0	8	31	8	0	1	11	0	2	0	7	5	73	314
Count Total		0	0	0	0	0	49	267	68	1	20	78	0	2	0	91	65	641	0
Peak Hour	All	0	0	0	0	0	30	139	40	0	9	37	0	0	0	49	32	336	0
	HV	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	0
	HV%	-	-	-	-	-	0%	2%	0%	-	0%	0%	-	-	-	0%	0%	1%	0

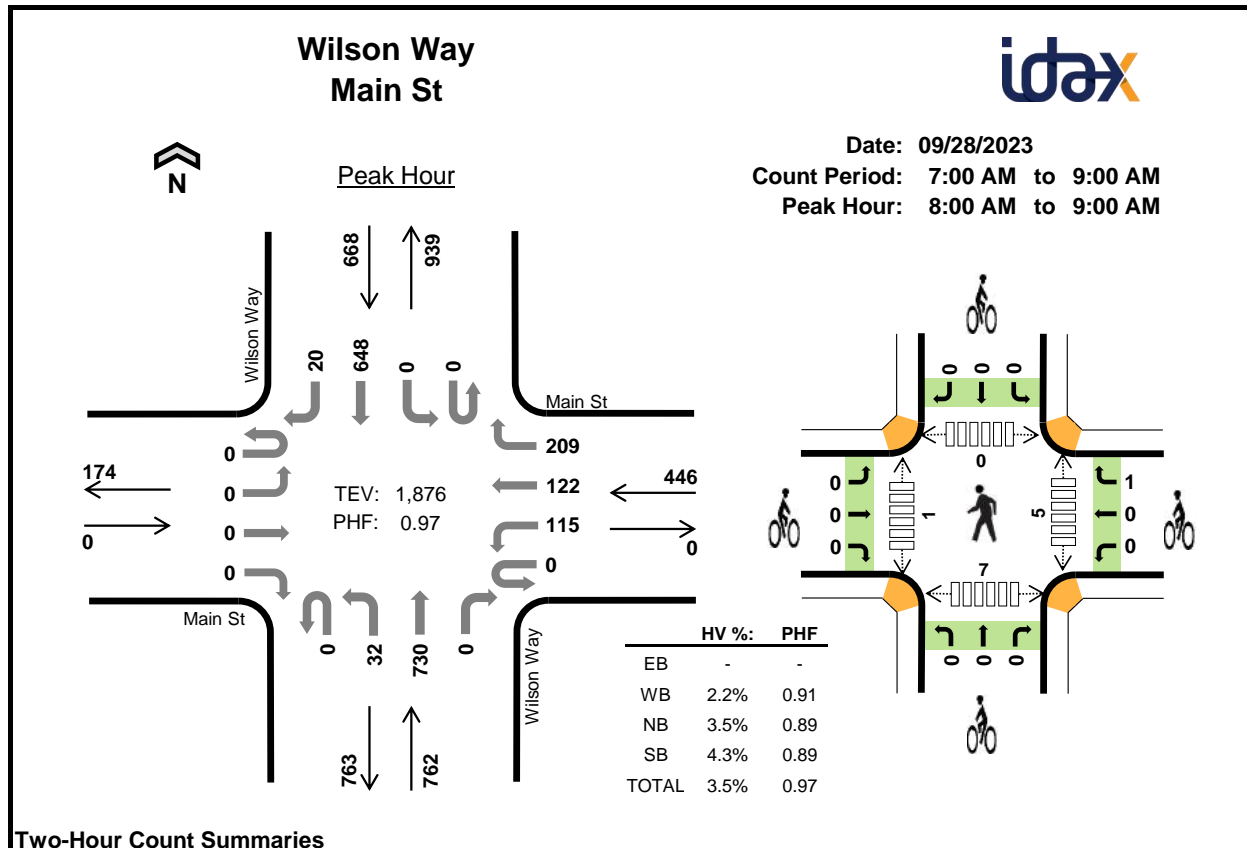
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	1	1	1	5
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	5	5
4:30 PM	0	1	0	0	1	0	0	0	1	1	1	0	0	0	1
4:45 PM	0	1	0	0	1	0	2	0	0	2	0	4	3	2	9
5:00 PM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	2
5:15 PM	0	1	0	0	1	0	0	1	1	2	0	3	0	4	7
5:30 PM	0	1	0	0	1	0	0	3	0	3	1	3	1	6	11
5:45 PM	0	0	0	0	0	0	1	1	0	2	1	0	0	1	2
Count Total	0	5	0	0	5	0	3	5	3	11	5	13	5	19	42
Peak Hour	0	3	0	0	3	0	2	1	3	6	1	9	3	6	19

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Sierra Nevada St				Sierra Nevada St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	5	
Peak Hour	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	

Two-Hour Count Summaries - Bikes																	
Interval Start	Main St			Main St			Sierra Nevada St			Sierra Nevada St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0			
4:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	3			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	4			
5:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	6			
5:30 PM	0	0	0	0	0	0	2	1	0	0	0	0	3	8			
5:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	2	8			
Count Total	0	0	0	0	3	0	2	3	0	0	2	1	11	0			
Peak Hour	0	0	0	0	2	0	0	1	0	0	2	1	6	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				Wilson Way				Wilson Way				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	16	7	10	0	3	112	0	0	0	113	0	261	0
7:15 AM		0	0	0	0	0	13	10	25	0	4	96	0	0	0	102	2	252	0
7:30 AM		0	0	0	0	0	25	27	43	0	3	116	0	0	0	147	6	367	0
7:45 AM		0	0	0	0	0	22	50	56	0	9	151	0	0	0	152	5	445	1,325
8:00 AM		0	0	0	0	0	31	42	47	0	9	203	0	0	0	144	8	484	1,548
8:15 AM		0	0	0	0	0	30	33	53	0	3	163	0	0	0	159	3	444	1,740
8:30 AM		0	0	0	0	0	35	23	65	0	8	162	0	0	0	183	4	480	1,853
8:45 AM		0	0	0	0	0	19	24	44	0	12	202	0	0	0	162	5	468	1,876
Count Total		0	0	0	0	0	191	216	343	0	51	1,205	0	0	0	1,162	33	3,201	0
Peak Hour	All	0	0	0	0	0	115	122	209	0	32	730	0	0	0	648	20	1,876	0
	HV	0	0	0	0	0	4	4	2	0	0	27	0	0	0	29	0	66	0
	HV%	-	-	-	-	-	3%	3%	1%	-	0%	4%	-	-	-	4%	0%	4%	0

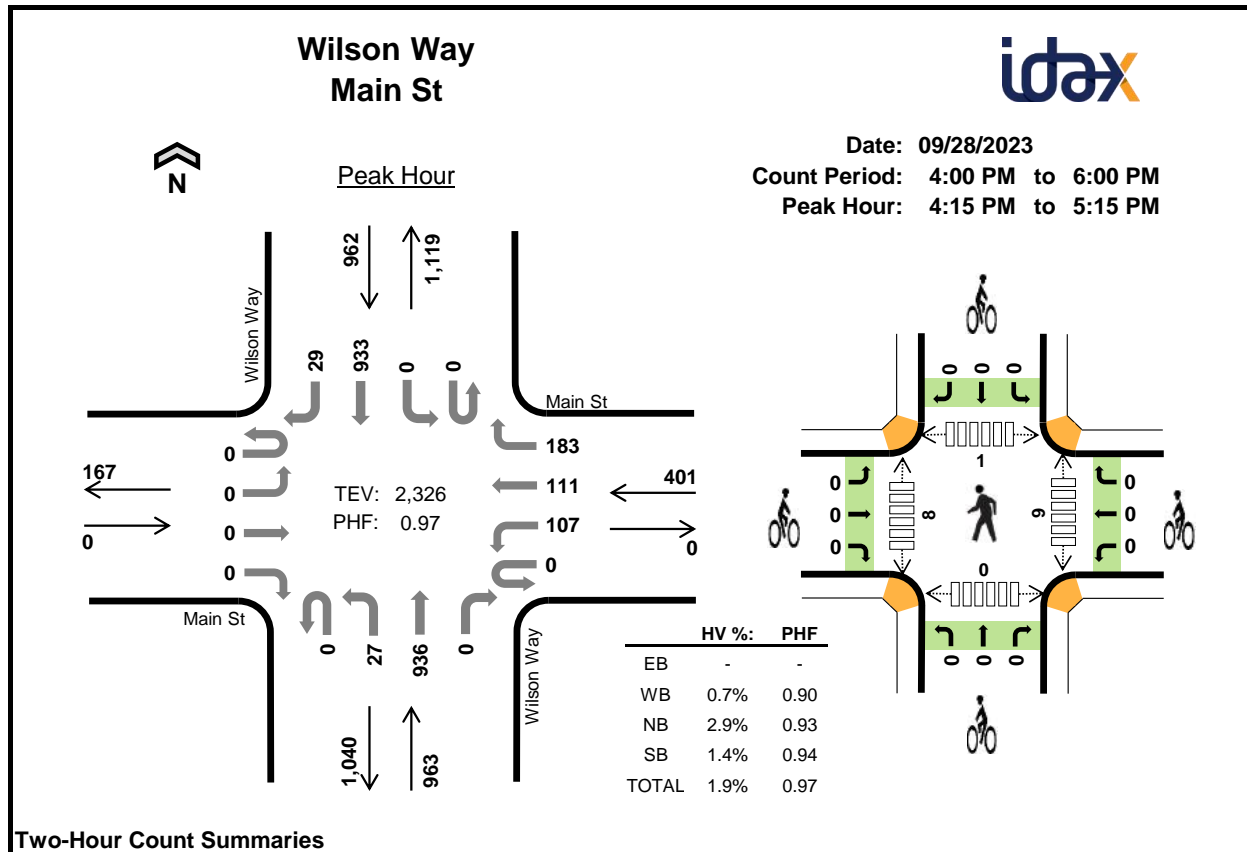
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	3	8	10	21	0	0	0	0	0	0	1	0	0	1
7:15 AM	0	3	10	7	20	0	0	0	0	0	1	0	0	1	2
7:30 AM	0	6	3	12	21	0	0	0	2	2	0	0	0	1	1
7:45 AM	0	5	9	5	19	0	0	0	0	0	1	1	0	14	16
8:00 AM	0	2	8	5	15	0	0	0	0	0	0	0	0	2	2
8:15 AM	0	2	5	7	14	0	0	0	0	0	2	0	0	3	5
8:30 AM	0	5	9	6	20	0	1	0	0	1	3	0	0	1	4
8:45 AM	0	1	5	11	17	0	0	0	0	0	0	1	0	1	2
Count Total	0	27	57	63	147	0	1	0	2	3	7	3	0	24	34
Peak Hour	0	10	27	29	66	0	1	0	0	1	5	1	0	7	13

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Wilson Way				Wilson Way				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	3	0	0	0	1	7	0	0	0	10	0	21	0
7:15 AM	0	0	0	0	0	1	1	1	0	0	10	0	0	0	7	0	20	0
7:30 AM	0	0	0	0	0	3	3	0	0	0	3	0	0	0	11	1	21	0
7:45 AM	0	0	0	0	0	3	1	1	0	0	9	0	0	0	5	0	19	81
8:00 AM	0	0	0	0	0	0	1	1	0	0	8	0	0	0	5	0	15	75
8:15 AM	0	0	0	0	0	0	2	0	0	0	5	0	0	0	7	0	14	69
8:30 AM	0	0	0	0	0	4	0	1	0	0	9	0	0	0	6	0	20	68
8:45 AM	0	0	0	0	0	0	1	0	0	0	5	0	0	0	11	0	17	66
Count Total	0	0	0	0	0	14	9	4	0	1	56	0	0	0	62	1	147	0
Peak Hour	0	0	0	0	0	4	4	2	0	0	27	0	0	0	29	0	66	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			Wilson Way			Wilson Way			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	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				
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0				
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	1				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
Count Total	0	0	0	0	0	1	0	0	0	0	2	0	3	0				
Peak Hour	0	0	0	0	0	1	0	0	0	0	0	0	1	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start	Main St Eastbound				Main St Westbound				Wilson Way Northbound				Wilson Way Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	38	25	41	0	5	210	0	0	0	218	6	543	0
4:15 PM	0	0	0	0	0	28	24	44	0	4	241	0	0	0	243	14	598	0
4:30 PM	0	0	0	0	0	32	30	49	0	7	219	0	0	0	239	7	583	0
4:45 PM	0	0	0	0	0	18	27	46	0	11	248	0	0	0	238	5	593	2,317
5:00 PM	0	0	0	0	0	29	30	44	0	5	228	0	0	0	213	3	552	2,326
5:15 PM	0	0	0	0	0	29	30	53	0	7	231	0	0	0	215	7	572	2,300
5:30 PM	0	0	0	0	0	26	21	41	0	5	216	0	0	0	234	13	556	2,273
5:45 PM	0	0	0	0	0	29	21	40	0	11	205	0	0	0	187	6	499	2,179
Count Total	0	0	0	0	0	229	208	358	0	55	1,798	0	0	0	1,787	61	4,496	0
Peak Hour	All	0	0	0	0	107	111	183	0	27	936	0	0	0	933	29	2,326	0
	HV	0	0	0	0	0	1	2	0	0	28	0	0	0	13	0	44	0
	HV%	-	-	-	-	-	1%	2%	0%	-	0%	3%	-	-	1%	0%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	2	2	4	0	0	0	0	0	3	2	0	5	10
4:15 PM	0	1	11	3	15	0	0	0	0	0	5	3	0	0	8
4:30 PM	0	2	9	4	15	0	0	0	0	0	2	2	0	0	4
4:45 PM	0	0	7	4	11	0	0	0	0	0	1	2	1	0	4
5:00 PM	0	0	1	2	3	0	0	0	0	0	1	1	0	0	2
5:15 PM	0	1	4	4	9	0	0	1	0	1	3	4	1	0	8
5:30 PM	0	1	3	2	6	0	0	0	0	0	2	2	0	2	6
5:45 PM	0	1	4	1	6	0	0	0	0	0	1	0	0	2	3
Count Total	0	6	41	22	69	0	0	1	0	1	18	16	2	9	45
Peak Hour	0	3	28	13	44	0	0	0	0	0	9	8	1	0	18

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Wilson Way				Wilson Way				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	4	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	11	0	0	0	3	0	15	0
4:30 PM	0	0	0	0	0	1	1	0	0	0	9	0	0	0	4	0	15	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	4	0	11	45
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	44
5:15 PM	0	0	0	0	0	0	1	0	0	0	4	0	0	0	4	0	9	38
5:30 PM	0	0	0	0	0	0	1	0	0	0	3	0	0	0	2	0	6	29
5:45 PM	0	0	0	0	0	0	1	0	0	0	4	0	0	0	1	0	6	24
Count Total	0	0	0	0	0	1	5	0	0	0	41	0	0	0	22	0	69	0
Peak Hour	0	0	0	0	0	1	2	0	0	0	28	0	0	0	13	0	44	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Main St			Main St			Wilson Way			Wilson Way			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	1			
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
Count Total	0	0	0	0	0	0	0	1	0	0	0	0	1	0			
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

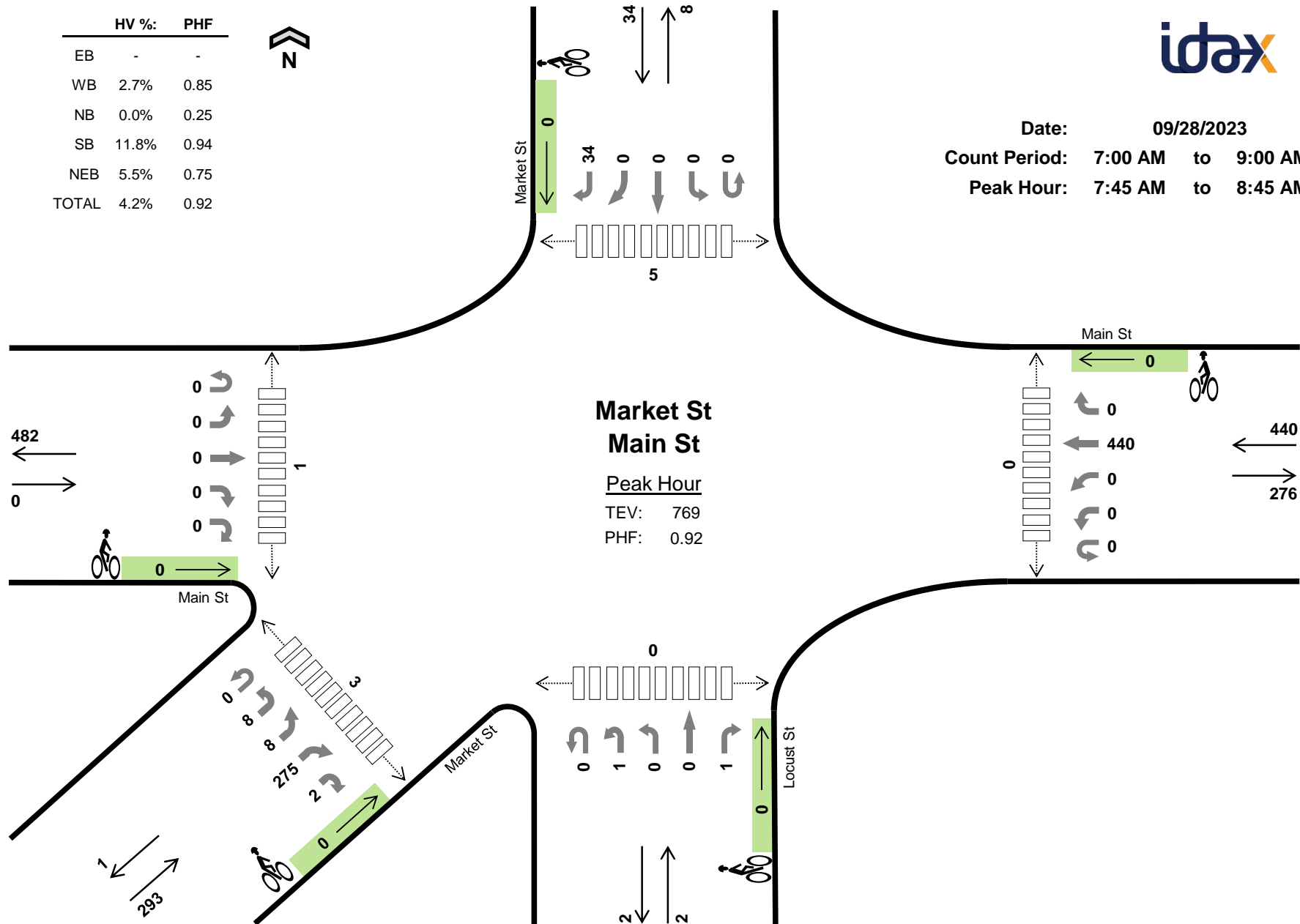


Date: 09/28/2023

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM

	HV %:	PHF
EB	-	-
WB	2.7%	0.85
NB	0.0%	0.25
SB	11.8%	0.94
NEB	5.5%	0.75
TOTAL	4.2%	0.92



Two-Hour Count Summaries

Interval Start	Main St Eastbound					Main St Westbound					Locust St Northbound					Market St Southbound					Market St Northeastbound					15-min Total	Rolling One Hour
	UT	LT	TH	RT	HR	UT	LT	BL	TH	RT	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	HL	BL	BR	HR		
7:00 AM	0	0	0	0	0	0	0	0	31	0	0	0	0	0	0	0	0	0	0	7	0	1	0	23	0	62	0
7:15 AM	0	0	0	0	0	0	0	0	58	0	0	0	0	0	1	0	0	0	0	2	0	2	1	19	1	84	0
7:30 AM	0	0	0	0	0	0	0	0	108	0	0	0	0	0	0	0	0	0	0	7	0	2	0	52	0	169	0
7:45 AM	0	0	0	0	0	0	0	0	128	0	0	0	0	0	0	0	0	0	0	9	0	1	1	57	0	196	511
8:00 AM	0	0	0	0	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0	9	0	4	3	64	0	209	658
8:15 AM	0	0	0	0	0	0	0	0	92	0	0	0	0	0	0	0	0	0	0	8	0	2	2	59	2	165	739
8:30 AM	0	0	0	0	0	0	0	0	91	0	0	1	0	0	1	0	0	0	0	8	0	1	2	95	0	199	769
8:45 AM	0	0	0	0	0	0	0	0	69	0	0	0	0	0	0	0	0	0	0	7	0	0	2	44	1	123	696
Count Total	0	0	0	0	0	0	0	0	706	0	0	1	0	0	2	0	0	0	0	57	0	13	11	413	4	1,207	0
Peak Hour	All	0	0	0	0	0	0	0	440	0	0	1	0	0	1	0	0	0	0	34	0	8	8	275	2	769	0
	HV	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	4	0	1	3	12	0	32	0
	HV%	-	-	-	-	-	-	-	3%	-	-	0%	-	-	0%	-	-	-	-	12%	-	13%	38%	4%	0%	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals						Bicycles						Pedestrians (Crossing Leg)					
	EB	WB	NB	SB	NEB	Total	EB	WB	NB	SB	NEB	Total	East	West	North	South	Southwest	Total
7:00 AM	0	0	0	3	3	6	0	0	0	0	0	0	0	0	0	0	1	1
7:15 AM	0	4	0	0	2	6	0	0	0	0	0	0	0	0	1	0	0	1
7:30 AM	0	6	0	0	1	7	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	3	0	2	3	8	0	0	0	0	0	0	0	0	1	0	0	1
8:00 AM	0	2	0	0	5	7	0	0	0	0	0	0	0	0	1	0	1	2
8:15 AM	0	4	0	0	2	6	0	0	0	0	0	0	0	1	2	0	2	5
8:30 AM	0	3	0	2	6	11	0	0	0	0	0	0	0	0	1	0	0	1
8:45 AM	0	1	0	0	1	2	0	0	0	0	0	0	0	0	1	0	0	1
Count Total	0	23	0	7	23	53	0	0	0	0	0	0	0	1	7	0	4	12
Peak Hr	0	12	0	4	16	32	0	0	0	0	0	0	0	1	5	0	3	9

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Main St					Main St					Locust St					Market St					Market St					15-min Total	Rolling One Hour
	Eastbound					Westbound					Northbound					Southbound					Northeastbound						
	UT	LT	TH	RT	HR	UT	LT	BL	TH	RT	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	HL	BL	BR	HR		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	6	0
7:15 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	6	0
7:30 AM	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	7	0
7:45 AM	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	2	0	0	1	2	0	8	27
8:00 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	0	7	28
8:15 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	6	28
8:30 AM	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	6	0	11	32
8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	26
Count Total	0	0	0	0	0	0	0	0	23	0	0	0	0	0	0	0	0	0	0	7	0	1	3	19	0	53	0
Peak Hour	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	4	0	1	3	12	0	32	0

Two-Hour Count Summaries - Bikes

Interval Start	Main St					Main St					Locust St					Market St					Market St					15-min Total	Rolling One Hour
	Eastbound					Westbound					Northbound					Southbound					Northeastbound						
	UT	LT	TH	RT	HR	UT	LT	BL	TH	RT	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	HL	BL	BR	HR		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

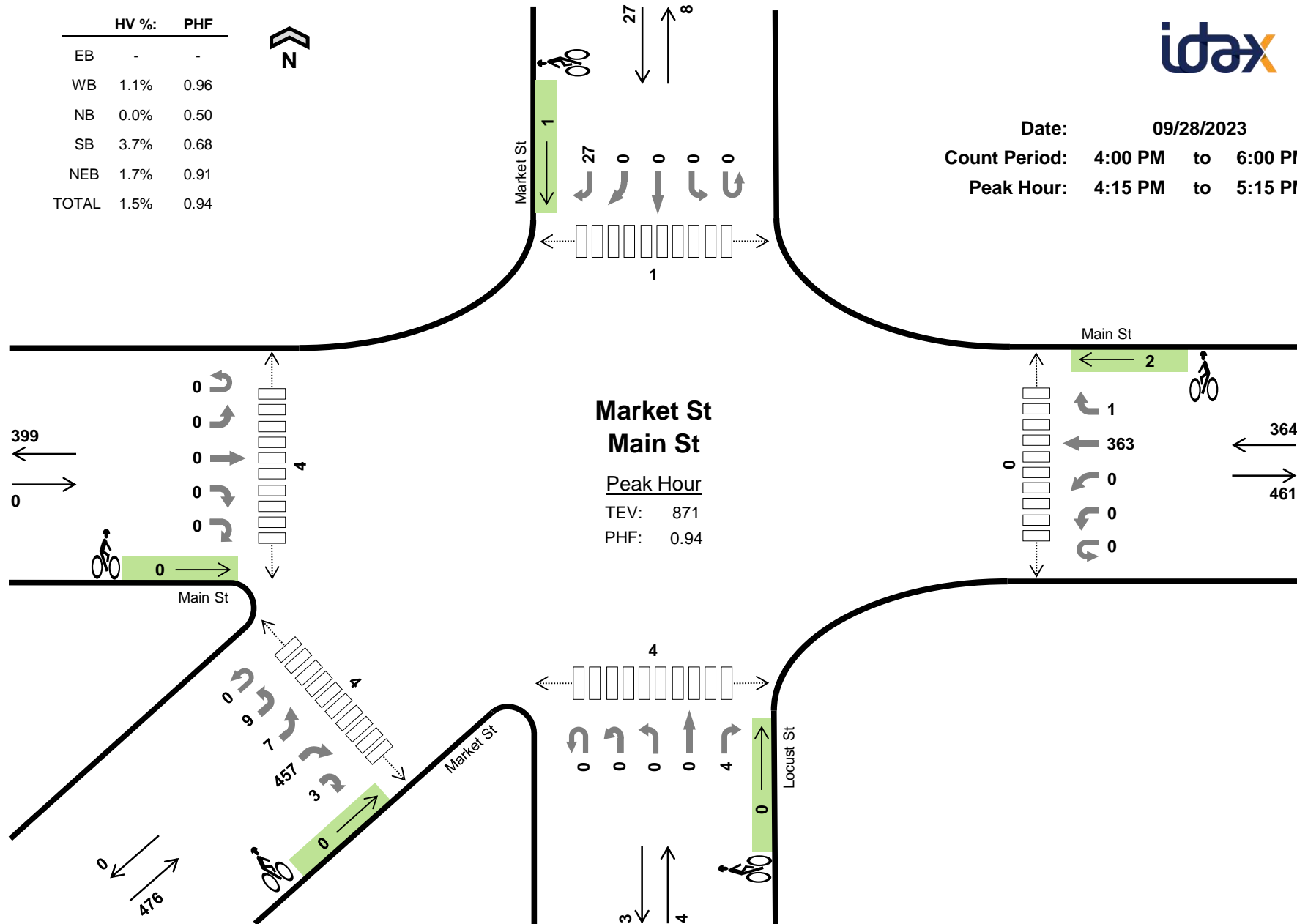


Date: 09/28/2023

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:15 PM to 5:15 PM

	HV %:	PHF
EB	-	-
WB	1.1%	0.96
NB	0.0%	0.50
SB	3.7%	0.68
NEB	1.7%	0.91
TOTAL	1.5%	0.94



Two-Hour Count Summaries

Interval Start	Main St Eastbound					Main St Westbound					Locust St Northbound					Market St Southbound					Market St Northeastbound					15-min Total	Rolling One Hour
	UT	LT	TH	RT	HR	UT	LT	BL	TH	RT	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	HL	BL	BR	HR		
4:00 PM	0	0	0	0	0	0	0	0	86	0	0	0	0	0	1	0	0	0	0	9	0	3	1	94	0	194	0
4:15 PM	0	0	0	0	0	0	0	0	95	0	0	0	0	0	1	0	0	0	0	8	0	6	0	116	0	226	0
4:30 PM	0	0	0	0	0	0	0	0	90	0	0	0	0	0	0	0	0	0	0	10	0	1	3	112	1	217	0
4:45 PM	0	0	0	0	0	0	0	0	85	0	0	0	0	0	2	0	0	0	0	4	0	2	1	103	0	197	834
5:00 PM	0	0	0	0	0	0	0	0	93	1	0	0	0	0	1	0	0	0	0	5	0	0	3	126	2	231	871
5:15 PM	0	0	0	0	0	0	0	0	103	0	0	0	0	0	0	0	0	0	0	4	0	0	0	95	0	202	847
5:30 PM	0	0	0	0	0	0	0	0	87	0	0	0	0	0	0	0	0	0	0	5	0	1	0	105	2	200	830
5:45 PM	0	0	0	0	0	0	0	0	87	0	0	0	0	0	0	0	0	0	0	7	0	1	1	94	0	190	823
Count Total	0	0	0	0	0	0	0	0	726	1	0	0	0	0	5	0	0	0	0	52	0	14	9	845	5	1,657	0
Peak Hour	All HV	0	0	0	0	0	0	0	363	1	0	0	0	0	4	0	0	0	0	27	0	9	7	457	3	871	0
Hour HV%		-	-	-	-	-	-	-	1%	100%	-	-	-	-	0%	-	-	-	-	4%	-	0%	14%	2%	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

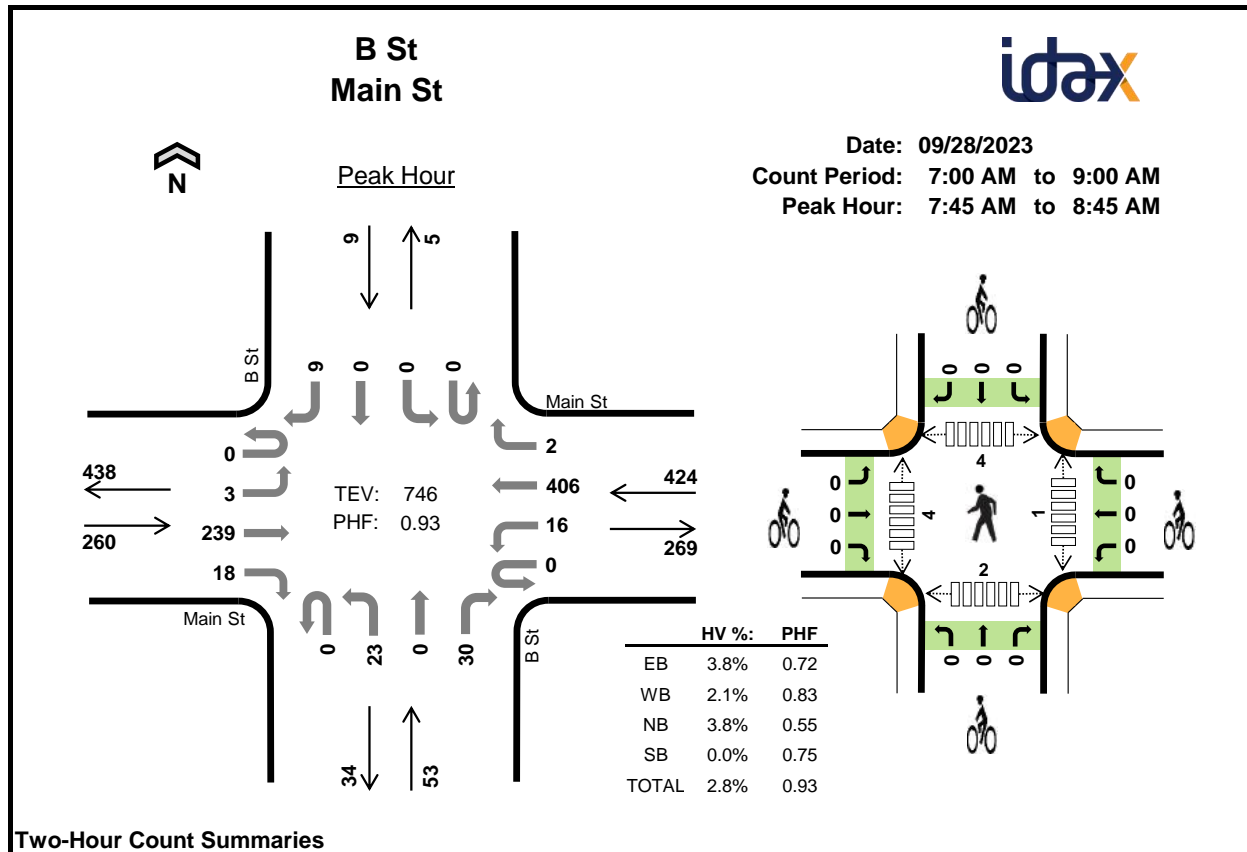
Interval Start	Heavy Vehicle Totals						Bicycles						Pedestrians (Crossing Leg)					
	EB	WB	NB	SB	NEB	Total	EB	WB	NB	SB	NEB	Total	East	West	North	South	Southwest	Total
4:00 PM	0	0	0	0	2	2	0	0	0	0	0	0	0	1	1	2	2	6
4:15 PM	0	2	0	0	0	2	0	1	0	0	0	1	0	2	0	3	3	8
4:30 PM	0	1	0	1	1	3	0	0	0	1	0	1	0	0	0	0	0	0
4:45 PM	0	0	0	0	2	2	0	1	0	0	0	1	0	1	1	0	0	2
5:00 PM	0	1	0	0	5	6	0	0	0	0	0	0	0	1	0	1	1	3
5:15 PM	0	1	0	0	1	2	0	0	0	1	0	1	0	0	0	1	1	2
5:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2
5:45 PM	0	1	0	0	3	4	0	1	0	0	0	1	1	0	2	0	0	3
Count Total	0	7	0	1	14	22	0	3	0	2	0	5	1	5	6	7	7	26
Peak Hr	0	4	0	1	8	13	0	2	0	1	0	3	0	4	1	4	4	13

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Main St					Main St					Locust St					Market St					Market St					15-min Total	Rolling One Hour
	Eastbound					Westbound					Northbound					Southbound					Northeastbound						
	UT	LT	TH	RT	HR	UT	LT	BL	TH	RT	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	HL	BL	BR	HR		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	3	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	9
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	6	13
5:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	13
5:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11
5:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	4	13
Count Total	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	0	0	0	0	1	0	0	2	12	0	22	0
Peak Hour	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	1	0	0	1	7	0	13	0

Two-Hour Count Summaries - Bikes

Interval Start	Main St					Main St					Locust St					Market St					Market St					15-min Total	Rolling One Hour
	Eastbound					Westbound					Northbound					Southbound					Northeastbound						
	UT	LT	TH	RT	HR	UT	LT	BL	TH	RT	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	HL	BL	BR	HR		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
Count Total	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	5	0
Peak Hour	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	0

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				B St				B St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	1	20	3	0	1	27	0	0	2	0	5	0	0	0	2	61	0
7:15 AM		0	0	21	1	0	3	53	0	0	3	0	5	0	0	0	0	86	0
7:30 AM		0	1	42	8	0	2	99	0	0	5	0	7	0	0	1	1	166	0
7:45 AM		0	0	50	4	0	4	110	0	0	8	0	16	0	0	0	2	194	507
8:00 AM		0	0	54	2	0	6	121	0	0	8	0	6	0	0	0	3	200	646
8:15 AM		0	0	53	7	0	4	89	2	0	3	0	4	0	0	0	2	164	724
8:30 AM		0	3	82	5	0	2	86	0	0	4	0	4	0	0	0	2	188	746
8:45 AM		0	1	38	1	0	5	66	1	0	2	0	4	0	0	0	3	121	673
Count Total		0	6	360	31	0	27	651	3	0	35	0	51	0	0	1	15	1,180	0
Peak Hour	All	0	3	239	18	0	16	406	2	0	23	0	30	0	0	0	9	746	0
	HV	0	0	10	0	0	0	9	0	0	1	0	1	0	0	0	0	21	0
	HV%	-	0%	4%	0%	-	0%	2%	0%	-	4%	-	3%	-	-	-	0%	3%	0

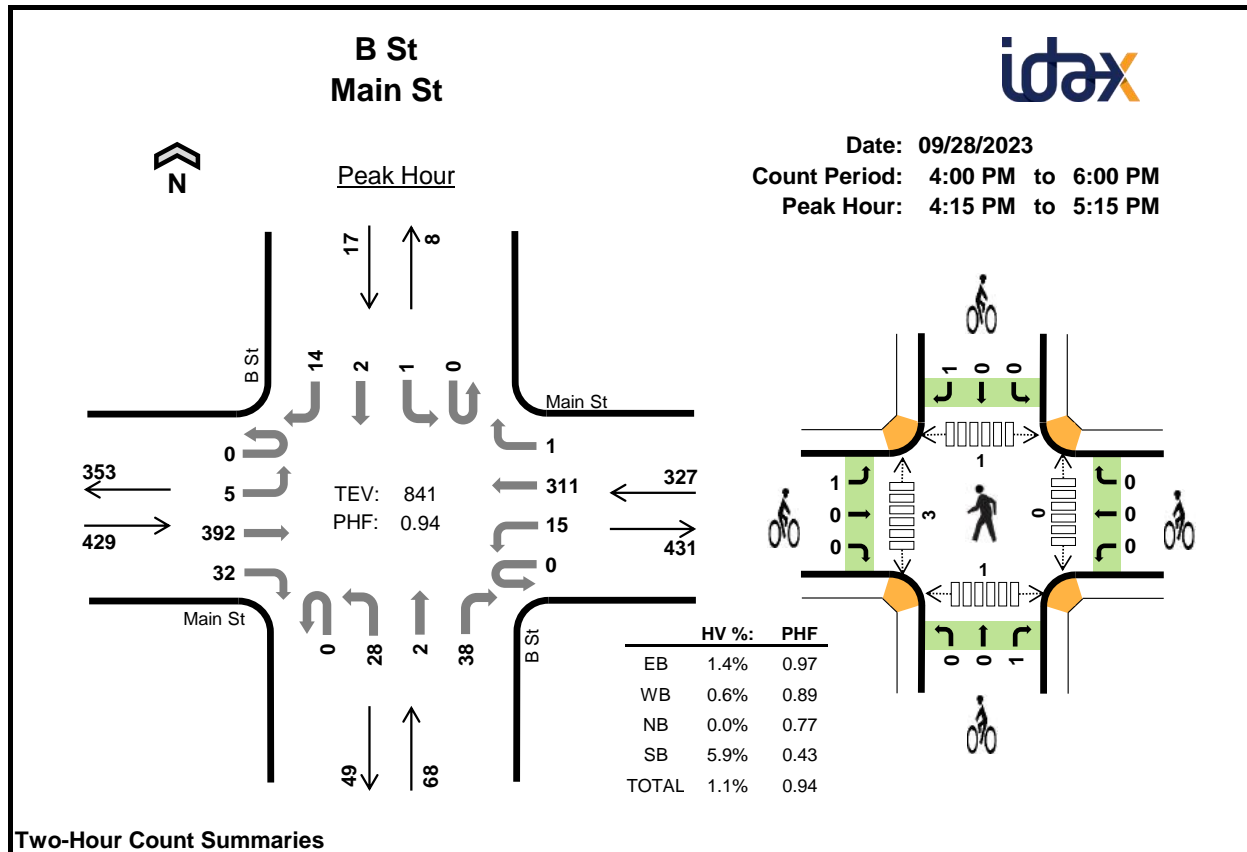
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	3	0	2	0	5	0	0	0	0	0	0	0	0	0	0
7:15 AM	2	3	1	0	6	0	0	0	0	0	0	0	1	0	1
7:30 AM	0	6	1	0	7	0	0	0	0	0	0	2	0	0	2
7:45 AM	2	2	0	0	4	0	0	0	0	0	1	2	1	0	4
8:00 AM	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	3	0	0	4	0	0	0	0	0	0	2	2	2	6
8:30 AM	5	2	2	0	9	0	0	0	0	0	0	0	1	0	1
8:45 AM	1	1	0	0	2	0	0	0	1	1	1	2	0	0	3
Count Total	16	19	6	0	41	0	0	0	1	1	2	8	5	2	17
Peak Hour	10	9	2	0	21	0	0	0	0	0	1	4	4	2	11

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				B St				B St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	3	0	0	0	0	0	0	0	0	2	0	0	0	0	5	0
7:15 AM	0	0	2	0	0	0	3	0	0	0	0	1	0	0	0	0	6	0
7:30 AM	0	0	0	0	0	0	6	0	0	0	0	1	0	0	0	0	7	0
7:45 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	22
8:00 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	21
8:15 AM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	4	19
8:30 AM	0	0	5	0	0	0	2	0	0	1	0	1	0	0	0	0	9	21
8:45 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	19
Count Total	0	0	16	0	0	0	19	0	0	1	0	5	0	0	0	0	41	0
Peak Hour	0	0	10	0	0	0	9	0	0	1	0	1	0	0	0	0	21	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Main St			Main St			B St			B St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	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			
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 AM	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			
8:15 AM	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			
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	1			
Count Total	0	0	0	0	0	0	0	0	0	0	1	0	1	0			
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				B St				B St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	4	81	7	0	4	73	0	0	4	0	23	0	1	0	3	200	0
4:15 PM		0	1	97	10	0	3	79	1	0	9	1	12	0	1	1	8	223	0
4:30 PM		0	0	97	8	0	5	87	0	0	7	0	10	0	0	0	1	215	0
4:45 PM		0	2	95	8	0	4	79	0	0	5	0	5	0	0	1	0	199	837
5:00 PM		0	2	103	6	0	3	66	0	0	7	1	11	0	0	0	5	204	841
5:15 PM		0	1	90	4	0	3	92	1	0	6	0	14	0	0	0	6	217	835
5:30 PM		0	0	95	4	1	6	81	1	0	4	0	5	0	0	0	2	199	819
5:45 PM		0	3	80	6	0	9	73	0	0	6	0	9	0	0	2	4	192	812
Count Total		0	13	738	53	1	37	630	3	0	48	2	89	0	2	4	29	1,649	0
Peak Hour	All	0	5	392	32	0	15	311	1	0	28	2	38	0	1	2	14	841	0
	HV	0	0	6	0	0	0	2	0	0	0	0	0	0	0	0	1	9	0
	HV%	-	0%	2%	0%	-	0%	1%	0%	-	0%	0%	0%	-	0%	0%	7%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	0	0	1	0	1	0	0	1	1	0	1	2	4
4:15 PM	0	1	0	1	2	0	0	0	0	0	0	0	1	1	2
4:30 PM	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2
4:45 PM	2	0	0	0	2	0	0	1	1	2	0	0	0	0	0
5:00 PM	3	0	0	0	3	1	0	0	0	1	0	1	0	0	1
5:15 PM	1	1	0	0	2	0	0	0	0	0	0	0	1	0	1
5:30 PM	0	1	0	0	1	0	0	1	1	2	0	1	0	1	2
5:45 PM	1	2	0	0	3	0	0	0	0	0	1	0	0	1	2
Count Total	9	6	0	1	16	1	1	2	2	6	2	4	3	5	14
Peak Hour	6	2	0	1	9	1	0	1	1	3	0	3	1	1	5

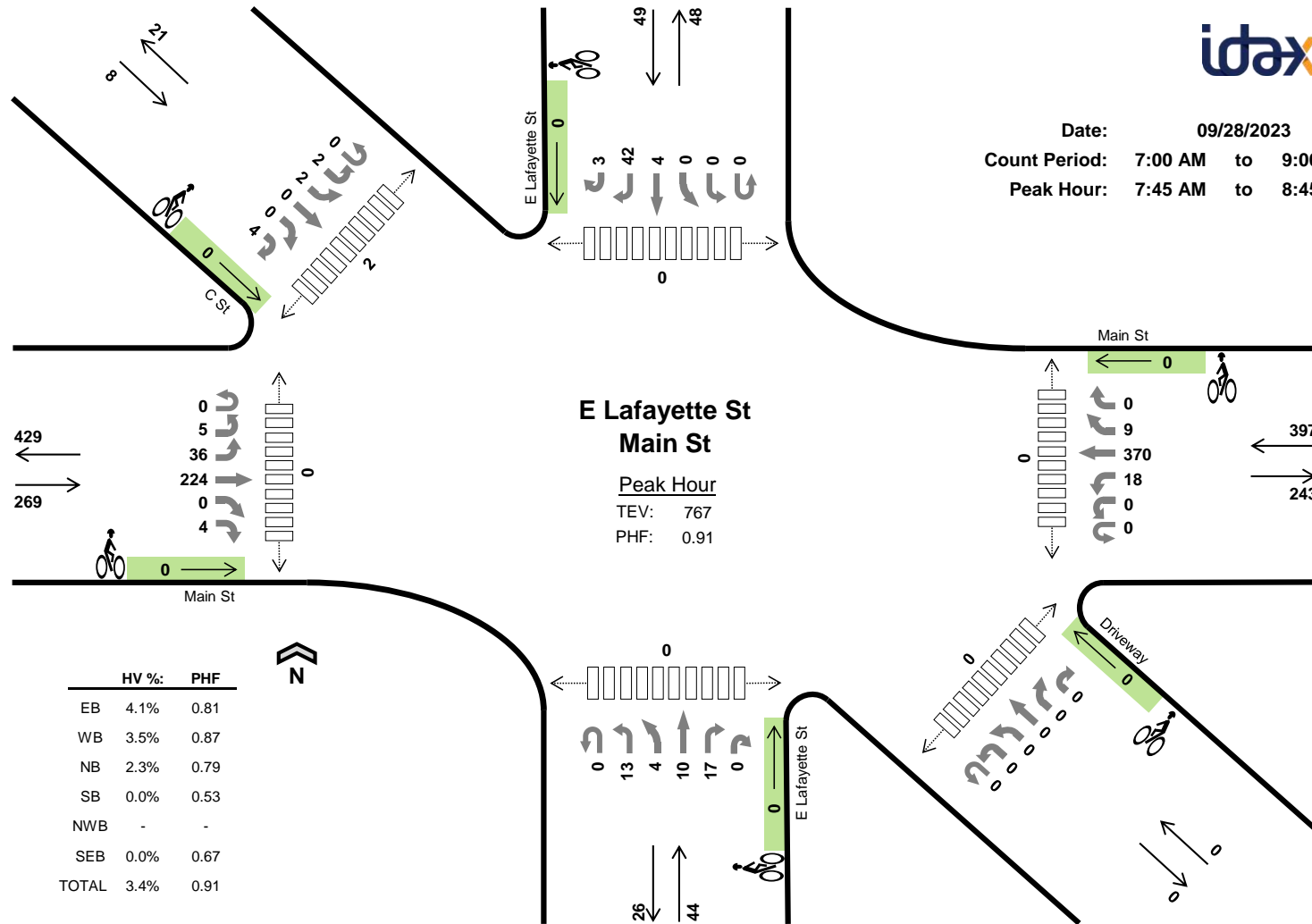
Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				B St				B St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2	0
4:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
4:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7
5:00 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	9
5:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	9
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	8
5:45 PM	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	3	9
Count Total	0	0	9	0	0	1	5	0	0	0	0	0	0	0	0	1	16	0
Peak Hour	0	0	6	0	0	0	2	0	0	0	0	0	0	0	0	1	9	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Main St			Main St			B St			B St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0			
4:15 PM	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			
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	2	3			
5:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	3			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3			
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	2	5			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3			
Count Total	1	0	0	0	1	0	0	1	1	0	0	2	6	0			
Peak Hour	1	0	0	0	0	0	0	0	1	0	0	1	3	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



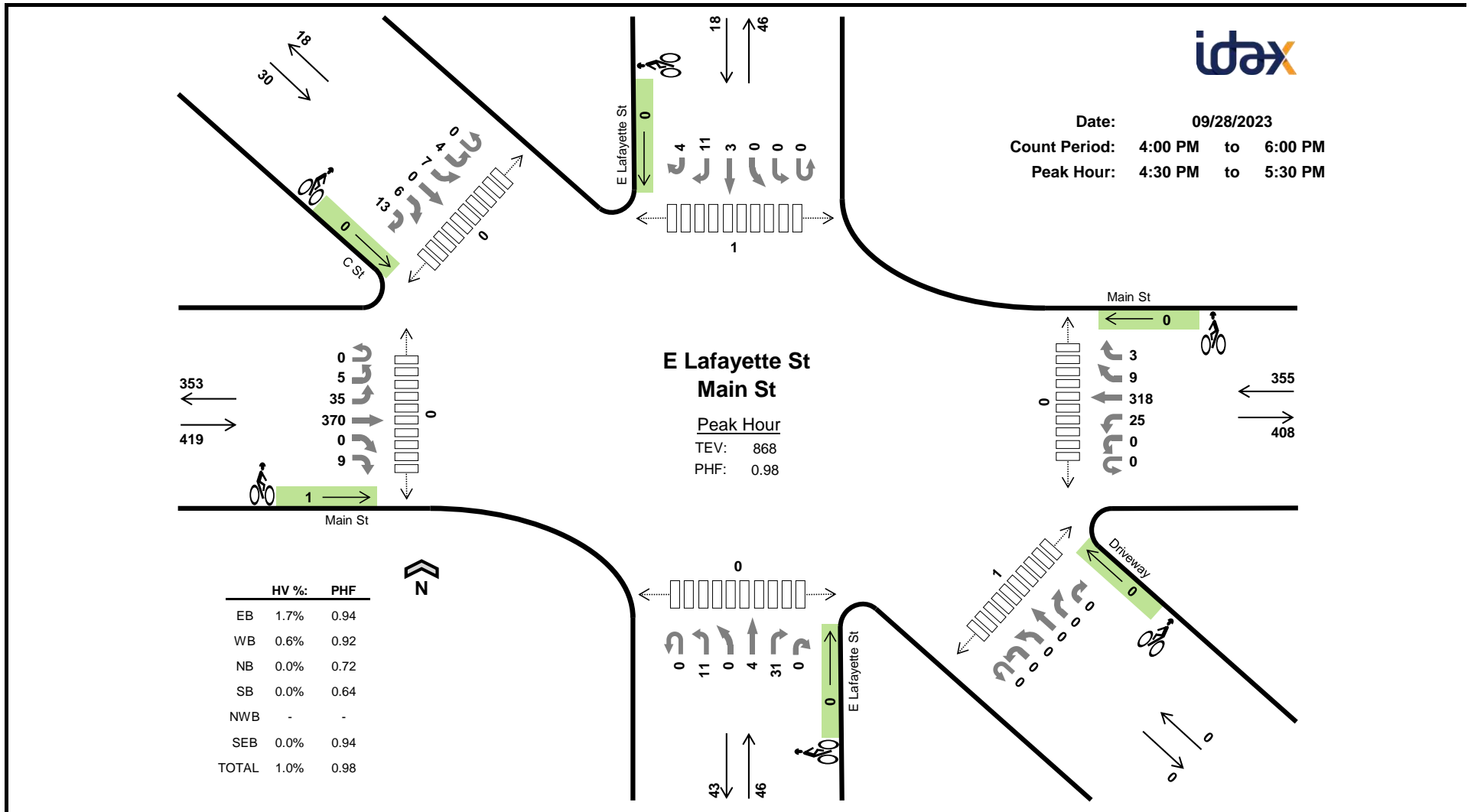
Date: 09/28/2023
 Count Period: 7:00 AM to 9:00 AM
 Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	4.1%	0.81
WB	3.5%	0.87
NB	2.3%	0.79
SB	0.0%	0.53
NWB	-	-
SEB	0.0%	0.67
TOTAL	3.4%	0.91

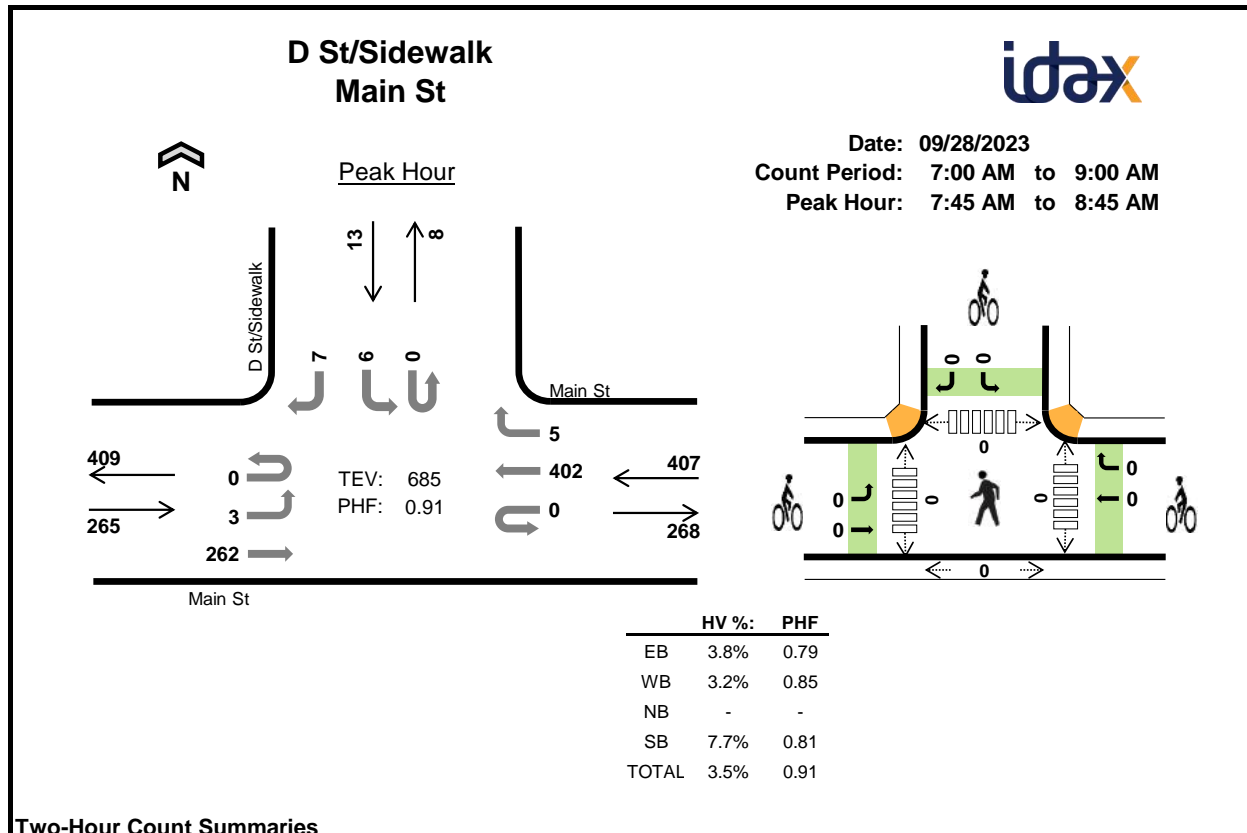










**Two-Hour Count Summaries**

Interval Start		Main St				Main St				n/a				D St/Sidewalk				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	22	0	0	0	22	0	0	0	0	0	0	1	0	1	46	0
7:15 AM		0	1	26	0	0	0	56	0	0	0	0	0	0	0	0	1	84	0
7:30 AM		0	2	46	0	0	0	79	0	0	0	0	0	0	0	0	1	128	0
7:45 AM		0	0	65	0	0	0	101	0	0	0	0	0	0	3	0	1	170	428
8:00 AM		0	3	61	0	0	0	117	3	0	0	0	0	0	0	0	2	186	568
8:15 AM		0	0	52	0	0	0	83	1	0	0	0	0	0	2	0	2	140	624
8:30 AM		0	0	84	0	0	0	101	1	0	0	0	0	0	1	0	2	189	685
8:45 AM		0	1	38	0	0	0	74	1	0	0	0	0	0	0	0	1	115	630
Count Total		0	7	394	0	0	0	633	6	0	0	0	0	0	7	0	11	1,058	0
Peak Hour	All	0	3	262	0	0	0	402	5	0	0	0	0	0	6	0	7	685	0
	HV	0	0	10	0	0	0	12	1	0	0	0	0	0	0	0	1	24	0
	HV%	-	0%	4%	-	-	-	3%	20%	-	-	-	-	-	0%	-	14%	4%	0

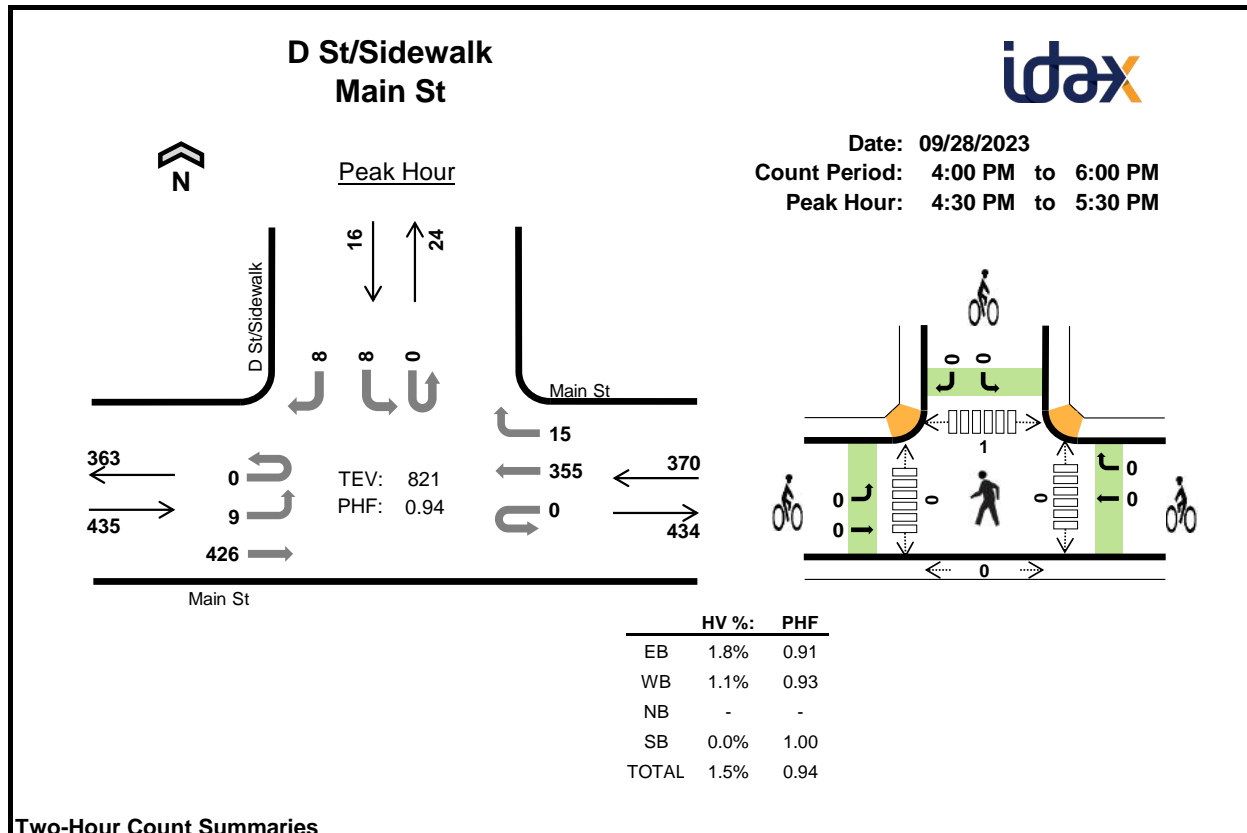
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0
7:15 AM	4	4	0	0	8	1	0	0	0	1	0	0	0	0	0
7:30 AM	5	4	0	0	9	0	0	0	0	0	1	0	1	0	2
7:45 AM	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0
8:00 AM	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0
8:15 AM	2	4	0	1	7	0	0	0	0	0	0	0	0	0	0
8:30 AM	5	3	0	0	8	0	0	0	0	0	0	0	0	0	0
8:45 AM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0
Count Total	25	22	0	1	48	1	0	0	0	1	1	0	1	0	2
Peak Hr	10	13	0	1	24	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				n/a				D St/Sidewalk				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
7:15 AM	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	8	0
7:30 AM	0	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	9	0
7:45 AM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	4	26
8:00 AM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	5	26
8:15 AM	0	0	2	0	0	0	3	1	0	0	0	0	0	0	0	1	7	25
8:30 AM	0	0	5	0	0	0	3	0	0	0	0	0	0	0	0	0	8	24
8:45 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	22
Count Total	0	0	25	0	0	0	21	1	0	0	0	0	0	0	0	1	48	0
Peak Hour	0	0	10	0	0	0	12	1	0	0	0	0	0	0	0	1	24	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Main St			Main St			n/a			D St/Sidewalk			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	1	0			
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
8:15 AM	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			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Count Total	1	0	0	0	0	0	0	0	0	0	0	0	1	0			
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				n/a				D St/Sidewalk				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	2	98	0	0	0	78	3	0	0	0	0	0	1	0	2	184	0
4:15 PM		0	0	103	0	0	0	84	4	0	0	0	0	0	1	0	3	195	0
4:30 PM		0	4	114	0	0	0	93	3	0	0	0	0	0	2	0	2	218	0
4:45 PM		0	1	97	0	0	0	80	3	0	0	0	0	0	3	0	1	185	782
5:00 PM		0	1	119	0	0	0	87	4	0	0	0	0	0	1	0	3	215	813
5:15 PM		0	3	96	0	0	0	95	5	0	0	0	0	0	2	0	2	203	821
5:30 PM		0	1	93	0	0	0	83	4	0	0	0	0	0	3	0	0	184	787
5:45 PM		0	0	88	0	0	0	82	2	0	0	0	0	0	1	0	1	174	776
Count Total		0	12	808	0	0	0	682	28	0	0	0	0	0	14	0	14	1,558	0
Peak Hour	All	0	9	426	0	0	0	355	15	0	0	0	0	0	8	0	8	821	0
	HV	0	0	8	0	0	0	4	0	0	0	0	0	0	0	0	0	12	0
	HV%	-	0%	2%	-	-	-	1%	0%	-	-	-	-	-	0%	-	0%	1%	0

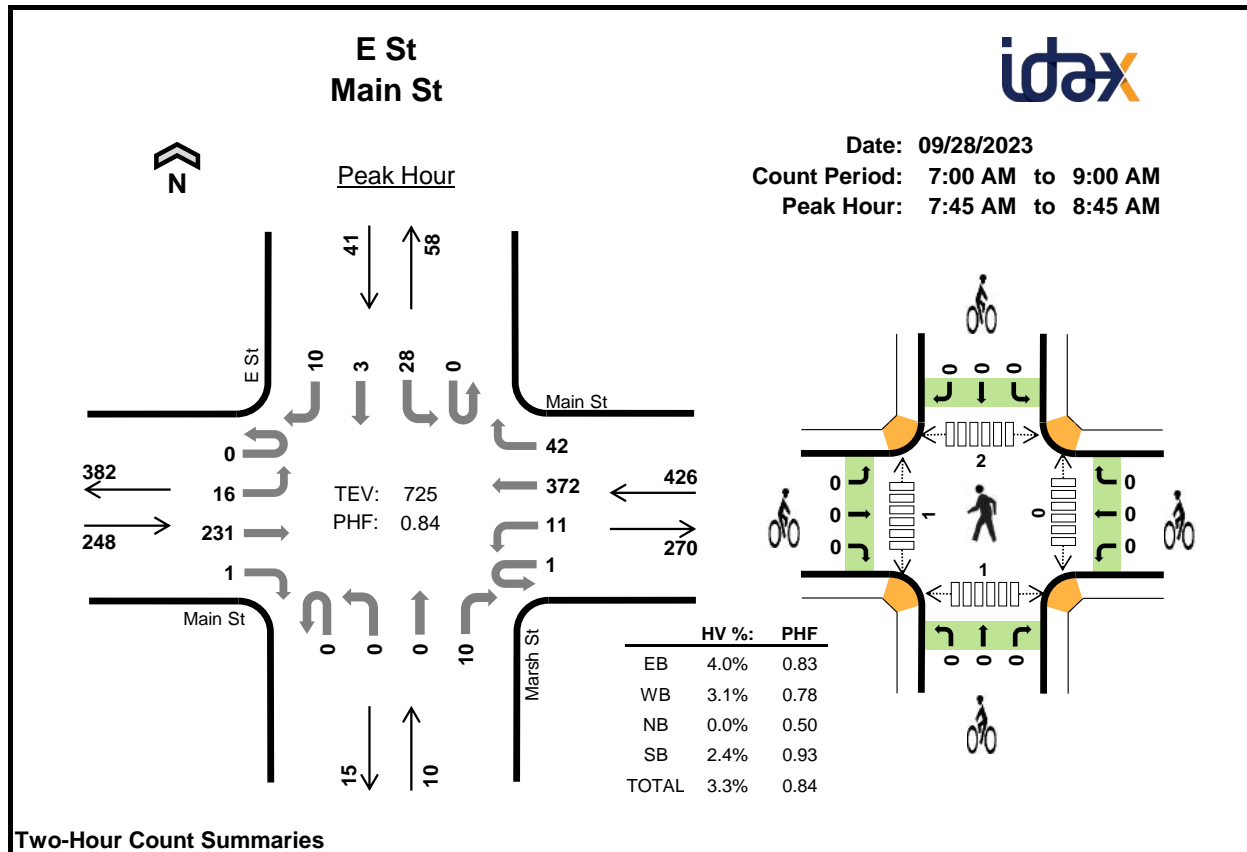
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	0	0	1	0	1	0	0	1	2	0	1	0	3
4:15 PM	0	1	0	0	1	0	0	0	0	0	2	0	3	0	5
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1
4:45 PM	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0
5:00 PM	3	2	0	0	5	0	0	0	0	0	0	0	0	0	0
5:15 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0
5:45 PM	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0
Count Total	11	9	0	0	20	1	1	0	0	2	4	0	5	0	9
Peak Hr	8	4	0	0	12	0	0	0	0	0	0	0	1	0	1

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				n/a				D St/Sidewalk				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4	7
5:00 PM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	11
5:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	12
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	12
5:45 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	5	13
Count Total	0	0	11	0	0	0	9	0	0	0	0	0	0	0	0	0	20	0
Peak Hour	0	0	8	0	0	0	4	0	0	0	0	0	0	0	0	0	12	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Main St			Main St			n/a			D St/Sidewalk			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	1	0			
4:15 PM	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			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	1			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
Count Total	0	1	0	0	0	1	0	0	0	0	0	0	2	0			
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				Marsh St				E St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	25	0	0	0	18	4	0	0	0	1	0	3	0	0	51	0
7:15 AM		0	2	25	0	0	0	52	5	0	0	0	0	0	1	0	1	86	0
7:30 AM		0	3	40	0	0	1	66	5	0	1	1	7	0	5	1	2	132	0
7:45 AM		0	6	62	0	0	1	88	12	0	0	0	1	0	8	0	2	180	449
8:00 AM		0	4	59	0	1	6	116	14	0	0	0	5	0	4	1	5	215	613
8:15 AM		0	2	39	1	0	1	76	10	0	0	0	2	0	9	1	0	141	668
8:30 AM		0	4	71	0	0	3	92	6	0	0	0	2	0	7	1	3	189	725
8:45 AM		0	1	33	0	0	1	63	3	0	0	1	0	0	7	3	2	114	659
Count Total		0	22	354	1	1	13	571	59	0	1	2	18	0	44	7	15	1,108	0
Peak Hour	All	0	16	231	1	1	11	372	42	0	0	0	10	0	28	3	10	725	0
	HV	0	0	10	0	0	0	13	0	0	0	0	0	0	0	0	1	24	0
	HV%	-	0%	4%	0%	0%	0%	3%	0%	-	-	-	0%	-	0%	0%	10%	3%	0

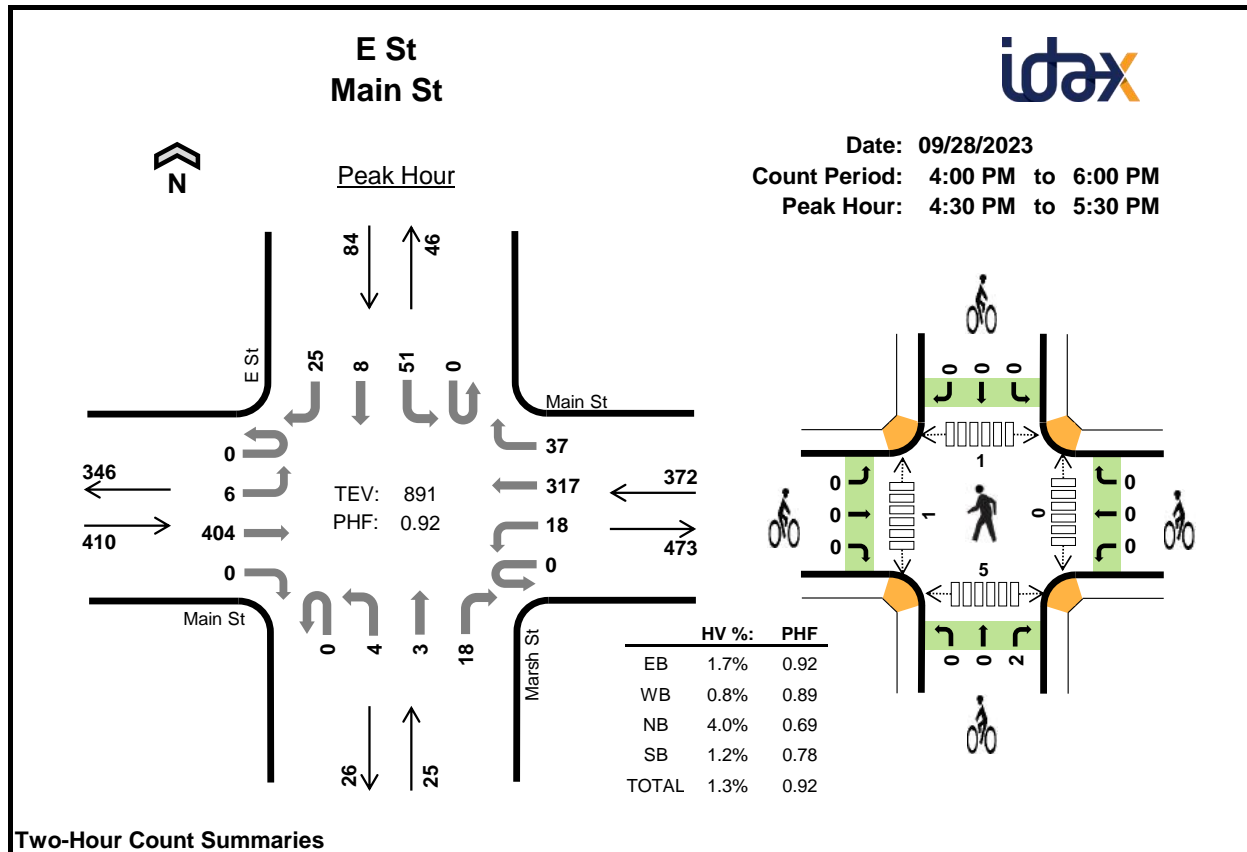
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	4	0	0	1	5	0	0	0	0	0	1	0	1	0	2
7:15 AM	3	6	0	0	9	0	0	0	0	0	0	0	1	0	1
7:30 AM	2	4	0	0	6	0	0	0	0	0	0	1	1	2	4
7:45 AM	2	2	0	0	4	0	0	0	0	0	0	0	0	1	1
8:00 AM	2	2	0	1	5	0	0	0	0	0	0	0	0	0	0
8:15 AM	2	5	0	0	7	0	0	0	0	0	0	0	0	0	0
8:30 AM	4	4	0	0	8	0	0	0	0	0	0	1	2	0	3
8:45 AM	1	1	0	1	3	0	0	0	0	0	0	0	0	0	0
Count Total	20	24	0	3	47	0	0	0	0	0	1	2	5	3	11
Peak Hour	10	13	0	1	24	0	0	0	0	0	0	1	2	1	4

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Marsh St				E St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	5	0
7:15 AM	0	0	3	0	0	0	4	2	0	0	0	0	0	0	0	0	9	0
7:30 AM	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	6	0
7:45 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	24
8:00 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	1	5	24
8:15 AM	0	0	2	0	0	0	5	0	0	0	0	0	0	0	0	0	7	22
8:30 AM	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	8	24
8:45 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	3	23
Count Total	0	0	20	0	0	0	22	2	0	0	0	0	0	1	0	2	47	0
Peak Hour	0	0	10	0	0	0	13	0	0	0	0	0	0	0	0	1	24	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			Marsh St			E St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	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				
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	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				
8:15 AM	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				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				Marsh St				E St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	5	88	0	0	4	70	9	0	0	2	1	0	12	2	2	195	0
4:15 PM		0	1	84	0	0	0	73	9	0	0	0	2	0	8	2	3	182	0
4:30 PM		0	1	111	0	0	7	85	9	0	2	2	5	0	10	1	9	242	0
4:45 PM		0	1	95	0	0	3	71	10	0	0	1	5	0	18	3	6	213	832
5:00 PM		0	2	103	0	0	2	70	10	0	0	0	5	0	8	2	3	205	842
5:15 PM		0	2	95	0	0	6	91	8	0	2	0	3	0	15	2	7	231	891
5:30 PM		0	4	89	0	1	7	76	14	0	0	0	0	0	7	3	3	204	853
5:45 PM		0	3	83	0	0	2	69	4	0	0	0	2	0	5	6	1	175	815
Count Total		0	19	748	0	1	31	605	73	0	4	5	23	0	83	21	34	1,647	0
Peak Hour	All	0	6	404	0	0	18	317	37	0	4	3	18	0	51	8	25	891	0
	HV	0	0	7	0	0	0	3	0	0	1	0	0	0	1	0	0	12	0
	HV%	-	0%	2%	-	-	0%	1%	0%	-	25%	0%	0%	-	2%	0%	0%	1%	0

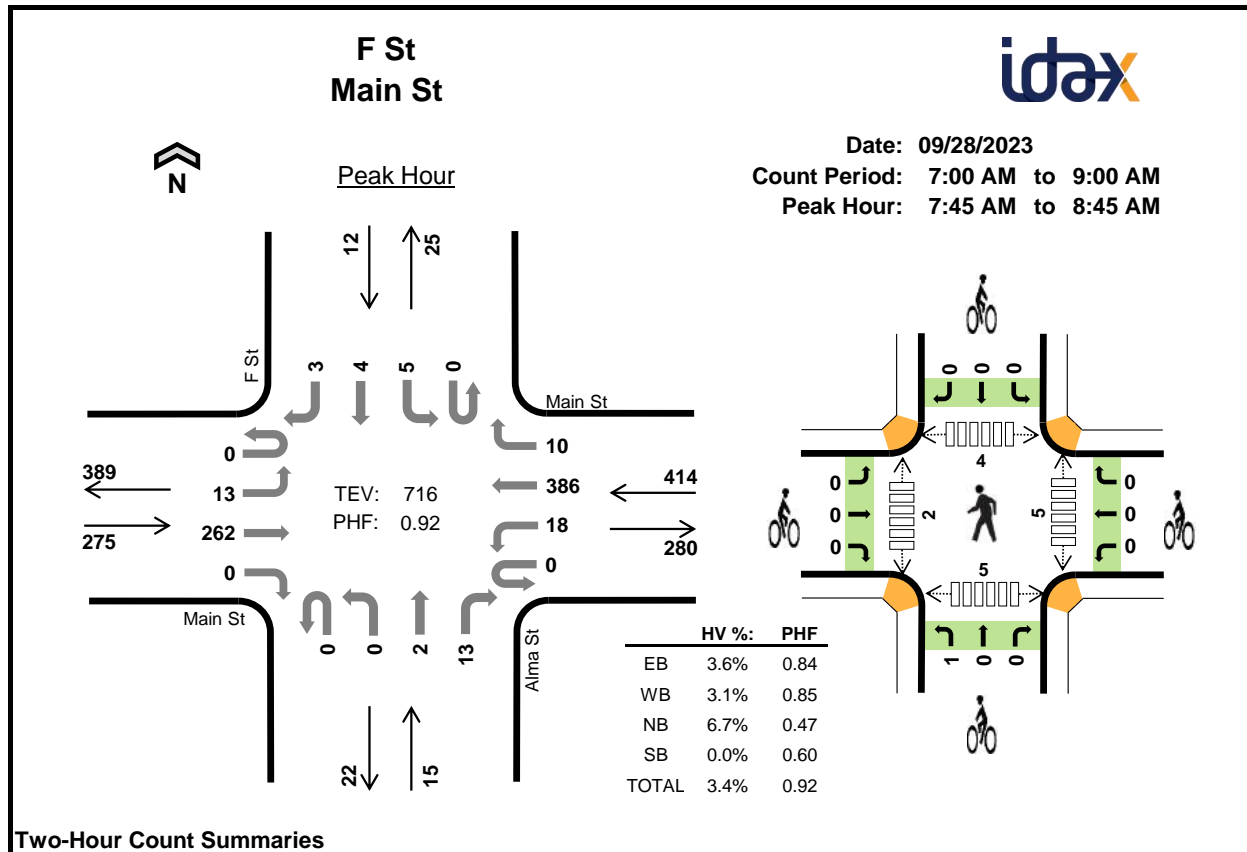
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	0	0	1	0	0	0	0	0	1	0	2	1	4
4:15 PM	0	3	0	1	4	0	0	0	0	0	0	0	3	3	6
4:30 PM	1	1	1	0	3	0	0	0	0	0	0	0	0	1	1
4:45 PM	2	0	0	0	2	0	0	0	0	0	0	1	1	3	5
5:00 PM	3	2	0	1	6	0	0	0	0	0	0	0	0	1	1
5:15 PM	1	0	0	0	1	0	0	2	0	2	0	0	0	0	0
5:30 PM	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0
5:45 PM	1	3	0	1	5	0	0	0	0	0	0	0	0	0	0
Count Total	9	10	1	3	23	0	0	2	1	3	1	1	6	9	17
Peak Hour	7	3	1	1	12	0	0	2	0	2	0	1	1	5	7

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Marsh St				E St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	1	2	0	0	0	0	0	0	1	0	4	0
4:30 PM	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	3	0
4:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	10
5:00 PM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	1	0	6	15
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	10
5:45 PM	0	0	1	0	0	0	2	1	0	0	0	0	0	0	0	1	5	13
Count Total	0	0	9	0	0	0	7	3	0	1	0	0	0	2	1	0	23	0
Peak Hour	0	0	7	0	0	0	3	0	0	1	0	0	0	1	0	0	12	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Main St			Main St			Marsh St			E St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:00 PM	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	2	0	0	0	2	2	2		
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	3	3		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3		
Count Total	0	0	0	0	0	0	0	0	2	1	0	0	3	0	0		
Peak Hour	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0		

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				Alma St				F St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	4	25	0	0	2	21	1	0	0	0	1	0	0	0	0	54	0
7:15 AM		0	0	25	0	0	2	49	0	0	0	1	4	0	1	0	0	82	0
7:30 AM		0	6	47	0	0	7	62	0	0	0	2	4	0	1	2	0	131	0
7:45 AM		0	5	67	0	0	4	90	3	0	0	0	8	0	2	3	0	182	449
8:00 AM		0	5	59	0	0	5	113	4	0	0	0	4	0	1	1	2	194	589
8:15 AM		0	2	55	0	0	6	88	2	0	0	1	0	0	0	0	1	155	662
8:30 AM		0	1	81	0	0	3	95	1	0	0	1	1	0	2	0	0	185	716
8:45 AM		0	1	39	0	0	1	59	2	0	1	0	2	0	0	4	0	109	643
Count Total		0	24	398	0	0	30	577	13	0	1	5	24	0	7	10	3	1,092	0
Peak Hour	All	0	13	262	0	0	18	386	10	0	0	2	13	0	5	4	3	716	0
	HV	0	1	9	0	0	0	13	0	0	0	0	1	0	0	0	0	24	0
	HV%	-	8%	3%	-	-	0%	3%	0%	-	-	0%	8%	-	0%	0%	0%	3%	0

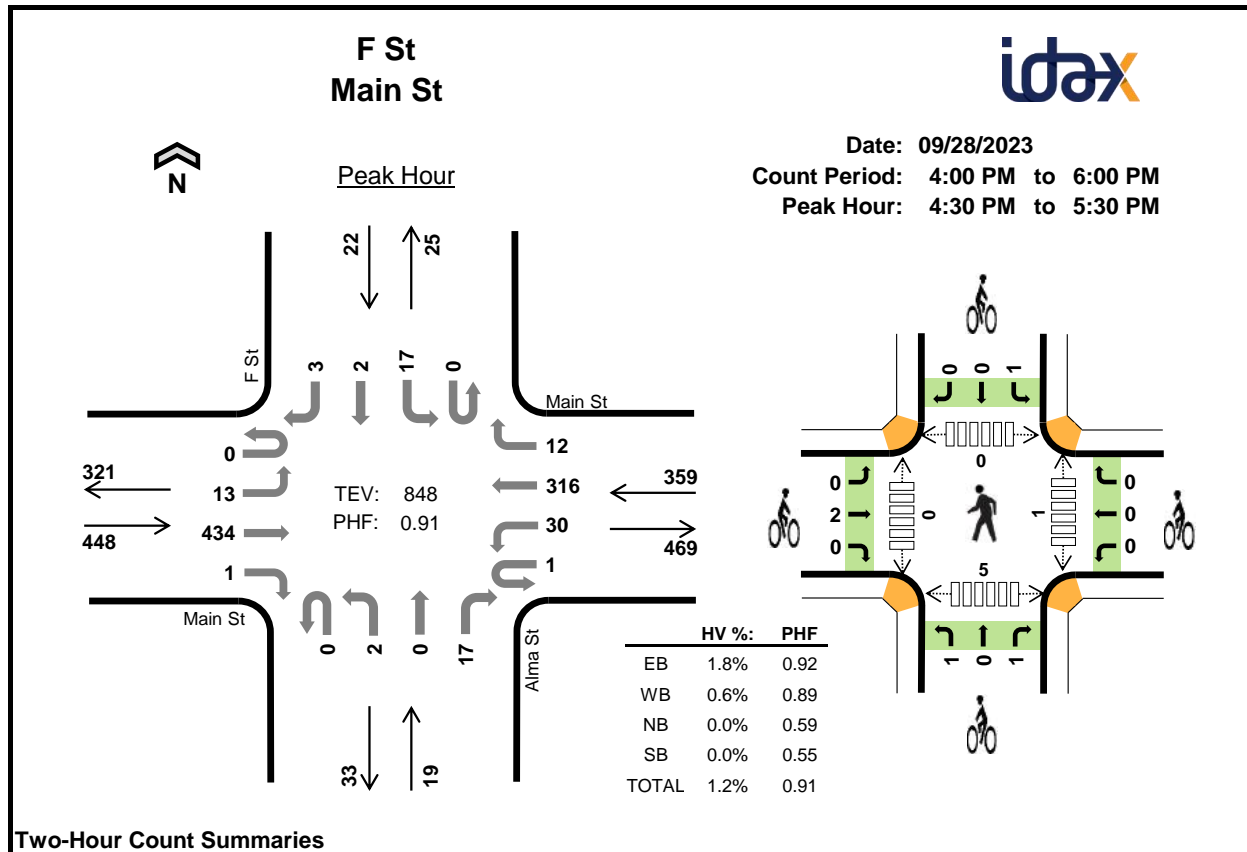
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	5	1	0	0	6	0	0	0	0	0	0	0	0	0	0
7:15 AM	3	6	0	0	9	0	0	0	0	0	0	1	1	0	2
7:30 AM	1	5	0	0	6	0	0	0	0	0	0	2	1	0	3
7:45 AM	1	2	1	0	4	0	0	0	0	0	0	1	2	1	4
8:00 AM	3	2	0	0	5	0	0	1	0	1	4	0	0	4	8
8:15 AM	2	5	0	0	7	0	0	0	0	0	1	1	0	0	2
8:30 AM	4	4	0	0	8	0	0	0	0	0	0	0	2	0	2
8:45 AM	1	1	0	0	2	0	0	0	0	0	0	0	2	0	2
Count Total	20	26	1	0	47	0	0	1	0	1	5	5	8	5	23
Peak Hour	10	13	1	0	24	0	0	1	0	1	5	2	4	5	16

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Alma St				F St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	5	0	0	1	0	0	0	0	0	0	0	0	0	0	6	0
7:15 AM	0	0	3	0	0	0	6	0	0	0	0	0	0	0	0	0	9	0
7:30 AM	0	0	1	0	0	0	5	0	0	0	0	0	0	0	0	0	6	0
7:45 AM	0	0	1	0	0	0	2	0	0	0	0	1	0	0	0	0	4	25
8:00 AM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	24
8:15 AM	0	1	1	0	0	0	5	0	0	0	0	0	0	0	0	0	7	22
8:30 AM	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	8	24
8:45 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	22
Count Total	0	1	19	0	0	1	25	0	0	0	0	1	0	0	0	0	47	0
Peak Hour	0	1	9	0	0	0	13	0	0	0	0	1	0	0	0	0	24	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			Alma St			F St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	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				
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	1	1				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
Count Total	0	0	0	0	0	0	1	0	0	0	0	0	0	0				
Peak Hour	0	0	0	0	0	0	1	0	0	0	0	0	0	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				Alma St				F St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	2	99	0	0	5	72	5	0	0	0	3	0	8	0	0	194	0
4:15 PM		0	1	90	0	0	6	71	5	0	0	1	3	0	9	0	1	187	0
4:30 PM		0	2	120	0	0	8	92	1	0	0	0	5	0	5	0	1	234	0
4:45 PM		0	6	104	0	1	9	72	4	0	2	0	1	0	7	1	2	209	824
5:00 PM		0	2	97	1	0	8	68	4	0	0	0	8	0	1	0	0	189	819
5:15 PM		0	3	113	0	0	5	84	3	0	0	0	3	0	4	1	0	216	848
5:30 PM		0	4	90	0	1	6	83	2	0	0	1	7	0	3	1	0	198	812
5:45 PM		0	2	89	0	0	9	62	0	0	0	1	7	0	1	0	0	171	774
Count Total		0	22	802	1	2	56	604	24	0	2	3	37	0	38	3	4	1,598	0
Peak Hour	All	0	13	434	1	1	30	316	12	0	2	0	17	0	17	2	3	848	0
	HV	0	0	8	0	0	0	2	0	0	0	0	0	0	0	0	0	10	0
	HV%	-	0%	2%	0%	0%	0%	1%	0%	-	0%	-	0%	-	0%	0%	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	0	0	1	1	1	0	0	2	0	0	0	3	3
4:15 PM	1	3	0	0	4	1	0	0	0	1	0	0	0	5	5
4:30 PM	1	1	0	0	2	1	0	0	0	1	1	0	0	1	2
4:45 PM	2	0	0	0	2	0	0	1	0	1	0	0	0	2	2
5:00 PM	3	1	0	0	4	0	0	0	1	1	0	0	0	1	1
5:15 PM	2	0	0	0	2	1	0	1	0	2	0	0	0	1	1
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	3	0	0	4	0	1	1	0	2	1	0	0	0	1
Count Total	11	9	0	0	20	4	2	3	1	10	2	0	0	13	15
Peak Hour	8	2	0	0	10	2	0	2	1	5	1	0	0	5	6

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Alma St				F St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	4	0
4:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
4:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	9
5:00 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4	12
5:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	10
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	9
5:45 PM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	4	11
Count Total	0	0	11	0	0	0	9	0	0	0	0	0	0	0	0	0	20	0
Peak Hour	0	0	8	0	0	0	2	0	0	0	0	0	0	0	0	0	10	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Main St			Main St			Alma St			F St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0			
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0			
4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0			
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	5			
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	4			
5:15 PM	0	1	0	0	0	0	0	0	1	0	0	0	2	5			
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4			
5:45 PM	0	0	0	1	0	0	0	0	1	0	0	0	2	5			
Count Total	0	4	0	1	1	0	1	0	2	1	0	0	10	0			
Peak Hour	0	2	0	0	0	0	1	0	1	1	0	0	5	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Filbert St Main St

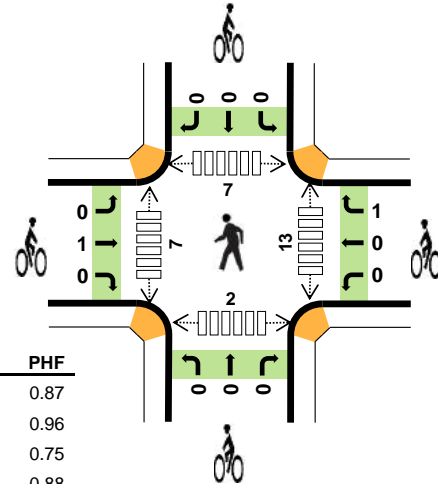
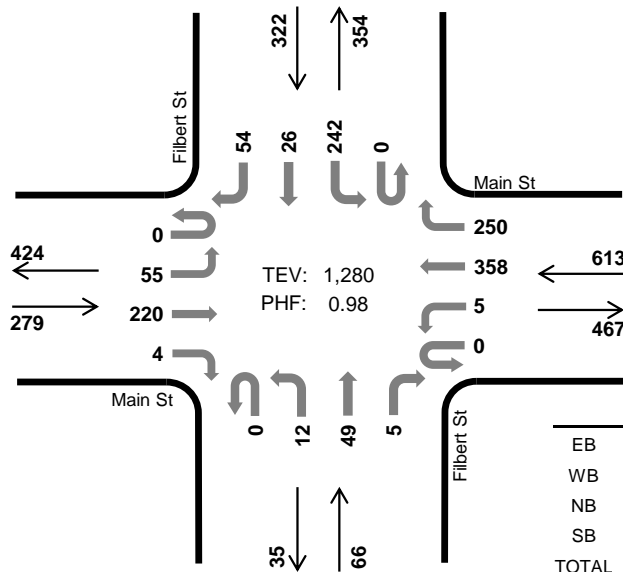


Peak Hour

Date: 09/28/2023

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	3.6%	0.87
WB	3.3%	0.96
NB	1.5%	0.75
SB	3.1%	0.88
TOTAL	3.2%	0.98

Two-Hour Count Summaries

Interval Start		Main St				Main St				Filbert St				Filbert St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	6	26	0	0	0	20	42	0	1	6	0	0	37	3	7	148	0
7:15 AM		0	11	22	0	0	0	48	53	0	0	14	0	0	39	3	11	201	0
7:30 AM		0	23	39	1	0	0	63	55	0	4	19	1	0	54	5	7	271	0
7:45 AM		0	23	56	1	0	0	89	71	0	2	19	1	0	43	10	11	326	946
8:00 AM		0	15	52	0	0	3	108	49	0	4	10	1	0	59	6	19	326	1,124
8:15 AM		0	5	45	2	0	1	75	81	0	5	14	0	0	74	7	11	320	1,243
8:30 AM		0	12	67	1	0	1	86	49	0	1	6	3	0	66	3	13	308	1,280
8:45 AM		0	9	40	5	0	0	48	50	0	3	10	2	0	56	5	13	241	1,195
Count Total		0	104	347	10	0	5	537	450	0	20	98	8	0	428	42	92	2,141	0
Peak Hour	All	0	55	220	4	0	5	358	250	0	12	49	5	0	242	26	54	1,280	0
	HV	0	1	9	0	0	1	11	8	0	0	1	0	0	9	0	1	41	0
	HV%	-	2%	4%	0%	-	20%	3%	3%	-	0%	2%	0%	-	4%	0%	2%	3%	0

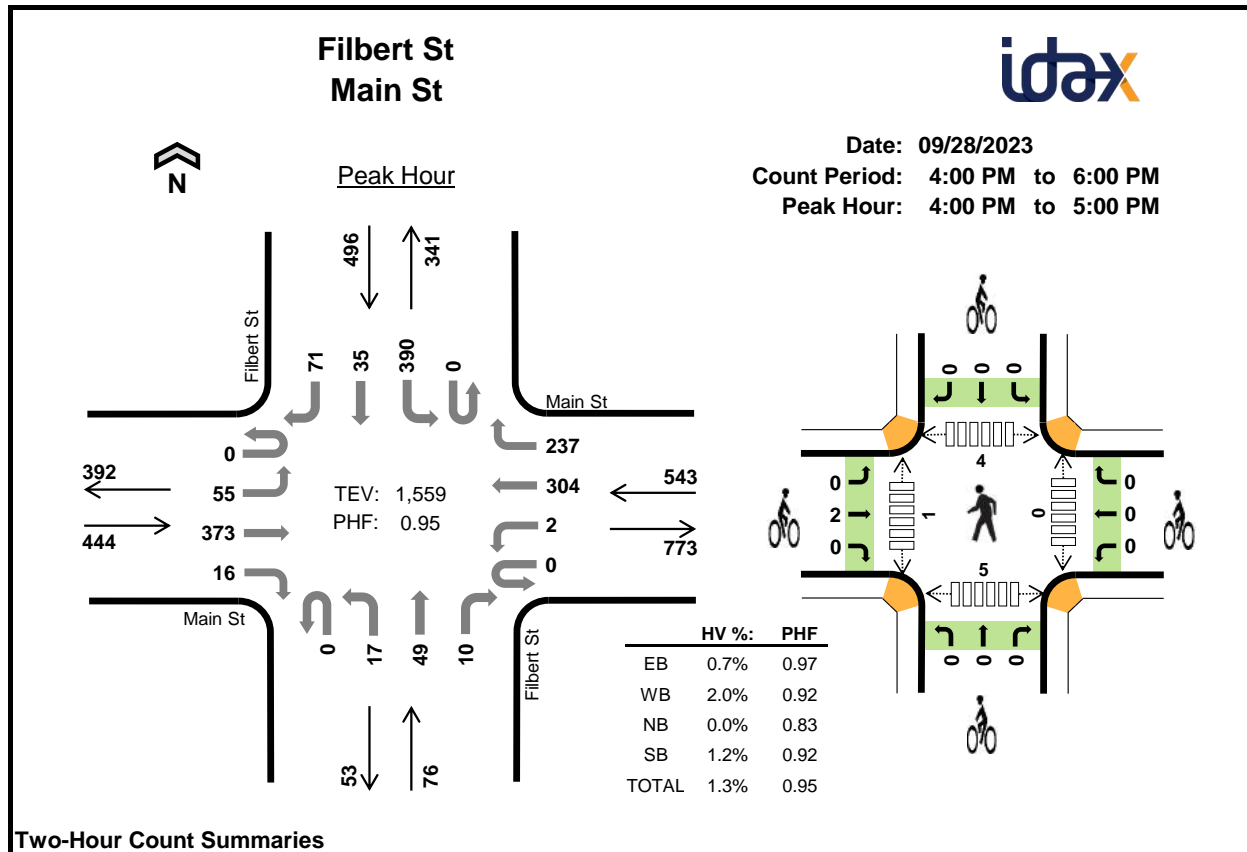
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	6	4	0	14	24	0	0	0	0	0	0	0	0	0	0
7:15 AM	3	16	0	10	29	0	0	0	0	0	0	0	0	1	1
7:30 AM	3	5	1	5	14	0	0	0	0	0	8	1	0	1	10
7:45 AM	3	3	0	0	6	0	0	0	0	0	6	1	2	0	9
8:00 AM	2	7	0	2	11	1	0	0	0	1	3	1	2	0	6
8:15 AM	1	5	1	3	10	0	0	0	0	0	4	4	2	2	12
8:30 AM	4	5	0	5	14	0	1	0	0	1	0	1	1	0	2
8:45 AM	4	6	0	9	19	1	0	0	0	1	0	1	1	0	2
Count Total	26	51	2	48	127	2	1	0	0	3	21	9	8	4	42
Peak Hour	10	20	1	10	41	1	1	0	0	2	13	7	7	2	29

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Filbert St				Filbert St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	6	0	0	0	0	4	0	0	0	0	0	12	1	1	24	0
7:15 AM	0	0	3	0	0	0	6	10	0	0	0	0	0	5	1	4	29	0
7:30 AM	0	2	1	0	0	0	1	4	0	1	0	0	0	4	0	1	14	0
7:45 AM	0	0	3	0	0	0	1	2	0	0	0	0	0	0	0	0	6	73
8:00 AM	0	0	2	0	0	1	2	4	0	0	0	0	0	1	0	1	11	60
8:15 AM	0	0	1	0	0	0	3	2	0	0	1	0	0	3	0	0	10	41
8:30 AM	0	1	3	0	0	0	5	0	0	0	0	0	0	5	0	0	14	41
8:45 AM	0	0	4	0	0	0	2	4	0	0	0	0	0	9	0	0	19	54
Count Total	0	3	23	0	0	1	20	30	0	1	1	0	0	39	2	7	127	0
Peak Hour	0	1	9	0	0	1	11	8	0	0	1	0	0	9	0	1	41	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			Filbert St			Filbert St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	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			
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1			
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1			
8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	2	2			
8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	3	3			
Count Total	0	2	0	0	0	1	0	0	0	0	0	0	3	0	0			
Peak Hour	0	1	0	0	0	1	0	0	0	0	0	0	2	0	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				Filbert St				Filbert St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	14	96	5	0	1	72	66	0	5	15	3	0	95	8	13	393	0
4:15 PM		0	12	94	3	0	0	76	50	0	4	10	1	0	92	6	14	362	0
4:30 PM		0	15	94	3	0	1	85	61	0	4	11	5	0	103	10	20	412	0
4:45 PM		0	14	89	5	0	0	71	60	0	4	13	1	0	100	11	24	392	1,559
5:00 PM		0	13	97	0	0	0	65	68	0	5	10	1	0	68	9	16	352	1,518
5:15 PM		0	10	104	2	0	2	87	56	0	6	10	2	0	88	12	16	395	1,551
5:30 PM		0	12	91	3	0	1	69	42	0	2	14	4	0	80	2	14	334	1,473
5:45 PM		0	11	83	2	0	0	74	48	0	2	6	2	0	74	9	13	324	1,405
Count Total		0	101	748	23	0	5	599	451	0	32	89	19	0	700	67	130	2,964	0
Peak Hour	All	0	55	373	16	0	2	304	237	0	17	49	10	0	390	35	71	1,559	0
	HV	0	1	2	0	0	0	4	7	0	0	0	0	0	6	0	0	20	0
	HV%	-	2%	1%	0%	-	0%	1%	3%	-	0%	0%	0%	-	2%	0%	0%	1%	0

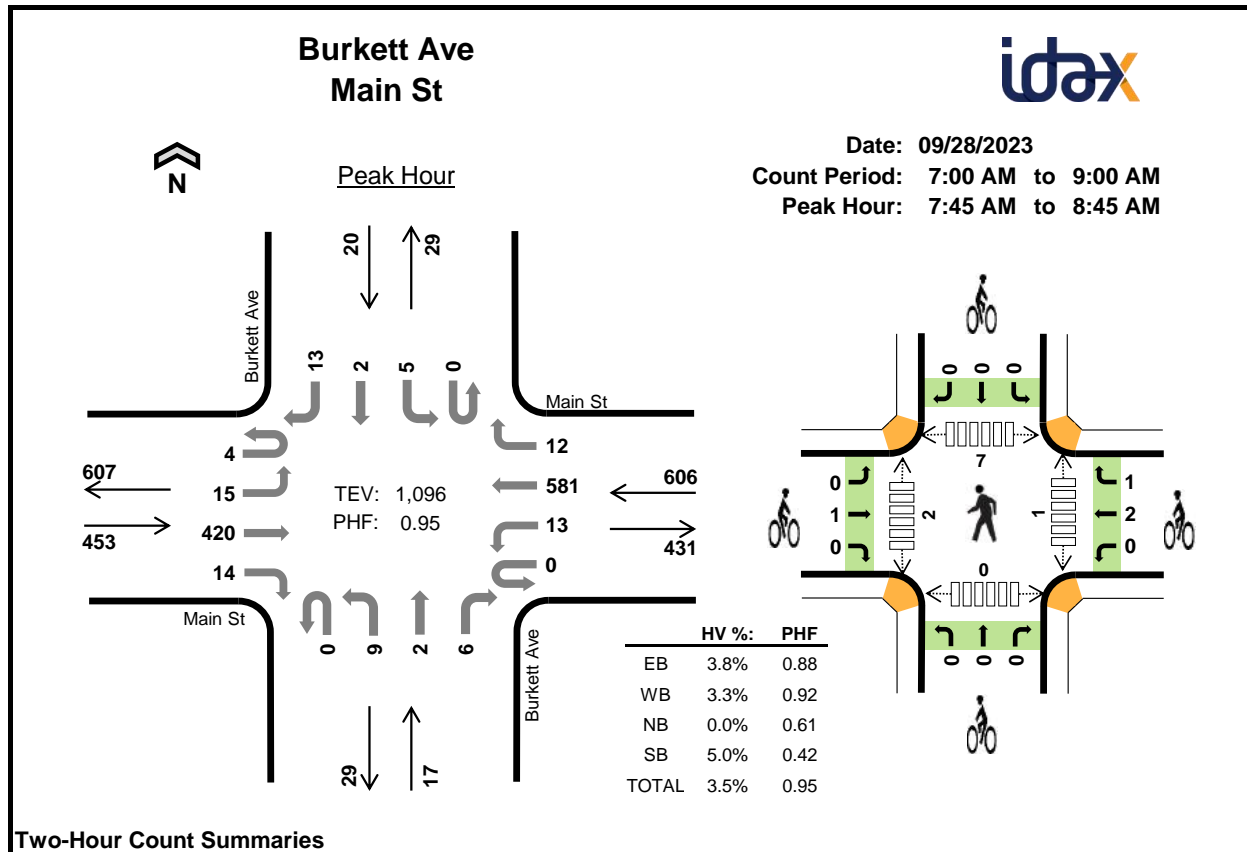
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	2	0	2	5	0	0	0	0	0	0	1	2	1	4
4:15 PM	1	4	0	0	5	1	0	0	0	1	0	0	2	1	3
4:30 PM	1	4	0	1	6	1	0	0	0	1	0	0	0	1	1
4:45 PM	0	1	0	3	4	0	0	0	0	0	0	0	0	2	2
5:00 PM	4	2	0	2	8	0	0	0	0	0	0	0	0	3	3
5:15 PM	1	2	0	1	4	3	0	0	2	5	0	2	0	1	3
5:30 PM	0	2	0	3	5	0	0	0	0	0	0	1	0	1	2
5:45 PM	2	4	0	0	6	1	0	0	0	1	1	0	5	2	8
Count Total	10	21	0	12	43	6	0	0	2	8	1	4	9	12	26
Peak Hour	3	11	0	6	20	2	0	0	0	2	0	1	4	5	10

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Filbert St				Filbert St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	1	1	0	0	0	0	0	2	0	0	5	0
4:15 PM	0	0	1	0	0	0	2	2	0	0	0	0	0	0	0	0	5	0
4:30 PM	0	1	0	0	0	0	1	3	0	0	0	0	0	1	0	0	6	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	3	0	0	4	20
5:00 PM	0	0	4	0	0	0	1	1	0	0	0	0	0	1	1	0	8	23
5:15 PM	0	0	1	0	0	0	0	2	0	0	0	0	0	1	0	0	4	22
5:30 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	3	0	0	5	21
5:45 PM	0	0	2	0	0	0	3	1	0	0	0	0	0	0	0	0	6	23
Count Total	0	1	9	0	0	0	9	12	0	0	0	0	0	11	1	0	43	0
Peak Hour	0	1	2	0	0	0	4	7	0	0	0	0	0	6	0	0	20	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			Filbert St			Filbert St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
5:15 PM	1	1	1	0	0	0	0	0	0	0	0	0	1	1	5	6	6	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6	0
Count Total	1	4	1	0	0	0	0	0	0	0	0	0	1	1	8	0	0	0
Peak Hour	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				Burkett Ave				Burkett Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	1	53	1	0	0	62	0	0	1	1	3	0	1	0	1	124	0
7:15 AM		0	2	58	2	0	0	93	2	0	1	0	0	0	0	0	0	158	0
7:30 AM		1	2	84	3	0	1	117	4	0	0	2	0	0	1	0	0	215	0
7:45 AM		1	8	86	0	0	1	145	4	0	1	2	1	0	1	0	3	253	750
8:00 AM		0	6	106	4	0	4	147	2	0	1	0	2	0	2	0	10	284	910
8:15 AM		1	0	109	4	0	3	160	2	0	4	0	3	0	1	0	0	287	1,039
8:30 AM		2	1	119	6	0	5	129	4	0	3	0	0	0	1	2	0	272	1,096
8:45 AM		0	1	76	4	0	2	88	3	0	1	0	3	0	1	0	1	180	1,023
Count Total		5	21	691	24	0	16	941	21	0	12	5	12	0	8	2	15	1,773	0
Peak Hour	All	4	15	420	14	0	13	581	12	0	9	2	6	0	5	2	13	1,096	0
	HV	0	0	17	0	0	0	20	0	0	0	0	0	0	1	0	0	38	0
	HV%	0%	0%	4%	0%	-	0%	3%	0%	-	0%	0%	0%	-	20%	0%	0%	3%	0

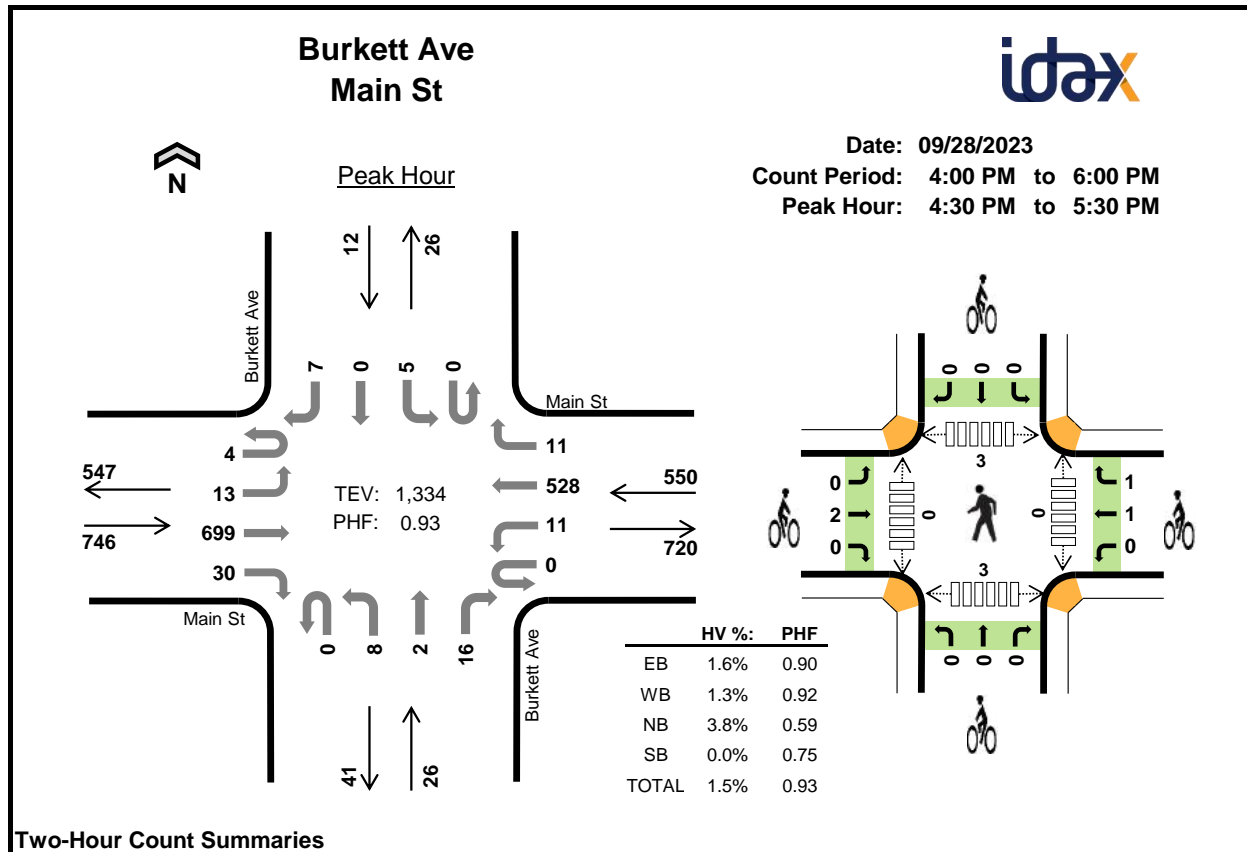
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	20	5	1	0	26	0	0	0	0	0	0	1	1	0	2
7:15 AM	7	17	0	0	24	0	0	0	0	0	0	0	0	0	0
7:30 AM	5	5	0	0	10	0	1	0	0	1	2	0	0	1	3
7:45 AM	2	3	0	0	5	0	1	0	0	1	0	1	3	0	4
8:00 AM	4	6	0	0	10	1	1	0	0	2	1	1	2	0	4
8:15 AM	4	7	0	0	11	0	0	0	0	0	0	0	0	0	0
8:30 AM	7	4	0	1	12	0	1	0	0	1	0	0	2	0	2
8:45 AM	11	5	0	1	17	0	0	0	0	0	0	0	0	0	0
Count Total	60	52	1	2	115	1	4	0	0	5	3	3	8	1	15
Peak Hour	17	20	0	1	38	1	3	0	0	4	1	2	7	0	10

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Burkett Ave				Burkett Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	20	0	0	0	5	0	0	0	0	1	0	0	0	0	26	0
7:15 AM	0	0	7	0	0	0	17	0	0	0	0	0	0	0	0	0	24	0
7:30 AM	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	10	0
7:45 AM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	5	65
8:00 AM	0	0	4	0	0	0	6	0	0	0	0	0	0	0	0	0	10	49
8:15 AM	0	0	4	0	0	0	7	0	0	0	0	0	0	0	0	0	11	36
8:30 AM	0	0	7	0	0	0	4	0	0	0	0	0	0	1	0	0	12	38
8:45 AM	0	1	10	0	0	0	5	0	0	0	0	0	0	0	0	1	17	50
Count Total	0	1	59	0	0	0	52	0	0	0	0	1	0	1	0	1	115	0
Peak Hour	0	0	17	0	0	0	20	0	0	0	0	0	0	1	0	0	38	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			Burkett Ave			Burkett Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	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				
7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0				
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	2				
8:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	2	4				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4				
8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	4				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3				
Count Total	0	1	0	0	3	1	0	0	0	0	0	0	5	0				
Peak Hour	0	1	0	0	2	1	0	0	0	0	0	0	4	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				Burkett Ave				Burkett Ave				15-min Total	Rolling One Hour	
		Eastbound				Westbound				Northbound				Southbound						
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM		0	1	164	17	0	2	137	5	0	2	0	3	0	1	0	2	334	0	
4:15 PM		1	4	163	8	0	5	122	0	0	1	0	2	0	3	0	1	310	0	
4:30 PM		1	5	195	6	0	3	138	2	0	3	0	5	0	1	0	1	360	0	
4:45 PM		2	2	172	12	0	0	125	2	0	0	0	3	0	2	0	2	322	1,326	
5:00 PM		1	2	161	5	0	5	125	1	0	2	1	1	0	2	0	1	307		1,299
5:15 PM		0	4	171	7	0	3	140	6	0	3	1	7	0	0	0	3	345		
5:30 PM		0	1	161	8	0	5	103	2	0	1	0	2	0	0	0	2	285	1,259	
5:45 PM		0	3	152	10	0	4	114	0	0	4	0	2	0	0	0	1	290	1,227	
Count Total		5	22	1,339	73	0	27	1,004	18	0	16	2	25	0	9	0	13	2,553	0	
Peak Hour	All	4	13	699	30	0	11	528	11	0	8	2	16	0	5	0	7	1,334	0	
	HV	0	0	11	1	0	0	7	0	0	0	1	0	0	0	0	0	20	0	
	HV%	0%	0%	2%	3%	-	0%	1%	0%	-	0%	50%	0%	-	0%	-	0%	1%	0	

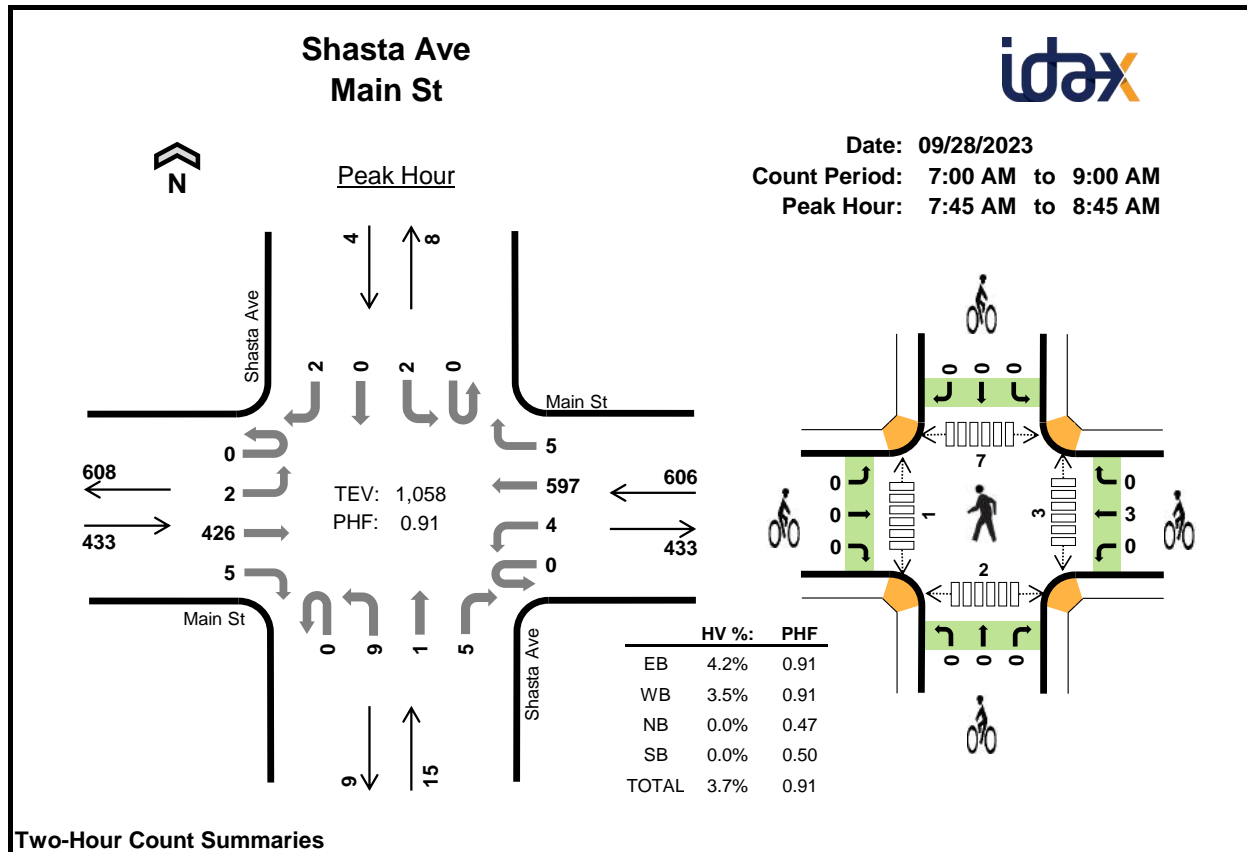
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	2	0	0	3	1	1	0	0	2	0	0	1	1	2
4:15 PM	2	4	0	0	6	1	0	0	0	1	0	0	2	0	2
4:30 PM	1	3	0	0	4	1	1	0	0	2	0	0	3	1	4
4:45 PM	4	0	0	0	4	0	1	0	0	1	0	0	0	0	0
5:00 PM	5	2	0	0	7	0	0	0	0	0	0	0	0	0	0
5:15 PM	2	2	1	0	5	1	0	0	0	1	0	0	0	2	2
5:30 PM	3	2	1	0	6	0	0	0	0	0	0	0	2	1	3
5:45 PM	1	2	1	0	4	2	1	0	1	4	0	0	2	1	3
Count Total	19	17	3	0	39	6	4	0	1	11	0	0	10	6	16
Peak Hour	12	7	1	0	20	2	2	0	0	4	0	0	3	3	6

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Burkett Ave				Burkett Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
4:15 PM	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	6	0
4:30 PM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	4	0
4:45 PM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	17
5:00 PM	0	0	5	0	0	0	2	0	0	0	0	0	0	0	0	0	7	21
5:15 PM	0	0	1	1	0	0	2	0	0	0	1	0	0	0	0	0	5	20
5:30 PM	0	0	3	0	0	0	2	0	0	0	0	1	0	0	0	0	6	22
5:45 PM	0	0	1	0	0	0	2	0	0	1	0	0	0	0	0	0	4	22
Count Total	0	0	18	1	0	0	17	0	0	1	1	1	0	0	0	0	39	0
Peak Hour	0	0	11	1	0	0	7	0	0	0	1	0	0	0	0	0	20	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			Burkett Ave			Burkett Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0				
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0				
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0				
4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	1	6				
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4				
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	4				
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
5:45 PM	0	2	0	0	1	0	0	0	0	1	0	0	4	5				
Count Total	0	6	0	0	3	1	0	0	0	1	0	0	11	0				
Peak Hour	0	2	0	0	1	1	0	0	0	0	0	0	4	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				Shasta Ave				Shasta Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	54	1	0	1	58	0	0	1	0	1	0	1	0	1	118	0
7:15 AM		0	0	54	0	0	0	95	0	0	4	0	0	0	0	0	0	153	0
7:30 AM		0	0	84	1	0	0	114	1	0	3	0	1	0	0	0	1	205	0
7:45 AM		0	0	95	0	0	1	142	1	0	5	1	2	0	0	0	2	249	725
8:00 AM		0	2	100	2	0	1	151	0	0	0	0	0	0	1	0	0	257	864
8:15 AM		0	0	119	0	0	1	163	2	0	3	0	2	0	0	0	0	290	1,001
8:30 AM		0	0	112	3	0	1	141	2	0	1	0	1	0	1	0	0	262	1,058
8:45 AM		0	0	86	0	0	1	92	1	0	0	0	0	0	1	0	0	181	990
Count Total		0	2	704	7	0	6	956	7	0	17	1	7	0	4	0	4	1,715	0
Peak Hour	All	0	2	426	5	0	4	597	5	0	9	1	5	0	2	0	2	1,058	0
	HV	0	0	18	0	0	0	20	1	0	0	0	0	0	0	0	0	39	0
	HV%	-	0%	4%	0%	-	0%	3%	20%	-	0%	0%	0%	-	0%	-	0%	4%	0

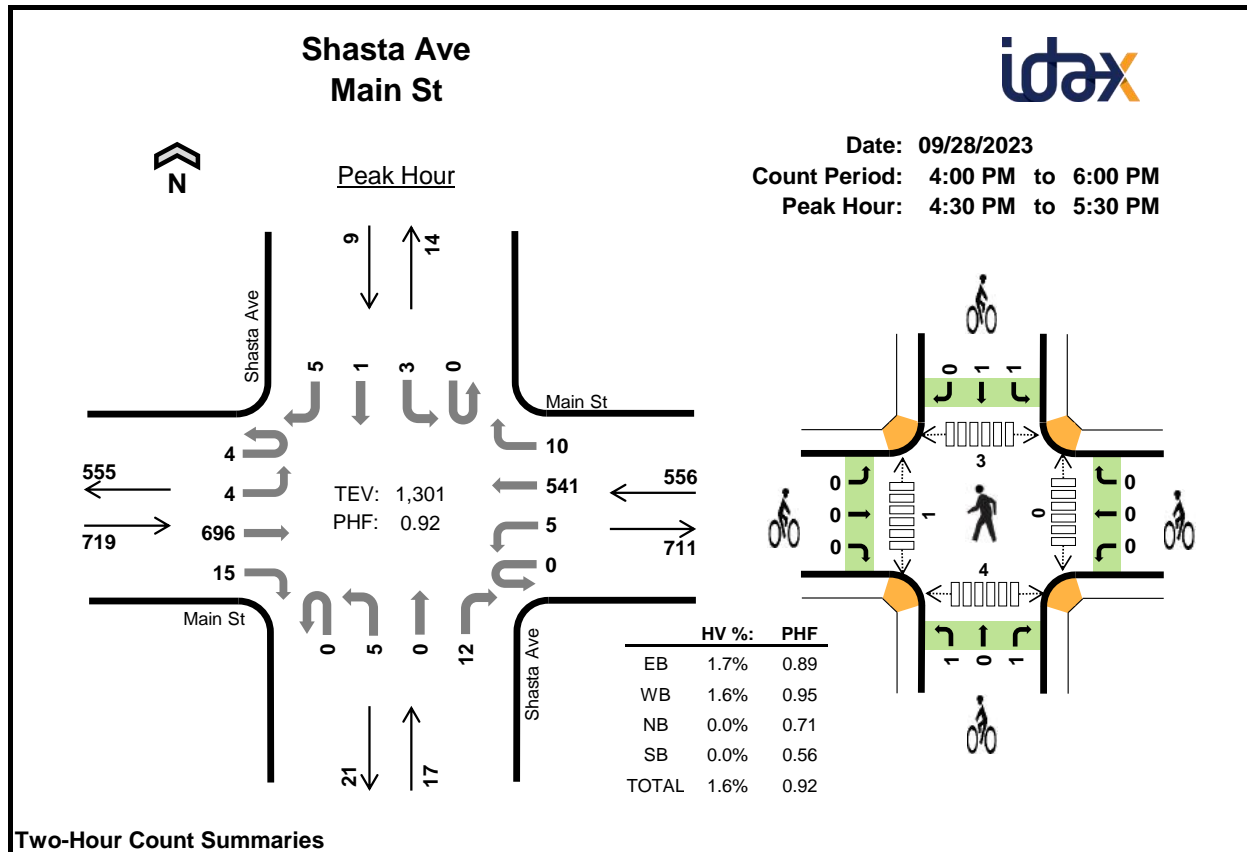
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	21	5	0	0	26	0	0	0	0	0	0	0	0	0	0
7:15 AM	8	17	0	0	25	0	0	0	0	0	0	0	1	0	1
7:30 AM	3	5	1	0	9	0	1	0	1	2	0	0	0	1	1
7:45 AM	4	3	0	0	7	0	2	0	0	2	0	1	1	2	4
8:00 AM	4	6	0	0	10	0	1	0	0	1	3	0	4	0	7
8:15 AM	3	8	0	0	11	0	0	0	0	0	0	0	1	0	1
8:30 AM	7	4	0	0	11	0	0	0	0	0	0	0	1	0	1
8:45 AM	12	6	0	0	18	0	0	0	0	0	0	0	1	0	1
Count Total	62	54	1	0	117	0	4	0	1	5	3	1	9	3	16
Peak Hour	18	21	0	0	39	0	3	0	0	3	3	1	7	2	13

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Shasta Ave				Shasta Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	20	1	0	1	4	0	0	0	0	0	0	0	0	0	26	0
7:15 AM	0	0	8	0	0	0	17	0	0	0	0	0	0	0	0	0	25	0
7:30 AM	0	0	3	0	0	0	5	0	0	0	0	1	0	0	0	0	9	0
7:45 AM	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	7	67
8:00 AM	0	0	4	0	0	0	6	0	0	0	0	0	0	0	0	0	10	51
8:15 AM	0	0	3	0	0	0	7	1	0	0	0	0	0	0	0	0	11	37
8:30 AM	0	0	7	0	0	0	4	0	0	0	0	0	0	0	0	0	11	39
8:45 AM	0	0	12	0	0	0	5	1	0	0	0	0	0	0	0	0	18	50
Count Total	0	0	61	1	0	1	51	2	0	0	0	1	0	0	0	0	117	0
Peak Hour	0	0	18	0	0	0	20	1	0	0	0	0	0	0	0	0	39	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			Shasta Ave			Shasta Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	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				
7:30 AM	0	0	0	0	1	0	0	0	0	1	0	0	2	0				
7:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	2	4				
8:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	5				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	5				
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
Count Total	0	0	0	0	4	0	0	0	0	1	0	0	5	0				
Peak Hour	0	0	0	0	3	0	0	0	0	0	0	0	3	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				Shasta Ave				Shasta Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	2	162	2	0	3	134	1	0	3	0	1	0	1	0	1	310	0
4:15 PM		1	0	165	5	0	2	126	1	0	1	0	0	0	0	0	0	301	0
4:30 PM		2	2	193	4	0	1	142	2	0	1	0	5	0	0	1	0	353	0
4:45 PM		1	0	170	4	0	1	125	2	0	0	0	3	0	0	0	1	307	1,271
5:00 PM		0	1	161	3	0	2	130	5	0	3	0	3	0	1	0	2	311	1,272
5:15 PM		1	1	172	4	0	1	144	1	0	1	0	1	0	2	0	2	330	1,301
5:30 PM		1	3	165	0	0	1	111	1	0	2	0	0	0	0	0	3	287	1,235
5:45 PM		2	4	143	6	0	4	108	3	0	1	0	0	0	1	0	1	273	1,201
Count Total		8	13	1,331	28	0	15	1,020	16	0	12	0	13	0	5	1	10	2,472	0
Peak Hour	All	4	4	696	15	0	5	541	10	0	5	0	12	0	3	1	5	1,301	0
	HV	0	0	11	1	0	0	8	1	0	0	0	0	0	0	0	0	21	0
	HV%	0%	0%	2%	7%	-	0%	1%	10%	-	0%	-	0%	-	0%	0%	0%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	2	0	0	3	0	1	0	0	1	0	0	1	1	2
4:15 PM	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0
4:30 PM	2	3	0	0	5	0	0	1	0	1	0	1	2	1	4
4:45 PM	4	1	0	0	5	0	0	0	1	1	0	0	1	0	1
5:00 PM	4	3	0	0	7	0	0	0	0	0	0	0	0	2	2
5:15 PM	2	2	0	0	4	0	0	1	1	2	0	0	0	1	1
5:30 PM	4	2	0	0	6	0	0	0	1	1	0	1	1	0	2
5:45 PM	1	3	0	0	4	1	0	0	0	1	0	0	4	3	7
Count Total	19	20	0	0	39	1	1	2	3	7	0	2	9	8	19
Peak Hour	12	9	0	0	21	0	0	2	2	4	0	1	3	4	8

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Shasta Ave				Shasta Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
4:15 PM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	5	0
4:30 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	5	0
4:45 PM	0	0	4	0	0	0	0	1	0	0	0	0	0	0	0	0	5	18
5:00 PM	0	0	3	1	0	0	3	0	0	0	0	0	0	0	0	0	7	22
5:15 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	21
5:30 PM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	6	22
5:45 PM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	4	21
Count Total	0	0	18	1	0	0	19	1	0	0	0	0	0	0	0	0	39	0
Peak Hour	0	0	11	1	0	0	8	1	0	0	0	0	0	0	0	0	21	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			Shasta Ave			Shasta Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0				
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0				
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	3				
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
5:15 PM	0	0	0	0	0	0	0	0	1	0	1	0	2	4				
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	4				
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	4				
Count Total	0	1	0	0	1	0	1	0	1	1	2	0	7	0				
Peak Hour	0	0	0	0	0	0	1	0	1	1	1	0	4	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

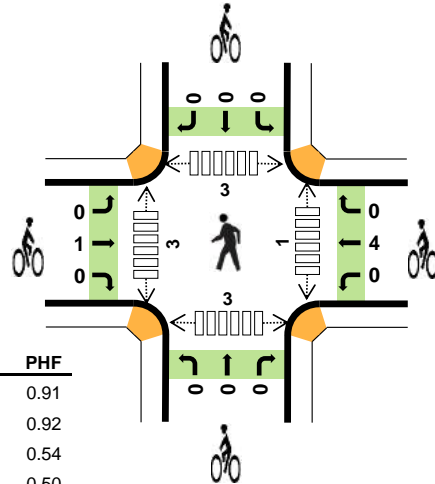
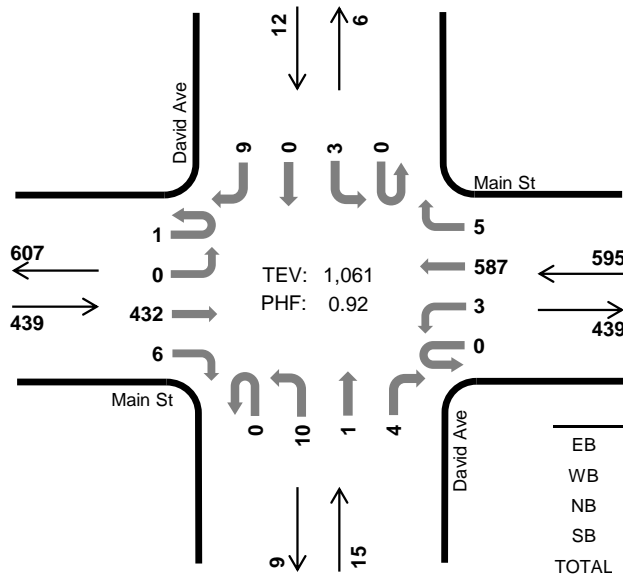
David Ave Main St



Date: 09/28/2023

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	4.1%	0.91
WB	3.4%	0.92
NB	0.0%	0.54
SB	8.3%	0.50
TOTAL	3.7%	0.92

Two-Hour Count Summaries

Interval Start		Main St				Main St				David Ave				David Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	54	1	0	0	56	1	0	1	0	2	0	0	0	0	115	0
7:15 AM		0	0	54	0	0	3	94	0	0	1	1	3	0	0	0	0	156	0
7:30 AM		0	1	83	3	0	0	110	0	0	5	1	1	0	0	0	0	204	0
7:45 AM		0	0	95	2	0	0	140	1	0	4	1	2	0	0	0	2	247	722
8:00 AM		0	0	103	1	0	3	149	2	0	2	0	1	0	0	0	2	263	870
8:15 AM		1	0	119	1	0	0	160	1	0	3	0	1	0	1	0	1	288	1,002
8:30 AM		0	0	115	2	0	0	138	1	0	1	0	0	0	2	0	4	263	1,061
8:45 AM		0	0	82	2	0	0	96	0	0	0	0	1	0	0	0	0	181	995
Count Total		1	1	705	12	0	6	943	6	0	17	3	11	0	3	0	9	1,717	0
Peak Hour	All	1	0	432	6	0	3	587	5	0	10	1	4	0	3	0	9	1,061	0
	HV	0	0	18	0	0	0	20	0	0	0	0	0	0	0	0	1	39	0
	HV%	0%	-	4%	0%	-	0%	3%	0%	-	0%	0%	0%	-	0%	-	11%	4%	0

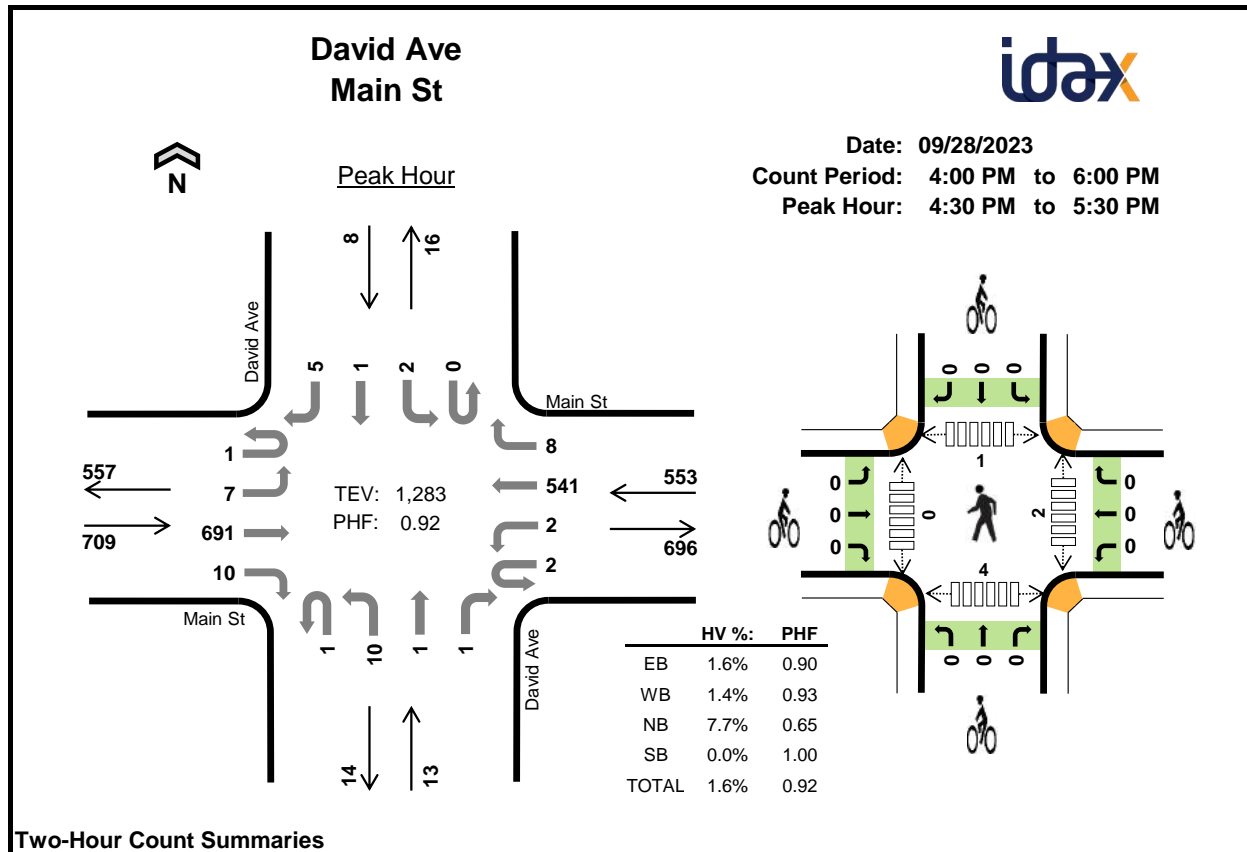
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	20	5	1	0	26	0	0	0	0	0	0	0	1	0	1
7:15 AM	8	17	0	0	25	0	0	0	0	0	0	0	1	0	1
7:30 AM	4	5	0	0	9	0	0	0	0	0	3	3	0	0	6
7:45 AM	4	3	0	0	7	0	2	0	0	2	0	1	0	2	3
8:00 AM	4	6	0	0	10	1	1	0	0	2	1	2	1	1	5
8:15 AM	3	8	0	0	11	0	0	0	0	0	0	0	0	0	0
8:30 AM	7	3	0	1	11	0	1	0	0	1	0	0	2	0	2
8:45 AM	11	6	0	0	17	0	0	0	0	0	0	0	2	0	2
Count Total	61	53	1	1	116	1	4	0	0	5	4	6	7	3	20
Peak Hour	18	20	0	1	39	1	4	0	0	5	1	3	3	3	10

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				David Ave				David Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	20	0	0	0	5	0	0	0	0	1	0	0	0	0	26	0
7:15 AM	0	0	8	0	0	0	17	0	0	0	0	0	0	0	0	0	25	0
7:30 AM	0	0	3	1	0	0	5	0	0	0	0	0	0	0	0	0	9	0
7:45 AM	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	7	67
8:00 AM	0	0	4	0	0	0	6	0	0	0	0	0	0	0	0	0	10	51
8:15 AM	0	0	3	0	0	0	8	0	0	0	0	0	0	0	0	0	11	37
8:30 AM	0	0	7	0	0	0	3	0	0	0	0	0	0	0	0	1	11	39
8:45 AM	0	0	11	0	0	0	6	0	0	0	0	0	0	0	0	0	17	49
Count Total	0	0	60	1	0	0	53	0	0	0	0	1	0	0	0	1	116	0
Peak Hour	0	0	18	0	0	0	20	0	0	0	0	0	0	0	0	1	39	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			David Ave			David Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	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				
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	2	2				
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	2	4				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4				
8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	5				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3				
Count Total	0	1	0	0	4	0	0	0	0	0	0	0	5	0				
Peak Hour	0	1	0	0	4	0	0	0	0	0	0	0	5	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				David Ave				David Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	164	1	0	0	135	3	0	2	0	0	0	2	0	1	308	0
4:15 PM		1	2	157	5	0	0	126	3	0	2	0	0	0	2	0	1	299	0
4:30 PM		1	3	192	2	2	1	142	3	0	1	0	0	0	0	0	2	349	0
4:45 PM		0	2	167	3	0	1	123	1	0	2	0	1	0	0	1	1	302	1,258
5:00 PM		0	1	160	2	0	0	134	2	0	4	0	0	0	1	0	1	305	1,255
5:15 PM		0	1	172	3	0	0	142	2	1	3	1	0	0	1	0	1	327	1,283
5:30 PM		1	1	163	1	0	0	110	1	0	0	0	3	0	1	0	0	281	1,215
5:45 PM		0	3	137	1	1	2	111	4	0	3	1	2	0	0	0	1	266	1,179
Count Total		3	13	1,312	18	3	4	1,023	19	1	17	2	6	0	7	1	8	2,437	0
Peak Hour	All	1	7	691	10	2	2	541	8	1	10	1	1	0	2	1	5	1,283	0
	HV	0	0	11	0	0	0	8	0	0	0	1	0	0	0	0	0	20	0
	HV%	0%	0%	2%	0%	0%	0%	1%	0%	0%	0%	100%	0%	-	0%	0%	0%	2%	0

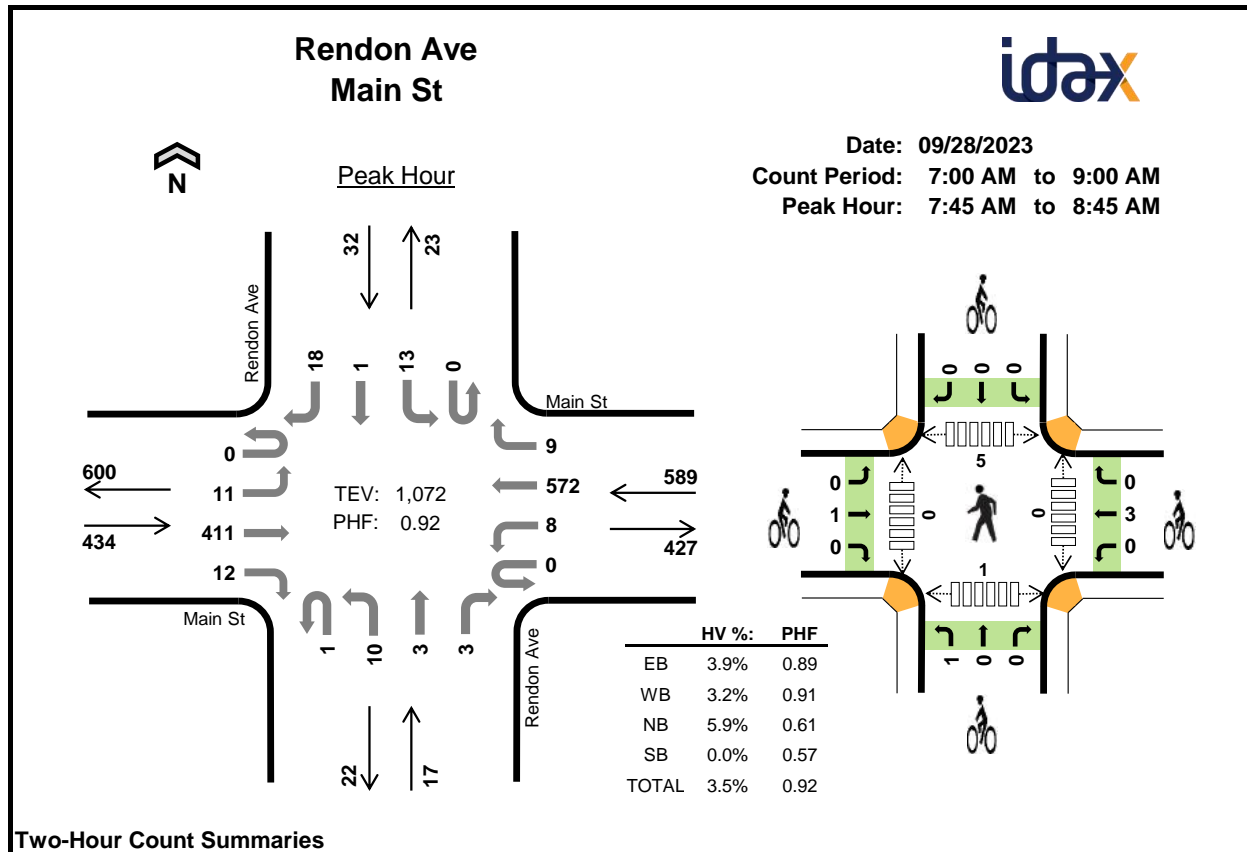
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	2	0	0	4	1	0	0	0	1	2	0	2	0	4
4:15 PM	2	4	0	0	6	0	0	0	0	0	0	0	0	0	0
4:30 PM	2	4	0	0	6	0	0	0	0	0	2	0	0	1	3
4:45 PM	4	0	0	0	4	0	0	0	0	0	0	0	1	0	1
5:00 PM	3	2	0	0	5	0	0	0	0	0	0	0	0	2	2
5:15 PM	2	2	1	0	5	0	0	0	0	0	0	0	0	1	1
5:30 PM	4	2	0	0	6	0	0	0	0	0	1	0	1	1	3
5:45 PM	2	2	0	0	4	1	0	0	1	2	2	0	5	0	7
Count Total	21	18	1	0	40	2	0	0	1	3	7	0	9	5	21
Peak Hour	11	8	1	0	20	0	0	0	0	0	2	0	1	4	7

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				David Ave				David Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	0
4:15 PM	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	6	0
4:30 PM	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	6	0
4:45 PM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	20
5:00 PM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	21
5:15 PM	0	0	2	0	0	0	2	0	0	0	1	0	0	0	0	0	5	20
5:30 PM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	6	20
5:45 PM	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	4	20
Count Total	0	1	20	0	0	0	18	0	0	0	1	0	0	0	0	0	40	0
Peak Hour	0	0	11	0	0	0	8	0	0	0	1	0	0	0	0	0	20	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Main St			Main St			David Ave			David Ave			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0			
4:15 PM	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			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:15 PM	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			
5:45 PM	0	1	0	0	0	0	0	0	0	1	0	0	2	2			
Count Total	0	2	0	0	0	0	0	0	0	1	0	0	3	0			
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				Rendon Ave				Rendon Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	3	54	1	0	0	55	0	0	1	0	0	0	2	0	2	118	0
7:15 AM		0	0	58	0	0	1	90	0	0	3	0	1	0	1	0	3	157	0
7:30 AM		0	0	84	0	0	1	98	2	0	4	1	0	0	1	1	5	197	0
7:45 AM		0	10	82	2	0	1	135	2	0	4	2	1	0	7	0	7	253	725
8:00 AM		0	1	101	1	0	2	142	3	1	3	0	0	0	3	0	9	266	873
8:15 AM		0	0	120	2	0	3	157	2	0	2	0	1	0	3	0	2	292	1,008
8:30 AM		0	0	108	7	0	2	138	2	0	1	1	1	0	0	1	0	261	1,072
8:45 AM		0	0	81	3	0	0	94	1	0	1	1	1	0	0	0	0	182	1,001
Count Total		0	14	688	16	0	10	909	12	1	19	5	5	0	17	2	28	1,726	0
Peak Hour	All	0	11	411	12	0	8	572	9	1	10	3	3	0	13	1	18	1,072	0
	HV	0	0	15	2	0	0	18	1	0	0	0	1	0	0	0	0	37	0
	HV%	-	0%	4%	17%	-	0%	3%	11%	0%	0%	0%	33%	-	0%	0%	0%	3%	0

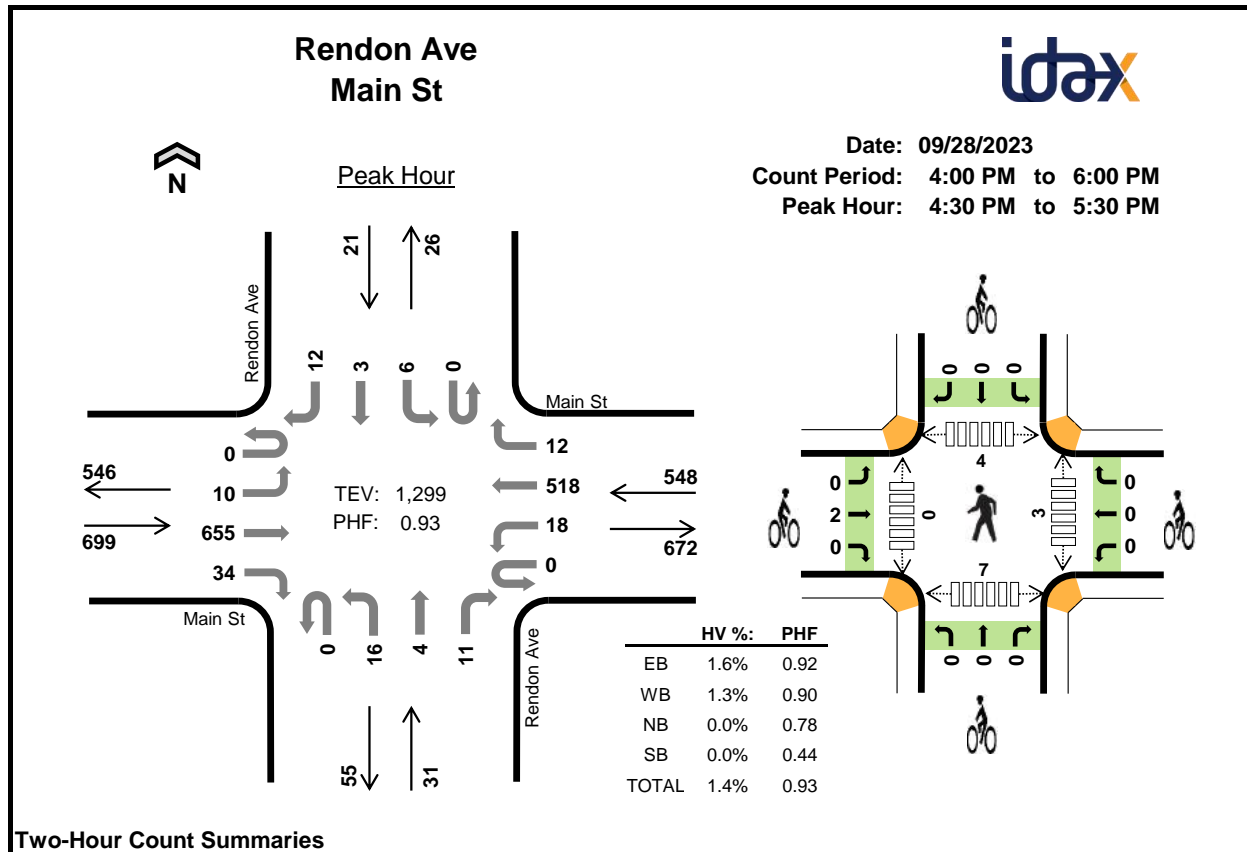
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	21	5	0	0	26	0	0	0	0	0	0	1	0	1	2
7:15 AM	8	15	0	2	25	0	0	0	0	0	0	0	1	0	1
7:30 AM	3	4	1	0	8	0	0	0	0	0	0	0	0	0	0
7:45 AM	3	2	1	0	6	0	2	1	0	3	0	0	0	0	0
8:00 AM	4	7	0	0	11	0	1	0	0	1	0	0	2	1	3
8:15 AM	3	7	0	0	10	1	0	0	0	1	0	0	1	0	1
8:30 AM	7	3	0	0	10	0	0	0	0	0	0	0	2	0	2
8:45 AM	10	6	0	0	16	0	0	0	0	0	0	0	2	0	2
Count Total	59	49	2	2	112	1	3	1	0	5	0	1	8	2	11
Peak Hour	17	19	1	0	37	1	3	1	0	5	0	0	5	1	6

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Rendon Ave				Rendon Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	20	1	0	0	5	0	0	0	0	0	0	0	0	0	26	0
7:15 AM	0	0	8	0	0	0	15	0	0	0	0	0	0	0	0	2	25	0
7:30 AM	0	0	3	0	0	0	4	0	0	1	0	0	0	0	0	0	8	0
7:45 AM	0	0	2	1	0	0	2	0	0	0	0	1	0	0	0	0	6	65
8:00 AM	0	0	4	0	0	0	6	1	0	0	0	0	0	0	0	0	11	50
8:15 AM	0	0	3	0	0	0	7	0	0	0	0	0	0	0	0	0	10	35
8:30 AM	0	0	6	1	0	0	3	0	0	0	0	0	0	0	0	0	10	37
8:45 AM	0	0	10	0	0	0	6	0	0	0	0	0	0	0	0	0	16	47
Count Total	0	0	56	3	0	0	48	1	0	1	0	1	0	0	0	2	112	0
Peak Hour	0	0	15	2	0	0	18	1	0	0	0	1	0	0	0	0	37	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			Rendon Ave			Rendon Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	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				
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	0	0	0	0	2	0	1	0	0	0	0	0	3	3				
8:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	4				
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	5				
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	5				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
Count Total	0	1	0	0	3	0	1	0	0	0	0	0	5	0				
Peak Hour	0	1	0	0	3	0	1	0	0	0	0	0	5	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				Rendon Ave				Rendon Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	2	154	6	0	1	133	6	0	3	0	1	0	1	0	3	310	0
4:15 PM		0	2	148	8	0	6	122	2	0	5	0	2	0	0	0	1	296	0
4:30 PM		0	1	179	9	0	10	141	2	0	2	2	0	0	0	0	3	349	0
4:45 PM		0	4	157	9	0	5	118	4	0	6	1	3	0	0	1	0	308	1,263
5:00 PM		0	2	155	8	0	2	130	2	0	2	1	4	0	2	0	3	311	1,264
5:15 PM		0	3	164	8	0	1	129	4	0	6	0	4	0	4	2	6	331	1,299
5:30 PM		0	1	156	8	0	8	109	2	0	2	1	3	0	3	0	1	294	1,244
5:45 PM		0	2	133	4	0	2	117	1	0	5	0	2	0	2	1	0	269	1,205
Count Total		0	17	1,246	60	0	35	999	23	0	31	5	19	0	12	4	17	2,468	0
Peak Hour	All	0	10	655	34	0	18	518	12	0	16	4	11	0	6	3	12	1,299	0
	HV	0	0	11	0	0	0	7	0	0	0	0	0	0	0	0	0	18	0
	HV%	-	0%	2%	0%	-	0%	1%	0%	-	0%	0%	0%	-	0%	0%	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	2	0	0	3	1	0	0	0	1	0	0	2	2	4
4:15 PM	1	4	0	0	5	0	0	0	0	0	5	0	4	0	9
4:30 PM	2	3	0	0	5	1	0	0	0	1	0	0	2	0	2
4:45 PM	4	0	0	0	4	0	0	0	0	0	0	0	1	0	1
5:00 PM	3	2	0	0	5	0	0	0	0	0	1	0	1	4	6
5:15 PM	2	2	0	0	4	1	0	0	0	1	2	0	0	3	5
5:30 PM	3	2	0	0	5	0	0	0	0	0	0	0	0	1	1
5:45 PM	2	2	0	0	4	4	0	0	0	4	1	0	1	1	3
Count Total	18	17	0	0	35	7	0	0	0	7	9	0	11	11	31
Peak Hour	11	7	0	0	18	2	0	0	0	2	3	0	4	7	14

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Rendon Ave				Rendon Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
4:15 PM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	5	0
4:30 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	5	0
4:45 PM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	17
5:00 PM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	19
5:15 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	18
5:30 PM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	18
5:45 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	18
Count Total	0	0	18	0	0	0	17	0	0	0	0	0	0	0	0	0	35	0
Peak Hour	0	0	11	0	0	0	7	0	0	0	0	0	0	0	0	0	18	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			Rendon Ave			Rendon Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0				
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0				
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	2				
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
5:45 PM	1	2	1	0	0	0	0	0	0	0	0	0	4	5				
Count Total	1	5	1	0	0	0	0	0	0	0	0	0	7	0				
Peak Hour	0	2	0	0	0	0	0	0	0	0	0	0	2	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

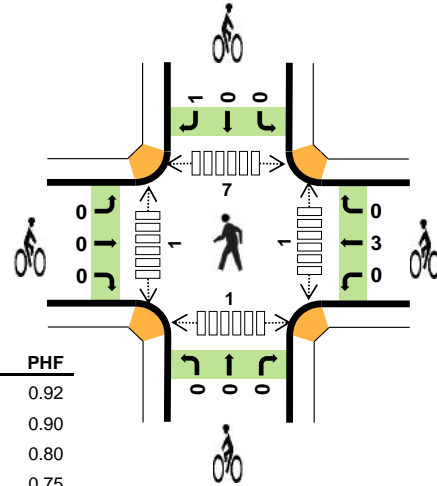
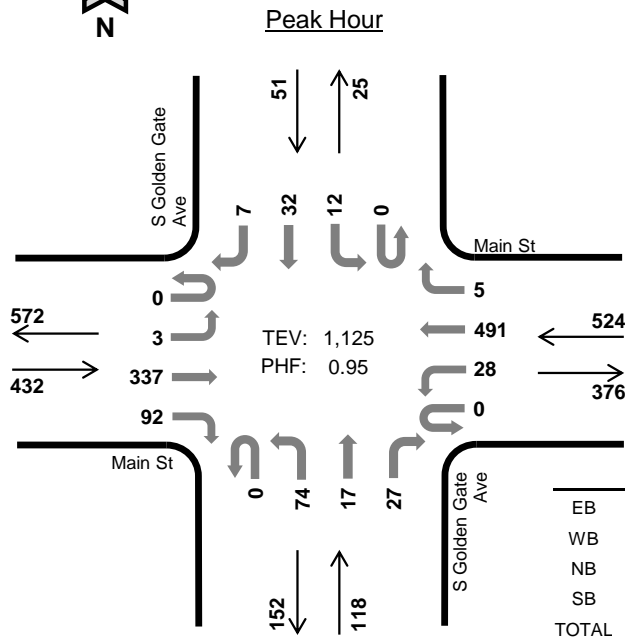
S Golden Gate Ave Main St



Date: 09/28/2023

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM



Two-Hour Count Summaries

Interval Start		Main St				Main St				S Golden Gate Ave				S Golden Gate Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	49	8	0	4	40	1	0	10	1	1	0	0	2	3	119	0
7:15 AM		0	1	47	17	0	2	77	2	0	13	7	6	0	0	0	1	173	0
7:30 AM		0	1	68	10	0	4	97	3	0	18	10	3	0	2	12	0	228	0
7:45 AM		0	0	72	21	0	5	110	2	0	19	9	4	0	5	8	1	256	776
8:00 AM		0	2	92	16	0	6	140	0	0	13	4	7	0	3	12	2	297	954
8:15 AM		0	0	91	26	0	5	119	1	0	28	2	7	0	2	5	3	289	1,070
8:30 AM		0	1	82	29	0	12	122	2	0	14	2	9	0	2	7	1	283	1,125
8:45 AM		0	1	52	19	0	5	77	0	0	19	3	2	0	2	3	1	184	1,053
Count Total		0	6	553	146	0	43	782	11	0	134	38	39	0	16	49	12	1,829	0
Peak Hour	All	0	3	337	92	0	28	491	5	0	74	17	27	0	12	32	7	1,125	0
	HV	0	0	14	2	0	1	17	0	0	4	1	0	0	0	0	0	39	0
	HV%	-	0%	4%	2%	-	4%	3%	0%	-	5%	6%	0%	-	0%	0%	0%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	20	6	2	1	29	0	0	0	0	0	0	0	0	0	0
7:15 AM	8	12	4	0	24	0	0	0	0	0	0	0	2	0	2
7:30 AM	4	5	1	0	10	0	0	0	0	0	0	0	0	0	0
7:45 AM	3	4	1	0	8	0	2	0	0	2	1	0	1	0	2
8:00 AM	4	3	2	0	9	0	0	0	1	1	0	1	3	0	4
8:15 AM	4	6	2	0	12	0	0	0	0	0	0	0	3	1	4
8:30 AM	5	5	0	0	10	0	1	0	0	1	0	0	0	0	0
8:45 AM	10	7	2	1	20	0	0	0	0	0	0	1	0	1	2
Count Total	58	48	14	2	122	0	3	0	1	4	1	2	9	2	14
Peak Hour	16	18	5	0	39	0	3	0	1	4	1	1	7	1	10

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	Main St				Main St				S Golden Gate Ave				S Golden Gate Ave				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	18	2	0	1	4	1	0	2	0	0	0	0	0	0	1	29	0
7:15 AM	0	0	5	3	0	0	11	1	0	2	0	2	0	0	0	0	0	24	0
7:30 AM	0	0	4	0	0	0	5	0	0	1	0	0	0	0	0	0	0	10	0
7:45 AM	0	0	3	0	0	1	3	0	0	1	0	0	0	0	0	0	0	8	71
8:00 AM	0	0	3	1	0	0	3	0	0	1	1	0	0	0	0	0	0	9	51
8:15 AM	0	0	4	0	0	0	6	0	0	2	0	0	0	0	0	0	0	12	39
8:30 AM	0	0	4	1	0	0	5	0	0	0	0	0	0	0	0	0	0	10	39
8:45 AM	0	1	9	0	0	2	5	0	0	1	1	0	0	0	1	0	0	20	51
Count Total	0	1	50	7	0	4	42	2	0	10	2	2	0	0	1	1	0	122	0
Peak Hour	0	0	14	2	0	1	17	0	0	4	1	0	0	0	0	0	0	39	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			S Golden Gate Ave			S Golden Gate Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	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			
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	2	2			
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3			
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3			
8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
Count Total	0	0	0	0	3	0	0	0	0	0	0	0	0	1	4			
Peak Hour	0	0	0	0	3	0	0	0	0	0	0	0	0	1	4			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Golden Gate Ave Main St

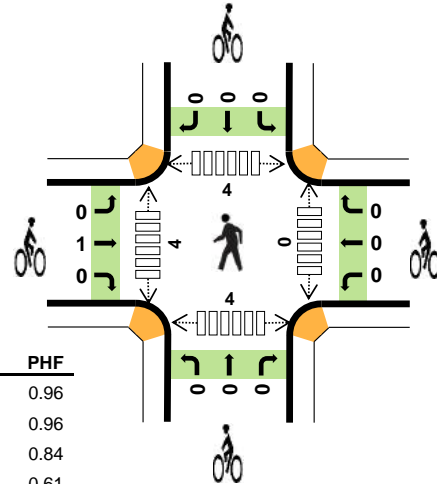
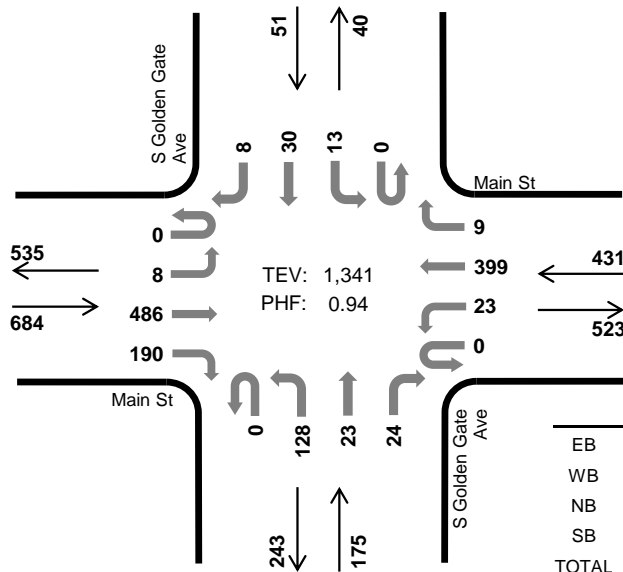


Peak Hour

Date: 09/28/2023

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	1.6%	0.96
WB	1.4%	0.96
NB	3.4%	0.84
SB	0.0%	0.61
TOTAL	1.7%	0.94

Two-Hour Count Summaries

Interval Start		Main St				Main St				S Golden Gate Ave				S Golden Gate Ave				15-min Total	Rolling One Hour	
		Eastbound				Westbound				Northbound				Southbound						
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM		0	4	124	32	0	8	115	1	0	31	9	5	0	3	5	1	338	0	
4:15 PM		0	2	119	34	0	10	97	0	0	29	5	6	0	2	7	2	313	0	
4:30 PM		0	5	130	43	0	7	104	1	0	38	7	7	0	1	7	5	355	0	
4:45 PM		0	3	116	49	0	5	96	3	0	31	5	6	0	2	6	0	322	1,328	
5:00 PM		0	0	120	50	0	5	95	5	0	33	3	5	0	3	5	1	325		1,315
5:15 PM		0	0	120	48	0	6	104	0	0	26	8	6	0	7	12	2	339		1,341
5:30 PM		0	2	121	46	0	0	90	4	0	23	6	7	0	2	4	3	308	1,294	
5:45 PM		0	3	106	34	0	3	88	0	0	27	8	5	0	2	4	3	283	1,255	
Count Total		0	19	956	336	0	44	789	14	0	238	51	47	0	22	50	17	2,583	0	
Peak Hour	All	0	8	486	190	0	23	399	9	0	128	23	24	0	13	30	8	1,341	0	
	HV	0	0	9	2	0	1	5	0	0	4	0	2	0	0	0	0	23	0	
	HV%	-	0%	2%	1%	-	4%	1%	0%	-	3%	0%	8%	-	0%	0%	0%	2%	0	

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	2	1	0	4	0	1	0	0	1	0	1	3	0	4
4:15 PM	2	1	4	0	7	0	0	0	0	0	0	2	1	1	4
4:30 PM	2	3	2	0	7	1	0	0	0	1	0	0	2	0	2
4:45 PM	4	0	1	0	5	0	0	0	0	0	0	0	2	3	5
5:00 PM	4	3	1	0	8	0	0	0	0	0	0	4	0	1	5
5:15 PM	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0
5:30 PM	4	2	1	0	7	0	0	2	0	2	2	0	5	0	7
5:45 PM	3	2	0	0	5	1	0	0	0	1	0	0	1	3	4
Count Total	21	13	12	0	46	2	1	2	0	5	2	7	14	8	31
Peak Hour	11	6	6	0	23	1	0	0	0	1	0	4	4	4	12

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				S Golden Gate Ave				S Golden Gate Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	2	0	0	0	0	1	0	0	0	0	4	0
4:15 PM	0	0	1	1	0	0	1	0	0	4	0	0	0	0	0	0	7	0
4:30 PM	0	0	2	0	0	1	2	0	0	1	0	1	0	0	0	0	7	0
4:45 PM	0	0	3	1	0	0	0	0	0	0	0	1	0	0	0	0	5	23
5:00 PM	0	0	3	1	0	0	3	0	0	1	0	0	0	0	0	0	8	27
5:15 PM	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	3	23
5:30 PM	0	0	3	1	0	0	2	0	0	0	0	1	0	0	0	0	7	23
5:45 PM	0	0	2	1	0	0	2	0	0	0	0	0	0	0	0	0	5	23
Count Total	0	0	16	5	0	1	12	0	0	8	0	4	0	0	0	0	46	0
Peak Hour	0	0	9	2	0	1	5	0	0	4	0	2	0	0	0	0	23	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			S Golden Gate Ave			S Golden Gate Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0				
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0				
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
5:30 PM	0	0	0	0	0	0	0	1	1	0	0	0	2	2				
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	3				
Count Total	0	1	1	0	1	0	0	1	1	0	0	0	5	0				
Peak Hour	0	1	0	0	0	0	0	0	0	0	0	0	1	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Windsor Ave Main St

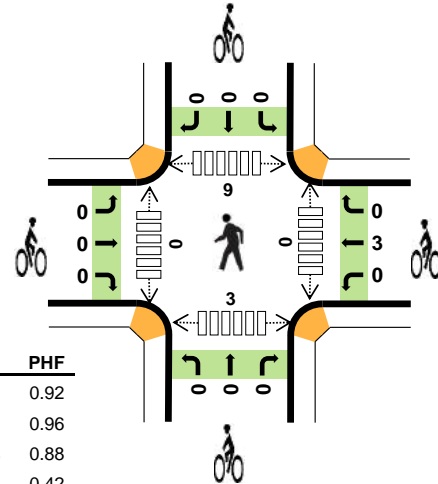
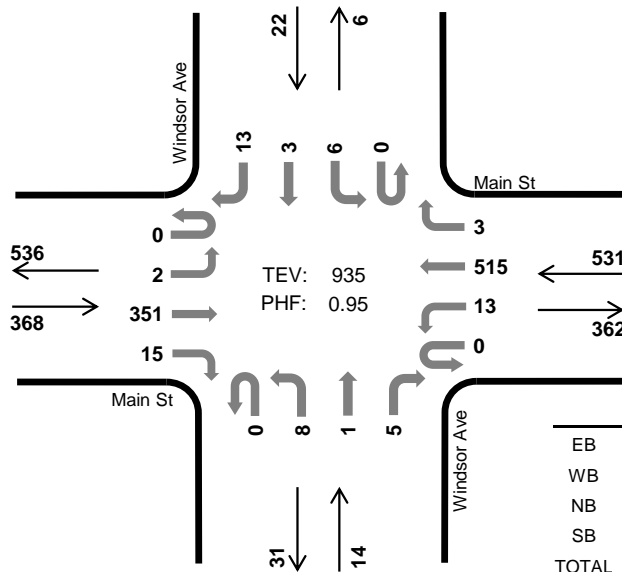


Peak Hour

Date: 09/28/2023

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	4.3%	0.92
WB	2.6%	0.96
NB	14.3%	0.88
SB	4.5%	0.42
TOTAL	3.5%	0.95

Two-Hour Count Summaries

Interval Start		Main St				Main St				Windsor Ave				Windsor Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	1	39	4	0	0	47	0	0	1	0	0	0	0	0	1	93	0
7:15 AM		0	10	47	0	0	0	74	1	0	4	1	1	0	0	0	1	139	0
7:30 AM		0	5	61	2	0	1	94	1	0	0	1	0	0	1	1	1	168	0
7:45 AM		0	1	72	3	0	4	120	1	0	0	1	1	0	0	0	1	204	604
8:00 AM		0	0	96	4	0	1	136	1	0	1	0	3	0	1	1	1	245	756
8:15 AM		0	0	92	4	0	4	133	1	0	4	0	0	0	2	1	2	243	860
8:30 AM		0	1	91	4	0	4	126	0	0	3	0	1	0	3	1	9	243	935
8:45 AM		0	4	59	2	0	2	74	0	0	3	0	0	0	2	1	3	150	881
Count Total		0	22	557	23	0	16	804	5	0	16	3	6	0	9	5	19	1,485	0
Peak Hour	All	0	2	351	15	0	13	515	3	0	8	1	5	0	6	3	13	935	0
	HV	0	0	14	2	0	1	12	1	0	0	0	2	0	0	0	1	33	0
	HV%	-	0%	4%	13%	-	8%	2%	33%	-	0%	0%	40%	-	0%	0%	8%	4%	0

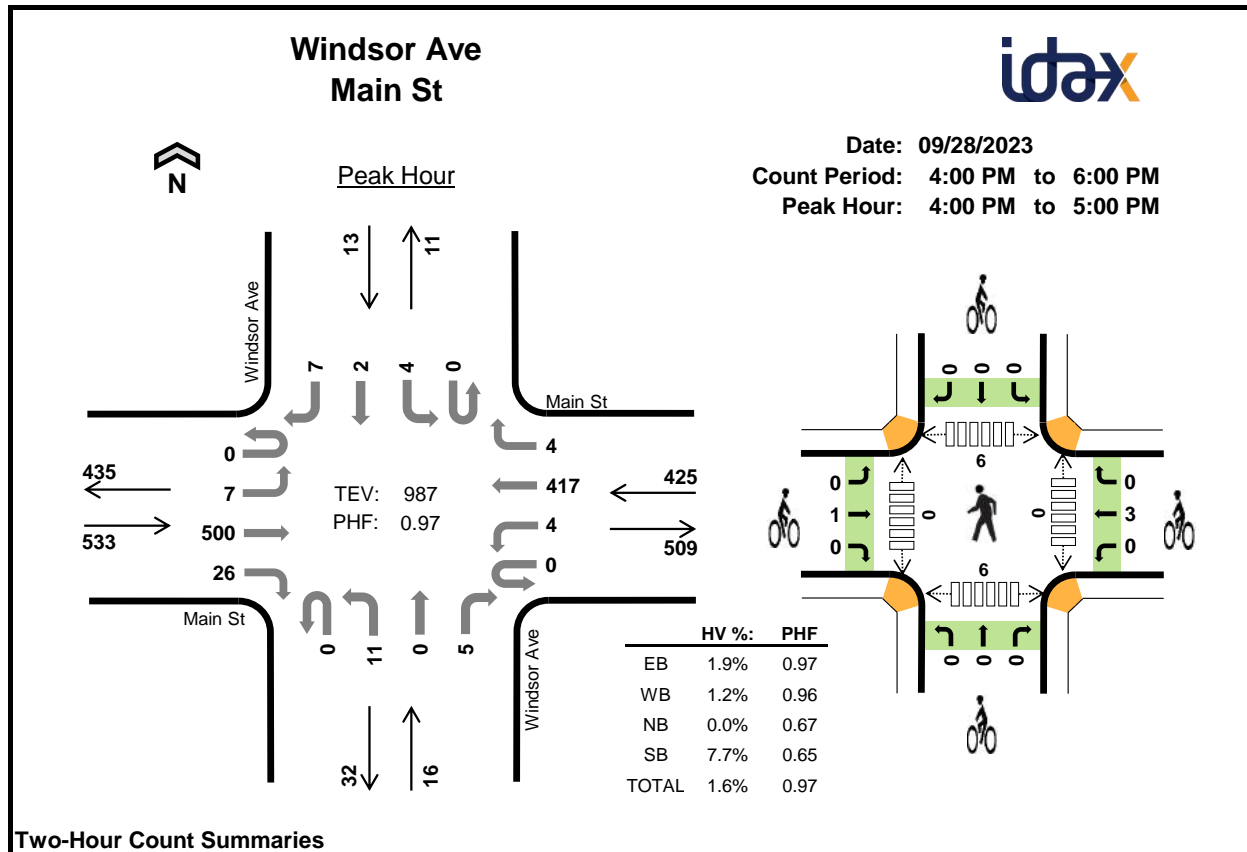
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	16	4	0	0	20	0	0	0	0	0	0	0	0	0	0
7:15 AM	8	14	0	0	22	0	0	0	0	0	0	0	0	0	0
7:30 AM	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0
7:45 AM	2	3	1	0	6	0	2	0	0	2	0	0	0	1	1
8:00 AM	4	3	0	1	8	0	0	0	0	0	0	0	1	0	1
8:15 AM	5	5	0	0	10	0	0	0	0	0	0	0	7	2	9
8:30 AM	5	3	1	0	9	0	1	0	0	1	0	0	1	0	1
8:45 AM	9	7	0	0	16	0	0	0	0	0	1	0	0	0	1
Count Total	51	42	2	1	96	0	3	0	0	3	1	0	9	3	13
Peak Hour	16	14	2	1	33	0	3	0	0	3	0	0	9	3	12

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Windsor Ave				Windsor Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	13	3	0	0	4	0	0	0	0	0	0	0	0	0	20	0
7:15 AM	0	0	8	0	0	0	14	0	0	0	0	0	0	0	0	0	22	0
7:30 AM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	5	0
7:45 AM	0	0	1	1	0	0	2	1	0	0	0	1	0	0	0	0	6	53
8:00 AM	0	0	3	1	0	0	3	0	0	0	0	0	0	0	0	1	8	41
8:15 AM	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	10	29
8:30 AM	0	0	5	0	0	1	2	0	0	0	0	1	0	0	0	0	9	33
8:45 AM	0	0	9	0	0	0	7	0	0	0	0	0	0	0	0	0	16	43
Count Total	0	0	46	5	0	1	40	1	0	0	0	2	0	0	0	1	96	0
Peak Hour	0	0	14	2	0	1	12	1	0	0	0	2	0	0	0	1	33	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			Windsor Ave			Windsor Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	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				
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	2	2				
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	3				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
Count Total	0	0	0	0	3	0	0	0	0	0	0	0	3	0				
Peak Hour	0	0	0	0	3	0	0	0	0	0	0	0	3	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Main St				Main St				Windsor Ave				Windsor Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	2	125	5	0	0	109	2	0	4	0	2	0	1	0	2	252	0
4:15 PM		0	0	128	7	0	1	100	1	0	3	0	0	0	1	1	3	245	0
4:30 PM		0	4	130	4	0	1	107	0	0	2	0	2	0	2	1	1	254	0
4:45 PM		0	1	117	10	0	2	101	1	0	2	0	1	0	0	0	1	236	987
5:00 PM		0	3	103	7	1	1	104	2	0	2	1	0	0	2	1	1	228	963
5:15 PM		0	6	123	9	0	0	103	1	0	4	0	1	0	0	0	4	251	969
5:30 PM		0	3	112	13	0	1	92	2	0	4	2	0	0	0	0	2	231	946
5:45 PM		0	2	99	7	0	3	81	0	0	3	0	1	0	1	0	3	200	910
Count Total		0	21	937	62	1	9	797	9	0	24	3	7	0	7	3	17	1,897	0
Peak Hour	All	0	7	500	26	0	4	417	4	0	11	0	5	0	4	2	7	987	0
	HV	0	2	8	0	0	0	5	0	0	0	0	0	0	0	0	1	16	0
	HV%	-	29%	2%	0%	-	0%	1%	0%	-	0%	-	0%	-	0%	0%	14%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	2	0	0	5	0	1	0	0	1	0	0	4	0	4
4:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4:30 PM	2	3	0	1	6	1	0	0	0	1	0	0	2	3	5
4:45 PM	4	0	0	0	4	0	2	0	0	2	0	0	0	3	3
5:00 PM	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0
5:15 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0
5:30 PM	2	1	0	0	3	0	0	0	0	0	2	0	2	2	6
5:45 PM	3	1	0	1	5	0	0	0	0	0	0	0	1	1	2
Count Total	19	9	0	2	30	1	3	0	0	4	2	0	9	9	20
Peak Hour	10	5	0	1	16	1	3	0	0	4	0	0	6	6	12

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				Windsor Ave				Windsor Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	2	0	0	0	2	0	0	0	0	0	0	0	0	0	5	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	1	1	0	0	0	3	0	0	0	0	0	0	0	0	1	6	0
4:45 PM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	16
5:00 PM	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	4	15
5:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	16
5:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	13
5:45 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	1	5	14
Count Total	0	3	16	0	0	0	9	0	0	0	0	0	0	0	0	2	30	0
Peak Hour	0	2	8	0	0	0	5	0	0	0	0	0	0	0	0	1	16	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Main St			Main St			Windsor Ave			Windsor Ave			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0			
4:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	4			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3			
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Count Total	0	1	0	0	3	0	0	0	0	0	0	0	4	0			
Peak Hour	0	1	0	0	3	0	0	0	0	0	0	0	4	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Netherton Ave Main St

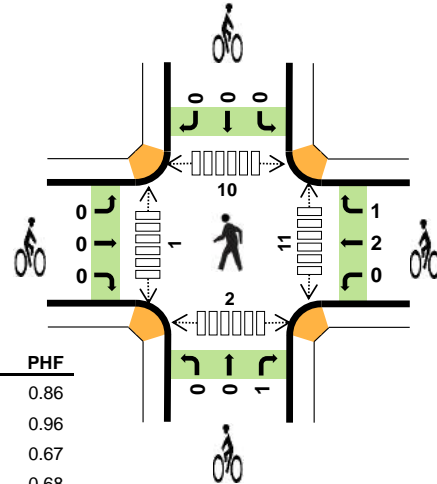
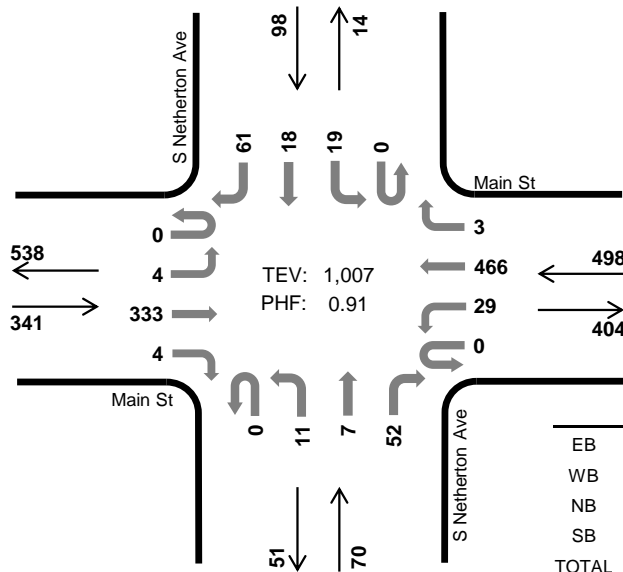


Peak Hour

Date: 09/28/2023

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	5.3%	0.86
WB	3.2%	0.96
NB	1.4%	0.67
SB	0.0%	0.68
TOTAL	3.5%	0.91

Two-Hour Count Summaries

Interval Start		Main St				Main St				S Netherton Ave				S Netherton Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	38	0	0	2	44	1	0	2	1	0	0	0	0	1	89	0
7:15 AM		0	2	47	0	0	1	66	0	0	6	0	0	0	1	0	1	124	0
7:30 AM		0	1	61	1	0	2	95	0	0	0	0	1	0	1	1	5	168	0
7:45 AM		0	0	69	0	0	7	122	1	0	1	2	9	0	5	0	3	219	600
8:00 AM		0	2	95	2	0	5	118	0	0	4	1	14	0	3	1	16	261	772
8:15 AM		0	1	90	1	0	6	116	1	0	1	2	23	0	5	9	22	277	925
8:30 AM		0	1	79	1	0	11	110	1	0	5	2	6	0	6	8	20	250	1,007
8:45 AM		0	2	63	2	0	6	65	1	0	2	0	12	0	3	2	13	171	959
Count Total		0	9	542	7	0	40	736	5	0	21	8	65	0	24	21	81	1,559	0
Peak Hour	All	0	4	333	4	0	29	466	3	0	11	7	52	0	19	18	61	1,007	0
	HV	0	1	17	0	0	0	16	0	0	0	0	1	0	0	0	0	35	0
	HV%	-	25%	5%	0%	-	0%	3%	0%	-	0%	0%	2%	-	0%	0%	0%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	13	2	2	0	17	0	0	0	0	0	0	0	0	0	0
7:15 AM	8	13	1	0	22	0	0	0	0	0	0	0	0	0	0
7:30 AM	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0
7:45 AM	2	4	0	0	6	0	2	0	0	2	0	0	0	1	1
8:00 AM	3	3	0	0	6	0	0	0	0	0	2	1	3	1	7
8:15 AM	6	6	0	0	12	0	0	0	0	0	8	0	7	0	15
8:30 AM	7	3	1	0	11	0	1	1	0	2	1	0	0	0	1
8:45 AM	11	7	1	0	19	0	0	0	0	0	0	0	0	0	0
Count Total	52	41	5	0	98	0	3	1	0	4	11	1	10	2	24
Peak Hour	18	16	1	0	35	0	3	1	0	4	11	1	10	2	24

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	Main St				Main St				S Netherton Ave				S Netherton Ave				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	13	0	0	0	2	0	0	2	0	0	0	0	0	0	0	17	0
7:15 AM	0	2	6	0	0	0	13	0	0	1	0	0	0	0	0	0	0	22	0
7:30 AM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5	0
7:45 AM	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	6	50
8:00 AM	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	6	39
8:15 AM	0	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	12	29
8:30 AM	0	0	7	0	0	0	3	0	0	0	0	1	0	0	0	0	0	11	35
8:45 AM	0	0	11	0	0	0	7	0	0	0	0	1	0	0	0	0	0	19	48
Count Total	0	3	49	0	0	0	41	0	0	3	0	2	0	0	0	0	0	98	0
Peak Hour	0	1	17	0	0	0	16	0	0	0	0	1	0	0	0	0	0	35	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			S Netherton Ave			S Netherton Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	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				
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	2	2				
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
8:30 AM	0	0	0	0	0	1	0	0	1	0	0	0	2	4				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
Count Total	0	0	0	0	2	1	0	0	1	0	0	0	4	0				
Peak Hour	0	0	0	0	2	1	0	0	1	0	0	0	4	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Netherton Ave Main St

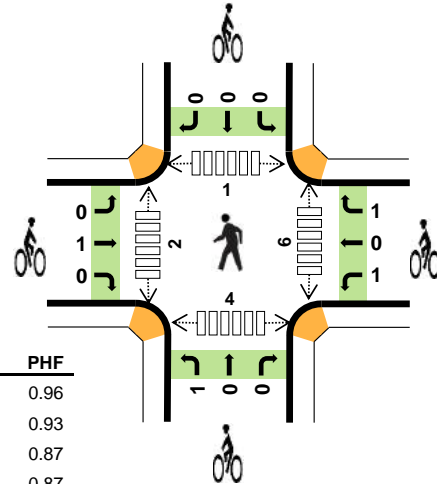
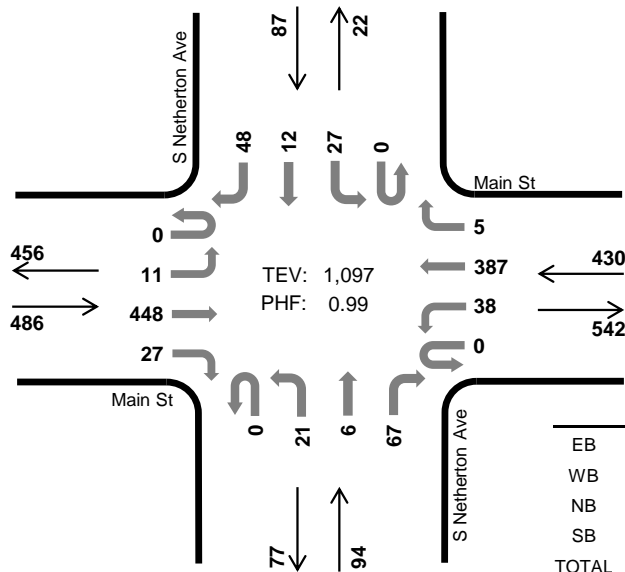


Peak Hour

Date: 09/28/2023

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	1.6%	0.96
WB	1.2%	0.93
NB	0.0%	0.87
SB	0.0%	0.87
TOTAL	1.2%	0.99

Two-Hour Count Summaries

Interval Start		Main St				Main St				S Netherton Ave				S Netherton Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	4	108	6	0	12	101	2	0	6	3	14	0	4	1	12	273	0
4:15 PM		0	3	117	6	0	10	90	1	0	6	1	16	0	6	2	13	271	0
4:30 PM		0	1	116	9	0	6	99	2	0	3	0	18	0	5	7	12	278	0
4:45 PM		0	3	107	6	0	10	97	0	0	6	2	19	0	12	2	11	275	1,097
5:00 PM		0	2	93	7	0	11	96	3	0	5	1	23	0	3	2	3	249	1,073
5:15 PM		0	1	121	4	0	9	91	0	0	9	3	10	0	2	2	4	256	1,058
5:30 PM		0	1	109	1	0	12	88	0	0	9	1	20	0	1	1	0	243	1,023
5:45 PM		0	0	99	6	0	6	80	0	0	4	1	17	0	0	2	3	218	966
Count Total		0	15	870	45	0	76	742	8	0	48	12	137	0	33	19	58	2,063	0
Peak Hour	All	0	11	448	27	0	38	387	5	0	21	6	67	0	27	12	48	1,097	0
	HV	0	0	8	0	0	0	5	0	0	0	0	0	0	0	0	0	13	0
	HV%	-	0%	2%	0%	-	0%	1%	0%	-	0%	0%	0%	-	0%	0%	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	2	0	0	3	0	1	0	0	1	0	0	0	0	0
4:15 PM	2	0	0	0	2	0	0	0	0	0	1	0	0	0	1
4:30 PM	1	3	0	0	4	1	1	0	0	2	5	0	0	2	7
4:45 PM	4	0	0	0	4	0	0	1	0	1	0	2	1	2	5
5:00 PM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0
5:15 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0
5:30 PM	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0
5:45 PM	2	1	0	0	3	0	0	0	0	0	0	0	1	0	1
Count Total	15	10	0	0	25	1	2	1	0	4	6	2	2	4	14
Peak Hour	8	5	0	0	13	1	2	1	0	4	6	2	1	4	13

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				S Netherton Ave				S Netherton Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
4:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:30 PM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	4	0
4:45 PM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	13
5:00 PM	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3	13
5:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	13
5:30 PM	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	4	13
5:45 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	12
Count Total	0	1	13	1	0	0	10	0	0	0	0	0	0	0	0	0	25	0
Peak Hour	0	0	8	0	0	0	5	0	0	0	0	0	0	0	0	0	13	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			S Netherton Ave			S Netherton Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	1	0				
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	2	0				
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	4				
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3				
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3				
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Count Total	0	1	0	1	0	1	1	0	0	0	0	0	4	0				
Peak Hour	0	1	0	1	0	1	1	0	0	0	0	0	4	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

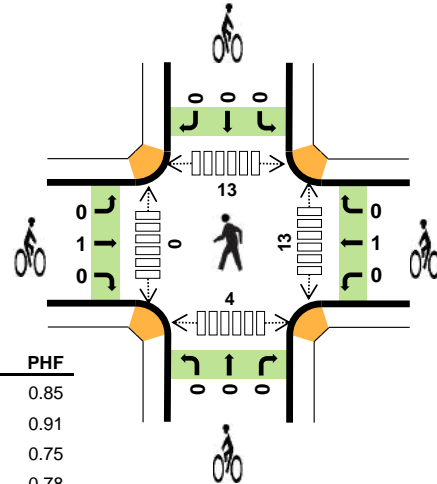
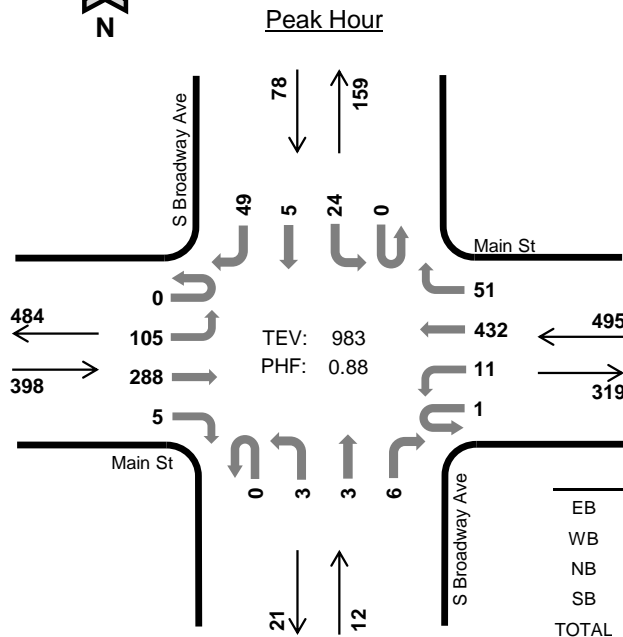
S Broadway Ave Main St



Date: 09/28/2023

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	5.0%	0.85
WB	3.0%	0.91
NB	0.0%	0.75
SB	1.3%	0.78
TOTAL	3.7%	0.88

Two-Hour Count Summaries

Interval Start		Main St				Main St				S Broadway Ave				S Broadway Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		1	1	38	0	0	0	43	0	0	1	0	0	0	0	0	0	84	0
7:15 AM		0	0	40	0	1	1	61	5	0	2	0	2	0	0	0	1	113	0
7:30 AM		0	3	61	0	0	0	95	5	0	1	0	0	0	1	0	1	167	0
7:45 AM		0	8	66	3	1	2	113	8	0	1	0	1	0	6	0	8	217	581
8:00 AM		0	36	77	0	0	4	112	20	0	2	1	1	0	9	0	16	278	775
8:15 AM		0	43	73	1	0	2	105	14	0	0	2	1	0	4	4	10	259	921
8:30 AM		0	18	72	1	0	3	102	9	0	0	0	3	0	5	1	15	229	983
8:45 AM		0	4	59	3	0	2	55	1	0	0	0	0	1	3	0	7	135	901
Count Total		1	113	486	8	2	14	686	62	0	7	3	8	1	28	5	58	1,482	0
Peak Hour	All	0	105	288	5	1	11	432	51	0	3	3	6	0	24	5	49	983	0
	HV	0	2	17	1	0	1	14	0	0	0	0	0	0	1	0	0	36	0
	HV%	-	2%	6%	20%	0%	9%	3%	0%	-	0%	0%	0%	-	4%	0%	0%	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	15	4	0	0	19	0	0	0	0	0	0	0	0	1	1
7:15 AM	5	10	1	0	16	0	0	0	0	0	0	0	0	1	1
7:30 AM	1	5	0	0	6	0	0	0	0	0	0	0	0	0	0
7:45 AM	3	1	0	0	4	0	1	0	0	1	0	0	1	0	1
8:00 AM	2	4	0	1	7	0	0	0	0	0	3	0	3	1	7
8:15 AM	6	4	0	0	10	1	0	0	0	1	10	0	8	2	20
8:30 AM	9	6	0	0	15	0	0	0	0	0	0	0	1	1	2
8:45 AM	10	4	0	3	17	0	0	0	0	0	0	0	0	1	1
Count Total	51	38	1	4	94	1	1	0	0	2	13	0	13	7	33
Peak Hour	20	15	0	1	36	1	1	0	0	2	13	0	13	4	30

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				S Broadway Ave				S Broadway Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	15	0	0	0	4	0	0	0	0	0	0	0	0	0	19	0
7:15 AM	0	0	5	0	0	0	10	0	0	1	0	0	0	0	0	0	16	0
7:30 AM	0	0	1	0	0	0	5	0	0	0	0	0	0	0	0	0	6	0
7:45 AM	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0	4	45
8:00 AM	0	0	2	0	0	0	4	0	0	0	0	0	0	0	1	0	7	33
8:15 AM	0	2	4	0	0	0	4	0	0	0	0	0	0	0	0	0	10	27
8:30 AM	0	0	9	0	0	1	5	0	0	0	0	0	0	0	0	0	15	36
8:45 AM	0	0	9	1	0	0	4	0	0	0	0	0	1	1	0	1	17	49
Count Total	0	2	47	2	0	1	37	0	0	1	0	0	1	2	0	1	94	0
Peak Hour	0	2	17	1	0	1	14	0	0	0	0	0	0	1	0	0	36	0

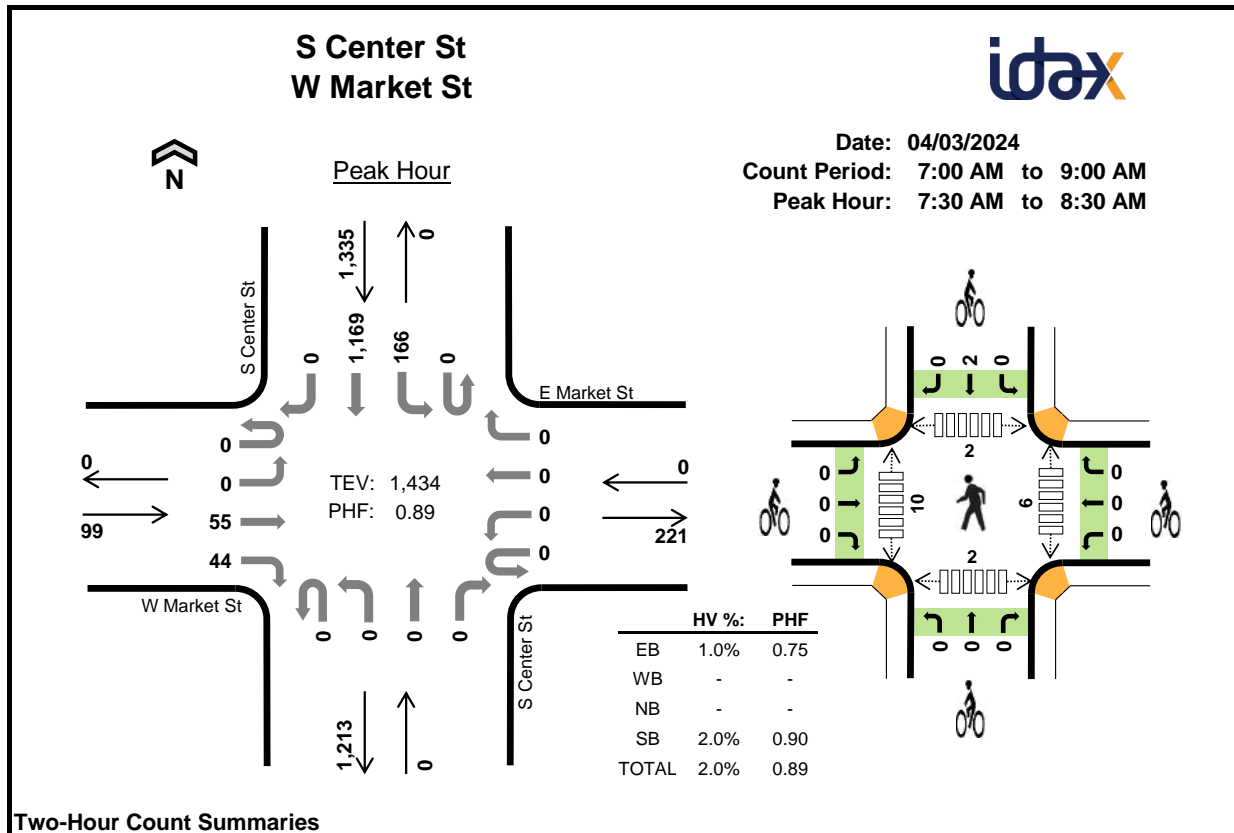
Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			S Broadway Ave			S Broadway Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	1				
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	2				
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
Count Total	0	1	0	0	1	0	0	0	0	0	0	0	2	0				
Peak Hour	0	1	0	0	1	0	0	0	0	0	0	0	2	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Main St				Main St				S Broadway Ave				S Broadway Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
4:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
4:30 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
4:45 PM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	12
5:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	11
5:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	11
5:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	10
5:45 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4	10
Count Total	0	0	13	0	0	0	9	0	0	0	0	0	0	0	0	0	22	0
Peak Hour	0	0	7	0	0	0	5	0	0	0	0	0	0	0	0	0	12	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Main St			Main St			S Broadway Ave			S Broadway Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0				
4:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	0				
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0				
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5				
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	5				
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	4				
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	4				
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4				
Count Total	0	3	0	0	6	0	0	0	0	0	0	0	9	0				
Peak Hour	0	1	0	0	4	0	0	0	0	0	0	0	5	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		W Market St				E Market St				S Center St				S Center St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	6	2	0	0	0	0	0	0	0	0	0	18	170	0	196	0
7:15 AM		0	0	15	8	0	0	0	0	0	0	0	0	0	38	201	0	262	0
7:30 AM		0	0	9	7	0	0	0	0	0	0	0	0	0	41	260	0	317	0
7:45 AM		0	0	11	8	0	0	0	0	0	0	0	0	0	64	300	0	383	1,158
8:00 AM		0	0	19	12	0	0	0	0	0	0	0	0	0	31	268	0	330	1,292
8:15 AM		0	0	16	17	0	0	0	0	0	0	0	0	0	30	341	0	404	1,434
8:30 AM		0	0	13	12	0	0	0	0	0	0	0	0	0	23	256	0	304	1,421
8:45 AM		0	0	8	10	0	0	0	0	0	0	0	0	0	15	277	0	310	1,348
Count Total		0	0	97	76	0	0	0	0	0	0	0	0	0	260	2,073	0	2,506	0
Peak Hour	All	0	0	55	44	0	0	0	0	0	0	0	0	0	166	1,169	0	1,434	0
	HV	0	0	0	1	0	0	0	0	0	0	0	0	0	1	26	0	28	0
	HV%	-	-	0%	2%	-	-	-	-	-	-	-	-	-	1%	2%	-	2%	0

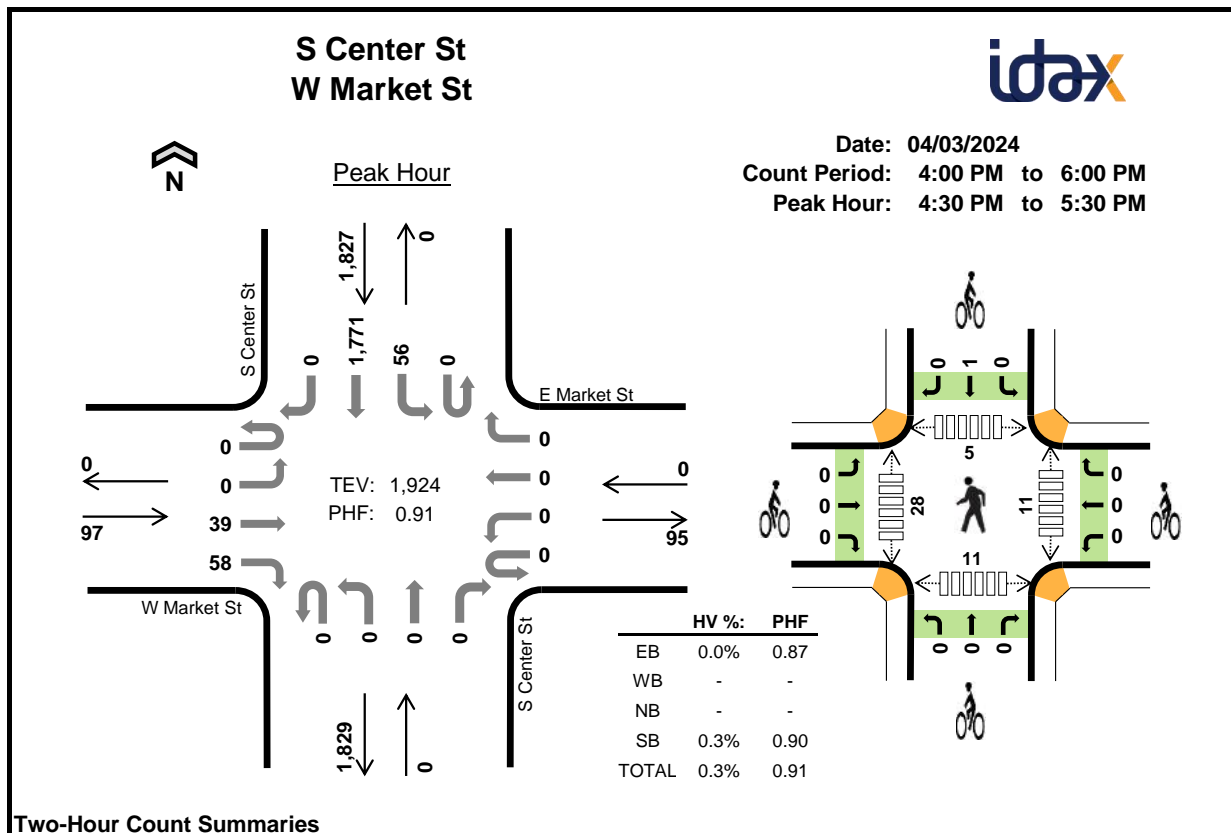
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	6	6	0	0	0	0	0	0	3	1	3	7
7:15 AM	0	0	0	5	5	0	0	0	0	0	3	2	1	1	7
7:30 AM	0	0	0	3	3	0	0	0	0	0	0	2	0	0	2
7:45 AM	1	0	0	6	7	0	0	0	1	1	0	2	0	1	3
8:00 AM	0	0	0	9	9	0	0	0	1	1	5	2	1	0	8
8:15 AM	0	0	0	9	9	0	0	0	0	0	1	4	1	1	7
8:30 AM	2	0	0	11	13	0	0	0	0	0	3	4	3	6	16
8:45 AM	0	0	0	7	7	0	0	0	0	0	7	7	0	5	19
Count Total	3	0	0	56	59	0	0	0	2	2	19	26	7	17	69
Peak Hour	1	0	0	27	28	0	0	0	2	2	6	10	2	2	20

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	W Market St				E Market St				S Center St				S Center St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	
7:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	5	0	21	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	24	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	28	
8:30 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	11	0	38	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	38	
Count Total	0	0	1	2	0	0	0	0	0	0	0	0	0	1	55	0	0	
Peak Hour	0	0	0	1	0	0	0	0	0	0	0	0	0	1	26	0	0	

Two-Hour Count Summaries - Bikes																	
Interval Start	W Market St			E Market St			S Center St			S Center St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	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			
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	1			
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	2			
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
Count Total	0	0	0	0	0	0	0	0	0	0	2	0	2	0			
Peak Hour	0	0	0	0	0	0	0	0	0	0	2	0	2	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		W Market St				E Market St				S Center St				S Center St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	4:00 PM	0	0	12	24	0	0	0	0	0	0	0	0	0	20	394	0	450	0
	4:15 PM	0	0	5	19	0	0	0	0	0	0	0	0	0	15	418	0	457	0
	4:30 PM	0	0	11	17	0	0	0	0	0	0	0	0	0	14	439	0	481	0
	4:45 PM	0	0	11	13	0	0	0	0	0	0	0	0	0	18	396	0	438	1,826
	5:00 PM	0	0	8	16	0	0	0	0	0	0	0	0	0	11	495	0	530	1,906
	5:15 PM	0	0	9	12	0	0	0	0	0	0	0	0	0	13	441	0	475	1,924
	5:30 PM	0	0	8	13	0	0	0	0	0	0	0	0	0	10	392	0	423	1,866
	5:45 PM	0	0	12	7	0	0	0	0	0	0	0	0	0	8	296	0	323	1,751
Count Total		0	0	76	121	0	0	0	0	0	0	0	0	0	109	3,271	0	3,577	0
Peak Hour	All	0	0	39	58	0	0	0	0	0	0	0	0	0	56	1,771	0	1,924	0
	HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	0
	HV%	-	-	0%	0%	-	-	-	-	-	-	-	-	-	0%	0%	-	0%	0

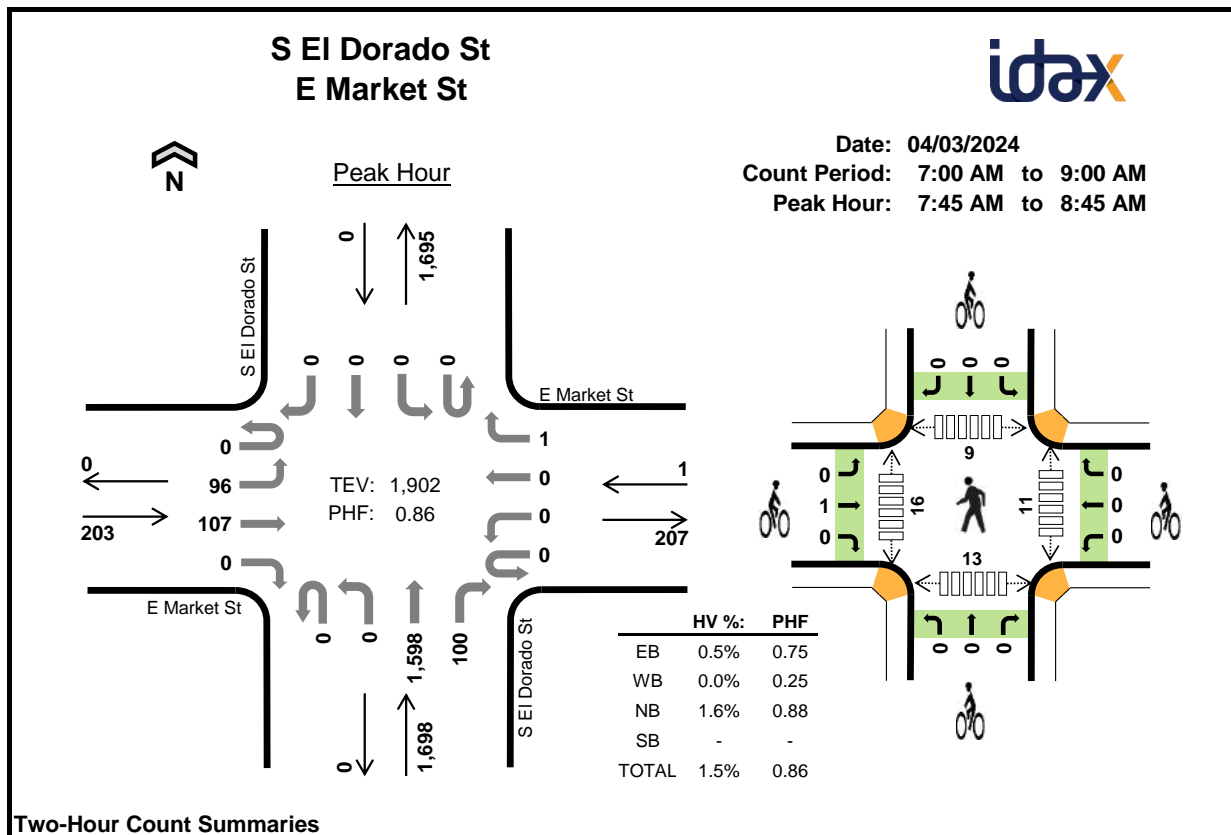
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	0	3	4	0	0	0	1	1	2	3	4	3	12
4:15 PM	1	0	0	2	3	0	0	0	0	0	1	3	2	2	8
4:30 PM	0	0	0	3	3	0	0	0	0	0	2	8	1	1	12
4:45 PM	0	0	0	3	3	0	0	0	1	1	0	3	1	2	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	7	9	2	7	25
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	8	1	1	12
5:30 PM	0	0	0	2	2	0	0	0	0	0	1	4	1	0	6
5:45 PM	0	0	0	1	1	0	0	0	0	0	1	10	2	0	13
Count Total	2	0	0	14	16	0	0	0	2	2	16	48	14	16	94
Peak Hour	0	0	0	6	6	0	0	0	1	1	11	28	5	11	55

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	W Market St				E Market St				S Center St				S Center St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2	0	4	0
4:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	3	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	13
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	5
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
Count Total	0	0	0	2	0	0	0	0	0	0	0	0	0	2	12	0	16	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	0

Two-Hour Count Summaries - Bikes																		
Interval Start	W Market St			E Market St			S Center St			S Center St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0				
4:15 PM	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				
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	2				
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Count Total	0	0	0	0	0	0	0	0	0	0	2	0	2	0				
Peak Hour	0	0	0	0	0	0	0	0	0	0	1	0	1	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Market St				E Market St				S El Dorado St				S El Dorado St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	10	14	0	0	0	0	0	0	0	175	18	0	0	0	0	217	0
7:15 AM		0	19	32	0	0	0	0	1	0	0	240	18	0	0	0	0	310	0
7:30 AM		0	16	41	0	0	0	0	0	0	0	323	21	0	0	0	0	401	0
7:45 AM		0	19	49	0	0	0	0	0	0	0	446	39	0	0	0	0	553	1,481
8:00 AM		0	30	24	0	0	0	0	0	0	0	369	20	0	0	0	0	443	1,707
8:15 AM		0	23	21	0	0	0	0	1	0	0	388	19	0	0	0	0	452	1,849
8:30 AM		0	24	13	0	0	0	0	0	0	0	395	22	0	0	0	0	454	1,902
8:45 AM		0	10	17	0	0	0	0	0	0	0	354	16	0	0	0	0	397	1,746
Count Total		0	151	211	0	0	0	0	2	0	0	2,690	173	0	0	0	0	3,227	0
Peak Hour	All	0	96	107	0	0	0	0	1	0	0	1,598	100	0	0	0	0	1,902	0
	HV	0	0	1	0	0	0	0	0	0	0	27	1	0	0	0	0	29	0
	HV%	-	0%	1%	-	-	-	-	0%	-	-	2%	1%	-	-	-	-	2%	0

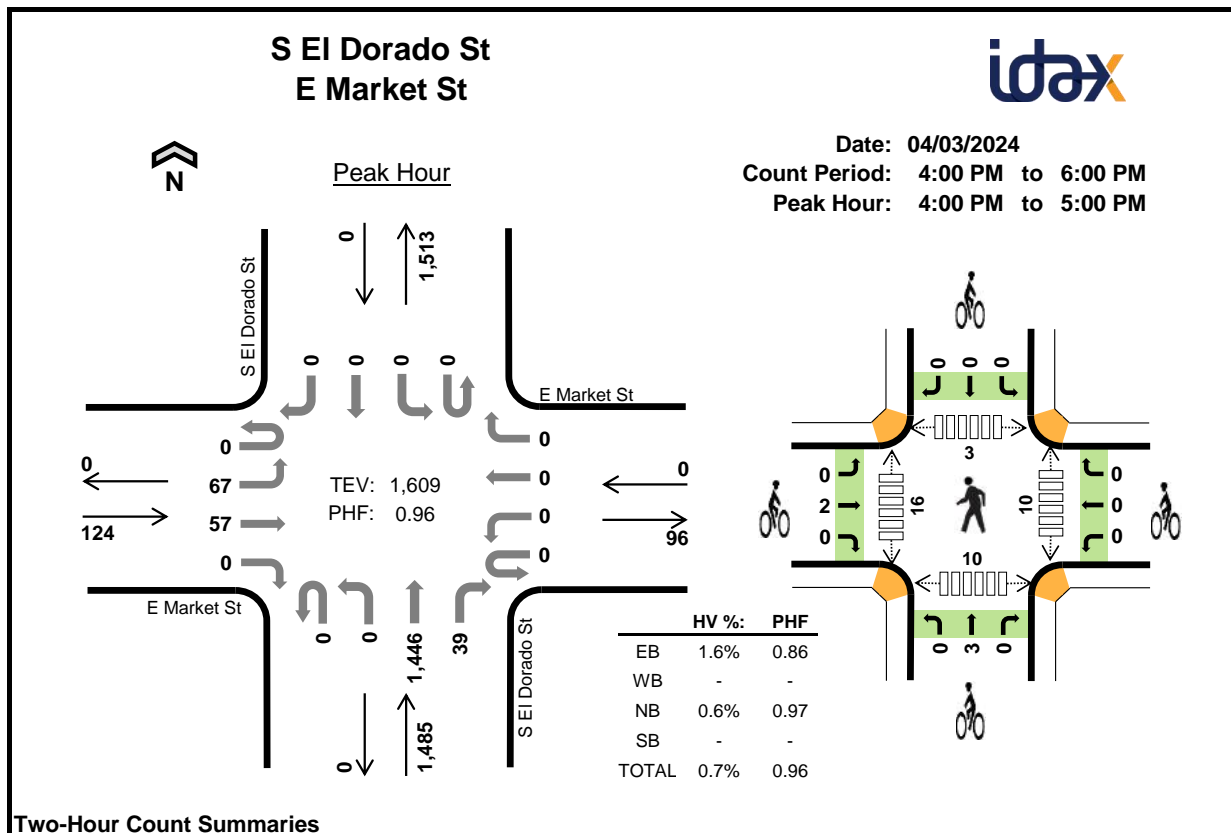
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	5	0	5	0	0	0	0	0	2	0	1	1	4
7:15 AM	0	0	4	0	4	0	0	0	0	0	0	1	4	0	5
7:30 AM	0	0	5	0	5	2	0	0	0	2	0	3	0	1	4
7:45 AM	1	0	1	0	2	0	0	0	0	0	2	2	0	4	8
8:00 AM	0	0	10	0	10	0	0	0	0	0	1	3	1	2	7
8:15 AM	0	0	11	0	11	1	0	0	0	1	1	5	1	1	8
8:30 AM	0	0	6	0	6	0	0	0	0	0	7	6	7	6	26
8:45 AM	1	0	6	0	7	0	0	0	0	0	4	3	3	1	11
Count Total	2	0	48	0	50	3	0	0	0	3	17	23	17	16	73
Peak Hour	1	0	28	0	29	1	0	0	0	1	11	16	9	13	49

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S El Dorado St				S El Dorado St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	5	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2	16
8:00 AM	0	0	0	0	0	0	0	0	0	0	9	1	0	0	0	0	10	21
8:15 AM	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	11	28
8:30 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	6	29
8:45 AM	0	1	0	0	0	0	0	0	0	0	6	0	0	0	0	0	7	34
Count Total	0	1	1	0	0	0	0	0	0	0	46	2	0	0	0	0	50	0
Peak Hour	0	0	1	0	0	0	0	0	0	0	27	1	0	0	0	0	29	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			S El Dorado St			S El Dorado St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	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			
7:30 AM	1	1	0	0	0	0	0	0	0	0	0	0	2	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	3			
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
Count Total	1	2	0	0	0	0	0	0	0	0	0	0	3	0			
Peak Hour	0	1	0	0	0	0	0	0	0	0	0	0	1	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Market St				E Market St				S El Dorado St				S El Dorado St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	22	14	0	0	0	0	0	0	0	374	8	0	0	0	0	418	0
4:15 PM		0	14	10	0	0	0	0	0	0	0	376	8	0	0	0	0	408	0
4:30 PM		0	17	11	0	0	0	0	0	0	0	339	10	0	0	0	0	377	0
4:45 PM		0	14	22	0	0	0	0	0	0	0	357	13	0	0	0	0	406	1,609
5:00 PM		0	12	15	0	0	0	0	0	0	0	321	7	0	0	0	0	355	1,546
5:15 PM		0	14	17	0	0	0	0	0	0	0	303	2	0	0	0	0	336	1,474
5:30 PM		0	13	10	0	0	0	0	0	0	0	283	2	0	0	0	0	308	1,405
5:45 PM		0	11	12	0	0	0	0	0	0	0	241	2	0	0	0	0	266	1,265
Count Total		0	117	111	0	0	0	0	0	0	0	2,594	52	0	0	0	0	2,874	0
Peak Hour	All	0	67	57	0	0	0	0	0	0	0	1,446	39	0	0	0	0	1,609	0
	HV	0	0	2	0	0	0	0	0	0	0	9	0	0	0	0	0	11	0
	HV%	-	0%	4%	-	-	-	-	-	-	-	1%	0%	-	-	-	-	1%	0

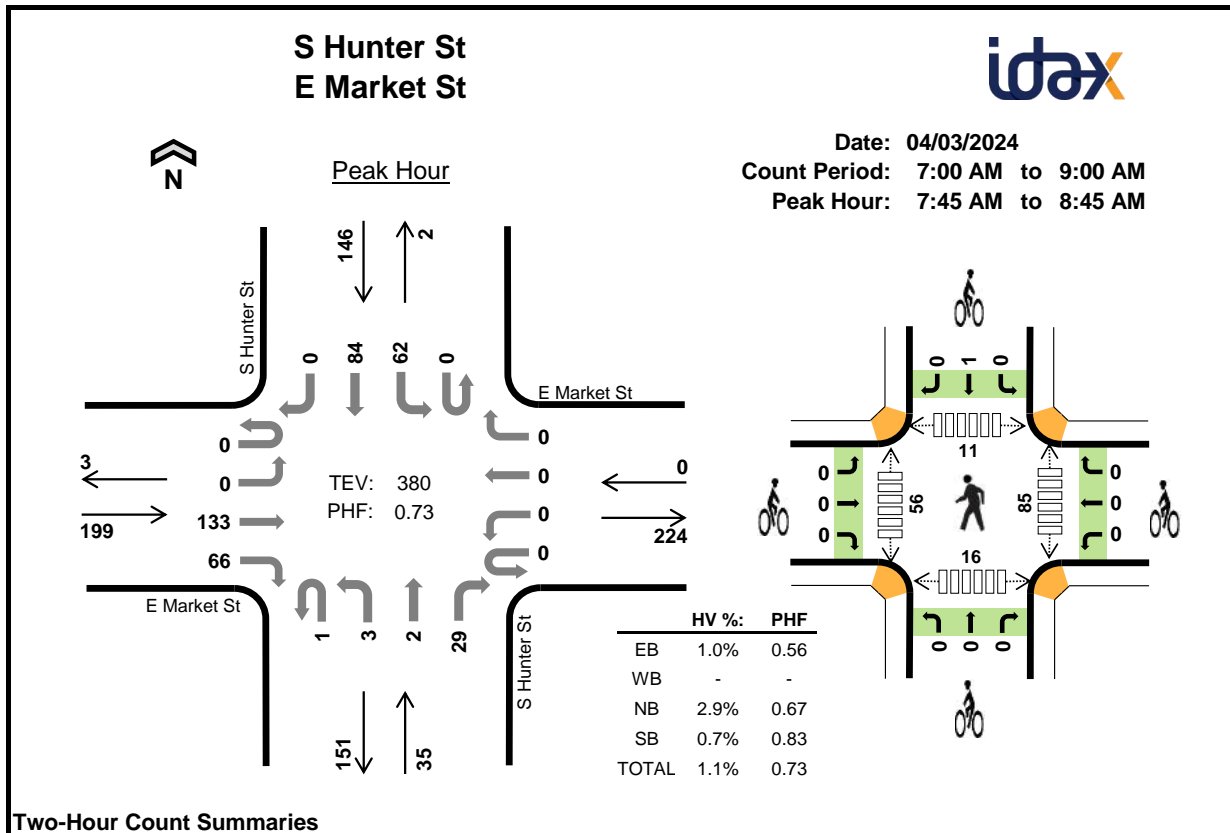
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	3	0	4	1	0	2	0	3	4	2	2	2	10
4:15 PM	1	0	2	0	3	0	0	0	0	0	3	7	0	5	15
4:30 PM	0	0	4	0	4	1	0	0	0	1	1	2	1	0	4
4:45 PM	0	0	0	0	0	0	0	1	0	1	2	5	0	3	10
5:00 PM	0	0	2	0	2	0	0	0	0	0	3	4	1	4	12
5:15 PM	0	0	2	0	2	1	0	0	0	1	5	0	2	2	9
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
5:45 PM	0	0	5	0	5	0	0	0	0	0	0	0	2	0	2
Count Total	2	0	18	0	20	3	0	3	0	6	18	20	8	18	64
Peak Hour	2	0	9	0	11	2	0	3	0	5	10	16	3	10	39

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S El Dorado St				S El Dorado St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	4	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	3	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	9
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	8
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5	9
Count Total	0	0	2	0	0	0	0	0	0	0	18	0	0	0	0	0	20	0
Peak Hour	0	0	2	0	0	0	0	0	0	0	9	0	0	0	0	0	11	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			S El Dorado St			S El Dorado St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	1	0	0	0	0	0	2	0	0	0	0	3	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0			
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	5			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	3			
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
Count Total	0	3	0	0	0	0	0	3	0	0	0	0	6	0			
Peak Hour	0	2	0	0	0	0	0	3	0	0	0	0	5	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Market St				E Market St				S Hunter St				S Hunter St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	13	15	0	0	0	0	0	0	0	1	0	2	3	0	34	0
7:15 AM		0	0	33	19	0	0	0	0	0	0	0	7	0	2	6	0	67	0
7:30 AM		0	0	40	18	0	0	0	0	0	0	0	2	0	4	9	0	73	0
7:45 AM		0	0	61	28	0	0	0	0	0	1	0	12	0	9	19	0	130	304
8:00 AM		0	0	30	13	0	0	0	0	1	1	0	6	0	10	21	0	82	352
8:15 AM		0	0	26	10	0	0	0	0	0	1	1	8	0	21	23	0	90	375
8:30 AM		0	0	16	15	0	0	0	0	0	0	1	3	0	22	21	0	78	380
8:45 AM		0	0	23	11	0	0	0	0	1	0	0	7	0	17	11	0	70	320
Count Total		0	0	242	129	0	0	0	0	2	3	2	46	0	87	113	0	624	0
Peak Hour	All	0	0	133	66	0	0	0	0	1	3	2	29	0	62	84	0	380	0
	HV	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	4	0
	HV%	-	-	2%	0%	-	-	-	-	0%	0%	0%	3%	-	0%	1%	-	1%	0

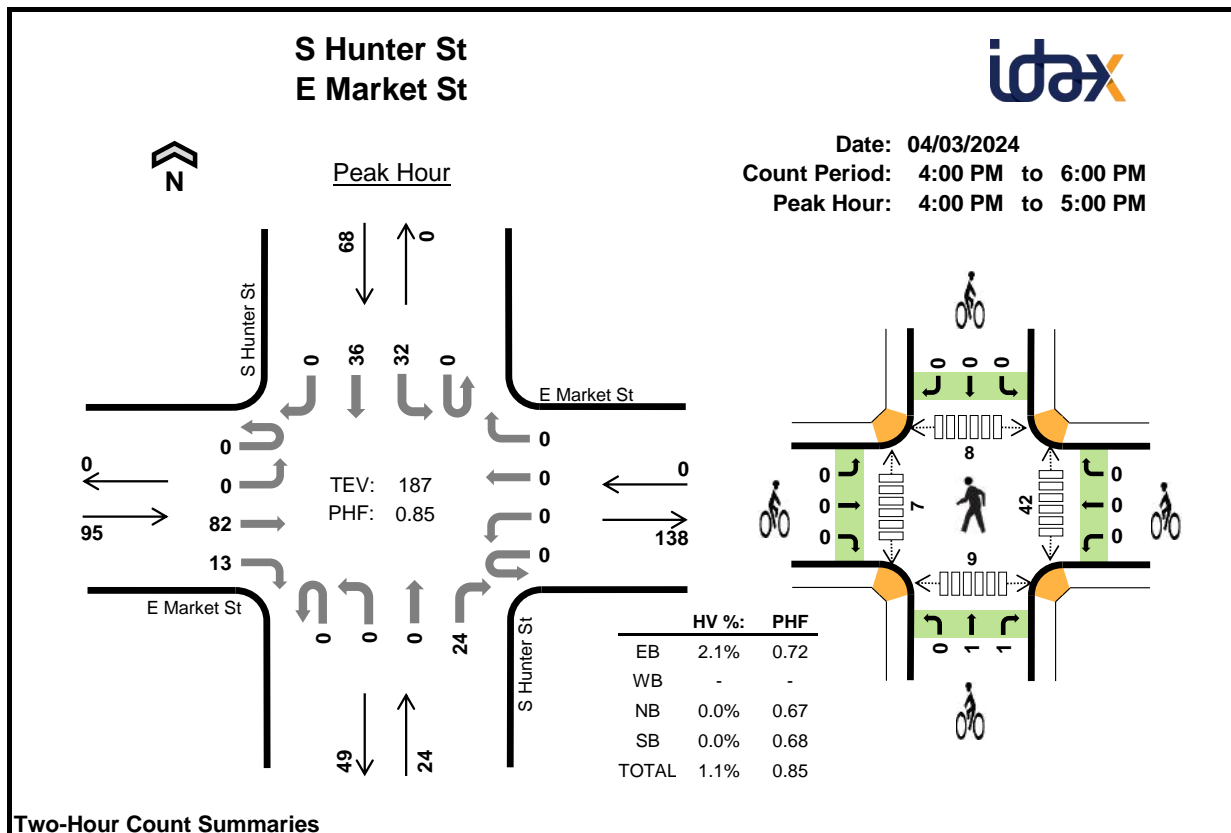
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	1	1	0	0	0	0	0	17	2	1	2	22
7:15 AM	0	0	0	0	0	0	0	0	0	0	18	3	3	3	27
7:30 AM	1	0	0	0	1	0	0	0	0	0	43	4	2	6	55
7:45 AM	1	0	0	0	1	0	0	0	0	0	28	8	1	3	40
8:00 AM	1	0	0	0	1	0	0	0	0	0	16	11	4	2	33
8:15 AM	0	0	1	1	2	0	0	0	1	1	22	25	2	6	55
8:30 AM	0	0	0	0	0	0	0	0	0	0	19	12	4	5	40
8:45 AM	0	0	0	0	0	0	0	0	0	0	12	12	7	8	39
Count Total	3	0	1	2	6	0	0	0	1	1	175	77	24	35	311
Peak Hour	2	0	1	1	4	0	0	0	1	1	85	56	11	16	168

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	E Market St				E Market St				S Hunter St				S Hunter St				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:15 AM	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	5
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Count Total	0	0	2	1	0	0	0	0	0	0	0	0	1	0	0	2	0	6	0
Peak Hour	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	1	0	4	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			S Hunter St			S Hunter St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	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
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start	E Market St Eastbound				E Market St Westbound				S Hunter St Northbound				S Hunter St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	19	2	0	0	0	0	0	0	0	9	0	13	12	0	55	0
4:15 PM	0	0	17	3	0	0	0	0	0	0	0	2	0	8	7	0	37	0
4:30 PM	0	0	20	1	0	0	0	0	0	0	0	8	0	3	10	0	42	0
4:45 PM	0	0	26	7	0	0	0	0	0	0	0	5	0	8	7	0	53	187
5:00 PM	0	0	19	6	0	0	0	0	0	0	0	8	0	8	12	0	53	185
5:15 PM	0	0	12	6	0	0	0	0	0	0	0	8	0	3	5	0	34	182
5:30 PM	0	0	10	3	0	0	0	0	0	0	0	8	0	2	2	0	25	165
5:45 PM	0	0	11	1	0	0	0	0	0	0	0	4	0	2	4	0	22	134
Count Total	0	0	134	29	0	0	0	0	0	0	0	52	0	47	59	0	321	0
Peak Hour	All	0	0	82	13	0	0	0	0	0	0	24	0	32	36	0	187	0
	HV	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
	HV%	-	-	2%	0%	-	-	-	-	-	-	0%	-	0%	0%	-	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	0	0	1	0	0	0	0	0	13	1	2	4	20
4:15 PM	1	0	0	0	1	0	0	2	0	2	8	2	0	4	14
4:30 PM	0	0	0	0	0	0	0	0	0	0	10	1	2	0	13
4:45 PM	0	0	0	0	0	0	0	0	0	0	11	3	4	1	19
5:00 PM	0	0	0	0	0	0	0	0	0	0	10	1	1	2	14
5:15 PM	0	0	0	0	0	1	0	0	1	2	12	1	0	2	15
5:30 PM	0	0	0	0	0	0	0	0	1	1	8	0	0	1	9
5:45 PM	0	0	0	0	0	0	0	1	1	2	5	2	0	1	8
Count Total	2	0	0	0	2	1	0	3	3	7	77	11	9	15	112
Peak Hour	2	0	0	0	2	0	0	2	0	2	42	7	8	9	66

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S Hunter St				S Hunter St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
5:15 PM	0	0	0	0	0	0	0	0	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	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	
Peak Hour	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			S Hunter St			S Hunter St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:15 PM	0	0	0	0	0	0	0	1	1	0	0	0	2	0			
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
5:15 PM	0	1	0	0	0	0	0	0	0	0	1	0	2	2			
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	3			
5:45 PM	0	0	0	0	0	0	1	0	0	0	1	0	2	5			
Count Total	0	1	0	0	0	0	1	1	1	0	3	0	7	0			
Peak Hour	0	0	0	0	0	0	0	1	1	0	0	0	2	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S San Joaquin St E Market St

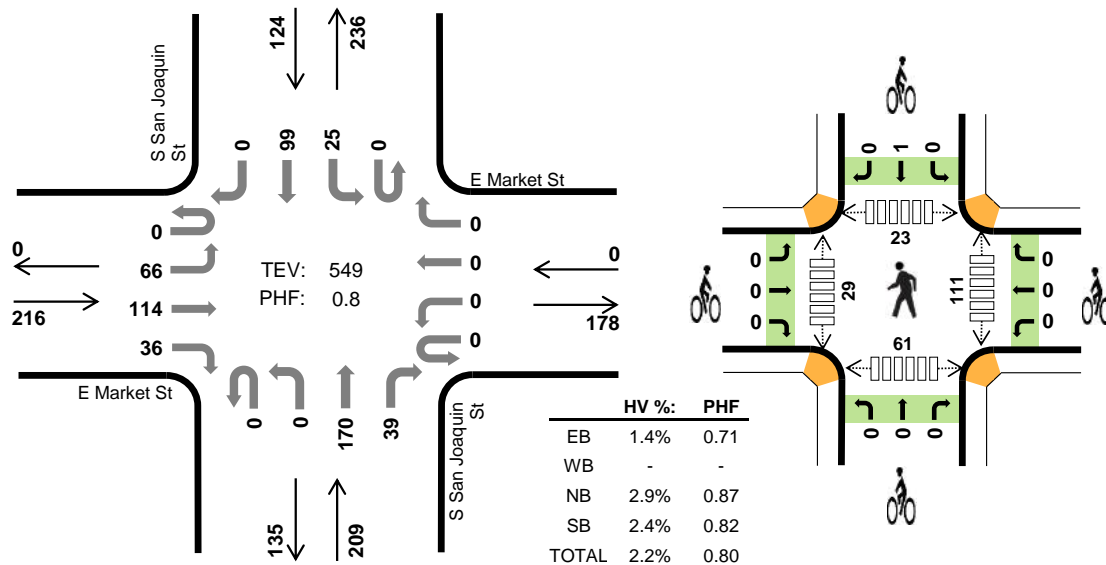


Peak Hour

Date: 04/03/2024

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM



Two-Hour Count Summaries

Interval Start		E Market St				E Market St				S San Joaquin St				S San Joaquin St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	1	8	6	0	0	0	0	0	0	19	5	0	1	11	0	51	0
7:15 AM		0	4	27	10	0	0	0	0	0	0	26	1	0	8	11	0	87	0
7:30 AM		0	3	34	8	0	0	0	0	0	0	28	5	0	8	17	0	103	0
7:45 AM		0	13	46	17	0	0	0	0	0	0	50	10	0	9	26	0	171	412
8:00 AM		0	12	22	10	0	0	0	0	0	0	48	8	0	3	29	0	132	493
8:15 AM		0	22	29	5	0	0	0	0	0	0	39	8	0	10	28	0	141	547
8:30 AM		0	19	17	4	0	0	0	0	0	0	33	13	0	3	16	0	105	549
8:45 AM		0	17	21	8	0	0	0	0	0	0	26	6	0	10	15	0	103	481
Count Total		0	91	204	68	0	0	0	0	0	0	269	56	0	52	153	0	893	0
Peak Hour	All	0	66	114	36	0	0	0	0	0	0	170	39	0	25	99	0	549	0
	HV	0	1	2	0	0	0	0	0	0	0	6	0	0	1	2	0	12	0
	HV%	-	2%	2%	0%	-	-	-	-	-	-	4%	0%	-	4%	2%	-	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

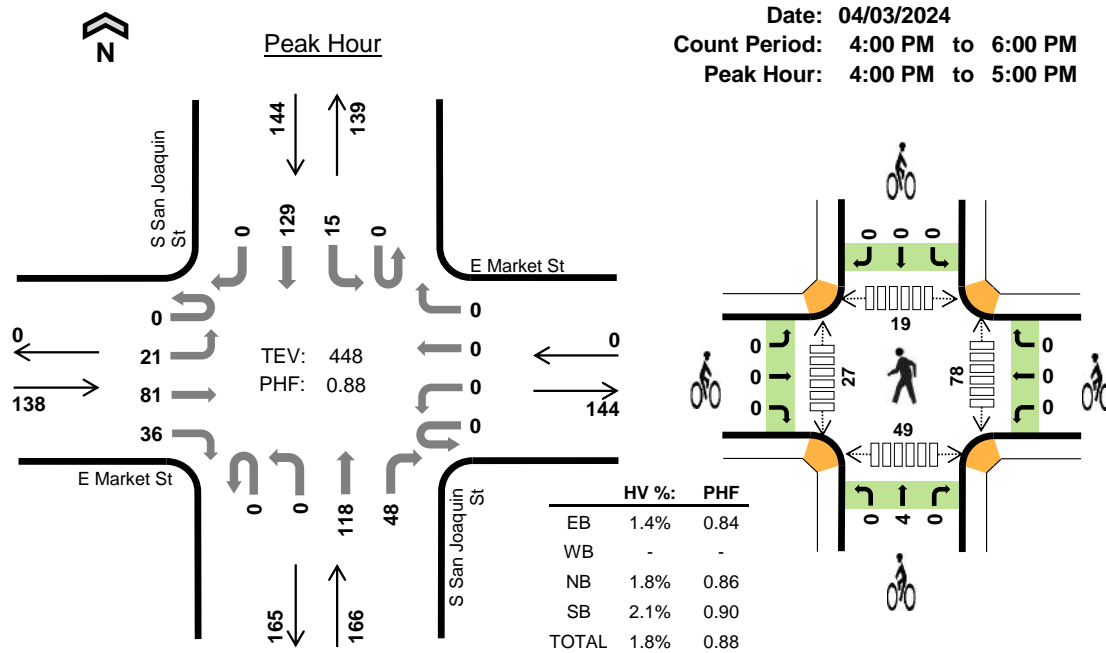
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	3	1	4	0	0	0	0	0	9	3	6	3	21
7:15 AM	0	0	1	0	1	0	0	1	0	1	18	9	4	10	41
7:30 AM	0	0	0	3	3	1	0	0	0	1	10	1	2	16	29
7:45 AM	1	0	0	0	1	0	0	0	0	0	29	9	6	12	56
8:00 AM	1	0	3	2	6	0	0	0	0	0	25	4	3	7	39
8:15 AM	1	0	2	1	4	0	0	0	0	0	29	9	7	25	70
8:30 AM	0	0	1	0	1	0	0	0	1	1	28	7	7	17	59
8:45 AM	0	0	0	0	0	0	0	0	1	1	17	2	5	17	41
Count Total	3	0	10	7	20	1	0	1	2	4	165	44	40	107	356
Peak Hour	3	0	6	3	12	0	0	0	1	1	111	29	23	61	224

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S San Joaquin St				S San Joaquin St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	4	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9
8:00 AM	0	1	0	0	0	0	0	0	0	0	3	0	0	1	1	0	6	11
8:15 AM	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0	4	14
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	12
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Count Total	0	1	2	0	0	0	0	0	0	0	10	0	0	1	6	0	20	0
Peak Hour	0	1	2	0	0	0	0	0	0	0	6	0	0	1	2	0	12	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			S San Joaquin St			S San Joaquin St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0			
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	1			
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	2			
Count Total	0	1	0	0	0	0	0	1	0	0	2	0	4	0			
Peak Hour	0	0	0	0	0	0	0	0	0	0	1	0	1	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S San Joaquin St E Market St



Two-Hour Count Summaries

Interval Start	E Market St Eastbound				E Market St Westbound				S San Joaquin St Northbound				S San Joaquin St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	10	24	7	0	0	0	0	0	0	33	15	0	3	35	0	127	0
4:15 PM	0	1	16	12	0	0	0	0	0	0	26	11	0	3	36	0	105	0
4:30 PM	0	7	14	8	0	0	0	0	0	0	26	12	0	5	35	0	107	0
4:45 PM	0	3	27	9	0	0	0	0	0	0	33	10	0	4	23	0	109	448
5:00 PM	0	6	28	6	0	0	0	0	0	0	27	4	0	3	44	0	118	439
5:15 PM	0	4	19	1	0	0	0	0	0	0	20	6	0	9	26	0	85	419
5:30 PM	0	2	13	5	0	0	0	0	0	0	12	5	0	5	15	0	57	369
5:45 PM	0	4	11	4	0	0	0	0	0	0	13	3	0	0	16	0	51	311
Count Total	0	37	152	52	0	0	0	0	0	0	190	66	0	32	230	0	759	0
Peak Hour	All	0	21	81	36	0	0	0	0	0	118	48	0	15	129	0	448	0
	HV	0	1	1	0	0	0	0	0	0	3	0	0	0	3	0	8	0
	HV%	-	5%	1%	0%	-	-	-	-	-	3%	0%	-	0%	2%	-	2%	0

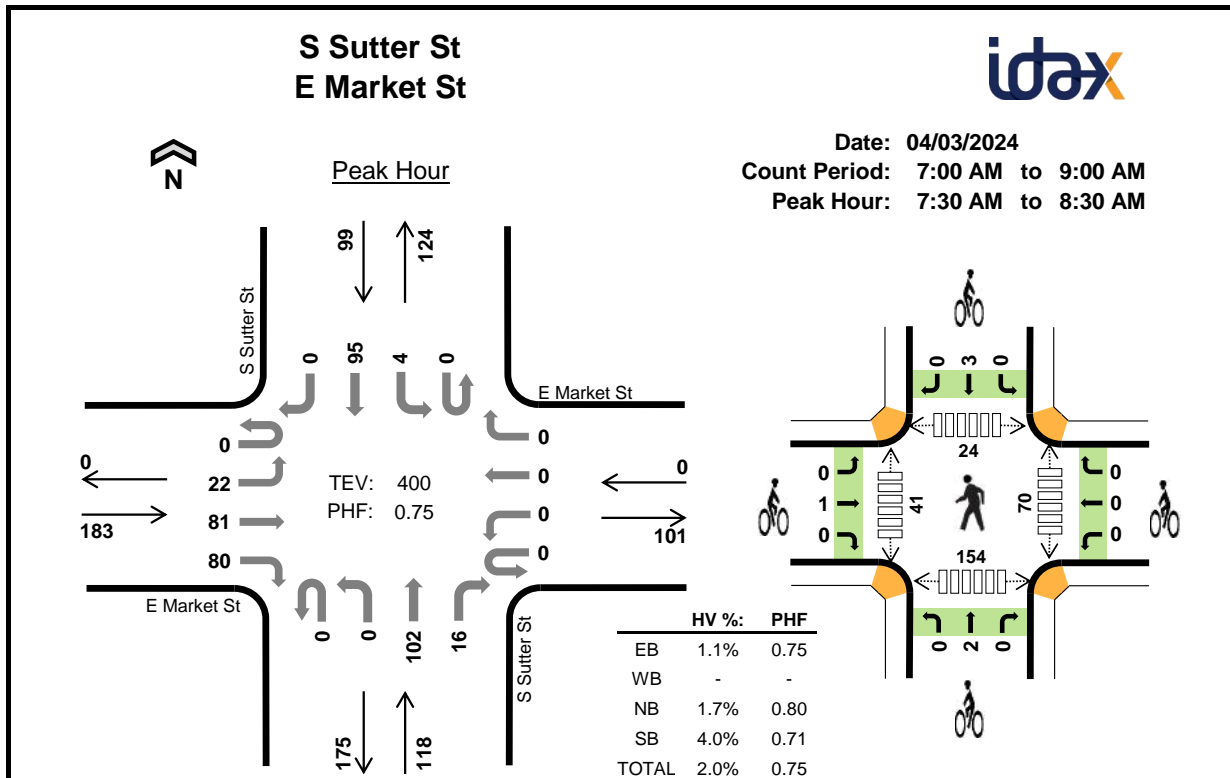
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	0	1	2	0	0	0	0	0	33	10	2	10	55
4:15 PM	1	0	2	1	4	0	0	0	0	0	14	9	7	13	43
4:30 PM	0	0	0	1	1	0	0	3	0	3	21	4	4	16	45
4:45 PM	0	0	1	0	1	0	0	1	0	1	10	4	6	10	30
5:00 PM	0	0	0	1	1	0	0	0	0	0	16	0	8	8	32
5:15 PM	0	0	1	0	1	0	0	1	0	1	6	3	6	13	28
5:30 PM	0	0	1	0	1	1	0	0	1	2	2	4	1	6	13
5:45 PM	0	0	1	1	2	0	0	0	0	0	2	3	2	2	9
Count Total	2	0	6	5	13	1	0	5	1	7	104	37	36	78	255
Peak Hour	2	0	3	3	8	0	0	4	0	4	78	27	19	49	173

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S San Joaquin St				S San Joaquin St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0	4	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	8
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	7
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	5
Count Total	0	1	1	0	0	0	0	0	0	0	6	0	0	0	5	0	13	0
Peak Hour	0	1	1	0	0	0	0	0	0	0	3	0	0	0	3	0	8	0

Two-Hour Count Summaries - Bikes																		
Interval Start	E Market St			E Market St			S San Joaquin St			S San Joaquin St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3			
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1			
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	2			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Count Total	0	1	0	0	0	0	0	5	0	0	1	0	0	0	7			
Peak Hour	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Market St				E Market St				S Sutter St				S Sutter St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	7:00 AM	0	2	2	13	0	0	0	0	0	0	14	0	0	0	8	0	39	0
	7:15 AM	0	7	11	14	0	0	0	0	0	0	24	1	0	2	13	0	72	0
	7:30 AM	0	2	20	23	0	0	0	0	0	0	23	4	0	0	19	0	91	0
	7:45 AM	0	5	28	28	0	0	0	0	0	0	34	3	0	1	34	0	133	335
	8:00 AM	0	5	12	14	0	0	0	0	0	0	22	7	0	3	30	0	93	389
	8:15 AM	0	10	21	15	0	0	0	0	0	0	23	2	0	0	12	0	83	400
	8:30 AM	0	8	9	12	0	0	0	0	0	0	11	1	0	0	13	0	54	363
	8:45 AM	0	6	26	10	0	0	0	0	0	0	20	1	0	0	22	0	85	315
Count Total		0	45	129	129	0	0	0	0	0	0	171	19	0	6	151	0	650	0
Peak Hour	All	0	22	81	80	0	0	0	0	0	0	102	16	0	4	95	0	400	0
	HV	0	1	1	0	0	0	0	0	0	0	2	0	0	1	3	0	8	0
	HV%	-	5%	1%	0%	-	-	-	-	-	-	2%	0%	-	25%	3%	-	2%	0

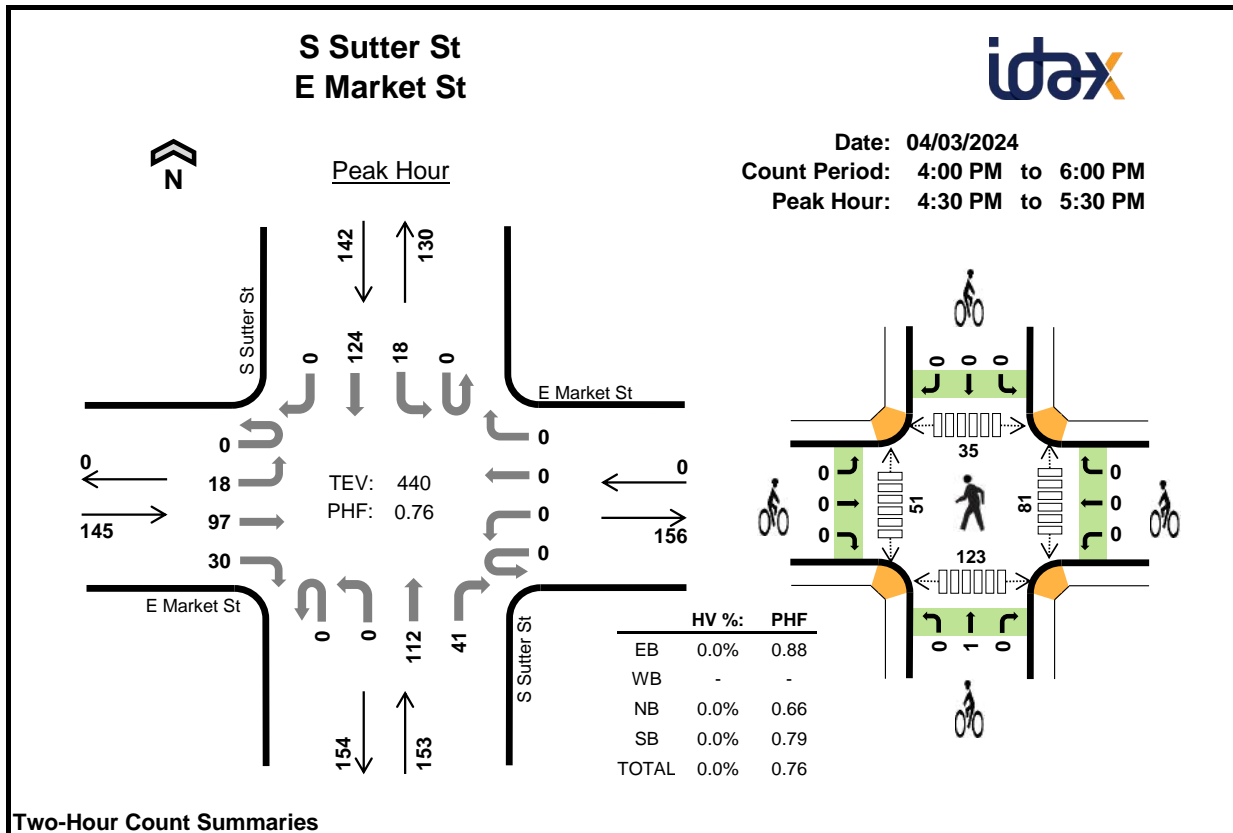
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	0	1	0	0	0	0	0	12	1	6	20	39
7:15 AM	0	0	0	1	1	0	0	0	0	0	19	5	3	16	43
7:30 AM	0	0	1	0	1	1	0	1	0	2	18	9	2	36	65
7:45 AM	1	0	1	2	4	0	0	0	0	0	21	16	3	71	111
8:00 AM	0	0	0	1	1	0	0	0	1	1	14	10	10	32	66
8:15 AM	1	0	0	1	2	0	0	1	2	3	17	6	9	15	47
8:30 AM	0	0	1	1	2	0	0	0	0	0	5	10	3	16	34
8:45 AM	0	0	0	1	1	0	0	0	0	0	10	10	7	11	38
Count Total	2	0	4	7	13	1	0	2	3	6	116	67	43	217	443
Peak Hour	2	0	2	4	8	1	0	2	3	6	70	41	24	154	289

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S Sutter St				S Sutter St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	2	0	4	7
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	7
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	8
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	9
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	6
Count Total	0	1	1	0	0	0	0	0	0	0	4	0	0	1	6	0	13	0
Peak Hour	0	1	1	0	0	0	0	0	0	0	2	0	0	1	3	0	8	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			S Sutter St			S Sutter St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	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			
7:30 AM	0	1	0	0	0	0	0	1	0	0	0	0	2	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	3			
8:15 AM	0	0	0	0	0	0	0	1	0	0	2	0	3	6			
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4			
Count Total	0	1	0	0	0	0	0	2	0	0	3	0	6	0			
Peak Hour	0	1	0	0	0	0	0	2	0	0	3	0	6	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Market St				E Market St				S Sutter St				S Sutter St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	4:00 PM	0	6	27	9	0	0	0	0	0	0	13	2	0	2	16	0	75	0
	4:15 PM	0	5	16	8	0	0	0	0	0	0	18	3	0	2	26	0	78	0
	4:30 PM	0	5	22	10	0	0	0	0	0	0	29	13	0	5	32	0	116	0
	4:45 PM	0	7	24	6	0	0	0	0	0	0	24	8	0	3	22	0	94	363
	5:00 PM	0	4	29	8	0	0	0	0	0	0	42	16	0	8	37	0	144	432
	5:15 PM	0	2	22	6	0	0	0	0	0	0	17	4	0	2	33	0	86	440
	5:30 PM	0	3	16	8	0	0	0	0	0	0	26	4	0	1	19	0	77	401
	5:45 PM	0	0	11	4	0	0	0	0	0	0	12	0	0	4	18	0	49	356
Count Total		0	32	167	59	0	0	0	0	0	0	181	50	0	27	203	0	719	0
Peak Hour	All	0	18	97	30	0	0	0	0	0	0	112	41	0	18	124	0	440	0
	HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HV%	-	0%	0%	0%	-	-	-	-	-	-	0%	0%	-	0%	0%	-	0%	0

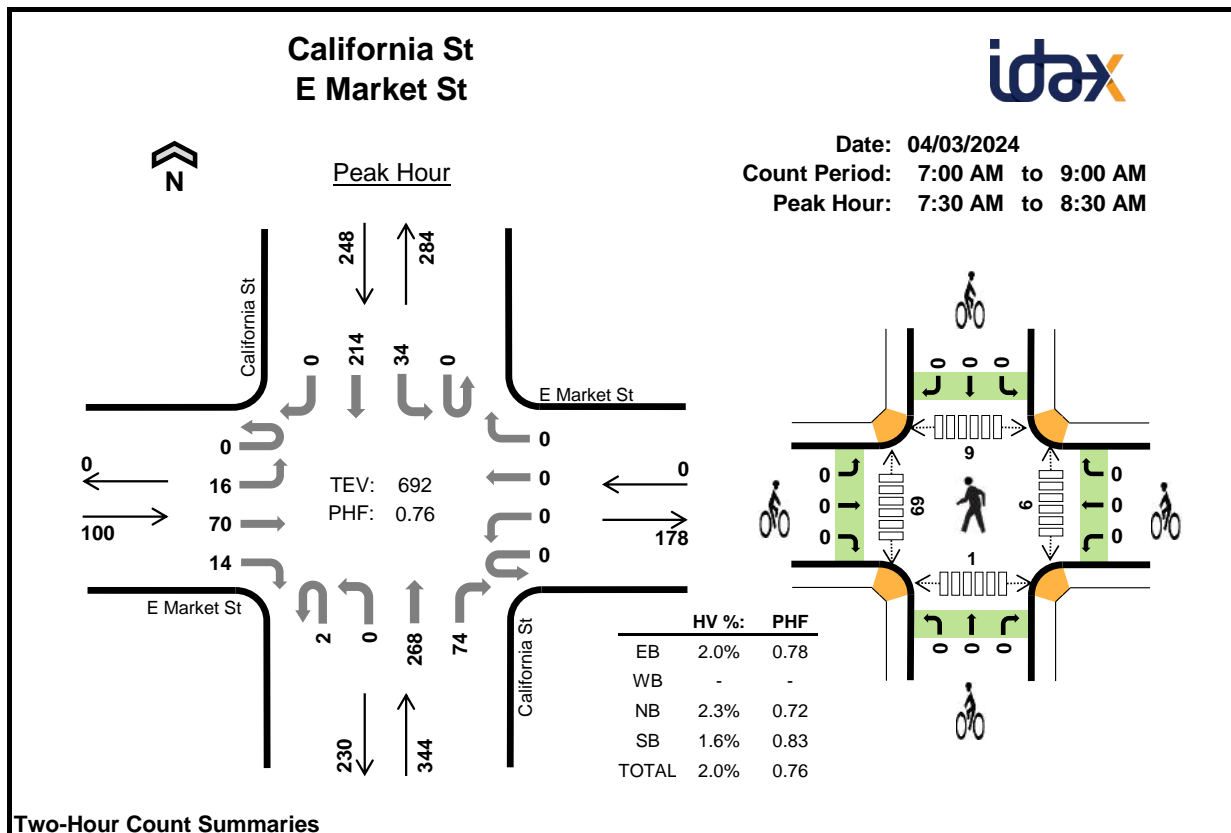
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	10	13	5	5	33
4:15 PM	1	0	0	1	2	0	0	0	0	0	8	16	9	19	52
4:30 PM	0	0	0	0	0	0	0	0	0	0	24	17	7	34	82
4:45 PM	0	0	0	0	0	0	0	0	0	0	13	19	10	32	74
5:00 PM	0	0	0	0	0	0	0	1	0	1	38	9	14	49	110
5:15 PM	0	0	0	0	0	0	0	0	0	0	6	6	4	8	24
5:30 PM	0	0	0	0	0	0	0	1	0	1	13	10	3	24	50
5:45 PM	0	0	1	0	1	0	0	0	0	0	6	4	1	12	23
Count Total	1	0	1	1	3	0	0	2	0	2	118	94	53	183	448
Peak Hour	0	0	0	0	0	0	0	1	0	1	81	51	35	123	290

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S Sutter St				S Sutter St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	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	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
Count Total	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	3	
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			S Sutter St			S Sutter St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	1			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	2			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
Count Total	0	0	0	0	0	0	0	2	0	0	0	0	2	0			
Peak Hour	0	0	0	0	0	0	0	1	0	0	0	0	1	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Market St				E Market St				California St				California St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	1	1	0	0	0	0	0	0	30	2	0	3	33	0	70	0
7:15 AM		0	3	9	3	0	0	0	0	0	0	44	8	0	3	32	0	102	0
7:30 AM		0	6	14	3	0	0	0	0	1	0	57	20	0	10	39	0	150	0
7:45 AM		0	5	21	6	0	0	0	0	0	0	75	45	0	15	60	0	227	549
8:00 AM		0	3	14	3	0	0	0	0	1	0	69	7	0	5	61	0	163	642
8:15 AM		0	2	21	2	0	0	0	0	0	0	67	2	0	4	54	0	152	692
8:30 AM		0	4	5	1	0	0	0	0	0	0	54	7	0	4	42	0	117	659
8:45 AM		0	2	21	3	0	0	0	0	0	0	46	3	0	2	35	0	112	544
Count Total		0	25	106	22	0	0	0	0	2	0	442	94	0	46	356	0	1,093	0
Peak Hour	All	0	16	70	14	0	0	0	0	2	0	268	74	0	34	214	0	692	0
	HV	0	1	1	0	0	0	0	0	0	0	7	1	0	0	4	0	14	0
	HV%	-	6%	1%	0%	-	-	-	-	0%	-	3%	1%	-	0%	2%	-	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	2	3	0	0	0	0	0	6	11	0	0	17
7:15 AM	0	0	2	0	2	0	0	0	0	0	6	15	1	2	24
7:30 AM	0	0	4	1	5	0	0	0	0	0	2	18	2	1	23
7:45 AM	0	0	4	2	6	0	0	0	0	0	1	25	0	0	26
8:00 AM	1	0	0	1	2	0	0	0	0	0	3	13	4	0	20
8:15 AM	1	0	0	0	1	0	0	0	0	0	0	13	3	0	16
8:30 AM	0	0	4	1	5	0	0	0	0	0	0	10	0	0	10
8:45 AM	0	0	0	2	2	1	0	0	0	1	0	2	1	0	3
Count Total	2	0	15	9	26	1	0	0	0	1	18	107	11	3	139
Peak Hour	2	0	8	4	14	0	0	0	0	0	6	69	9	1	85

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				California St				California St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	5	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	3	1	0	0	2	0	6	16
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	15
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	14
8:30 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	5	14
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	10
Count Total	0	1	1	0	0	0	0	0	0	0	14	1	0	0	9	0	26	0
Peak Hour	0	1	1	0	0	0	0	0	0	0	7	1	0	0	4	0	14	0

Two-Hour Count Summaries - Bikes																		
Interval Start	E Market St			E Market St			California St			California St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	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				
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	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				
8:15 AM	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				
8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	1				
Count Total	0	1	0	0	0	0	0	0	0	0	0	0	1	0				
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

California St E Market St

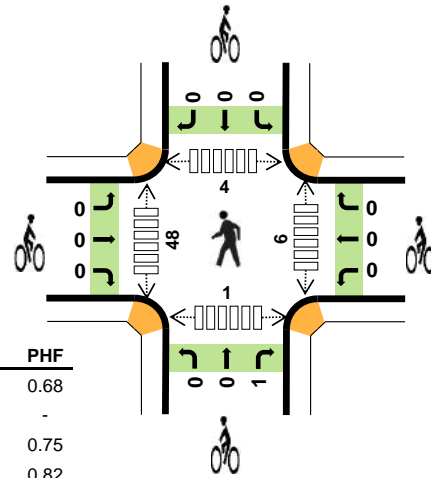
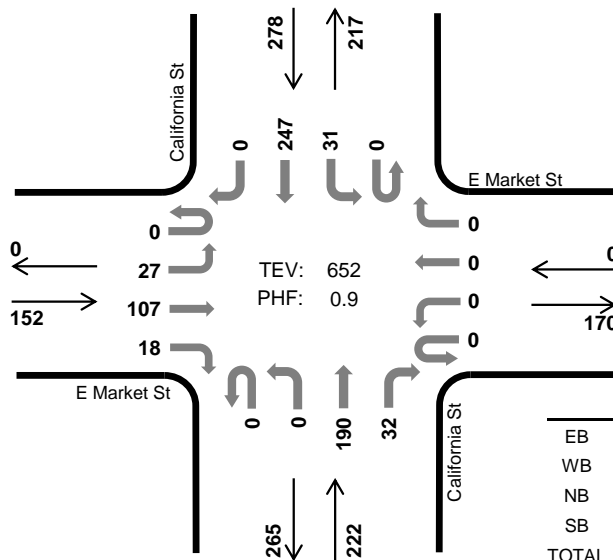


Peak Hour

Date: 04/03/2024

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	0.0%	0.68
WB	-	-
NB	0.9%	0.75
SB	2.2%	0.82
TOTAL	1.2%	0.90

Two-Hour Count Summaries

Interval Start		E Market St				E Market St				California St				California St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	6	17	7	0	0	0	0	0	0	40	7	0	6	73	0	156	0
4:15 PM		0	2	18	3	0	0	0	0	0	0	47	6	0	6	60	0	142	0
4:30 PM		0	7	28	3	0	0	0	0	0	0	62	12	0	5	60	0	177	0
4:45 PM		0	9	24	2	0	0	0	0	0	0	46	9	0	4	58	0	152	627
5:00 PM		0	9	37	10	0	0	0	0	0	0	35	5	0	16	69	0	181	652
5:15 PM		0	4	18	4	0	0	0	0	0	0	47	3	0	6	52	0	134	644
5:30 PM		0	5	14	3	0	0	0	0	0	0	27	7	0	10	43	0	109	576
5:45 PM		0	0	13	1	0	0	0	0	0	0	28	5	0	7	40	0	94	518
Count Total		0	42	169	33	0	0	0	0	0	0	332	54	0	60	455	0	1,145	0
Peak Hour	All	0	27	107	18	0	0	0	0	0	0	190	32	0	31	247	0	652	0
	HV	0	0	0	0	0	0	0	0	0	0	2	0	0	0	6	0	8	0
	HV%	-	0%	0%	0%	-	-	-	-	-	-	1%	0%	-	0%	2%	-	1%	0

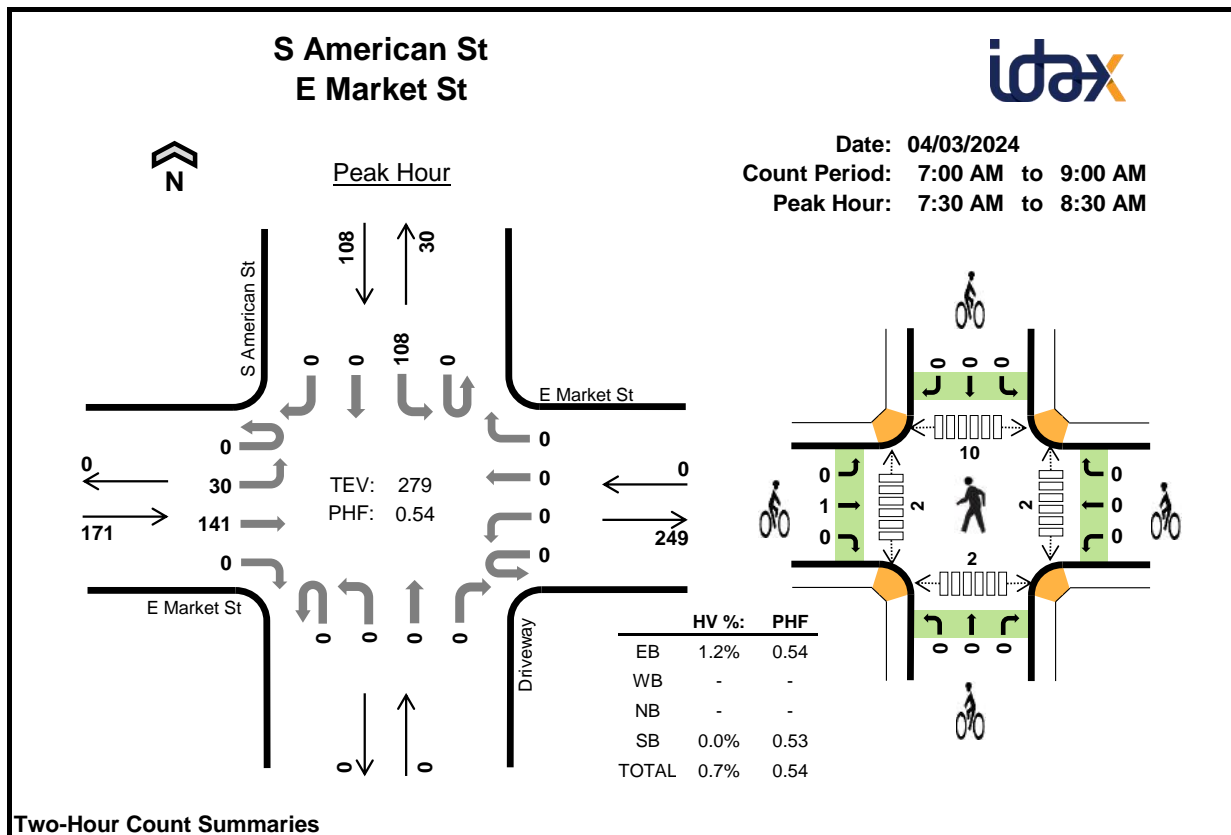
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	1	1	0	0	0	0	0	0	4	0	0	4
4:15 PM	0	0	1	1	2	0	0	0	0	0	4	8	3	1	16
4:30 PM	0	0	1	3	4	0	0	0	0	0	0	11	0	0	11
4:45 PM	0	0	0	1	1	0	0	1	0	1	1	6	1	0	8
5:00 PM	0	0	0	1	1	0	0	0	0	0	1	23	0	0	24
5:15 PM	0	0	0	1	1	0	0	0	0	0	0	4	1	0	5
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	23	1	1	25
5:45 PM	0	0	1	0	1	0	0	0	0	0	2	5	1	1	9
Count Total	0	0	3	8	11	0	0	1	0	1	8	84	7	3	102
Peak Hour	0	0	2	6	8	0	0	1	0	1	6	48	4	1	59

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	E Market St				E Market St				California St				California St				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	8
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	8
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	7
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	3
Count Total	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	8	0	11	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	6	0	8	0

Two-Hour Count Summaries - Bikes																			
Interval Start	E Market St			E Market St			California St			California St			15-min Total	Rolling One Hour					
	Eastbound			Westbound			Northbound			Southbound									
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT							
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Market St				E Market St				Driveway				S American St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	1	4	0	0	0	0	0	0	0	0	0	0	2	0	0	7	0
7:15 AM		0	0	13	0	0	0	0	0	0	0	0	0	0	7	0	0	20	0
7:30 AM		0	3	33	0	0	0	0	0	0	0	0	0	0	36	0	0	72	0
7:45 AM		0	17	62	0	0	0	0	0	0	0	0	0	0	51	0	0	130	229
8:00 AM		0	8	20	0	0	0	0	0	0	0	0	0	0	20	0	0	48	270
8:15 AM		0	2	26	0	0	0	0	0	0	0	0	0	0	1	0	0	29	279
8:30 AM		0	1	13	0	0	0	0	0	0	0	0	0	0	6	0	0	20	227
8:45 AM		0	1	24	0	0	0	0	0	0	0	0	0	0	5	0	0	30	127
Count Total		0	33	195	0	0	0	0	0	0	0	0	0	0	128	0	0	356	0
Peak Hour	All	0	30	141	0	0	0	0	0	0	0	0	0	0	108	0	0	279	0
	HV	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
	HV%	-	0%	1%	-	-	-	-	-	-	-	-	-	-	0%	-	-	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	1	1	0	0	0	0	0	2	5	2	3	12
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3
7:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	2	0	2
7:45 AM	1	0	0	0	1	0	0	0	0	0	2	0	4	1	7
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	1	1	4
8:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	3	0	3
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	13	0	13
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	15	1	16
Count Total	2	0	0	1	3	1	0	0	0	1	4	7	41	8	60
Peak Hour	2	0	0	0	2	1	0	0	0	1	2	2	10	2	16

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				Driveway				S American St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
7:15 AM	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	0	0	0	0	0	0	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	3	0
Peak Hour	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			Driveway			S American St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	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		
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Count Total	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0		
Peak Hour	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0		

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S American St E Market St

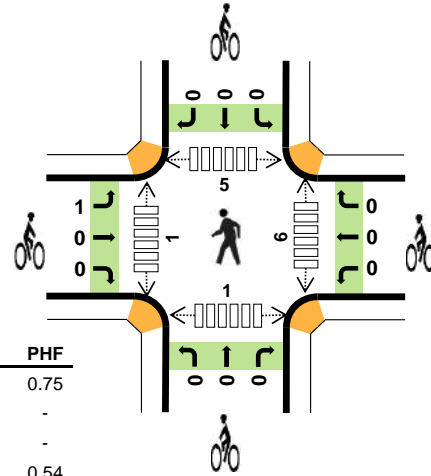
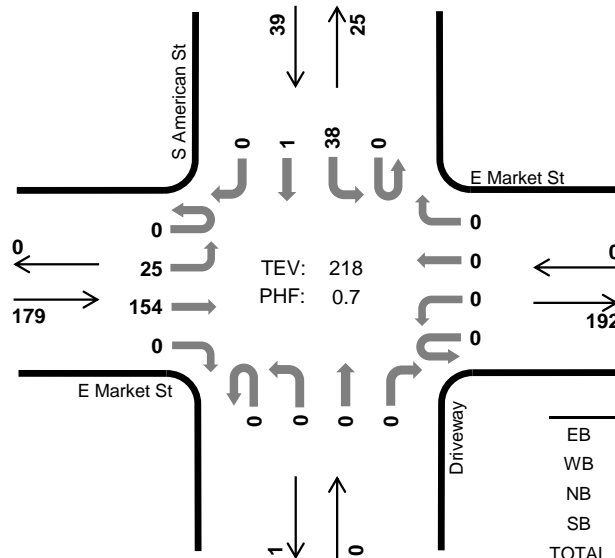


Peak Hour

Date: 04/03/2024

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	0.0%	0.75
WB	-	-
NB	-	-
SB	0.0%	0.54
TOTAL	0.0%	0.70

Two-Hour Count Summaries

Interval Start		E Market St				E Market St				Driveway				S American St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	8	24	0	0	0	0	0	0	0	0	0	0	9	0	1	42	0
4:15 PM		0	3	31	0	0	0	0	0	0	0	0	0	0	10	0	0	44	0
4:30 PM		0	7	42	0	0	0	0	0	0	0	0	0	0	6	0	0	55	0
4:45 PM		0	6	30	0	0	0	0	0	0	0	0	0	0	5	0	0	41	182
5:00 PM		0	9	51	0	0	0	0	0	0	0	0	0	0	17	1	0	78	218
5:15 PM		0	1	27	0	0	0	0	0	0	0	0	0	0	7	0	0	35	209
5:30 PM		0	0	32	0	0	0	0	0	0	0	0	0	0	6	0	0	38	192
5:45 PM		0	3	22	0	0	0	0	0	0	0	0	0	0	8	0	0	33	184
Count Total		0	37	259	0	0	0	0	0	0	0	0	0	0	68	1	1	366	0
Peak Hour	All	0	25	154	0	0	0	0	0	0	0	0	0	0	38	1	0	218	0
	HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HV%	-	0%	0%	-	-	-	-	-	-	-	-	-	-	0%	0%	-	0%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	2	1	4
4:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	2	1	7
4:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	1	1	0	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	2	1	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	2	1	5
Count Total	0	0	0	0	0	1	0	0	0	1	10	3	11	4	28
Peak Hour	0	0	0	0	0	1	0	0	0	1	6	1	5	1	13

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				Driveway				S American St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	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	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			Driveway			S American St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	0			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
5:15 PM	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			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Count Total	1	0	0	0	0	0	0	0	0	0	0	0	1	0			
Peak Hour	1	0	0	0	0	0	0	0	0	0	0	0	1	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Stanislaus St E Market St

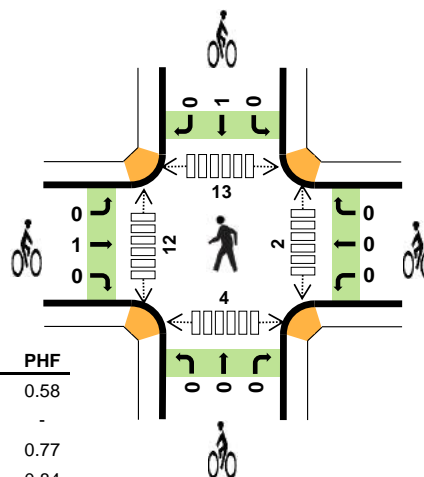
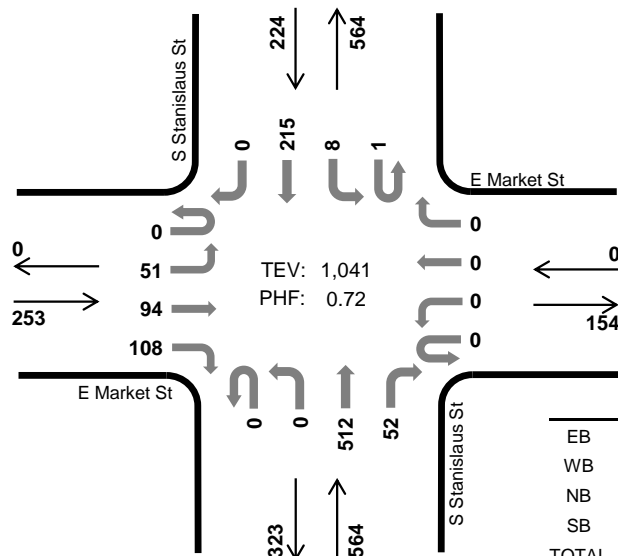


Peak Hour

Date: 04/03/2024

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	0.4%	0.58
WB	-	-
NB	1.6%	0.77
SB	4.9%	0.84
TOTAL	2.0%	0.72

Two-Hour Count Summaries

Interval Start	E Market St Eastbound				E Market St Westbound				S Stanislaus St Northbound				S Stanislaus St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	4	0	0	0	0	0	0	39	9	0	0	22	0	75	0
7:15 AM	0	2	3	6	0	0	0	0	0	0	80	5	0	3	29	0	128	0
7:30 AM	0	16	15	37	0	0	0	0	0	0	115	12	0	3	43	0	241	0
7:45 AM	0	22	45	42	0	0	0	0	0	0	173	11	1	1	65	0	360	804
8:00 AM	0	10	21	18	0	0	0	0	0	0	121	17	0	2	47	0	236	965
8:15 AM	0	3	13	11	0	0	0	0	0	0	103	12	0	2	60	0	204	1,041
8:30 AM	0	2	7	6	0	0	0	0	0	0	96	11	1	0	71	0	194	994
8:45 AM	0	3	17	10	0	0	0	0	0	0	77	5	0	3	46	0	161	795
Count Total	0	58	122	134	0	0	0	0	0	0	804	82	2	14	383	0	1,599	0
Peak Hour	All	0	51	94	108	0	0	0	0	0	512	52	1	8	215	0	1,041	0
	HV	0	0	0	1	0	0	0	0	0	9	0	0	0	11	0	21	0
	HV%	-	0%	0%	1%	-	-	-	-	-	2%	0%	0%	0%	5%	-	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	0	1	5	7	0	0	0	0	0	1	1	0	0	2
7:15 AM	0	0	3	1	4	0	0	0	0	0	1	0	3	0	4
7:30 AM	0	0	4	2	6	1	0	0	1	2	0	2	1	0	3
7:45 AM	0	0	2	3	5	0	0	0	0	0	0	3	4	2	9
8:00 AM	0	0	1	5	6	0	0	0	0	0	1	4	4	1	10
8:15 AM	1	0	2	1	4	0	0	0	0	0	1	3	4	1	9
8:30 AM	0	0	7	6	13	0	0	0	1	1	2	0	1	0	3
8:45 AM	0	0	3	3	6	0	0	0	0	0	1	0	1	0	2
Count Total	2	0	23	26	51	1	0	0	2	3	7	13	18	4	42
Peak Hour	1	0	9	11	21	1	0	0	1	2	2	12	13	4	31

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S Stanislaus St				S Stanislaus St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	5	0	7	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	4	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	2	0	6	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	5	22
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5	0	6	21
8:15 AM	0	0	0	1	0	0	0	0	0	0	2	0	0	0	1	0	4	21
8:30 AM	0	0	0	0	0	0	0	0	0	0	4	3	0	0	6	0	13	28
8:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	6	29
Count Total	0	0	1	1	0	0	0	0	0	0	20	3	0	0	26	0	51	0
Peak Hour	0	0	0	1	0	0	0	0	0	0	9	0	0	0	11	0	21	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			S Stanislaus St			S Stanislaus St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	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			
7:30 AM	0	1	0	0	0	0	0	0	0	0	1	0	2	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	1			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
Count Total	0	1	0	0	0	0	0	0	0	0	2	0	3	0			
Peak Hour	0	1	0	0	0	0	0	0	0	0	1	0	2	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Stanislaus St E Market St

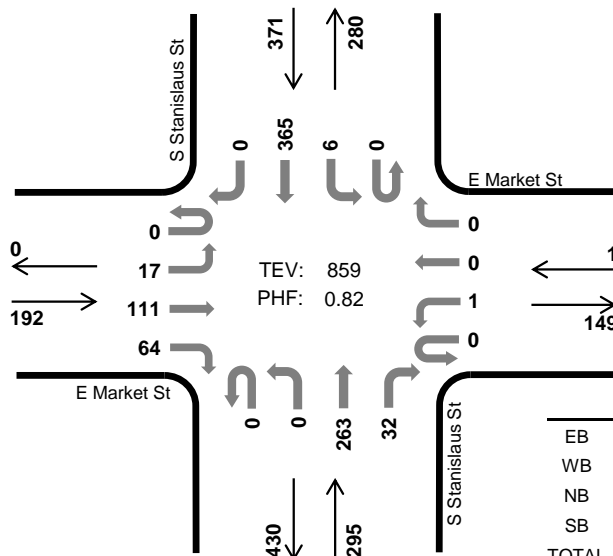


Peak Hour

Date: 04/03/2024

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	0.0%	0.71
WB	0.0%	0.25
NB	2.4%	0.95
SB	1.6%	0.77
TOTAL	1.5%	0.82

Two-Hour Count Summaries

Interval Start		E Market St				E Market St				S Stanislaus St				S Stanislaus St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	4:00 PM	0	6	18	8	0	0	0	0	0	0	86	6	0	1	61	0	186	0
	4:15 PM	0	5	18	15	0	0	0	0	0	0	66	12	0	3	71	0	190	0
	4:30 PM	0	2	31	16	0	0	0	0	0	0	64	6	0	0	98	0	217	0
	4:45 PM	0	1	28	8	0	0	0	0	0	0	69	4	0	1	78	0	189	782
	5:00 PM	0	9	34	25	0	1	0	0	0	0	64	10	0	2	118	0	263	859
	5:15 PM	0	0	20	15	0	0	0	0	0	0	36	11	0	1	78	0	161	830
	5:30 PM	0	0	17	21	0	0	0	0	0	0	70	9	0	1	57	0	175	788
	5:45 PM	0	2	15	13	0	0	0	1	0	0	39	4	0	2	82	0	158	757
Count Total		0	25	181	121	0	1	0	1	0	0	494	62	0	11	643	0	1,539	0
Peak Hour	All	0	17	111	64	0	1	0	0	0	0	263	32	0	6	365	0	859	0
	HV	0	0	0	0	0	0	0	0	0	0	6	1	0	0	6	0	13	0
	HV%	-	0%	0%	0%	-	0%	-	-	-	-	2%	3%	-	0%	2%	-	2%	0

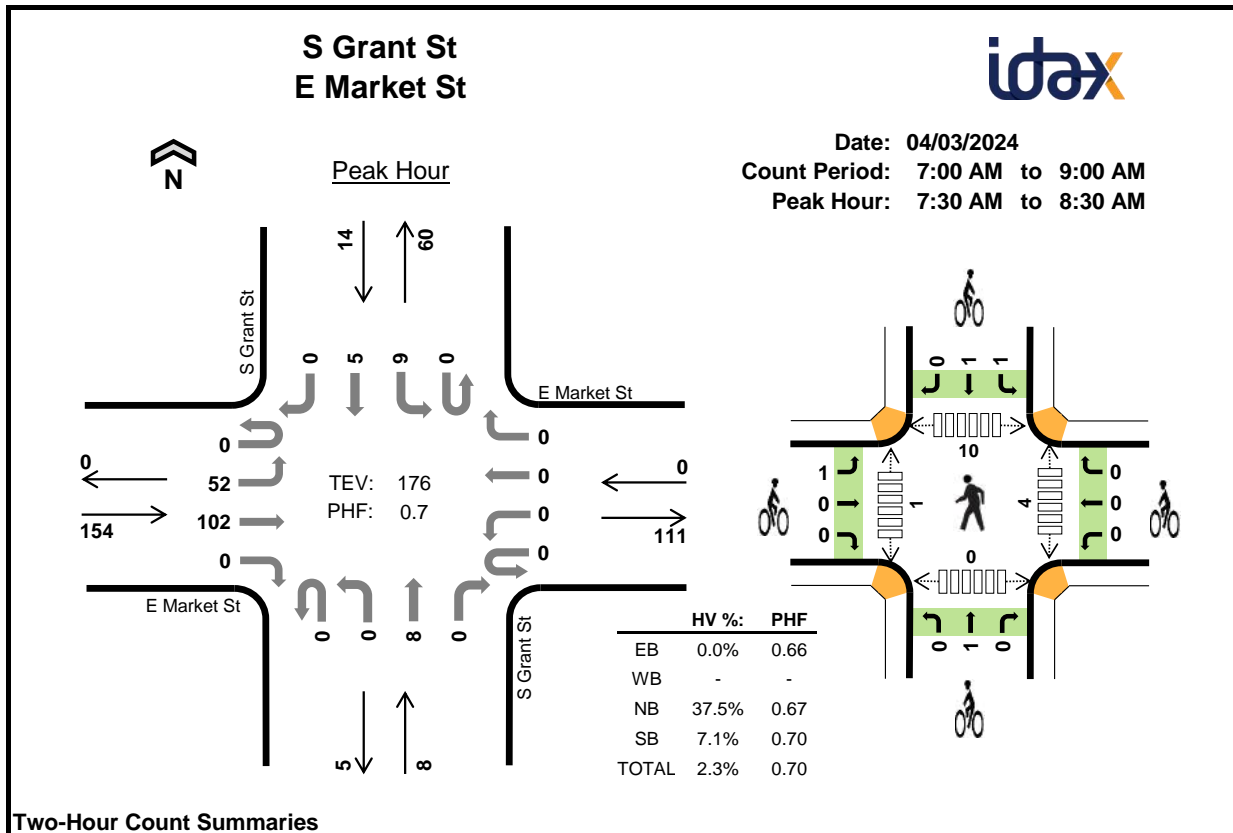
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	2	1	3	1	0	1	0	2	4	1	0	4	9
4:15 PM	0	0	3	1	4	1	0	0	0	1	4	1	1	2	8
4:30 PM	0	0	1	3	4	0	0	0	1	1	0	0	0	3	3
4:45 PM	0	0	3	0	3	0	0	0	0	0	1	0	1	0	2
5:00 PM	0	0	0	2	2	0	0	1	0	1	0	3	2	0	5
5:15 PM	0	0	2	1	3	0	0	0	0	0	0	2	0	0	2
5:30 PM	0	0	2	2	4	0	0	1	0	1	1	0	0	0	1
5:45 PM	0	0	2	0	2	0	0	0	0	0	0	0	0	1	1
Count Total	0	0	15	10	25	2	0	3	1	6	10	7	4	10	31
Peak Hour	0	0	7	6	13	1	0	1	1	3	5	4	4	5	18

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S Stanislaus St				S Stanislaus St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	1	0	0	1	0	4	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	14
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	13
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	12
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	4	12
5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	11
Count Total	0	0	0	0	0	0	0	0	0	0	13	2	0	0	10	0	25	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	6	1	0	0	6	0	13	0

Two-Hour Count Summaries - Bikes																		
Interval Start	E Market St			E Market St			S Stanislaus St			S Stanislaus St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	1	0	0	0	0	0	1	0	0	0	0	2	0				
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0				
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0				
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4				
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	3				
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
5:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	2				
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
Count Total	0	2	0	0	0	0	0	2	1	0	1	0	6	0				
Peak Hour	0	1	0	0	0	0	0	1	0	0	1	0	3	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start	E Market St Eastbound				E Market St Westbound				S Grant St Northbound				S Grant St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	4	6	0	0	0	0	0	0	0	1	0	2	0	0	0	13	0
7:15 AM	0	5	6	0	0	0	0	0	0	0	0	0	0	0	3	0	14	0
7:30 AM	0	12	16	0	0	0	0	0	0	0	3	0	0	0	1	0	32	0
7:45 AM	0	13	45	0	0	0	0	0	0	0	2	0	0	2	1	0	63	122
8:00 AM	0	18	20	0	0	0	0	0	0	0	1	0	0	5	0	0	44	153
8:15 AM	0	9	21	0	0	0	0	0	0	0	2	0	0	2	3	0	37	176
8:30 AM	0	6	8	1	0	0	0	0	0	0	1	0	0	6	0	0	22	166
8:45 AM	0	7	15	1	0	0	0	0	1	0	1	2	0	0	1	0	28	131
Count Total	0	74	137	2	0	0	0	0	1	0	11	2	2	15	9	0	253	0
Peak Hour	All	0	52	102	0	0	0	0	0	0	8	0	0	9	5	0	176	0
	HV	0	0	0	0	0	0	0	0	0	3	0	0	1	0	0	4	0
	HV%	-	0%	0%	-	-	-	-	-	-	38%	-	-	11%	0%	-	2%	0

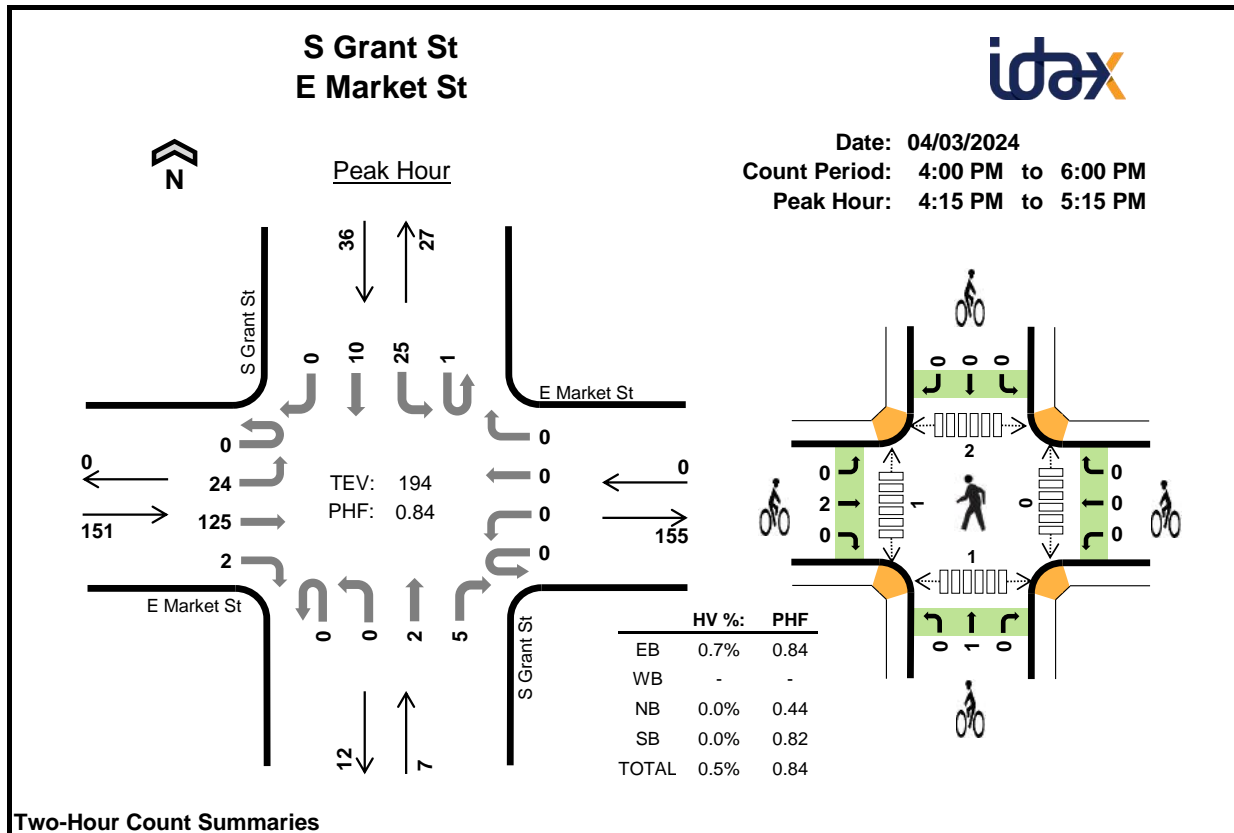
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	0	1	0	2	0	0	0	1	1	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
7:30 AM	0	0	2	0	2	0	0	1	1	2	0	0	2	0	2
7:45 AM	0	0	0	1	1	0	0	0	0	0	0	1	2	0	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
8:15 AM	0	0	1	0	1	1	0	0	1	2	2	0	6	0	8
8:30 AM	3	0	0	0	3	0	0	1	0	1	2	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	3	0	4
Count Total	4	0	4	1	9	1	0	2	3	6	7	1	15	0	23
Peak Hour	0	0	3	1	4	1	0	1	2	4	4	1	10	0	15

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S Grant St				S Grant St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0
7:15 AM	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	2	0	0	0	0	0	2	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	5
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	4
8:30 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Count Total	0	3	1	0	0	0	0	0	0	0	4	0	0	1	0	0	9	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	3	0	0	1	0	0	4	0

Two-Hour Count Summaries - Bikes																		
Interval Start	E Market St			E Market St			S Grant St			S Grant St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0				
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	0				
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3				
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
8:15 AM	1	0	0	0	0	0	0	0	0	1	0	0	2	4				
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	3				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3				
Count Total	1	0	0	0	0	0	0	2	0	1	2	0	6	0				
Peak Hour	1	0	0	0	0	0	0	1	0	1	1	0	4	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Market St				E Market St				S Grant St				S Grant St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	7	21	0	0	0	0	0	0	0	2	0	0	3	1	0	34	0
4:15 PM		0	7	27	0	0	0	0	0	0	0	1	1	1	6	2	0	45	0
4:30 PM		0	6	32	1	0	0	0	0	0	0	0	0	0	7	4	0	50	0
4:45 PM		0	7	25	1	0	0	0	0	0	0	0	1	0	5	2	0	41	170
5:00 PM		0	4	41	0	0	0	0	0	0	0	1	3	0	7	2	0	58	194
5:15 PM		0	0	32	1	0	0	0	0	0	0	2	1	0	1	2	0	39	188
5:30 PM		0	1	24	0	0	0	0	0	2	0	3	3	0	5	1	0	39	177
5:45 PM		0	1	21	0	0	0	0	0	0	0	0	2	0	2	0	0	26	162
Count Total		0	33	223	3	0	0	0	0	2	0	9	11	1	36	14	0	332	0
Peak Hour	All	0	24	125	2	0	0	0	0	0	0	2	5	1	25	10	0	194	0
	HV	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	HV%	-	0%	1%	0%	-	-	-	-	-	-	0%	0%	0%	0%	0%	-	1%	0

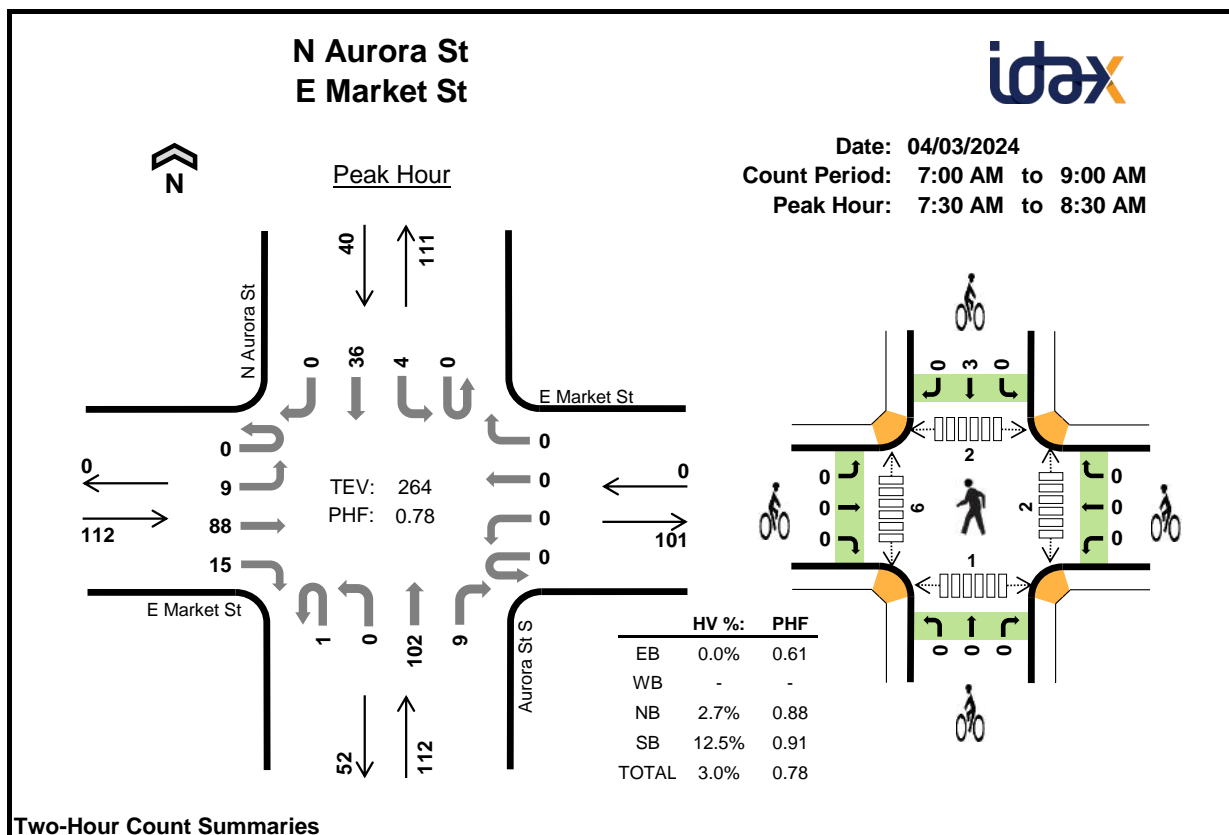
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
4:15 PM	1	0	0	0	1	1	0	0	0	1	0	1	0	1	2
4:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
5:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
5:30 PM	1	0	0	0	1	0	0	2	0	2	0	0	31	1	32
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	16	1	17
Count Total	2	0	0	0	2	3	0	3	0	6	0	1	51	3	55
Peak Hour	1	0	0	0	1	2	0	1	0	3	0	1	2	1	4

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S Grant St				S Grant St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Peak Hour	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0

Two-Hour Count Summaries - Bikes																		
Interval Start	E Market St			E Market St			S Grant St			S Grant St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0				
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0				
4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0				
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3				
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	3				
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
5:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	3				
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3				
Count Total	0	3	0	0	0	0	0	3	0	0	0	0	6	0				
Peak Hour	0	2	0	0	0	0	0	1	0	0	0	0	3	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Market St				E Market St				Aurora St S				N Aurora St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	7:00 AM	0	5	1	0	0	0	0	0	1	0	20	0	0	8	2	0	37	0
	7:15 AM	0	1	4	4	0	0	0	0	0	0	16	2	0	2	5	0	34	0
	7:30 AM	0	3	12	3	0	0	0	0	0	0	20	2	0	2	9	0	51	0
	7:45 AM	0	2	41	3	0	0	0	0	0	0	28	1	0	0	10	0	85	207
	8:00 AM	0	2	17	6	0	0	0	0	0	0	24	5	0	0	10	0	64	234
	8:15 AM	0	2	18	3	0	0	0	0	1	0	30	1	0	2	7	0	64	264
	8:30 AM	0	1	9	3	0	0	0	0	0	0	15	2	0	0	10	0	40	253
	8:45 AM	0	1	14	2	0	0	0	0	0	0	20	5	0	0	13	0	55	223
Count Total		0	17	116	24	0	0	0	0	2	0	173	18	0	14	66	0	430	0
Peak Hour	All	0	9	88	15	0	0	0	0	1	0	102	9	0	4	36	0	264	0
	HV	0	0	0	0	0	0	0	0	0	0	3	0	0	1	4	0	8	0
	HV%	-	0%	0%	0%	-	-	-	-	0%	-	3%	0%	-	25%	11%	-	3%	0

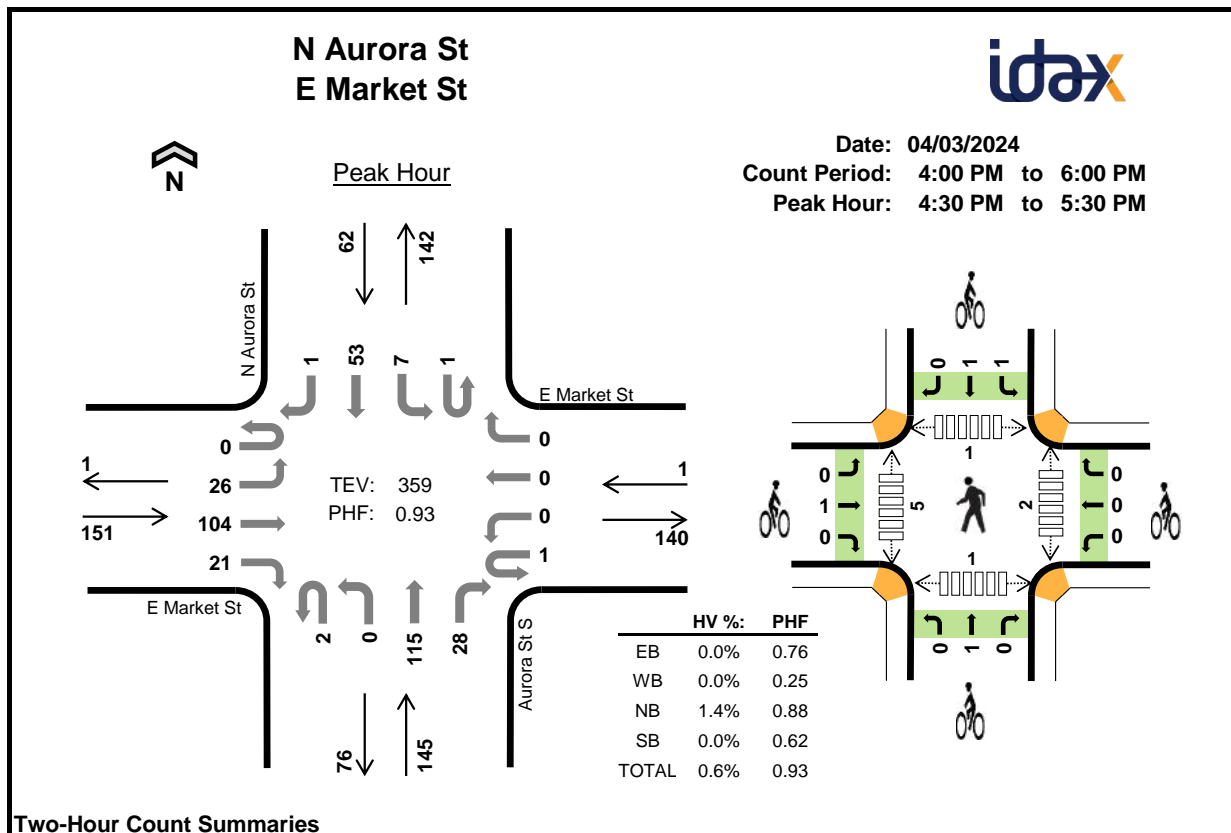
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	0	2	0	3	1	0	0	0	1	1	0	0	1	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	2	3
7:30 AM	0	0	0	1	1	0	0	0	1	1	1	1	0	0	2
7:45 AM	0	0	0	2	2	0	0	0	0	0	0	1	0	0	1
8:00 AM	0	0	3	2	5	0	0	0	1	1	0	2	2	0	4
8:15 AM	0	0	0	0	0	0	0	0	1	1	1	2	0	1	4
8:30 AM	0	0	0	0	0	0	0	0	2	2	0	4	0	0	4
8:45 AM	0	0	0	1	1	0	0	0	1	1	0	3	0	0	3
Count Total	1	0	5	6	12	1	0	0	6	7	4	13	2	4	23
Peak Hour	0	0	3	5	8	0	0	0	3	3	2	6	2	1	11

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				Aurora St S				N Aurora St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	3	0
7:15 AM	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	0	0	1	0	0	1	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	6
8:00 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	5	8
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	6
Count Total	0	0	1	0	0	0	0	0	0	0	5	0	0	1	5	0	12	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	3	0	0	1	4	0	8	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			Aurora St S			N Aurora St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0			
7:15 AM	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	1	0	1	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	2			
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	3			
8:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	4			
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	5			
Count Total	0	1	0	0	0	0	0	0	0	0	6	0	7	0			
Peak Hour	0	0	0	0	0	0	0	0	0	0	3	0	3	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Market St				E Market St				Aurora St S				N Aurora St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	4	17	3	0	0	0	0	0	0	40	8	0	4	7	0	83	0
4:15 PM		0	6	21	6	0	0	0	0	0	0	32	3	0	3	9	0	80	0
4:30 PM		0	4	27	6	0	0	0	0	1	0	34	5	0	2	10	0	89	0
4:45 PM		0	3	23	4	0	0	0	0	1	0	31	9	0	5	20	0	96	348
5:00 PM		0	11	32	7	1	0	0	0	0	0	22	7	0	0	10	0	90	355
5:15 PM		0	8	22	4	0	0	0	0	0	0	28	7	1	0	13	1	84	359
5:30 PM		0	4	22	6	0	0	0	0	2	0	21	8	0	0	5	0	68	338
5:45 PM		0	2	21	2	0	0	0	0	1	0	23	4	1	1	12	1	68	310
Count Total		0	42	185	38	1	0	0	0	5	0	231	51	2	15	86	2	658	0
Peak Hour	All	0	26	104	21	1	0	0	0	2	0	115	28	1	7	53	1	359	0
	HV	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0
	HV%	-	0%	0%	0%	0%	-	-	-	0%	-	2%	0%	0%	0%	0%	0%	1%	0

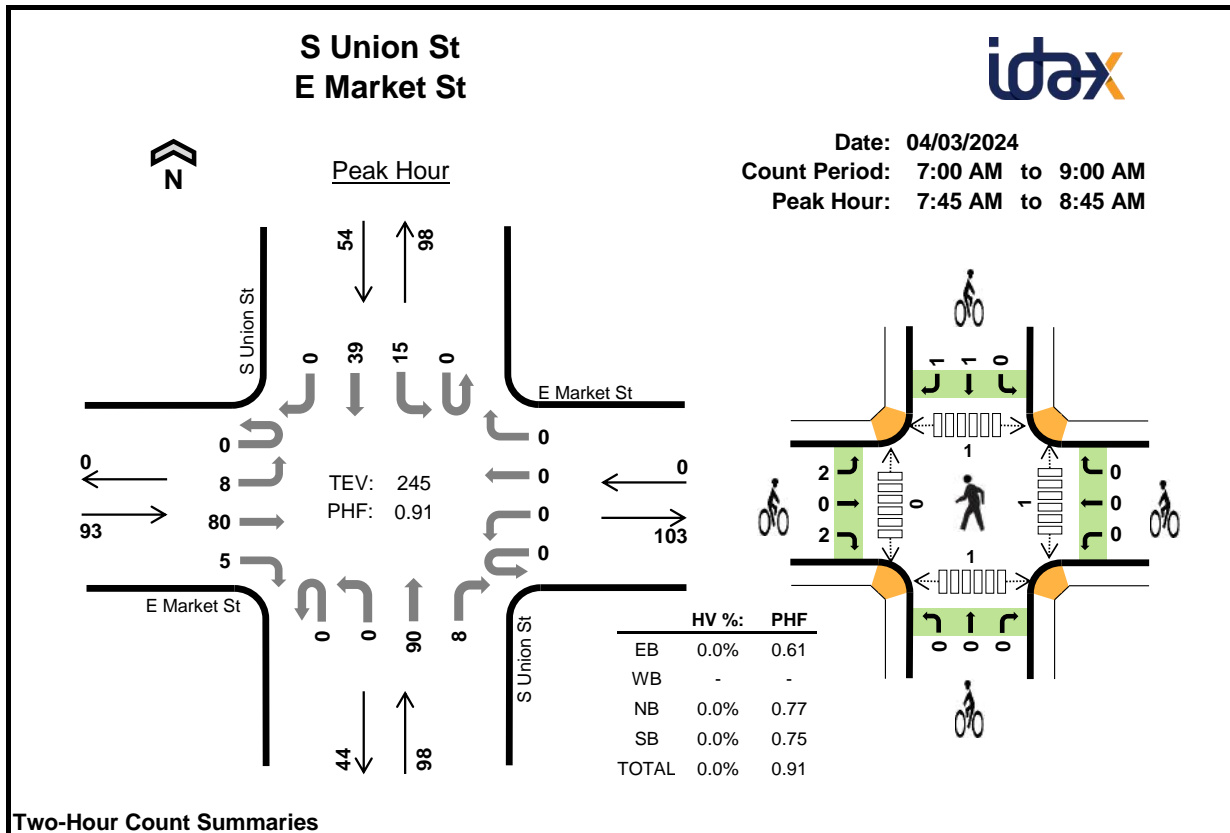
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0
4:15 PM	1	0	2	1	4	1	0	0	1	2	1	2	0	1	4
4:30 PM	0	0	1	0	1	0	0	0	2	2	0	1	0	0	1
4:45 PM	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1
5:00 PM	0	0	0	0	0	1	0	1	0	2	1	1	0	1	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	2	1	0	4
5:30 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	1	1
5:45 PM	0	0	1	0	1	0	0	0	0	0	1	2	0	0	3
Count Total	1	0	7	1	9	5	0	1	3	9	4	9	1	3	17
Peak Hour	0	0	2	0	2	1	0	1	2	4	2	5	1	1	9

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				Aurora St S				N Aurora St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0
4:15 PM	0	1	0	0	0	0	0	0	0	0	2	0	0	0	1	0	4	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	8
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
Count Total	0	1	0	0	0	0	0	0	0	0	7	0	0	0	1	0	9	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			Aurora St S			N Aurora St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0			
4:15 PM	1	0	0	0	0	0	0	0	0	0	1	0	2	0			
4:30 PM	0	0	0	0	0	0	0	0	0	1	1	0	2	0			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5			
5:00 PM	0	1	0	0	0	0	0	1	0	0	0	0	2	6			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4			
5:30 PM	0	1	1	0	0	0	0	0	0	0	0	0	2	4			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4			
Count Total	1	2	2	0	0	0	0	1	0	1	2	0	9	0			
Peak Hour	0	1	0	0	0	0	0	1	0	1	1	0	4	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Market St				E Market St				S Union St				S Union St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	2	2	0	0	0	0	0	0	1	3	0	0	1	5	2	16	0
7:15 AM		0	5	8	1	0	0	0	0	0	0	10	2	0	2	10	2	40	0
7:30 AM		0	2	7	0	0	0	0	0	0	0	11	0	0	1	2	0	23	0
7:45 AM		0	3	34	1	0	0	0	0	0	0	14	2	0	2	11	0	67	146
8:00 AM		0	1	18	1	0	0	0	0	0	0	30	2	0	3	7	0	62	192
8:15 AM		0	2	19	1	0	0	0	0	0	0	24	2	0	5	8	0	61	213
8:30 AM		0	2	9	2	0	0	0	0	0	0	22	2	0	5	13	0	55	245
8:45 AM		0	2	16	0	0	0	0	0	0	0	15	1	0	5	11	0	50	228
Count Total		0	19	113	6	0	0	0	0	0	1	129	11	0	24	67	4	374	0
Peak Hour	All	0	8	80	5	0	0	0	0	0	0	90	8	0	15	39	0	245	0
	HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HV%	-	0%	0%	0%	-	-	-	-	-	-	0%	0%	-	0%	0%	-	0%	0

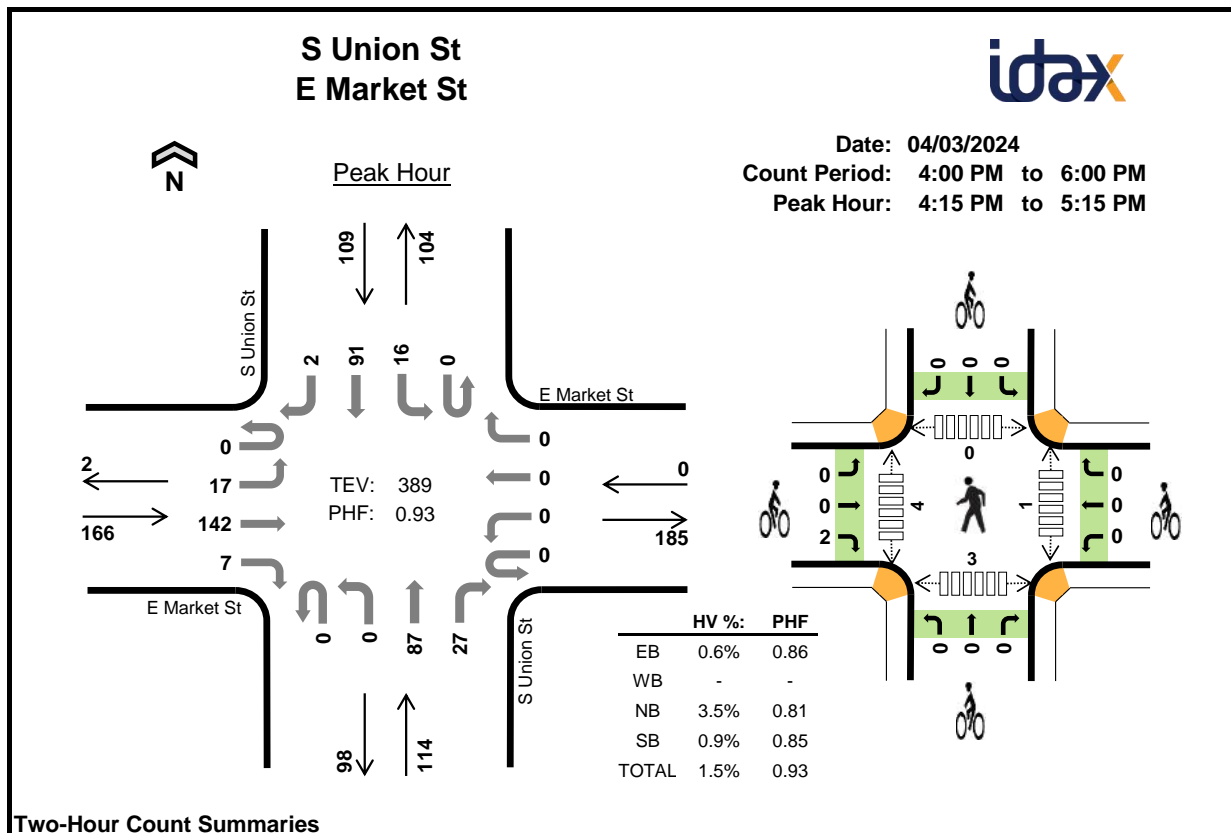
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	0	2	2	0	0	2	0	2	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1
8:15 AM	0	0	0	0	0	1	0	0	1	2	0	0	0	0	0
8:30 AM	0	0	0	0	0	3	0	0	0	3	0	0	1	0	1
8:45 AM	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	1	5	6	4	0	2	3	9	1	0	2	1	4
Peak Hour	0	0	0	0	0	4	0	0	2	6	1	0	1	1	3

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S Union St				S Union St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	4	
Count Total	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4	0	6	
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			S Union St			S Union St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	2	0			
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3			
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	4			
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	1	2	4			
8:30 AM	2	0	1	0	0	0	0	0	0	0	0	0	3	6			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	6			
Count Total	2	0	2	0	0	0	1	1	0	0	2	1	9	0			
Peak Hour	2	0	2	0	0	0	0	0	0	0	1	1	6	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Market St				E Market St				S Union St				S Union St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	3	16	0	0	0	0	0	0	1	27	4	0	8	17	0	76	0
4:15 PM		0	4	34	2	0	0	0	0	0	0	25	8	0	2	28	2	105	0
4:30 PM		0	2	37	3	0	0	0	0	0	0	25	10	0	5	23	0	105	0
4:45 PM		0	3	33	0	0	0	0	0	0	0	19	4	0	5	20	0	84	370
5:00 PM		0	8	38	2	0	0	0	0	0	0	18	5	0	4	20	0	95	389
5:15 PM		0	6	27	1	0	0	0	0	0	1	22	4	0	6	13	0	80	364
5:30 PM		0	2	28	3	0	0	0	0	0	1	17	5	0	7	14	0	77	336
5:45 PM		0	0	25	0	0	0	0	0	0	0	15	4	0	4	15	0	63	315
Count Total		0	28	238	11	0	0	0	0	0	3	168	44	0	41	150	2	685	0
Peak Hour	All	0	17	142	7	0	0	0	0	0	0	87	27	0	16	91	2	389	0
	HV	0	0	1	0	0	0	0	0	0	0	4	0	0	0	1	0	6	0
	HV%	-	0%	1%	0%	-	-	-	-	-	-	5%	0%	-	0%	1%	0%	2%	0

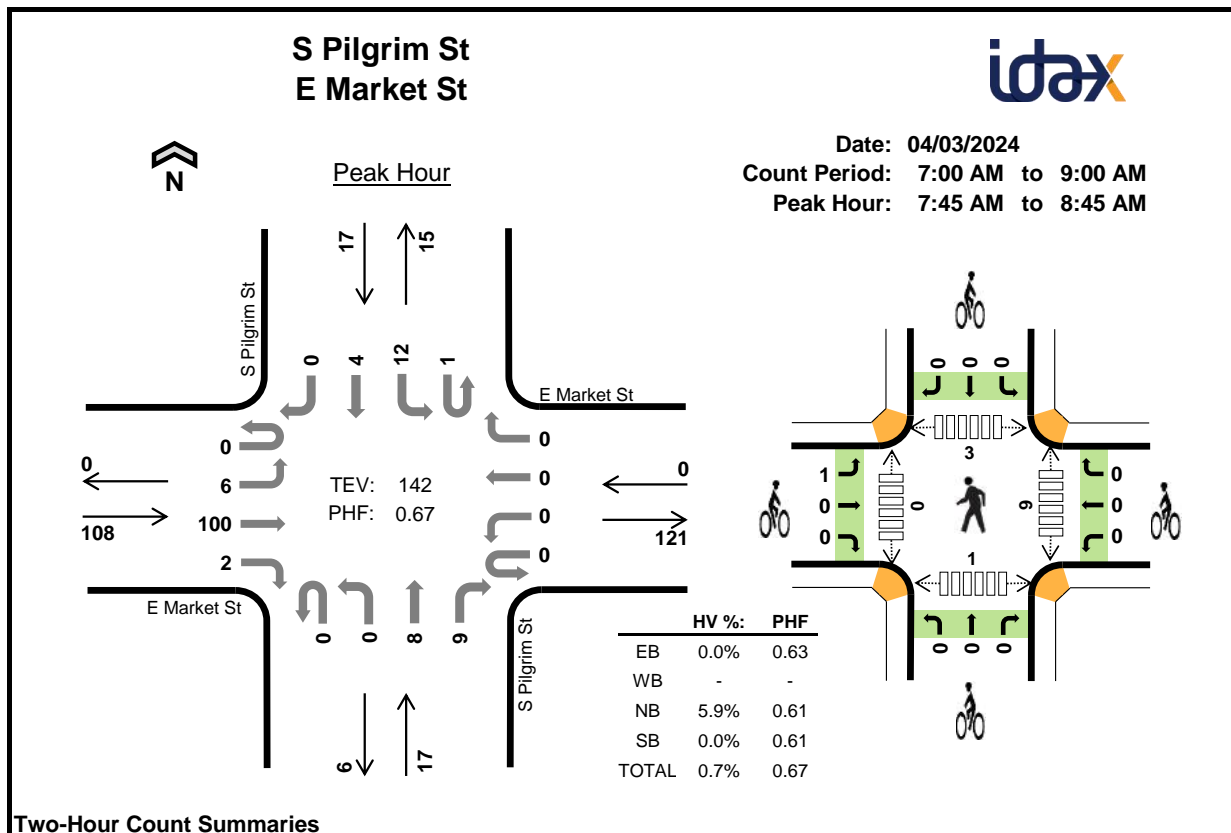
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	1	1	0	0	2	1	3	0	0	0	0	0
4:15 PM	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1
4:30 PM	1	0	2	0	3	1	0	0	0	1	0	0	0	1	1
4:45 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	2	2
5:00 PM	0	0	1	0	1	1	0	0	0	1	0	4	0	0	4
5:15 PM	0	0	1	0	1	0	0	0	1	1	0	0	0	0	0
5:30 PM	0	0	1	0	1	0	0	1	2	3	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	1	0	6	2	9	2	0	3	4	9	1	4	0	3	8
Peak Hour	1	0	4	1	6	2	0	0	0	2	1	4	0	3	8

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	E Market St				E Market St				S Union St				S Union St				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	3	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	6
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	6
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Count Total	0	0	1	0	0	0	0	0	0	0	0	6	0	0	0	2	0	9	0
Peak Hour	0	0	1	0	0	0	0	0	0	0	0	4	0	0	0	1	0	6	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			S Union St			S Union St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	2	0	0	1	0	3	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4			
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	2			
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	3			
5:30 PM	0	0	0	0	0	0	0	1	0	0	2	0	3	5			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5			
Count Total	0	0	2	0	0	0	0	3	0	0	4	0	9	0			
Peak Hour	0	0	2	0	0	0	0	0	0	0	0	0	2	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Market St				E Market St				S Pilgrim St				S Pilgrim St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	1	0	0	0	0	0	0	0	1	0	0	1	1	0	4	0
7:15 AM		0	1	6	0	0	0	0	0	0	0	0	2	0	1	2	0	12	0
7:30 AM		0	0	9	0	0	0	0	0	0	0	1	2	0	2	0	0	14	0
7:45 AM		0	3	39	1	0	0	0	0	0	0	0	3	0	7	0	0	53	83
8:00 AM		0	1	21	1	0	0	0	0	0	0	3	4	0	3	0	0	33	112
8:15 AM		0	1	24	0	0	0	0	0	0	0	3	0	0	2	2	0	32	132
8:30 AM		0	1	16	0	0	0	0	0	0	0	2	2	1	0	2	0	24	142
8:45 AM		0	1	20	0	0	0	0	0	0	0	0	2	0	3	1	0	27	116
Count Total		0	8	136	2	0	0	0	0	0	0	10	15	1	19	8	0	199	0
Peak Hour	All	0	6	100	2	0	0	0	0	0	0	8	9	1	12	4	0	142	0
	HV	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	HV%	-	0%	0%	0%	-	-	-	-	-	-	13%	0%	0%	0%	0%	-	1%	0

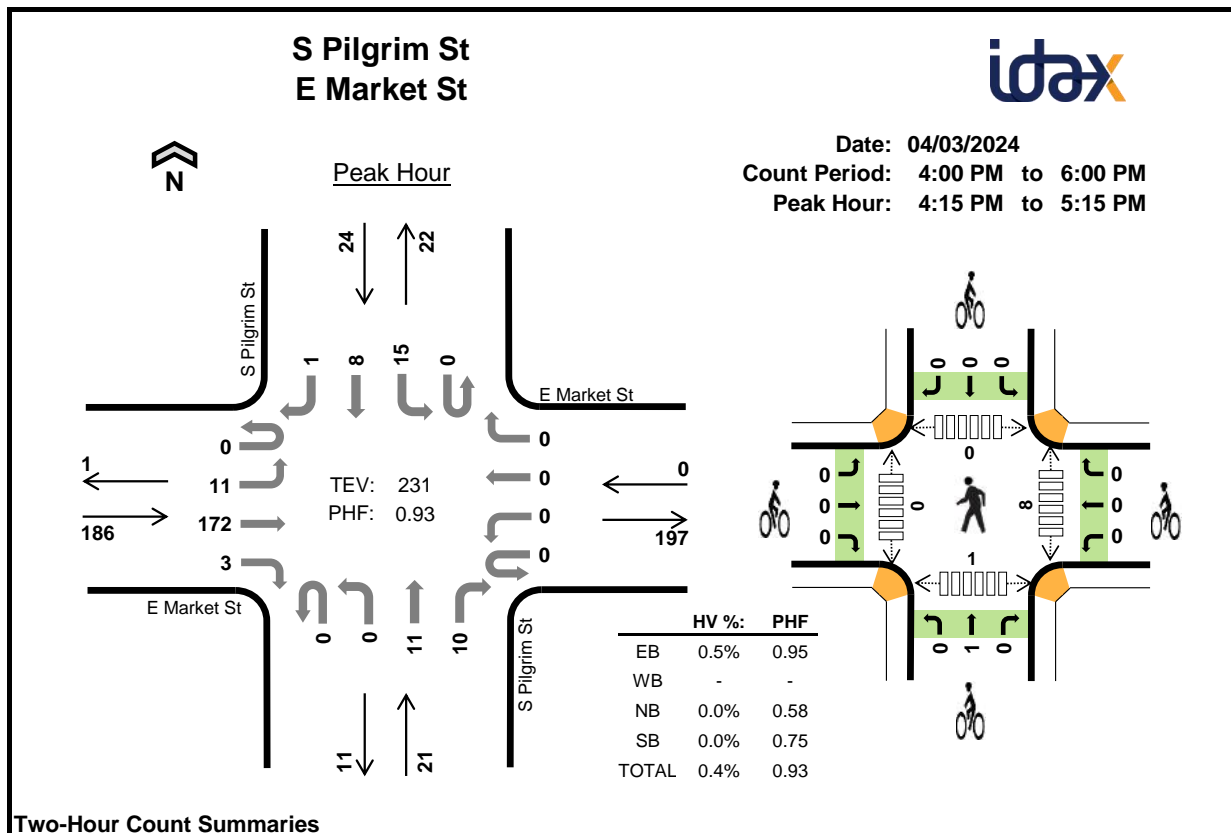
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
7:15 AM	1	0	0	0	1	0	0	0	1	1	1	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	0	0	1	8	0	1	0	9
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	1	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
8:45 AM	1	0	0	0	1	0	0	0	0	0	3	0	1	0	4
Count Total	2	0	1	0	3	1	0	0	1	2	14	0	5	1	20
Peak Hour	0	0	1	0	1	1	0	0	0	1	9	0	3	1	13

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S Pilgrim St				S Pilgrim St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	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	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Count Total	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	3	
Peak Hour	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			S Pilgrim St			S Pilgrim St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	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	1	0	1	0			
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	1	2			
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Count Total	1	0	0	0	0	0	0	0	0	0	1	0	2	0			
Peak Hour	1	0	0	0	0	0	0	0	0	0	0	0	1	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Market St				E Market St				S Pilgrim St				S Pilgrim St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	4:00 PM	0	3	24	0	0	0	0	0	0	0	1	4	0	6	3	0	41	0
	4:15 PM	0	3	41	1	0	0	0	0	0	0	2	2	0	2	4	0	55	0
	4:30 PM	0	4	44	1	0	0	0	0	0	0	5	4	0	2	2	0	62	0
	4:45 PM	0	3	39	1	0	0	0	0	0	0	1	4	0	8	0	0	56	214
	5:00 PM	0	1	48	0	0	0	0	0	0	0	3	0	0	3	2	1	58	231
	5:15 PM	0	2	33	0	0	0	0	0	0	0	2	1	0	3	1	0	42	218
	5:30 PM	0	2	36	1	0	0	0	0	0	0	1	6	0	1	3	0	50	206
	5:45 PM	0	0	31	2	0	0	0	0	0	0	2	3	0	5	2	0	45	195
Count Total		0	18	296	6	0	0	0	0	0	0	17	24	0	30	17	1	409	0
Peak Hour	All	0	11	172	3	0	0	0	0	0	0	11	10	0	15	8	1	231	0
	HV	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	HV%	-	0%	1%	0%	-	-	-	-	-	-	0%	0%	-	0%	0%	0%	0%	0

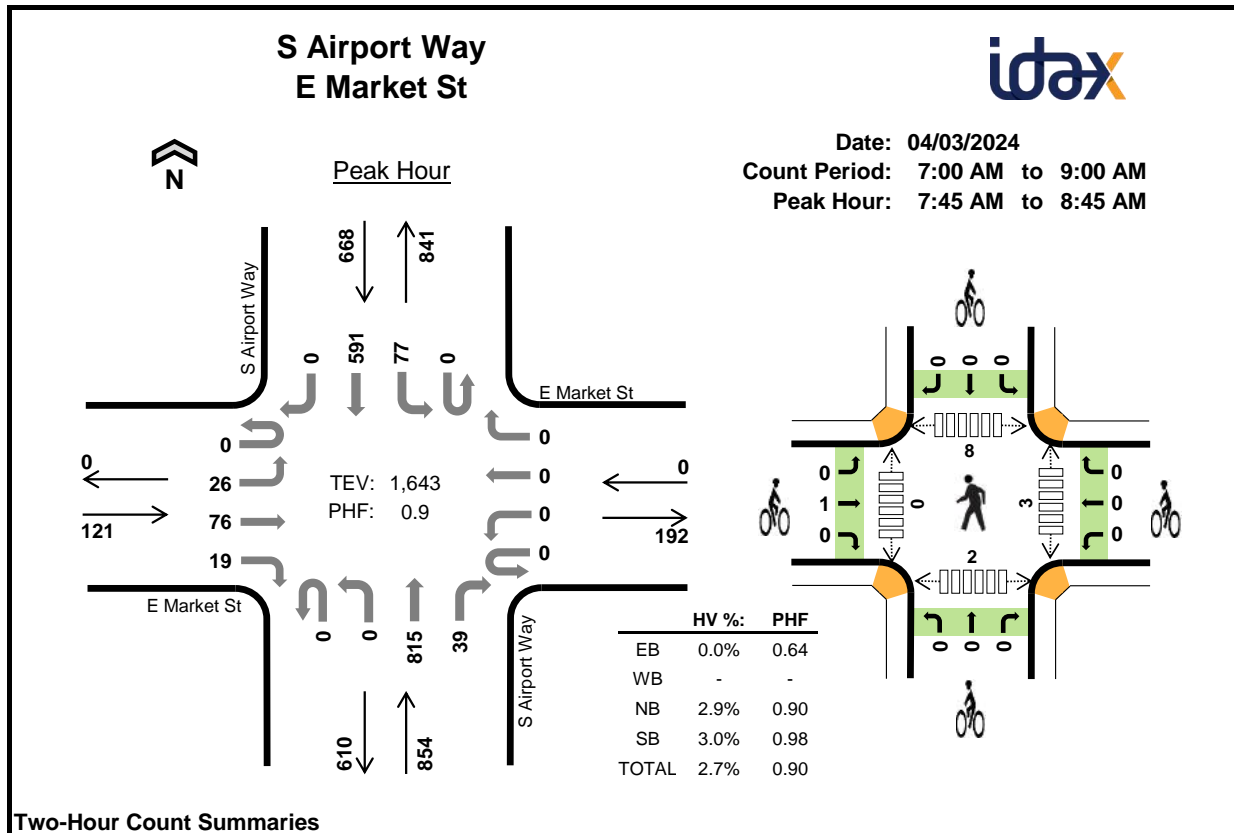
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
4:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	1	4
4:45 PM	0	0	0	0	0	0	0	1	0	1	3	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
5:15 PM	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	2	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	1	3
Count Total	1	0	0	0	1	0	0	1	0	1	12	0	1	2	15
Peak Hour	1	0	0	0	1	0	0	1	0	1	8	0	0	1	9

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S Pilgrim St				S Pilgrim St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	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	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Peak Hour	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			S Pilgrim St			S Pilgrim St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	1			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Count Total	0	0	0	0	0	0	0	1	0	0	0	0	1	0			
Peak Hour	0	0	0	0	0	0	0	1	0	0	0	0	1	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start	E Market St Eastbound				E Market St Westbound				S Airport Way Northbound				S Airport Way Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	3	1	0	0	0	0	0	0	77	3	0	12	77	0	173	0
7:15 AM	0	2	4	1	0	0	0	0	0	0	116	3	0	16	103	0	245	0
7:30 AM	0	3	11	3	0	0	0	0	0	0	149	9	0	18	126	0	319	0
7:45 AM	0	14	22	11	0	0	0	0	0	0	225	13	0	15	154	0	454	1,191
8:00 AM	0	5	21	2	0	0	0	0	0	0	207	9	0	17	144	0	405	1,423
8:15 AM	0	5	21	3	0	0	0	0	0	0	203	10	0	18	149	0	409	1,587
8:30 AM	0	2	12	3	0	0	0	0	0	0	180	7	0	27	144	0	375	1,643
8:45 AM	0	6	17	2	0	0	0	0	0	0	148	7	0	20	126	0	326	1,515
Count Total	0	37	111	26	0	0	0	0	0	0	1,305	61	0	143	1,023	0	2,706	0
Peak Hour	All	0	26	76	19	0	0	0	0	0	815	39	0	77	591	0	1,643	0
	HV	0	0	0	0	0	0	0	0	0	25	0	0	4	16	0	45	0
	HV%	-	0%	0%	0%	-	-	-	-	-	3%	0%	-	5%	3%	-	3%	0

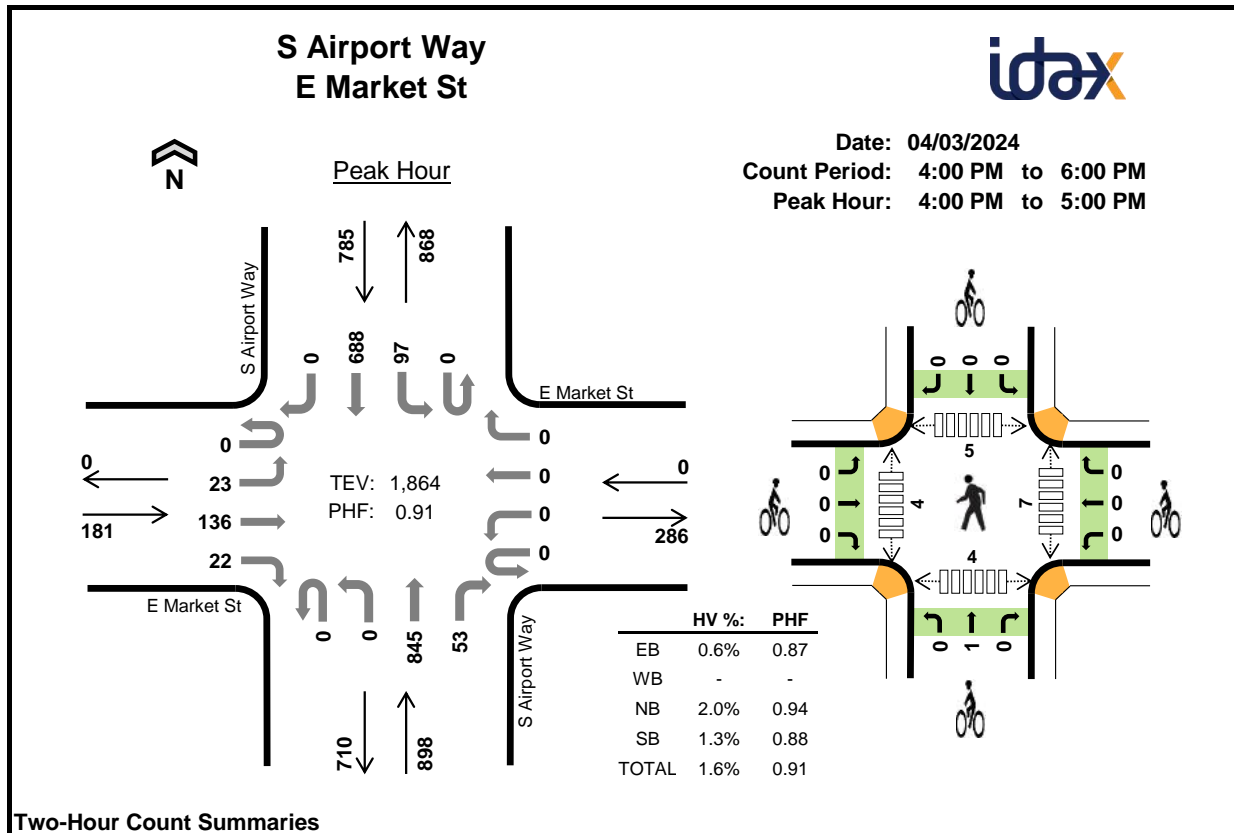
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	7	8	0	0	0	0	0	0	0	2	1	3
7:15 AM	1	0	3	8	12	0	0	0	0	0	4	0	0	6	10
7:30 AM	0	0	9	6	15	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	8	3	11	0	0	0	0	0	0	0	3	0	3
8:00 AM	0	0	5	4	9	0	0	0	0	0	2	0	4	1	7
8:15 AM	0	0	4	8	12	0	0	0	0	0	1	0	0	1	2
8:30 AM	0	0	8	5	13	1	0	0	0	1	0	0	1	0	1
8:45 AM	0	0	13	11	24	0	0	0	0	0	0	0	2	0	2
Count Total	1	0	51	52	104	1	0	0	0	1	7	0	12	9	28
Peak Hour	0	0	25	20	45	1	0	0	0	1	3	0	8	2	13

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S Airport Way				S Airport Way				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	6	0	8	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	3	0	0	1	7	0	12	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	8	1	0	0	6	0	15	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	8	0	0	1	2	0	11	46
8:00 AM	0	0	0	0	0	0	0	0	0	0	5	0	0	1	3	0	9	47
8:15 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	1	7	0	12	47
8:30 AM	0	0	0	0	0	0	0	0	0	0	8	0	0	1	4	0	13	45
8:45 AM	0	0	0	0	0	0	0	0	0	0	13	0	0	3	8	0	24	58
Count Total	0	1	0	0	0	0	0	0	0	0	50	1	0	9	43	0	104	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	25	0	0	4	16	0	45	0

Two-Hour Count Summaries - Bikes																		
Interval Start	E Market St			E Market St			S Airport Way			S Airport Way			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	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				
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	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				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	1				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
Count Total	0	1	0	0	0	0	0	0	0	0	0	0	1	0				
Peak Hour	0	1	0	0	0	0	0	0	0	0	0	0	1	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Market St				E Market St				S Airport Way				S Airport Way				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	4	29	4	0	0	0	0	0	0	217	14	0	15	142	0	425	0
4:15 PM		0	8	32	2	0	0	0	0	0	0	205	11	0	27	165	0	450	0
4:30 PM		0	10	34	8	0	0	0	0	0	0	198	13	0	26	187	0	476	0
4:45 PM		0	1	41	8	0	0	0	0	0	0	225	15	0	29	194	0	513	1,864
5:00 PM		0	4	30	14	0	0	0	0	0	0	165	7	0	28	170	0	418	1,857
5:15 PM		0	4	28	6	0	0	0	0	0	0	166	7	0	31	205	0	447	1,854
5:30 PM		0	10	30	4	0	0	0	0	0	0	159	17	0	17	193	0	430	1,808
5:45 PM		0	7	27	1	0	0	0	0	0	0	147	23	0	17	152	0	374	1,669
Count Total		0	48	251	47	0	0	0	0	0	0	1,482	107	0	190	1,408	0	3,533	0
Peak Hour	All	0	23	136	22	0	0	0	0	0	0	845	53	0	97	688	0	1,864	0
	HV	0	0	1	0	0	0	0	0	0	0	18	0	0	2	8	0	29	0
	HV%	-	0%	1%	0%	-	-	-	-	-	-	2%	0%	-	2%	1%	-	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	7	2	9	0	0	1	0	1	1	2	2	2	7
4:15 PM	0	0	1	4	5	0	0	0	0	0	1	2	3	0	6
4:30 PM	1	0	4	2	7	0	0	0	0	0	4	0	0	2	6
4:45 PM	0	0	6	2	8	0	0	0	0	0	1	0	0	0	1
5:00 PM	0	0	2	2	4	0	0	0	0	0	4	2	1	3	10
5:15 PM	0	0	2	3	5	0	0	0	0	0	1	3	1	0	5
5:30 PM	0	0	4	3	7	0	0	0	0	0	0	0	0	2	2
5:45 PM	0	0	3	1	4	0	0	0	0	0	2	0	0	0	2
Count Total	1	0	29	19	49	0	0	1	0	1	14	9	7	9	39
Peak Hour	1	0	18	10	29	0	0	1	0	1	7	4	5	4	20

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S Airport Way				S Airport Way				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	2	0	9	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3	0	5	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	4	0	0	1	1	0	7	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	2	0	8	29
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	4	24
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	5	24
5:30 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	1	2	0	7	24
5:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	4	20
Count Total	0	0	1	0	0	0	0	0	0	0	29	0	0	4	15	0	49	0
Peak Hour	0	0	1	0	0	0	0	0	0	0	18	0	0	2	8	0	29	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			S Airport Way			S Airport Way			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0			
4:15 PM	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			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:15 PM	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			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Count Total	0	0	0	0	0	0	0	1	0	0	0	0	1	0			
Peak Hour	0	0	0	0	0	0	0	1	0	0	0	0	1	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Sierra Nevada St E Market St

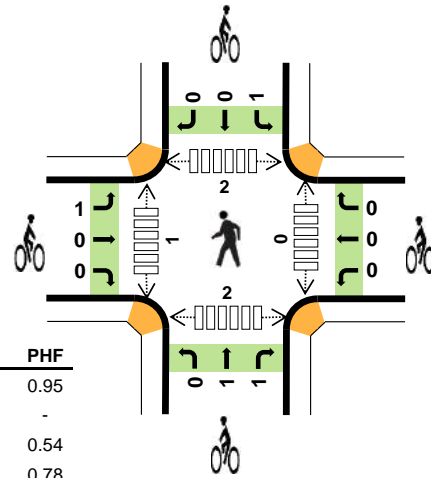
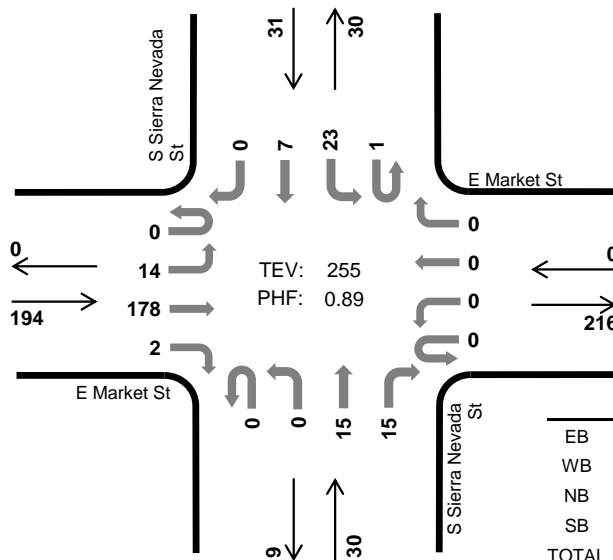


Peak Hour

Date: 04/03/2024

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	2.1%	0.95
WB	-	-
NB	6.7%	0.54
SB	0.0%	0.78
TOTAL	2.4%	0.89

Two-Hour Count Summaries

Interval Start	E Market St Eastbound				E Market St Westbound				S Sierra Nevada St Northbound				S Sierra Nevada St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	19	0	0	0	0	0	0	0	1	1	0	3	0	0	24	0
7:15 AM	0	1	23	1	0	0	0	0	0	0	1	1	0	7	1	0	35	0
7:30 AM	0	1	38	1	0	0	0	0	0	0	3	3	0	7	0	0	53	0
7:45 AM	0	6	45	0	0	0	0	0	0	0	3	3	0	8	1	0	66	178
8:00 AM	0	3	45	1	0	0	0	0	0	0	3	3	0	2	2	0	59	213
8:15 AM	0	4	43	1	0	0	0	0	0	0	7	7	1	6	3	0	72	250
8:30 AM	0	1	45	0	0	0	0	0	0	0	2	2	0	7	1	0	58	255
8:45 AM	0	4	38	0	0	0	0	0	0	0	1	1	0	1	0	0	45	234
Count Total	0	20	296	4	0	0	0	0	0	0	21	21	1	41	8	0	412	0
Peak Hour	All	0	14	178	2	0	0	0	0	0	15	15	1	23	7	0	255	0
	HV	0	0	4	0	0	0	0	0	0	1	1	0	0	0	0	6	0
	HV%	-	0%	2%	0%	-	-	-	-	-	7%	7%	0%	0%	0%	-	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1
7:15 AM	1	0	2	2	5	0	0	0	0	0	0	0	4	0	4
7:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1
7:45 AM	1	0	2	0	3	0	0	0	0	0	0	1	1	0	2
8:00 AM	1	0	0	0	1	0	0	2	0	2	0	0	0	1	1
8:15 AM	1	0	0	0	1	0	0	0	1	1	0	0	1	1	2
8:30 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
8:45 AM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0
Count Total	10	0	4	2	16	1	0	2	1	4	0	1	7	3	11
Peak Hour	4	0	2	0	6	1	0	2	1	4	0	1	2	2	5

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S Sierra Nevada St				S Sierra Nevada St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	1	1	0	2	0	0	5	0
7:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	3	10
8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	10
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
8:45 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	6
Count Total	0	0	10	0	0	0	0	0	0	0	2	2	0	2	0	0	16	0
Peak Hour	0	0	4	0	0	0	0	0	0	0	1	1	0	0	0	0	6	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			S Sierra Nevada St			S Sierra Nevada St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	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			
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:00 AM	0	0	0	0	0	0	0	1	1	0	0	0	2	2			
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	3			
8:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	1	4			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4			
Count Total	1	0	0	0	0	0	0	1	1	1	0	0	4	0			
Peak Hour	1	0	0	0	0	0	0	1	1	1	0	0	4	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Sierra Nevada St E Market St

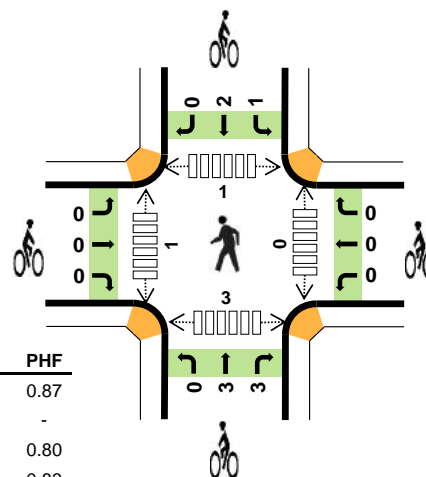
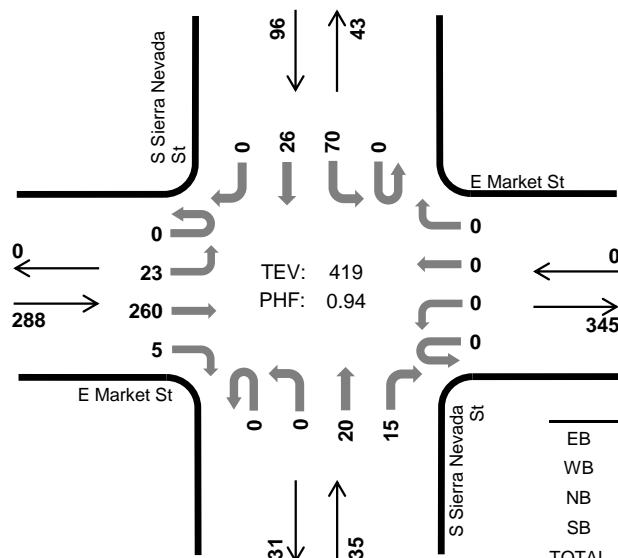


Peak Hour

Date: 04/03/2024

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	1.4%	0.87
WB	-	-
NB	0.0%	0.80
SB	2.1%	0.83
TOTAL	1.4%	0.94

Two-Hour Count Summaries

Interval Start		E Market St				E Market St				S Sierra Nevada St				S Sierra Nevada St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	4:00 PM	0	11	45	1	0	0	0	0	0	0	9	9	0	12	0	0	87	0
	4:15 PM	0	5	62	2	0	0	0	0	0	0	5	5	0	13	10	0	102	0
	4:30 PM	0	7	64	2	0	0	0	0	0	0	3	3	0	20	7	0	106	0
	4:45 PM	0	8	74	1	0	0	0	0	0	0	8	3	0	13	4	0	111	406
	5:00 PM	0	3	60	0	0	0	0	0	0	0	4	4	0	24	5	0	100	419
	5:15 PM	0	3	64	0	0	0	0	0	0	0	3	3	0	11	1	0	85	402
	5:30 PM	0	5	58	1	0	0	0	0	0	0	2	2	0	9	2	0	79	375
	5:45 PM	0	5	54	4	0	0	0	0	0	0	5	5	0	13	2	0	88	352
Count Total		0	47	481	11	0	0	0	0	0	0	39	34	0	115	31	0	758	0
Peak Hour	All	0	23	260	5	0	0	0	0	0	0	20	15	0	70	26	0	419	0
	HV	0	0	4	0	0	0	0	0	0	0	0	0	0	2	0	0	6	0
	HV%	-	0%	2%	0%	-	-	-	-	-	-	0%	0%	-	3%	0%	-	1%	0

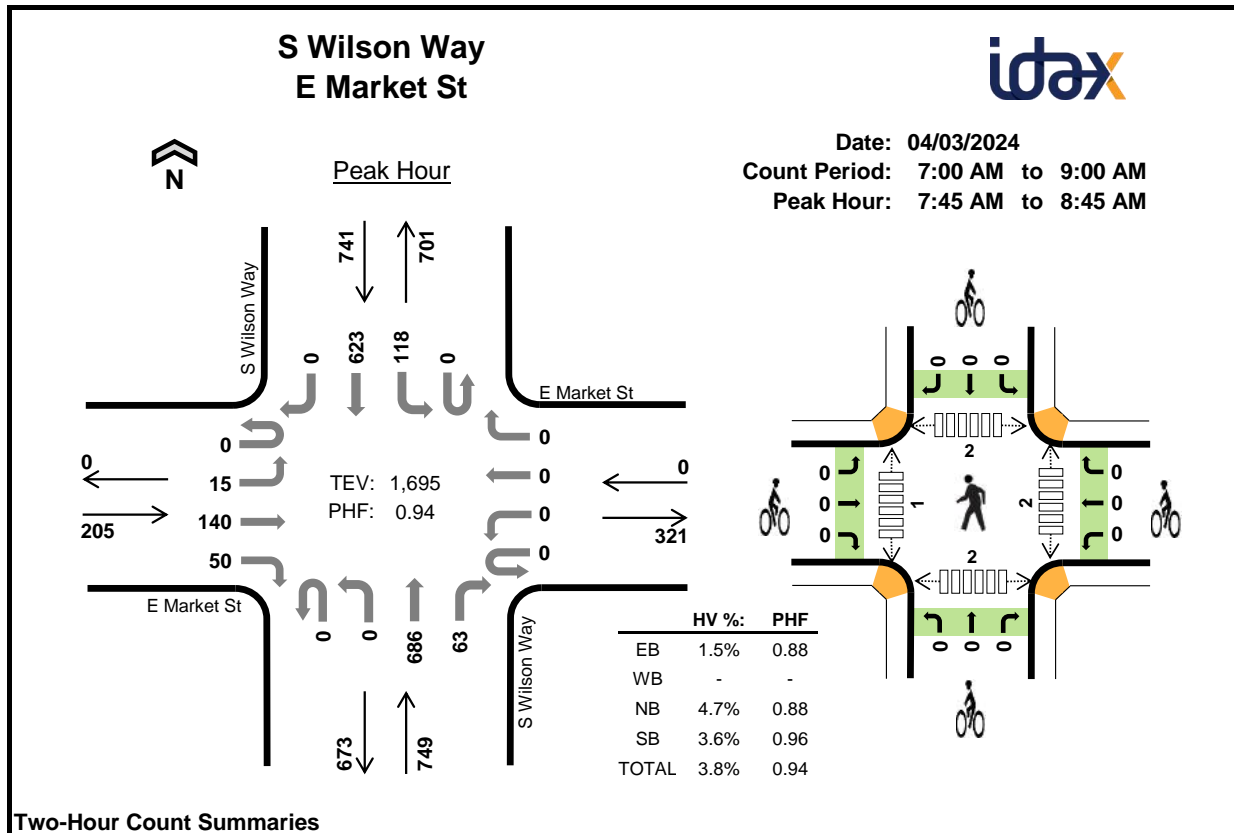
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	1	1	0	0	0	1	1	0	0	1	1	2
4:15 PM	1	0	0	0	1	0	0	2	0	2	0	0	1	0	1
4:30 PM	2	0	0	1	3	0	0	0	1	1	0	1	0	2	3
4:45 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
5:00 PM	1	0	0	0	1	0	0	4	2	6	0	0	0	0	0
5:15 PM	0	0	0	1	1	0	0	0	0	0	2	0	1	1	4
5:30 PM	1	0	0	0	1	1	0	4	0	5	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
Count Total	5	0	0	4	9	1	0	10	4	15	2	3	3	5	13
Peak Hour	4	0	0	2	6	0	0	6	3	9	0	1	1	3	5

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S Sierra Nevada St				S Sierra Nevada St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	3	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	6
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	6
5:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Count Total	0	0	5	0	0	0	0	0	0	0	0	0	0	4	0	0	9	0
Peak Hour	0	0	4	0	0	0	0	0	0	0	0	0	0	2	0	0	6	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			S Sierra Nevada St			S Sierra Nevada St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0			
4:15 PM	0	0	0	0	0	0	0	1	1	0	0	0	2	0			
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4			
5:00 PM	0	0	0	0	0	0	0	2	2	1	1	0	6	9			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	7			
5:30 PM	1	0	0	0	0	0	0	2	2	0	0	0	5	11			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	11			
Count Total	1	0	0	0	0	0	0	5	5	2	2	0	15	0			
Peak Hour	0	0	0	0	0	0	0	3	3	1	2	0	9	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

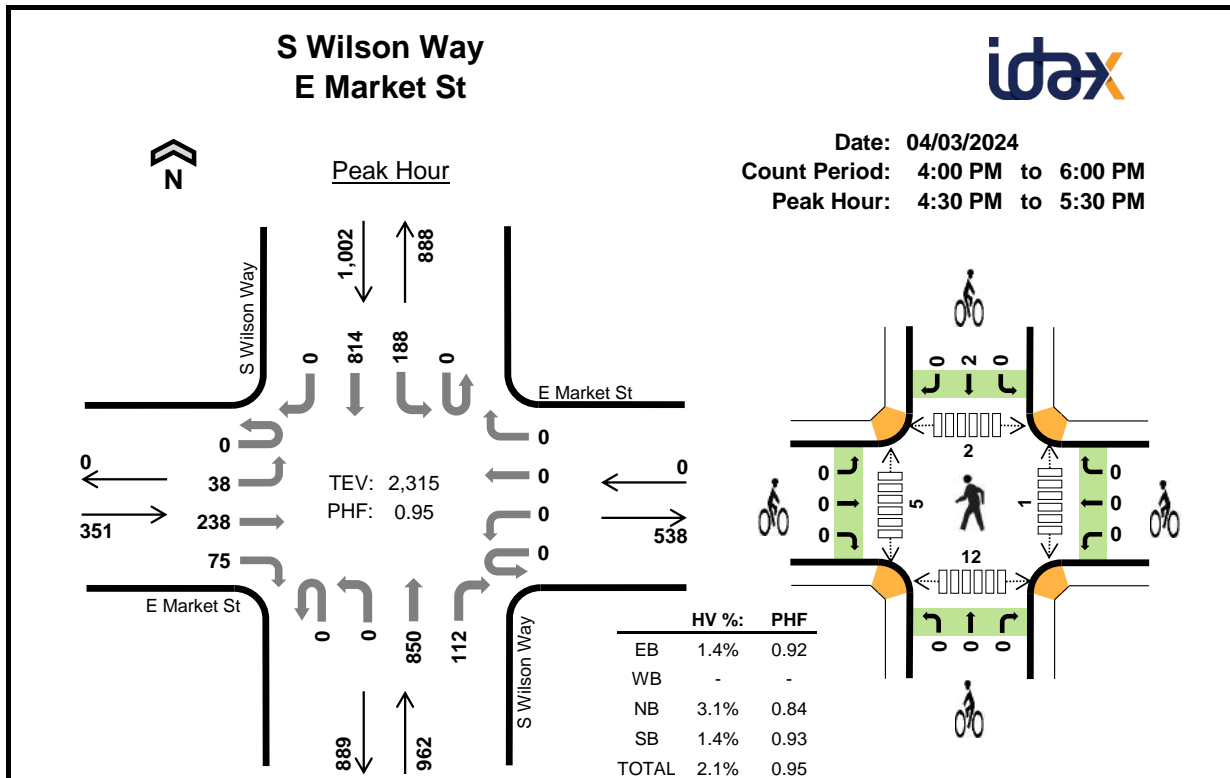
Interval Start		E Market St				E Market St				S Wilson Way				S Wilson Way				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	2	6	13	0	0	0	0	0	0	96	9	0	6	112	0	244	0
7:15 AM		0	1	17	16	0	0	0	0	0	0	84	11	0	18	96	0	243	0
7:30 AM		0	3	20	18	0	0	0	0	0	0	125	6	0	10	128	0	310	0
7:45 AM		0	2	43	10	0	0	0	0	0	0	169	14	0	31	145	0	414	1,211
8:00 AM		0	1	26	15	0	0	0	0	0	0	154	15	0	35	157	0	403	1,370
8:15 AM		0	4	36	10	0	0	0	0	0	0	194	19	0	23	164	0	450	1,577
8:30 AM		0	8	35	15	0	0	0	0	0	0	169	15	0	29	157	0	428	1,695
8:45 AM		0	2	25	13	0	0	0	0	0	0	193	13	0	22	144	0	412	1,693
Count Total		0	23	208	110	0	0	0	0	0	0	1,184	102	0	174	1,103	0	2,904	0
Peak Hour	All	0	15	140	50	0	0	0	0	0	0	686	63	0	118	623	0	1,695	0
	HV	0	0	3	0	0	0	0	0	0	0	33	2	0	1	26	0	65	0
	HV%	-	0%	2%	0%	-	-	-	-	-	-	5%	3%	-	1%	4%	-	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	0	16	16	33	0	0	0	0	0	0	1	0	0	1
7:15 AM	4	0	10	8	22	0	0	0	0	0	1	0	0	1	2
7:30 AM	2	0	7	9	18	0	0	0	0	0	0	0	2	1	3
7:45 AM	1	0	7	9	17	0	0	0	0	0	0	1	1	2	4
8:00 AM	0	0	5	5	10	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	0	12	6	19	0	0	0	0	0	1	0	0	0	1
8:30 AM	1	0	11	7	19	0	0	0	0	0	1	0	1	0	2
8:45 AM	4	0	9	12	25	0	0	1	0	1	0	0	0	0	0
Count Total	14	0	77	72	163	0	0	1	0	1	3	2	4	4	13
Peak Hour	3	0	35	27	65	0	0	0	0	0	2	1	2	2	7

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S Wilson Way				S Wilson Way				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	0	0	0	0	14	2	0	0	16	0	33	0
7:15 AM	0	0	3	1	0	0	0	0	0	0	8	2	0	1	7	0	22	0
7:30 AM	0	1	1	0	0	0	0	0	0	0	7	0	0	0	9	0	18	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	7	0	0	1	8	0	17	90
8:00 AM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	0	10	67
8:15 AM	0	0	1	0	0	0	0	0	0	0	11	1	0	0	6	0	19	64
8:30 AM	0	0	1	0	0	0	0	0	0	0	10	1	0	0	7	0	19	65
8:45 AM	0	0	3	1	0	0	0	0	0	0	7	2	0	0	12	0	25	73
Count Total	0	1	11	2	0	0	0	0	0	0	69	8	0	2	70	0	163	0
Peak Hour	0	0	3	0	0	0	0	0	0	0	33	2	0	1	26	0	65	0

Two-Hour Count Summaries - Bikes																		
Interval Start	E Market St			E Market St			S Wilson Way			S Wilson Way			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	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				
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	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				
8:15 AM	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				
8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	1				
Count Total	0	0	0	0	0	0	0	0	1	0	0	0	1	0				
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Note: U-Turn volumes for bikes are included in Left-Turn, if any.																		

**Two-Hour Count Summaries**

Interval Start		E Market St				E Market St				S Wilson Way				S Wilson Way				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	3	43	12	0	0	0	0	0	0	194	21	0	43	205	0	521	0
4:15 PM		0	7	51	17	0	0	0	0	0	0	211	25	0	43	190	0	544	0
4:30 PM		0	14	52	20	0	0	0	0	0	0	255	32	0	45	189	0	607	0
4:45 PM		0	11	65	19	0	0	0	0	0	0	201	33	0	42	205	0	576	2,248
5:00 PM		0	7	67	17	0	0	0	0	0	0	187	26	0	53	217	0	574	2,301
5:15 PM		0	6	54	19	0	0	0	0	0	0	207	21	0	48	203	0	558	2,315
5:30 PM		0	4	46	21	0	0	0	0	0	0	187	24	0	55	207	0	544	2,252
5:45 PM		0	5	44	17	0	0	0	0	0	0	191	29	0	33	196	0	515	2,191
Count Total		0	57	422	142	0	0	0	0	0	0	1,633	211	0	362	1,612	0	4,439	0
Peak Hour	All	0	38	238	75	0	0	0	0	0	0	850	112	0	188	814	0	2,315	0
	HV	0	1	3	1	0	0	0	0	0	0	25	5	0	2	12	0	49	0
	HV%	-	3%	1%	1%	-	-	-	-	-	-	3%	4%	-	1%	1%	-	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	5	3	9	1	0	0	0	1	0	0	1	0	1
4:15 PM	1	0	9	7	17	0	0	0	0	0	0	0	0	2	2
4:30 PM	2	0	11	4	17	0	0	0	0	0	0	2	0	3	5
4:45 PM	2	0	10	2	14	0	0	0	1	1	0	0	1	2	3
5:00 PM	0	0	3	5	8	0	0	0	1	1	1	1	0	4	6
5:15 PM	1	0	6	3	10	0	0	0	0	0	0	2	1	3	6
5:30 PM	1	0	3	3	7	0	0	0	0	0	0	0	0	1	1
5:45 PM	0	0	5	2	7	0	0	0	0	0	1	1	0	3	5
Count Total	8	0	52	29	89	1	0	0	2	3	2	6	3	18	29
Peak Hour	5	0	30	14	49	0	0	0	2	2	1	5	2	12	20

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				S Wilson Way				S Wilson Way				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	1	0	0	0	0	0	0	3	2	0	0	3	0	9	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	9	0	0	0	7	0	17	0
4:30 PM	0	1	0	1	0	0	0	0	0	0	11	0	0	0	4	0	17	0
4:45 PM	0	0	2	0	0	0	0	0	0	0	7	3	0	0	2	0	14	57
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	1	0	1	4	0	8	56
5:15 PM	0	0	1	0	0	0	0	0	0	0	5	1	0	1	2	0	10	49
5:30 PM	0	0	1	0	0	0	0	0	0	0	3	0	0	0	3	0	7	39
5:45 PM	0	0	0	0	0	0	0	0	0	0	4	1	0	0	2	0	7	32
Count Total	0	1	5	2	0	0	0	0	0	0	44	8	0	2	27	0	89	0
Peak Hour	0	1	3	1	0	0	0	0	0	0	25	5	0	2	12	0	49	0

Two-Hour Count Summaries - Bikes																		
Interval Start	E Market St			E Market St			S Wilson Way			S Wilson Way			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0				
4:15 PM	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				
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	2				
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	2				
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
Count Total	0	0	1	0	0	0	0	0	0	0	2	0	3	0				
Peak Hour	0	0	0	0	0	0	0	0	0	0	2	0	2	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Eugenia St E Market St

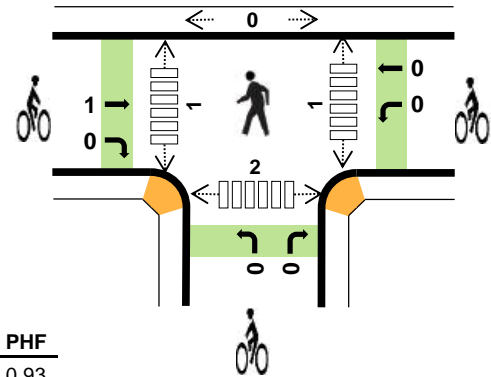
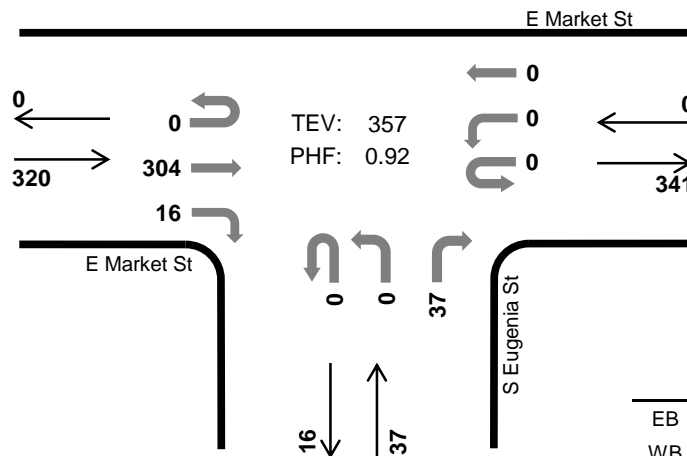


Peak Hour

Date: 04/03/2024

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	2.2%	0.93
WB	-	-
NB	0.0%	0.71
SB	-	-
TOTAL	2.0%	0.92

Two-Hour Count Summaries

Interval Start		E Market St				E Market St				S Eugenia St				N/A				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	23	1	0	0	0	0	0	0	0	5	0	0	0	0	29	0
7:15 AM		0	0	42	0	0	0	0	0	0	0	0	6	0	0	0	0	48	0
7:30 AM		0	0	40	3	0	0	0	0	0	0	0	5	0	0	0	0	48	0
7:45 AM		0	0	80	6	0	0	0	0	0	0	0	11	0	0	0	0	97	222
8:00 AM		0	0	74	4	0	0	0	0	0	0	0	6	0	0	0	0	84	277
8:15 AM		0	0	72	5	0	0	0	0	0	0	0	7	0	0	0	0	84	313
8:30 AM		0	0	78	1	0	0	0	0	0	0	0	13	0	0	0	0	92	357
8:45 AM		0	0	55	1	0	0	0	0	0	0	0	19	0	0	0	0	75	335
Count Total		0	0	464	21	0	0	0	0	0	0	0	72	0	0	0	0	557	0
Peak Hour	All	0	0	304	16	0	0	0	0	0	0	0	37	0	0	0	0	357	0
	HV	0	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	7	0
	HV%	-	-	2%	13%	-	-	-	-	-	-	-	0%	-	-	-	-	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	5	0	0	0	5	1	0	0	0	1	0	0	0	1	1
7:15 AM	5	0	1	0	6	1	0	0	0	1	0	0	2	2	4
7:30 AM	2	0	0	0	2	0	0	0	0	0	0	0	3	0	3
7:45 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	1	1
8:00 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
8:15 AM	2	0	0	0	2	1	0	0	0	1	0	1	0	1	2
8:30 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0
8:45 AM	5	0	0	0	5	0	0	0	0	0	0	0	0	3	3
Count Total	24	0	1	0	25	3	0	0	0	3	1	1	5	8	15
Peak Hr	7	0	0	0	7	1	0	0	0	1	1	1	0	2	4

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Market St				E Market St				S Eugenia St				N/A				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
7:15 AM	0	0	5	0	0	0	0	0	0	0	0	0	1	0	0	0	6	0
7:30 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0
7:45 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	15
8:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	11
8:15 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	7
8:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7
8:45 AM	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	5	10
Count Total	0	0	20	4	0	0	0	0	0	0	0	0	1	0	0	0	25	0
Peak Hour	0	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	7	0

Two-Hour Count Summaries - Bikes

Interval Start	E Market St			E Market St			S Eugenia St			N/A			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	3	0	0	0	0	0	0	0	0	0	0	3	0
Peak Hour	0	1	0	0	0	0	0	0	0	0	0	0	1	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Eugenia St E Market St

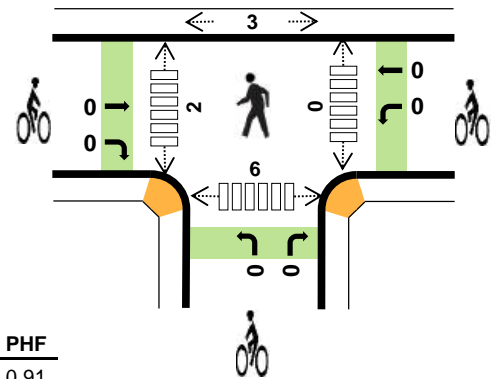
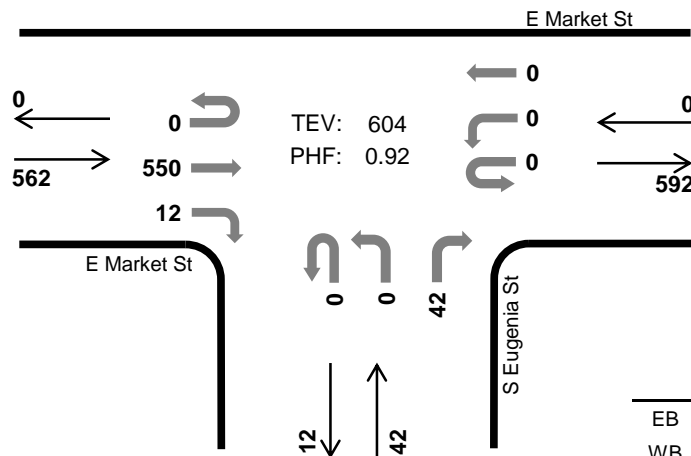


Peak Hour

Date: 04/03/2024

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	1.2%	0.91
WB	-	-
NB	0.0%	0.95
SB	-	-
TOTAL	1.2%	0.92

Two-Hour Count Summaries

Interval Start	E Market St Eastbound				E Market St Westbound				S Eugenia St Northbound				N/A Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	102	2	0	0	0	0	0	0	0	6	0	0	0	0	110	0
4:15 PM	0	0	120	2	0	0	0	0	0	0	0	11	0	0	0	0	133	0
4:30 PM	0	0	131	2	0	0	0	0	0	0	0	11	0	0	0	0	144	0
4:45 PM	0	0	150	3	0	0	0	0	0	0	0	10	0	0	0	0	163	550
5:00 PM	0	0	149	5	0	0	0	0	0	0	0	10	0	0	0	0	164	604
5:15 PM	0	0	114	7	0	0	0	0	0	0	0	2	0	0	0	0	123	594
5:30 PM	0	0	124	4	0	0	0	0	0	0	0	6	0	0	0	0	134	584
5:45 PM	0	0	101	3	0	0	0	0	0	0	0	7	0	0	0	0	111	532
Count Total	0	0	991	28	0	0	0	0	0	0	0	63	0	0	0	0	1,082	0
Peak Hour	All	0	0	550	12	0	0	0	0	0	0	42	0	0	0	0	604	0
	HV	0	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7	0
	HV%	-	-	1%	17%	-	-	-	-	-	-	0%	-	-	-	-	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	0	0	0	2	0	0	0	0	0	0	0	1	1	2
4:15 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
4:45 PM	3	0	0	0	3	0	0	0	0	0	0	0	0	1	1
5:00 PM	2	0	0	0	2	0	0	0	0	0	0	2	3	3	8
5:15 PM	5	0	0	0	5	0	0	0	0	0	0	0	4	1	5
5:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	15	0	0	0	15	0	0	0	0	0	0	2	8	9	19
Peak Hr	7	0	0	0	7	0	0	0	0	0	0	2	3	6	11

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Market St				E Market St				S Eugenia St				N/A				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3	7
5:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7
5:15 PM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	10
5:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Count Total	0	0	12	3	0	0	0	0	0	0	0	0	0	0	0	0	15	0
Peak Hour	0	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	7	0

Two-Hour Count Summaries - Bikes

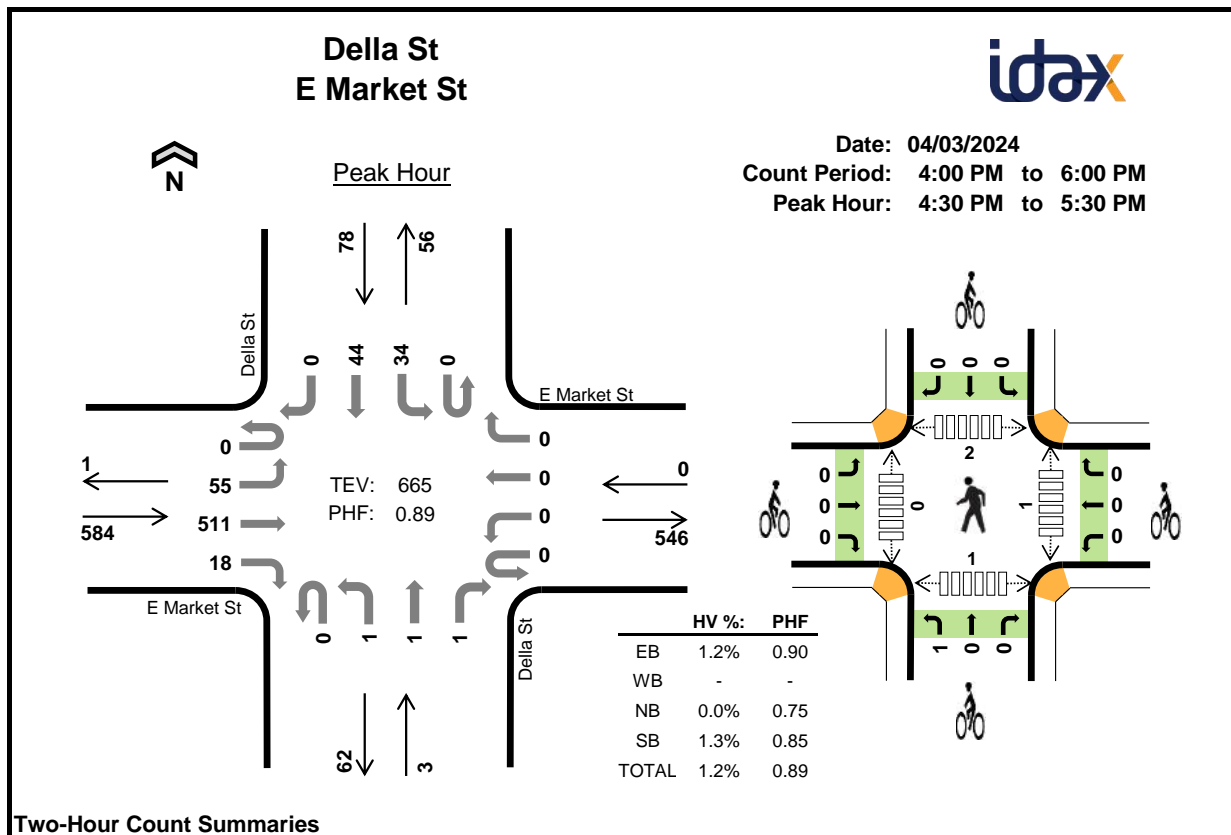
Interval Start	E Market St			E Market St			S Eugenia St			N/A			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	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
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Market St				E Market St				Della St				Della St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
7:15 AM	0	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	7	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	13
8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	11
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
8:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7
8:45 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	8
Count Total	0	2	16	2	0	0	0	0	0	0	0	0	0	0	1	0	21	0
Peak Hour	0	0	6	0	0	0	0	0	0	0	0	0	0	0	1	0	7	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			Della St			Della St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0			
7:15 AM	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	0	0	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:15 AM	1	1	0	0	0	0	0	0	0	0	0	0	2	2			
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	3			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3			
Count Total	1	2	0	0	0	0	0	0	0	0	0	1	4	0			
Peak Hour	1	1	0	0	0	0	0	0	0	0	0	1	3	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		E Market St				E Market St				Della St				Della St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	10	100	7	0	0	0	0	0	0	0	0	0	0	5	0	122	0
4:15 PM		0	11	113	5	0	0	0	0	0	0	0	0	0	1	11	0	141	0
4:30 PM		0	15	124	5	0	0	0	0	0	0	0	0	0	2	11	0	157	0
4:45 PM		0	16	133	4	0	0	0	0	0	1	0	0	0	11	9	0	174	594
5:00 PM		0	18	141	3	0	0	0	0	0	0	1	0	0	12	11	0	186	658
5:15 PM		0	6	113	6	0	0	0	0	0	0	0	1	0	9	13	0	148	665
5:30 PM		0	7	114	7	0	0	0	0	0	0	1	0	0	1	8	0	138	646
5:45 PM		0	3	106	6	0	0	0	0	0	0	1	0	0	0	6	0	122	594
Count Total		0	86	944	43	0	0	0	0	0	1	3	1	0	36	74	0	1,188	0
Peak Hour	All	0	55	511	18	0	0	0	0	0	1	1	1	0	34	44	0	665	0
	HV	0	0	7	0	0	0	0	0	0	0	0	0	0	0	1	0	8	0
	HV%	-	0%	1%	0%	-	-	-	-	-	0%	0%	0%	-	0%	2%	-	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1
4:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
4:45 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0
5:00 PM	2	0	0	0	2	0	0	0	0	0	1	0	1	0	2
5:15 PM	3	0	0	1	4	0	0	0	0	0	0	0	1	1	2
5:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
5:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Count Total	10	0	0	1	11	0	0	2	0	2	1	0	3	1	5
Peak Hour	7	0	0	1	8	0	0	1	0	1	1	0	2	1	4

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	E Market St				E Market St				Della St				Della St				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4
5:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5
5:15 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	8
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7
Count Total	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	1	0	11	0
Peak Hour	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	1	0	8	0

Two-Hour Count Summaries - Bikes																	
Interval Start	E Market St			E Market St			Della St			Della St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	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	1	0	0	0	0	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	0
Peak Hour	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



Date: 04/03/2024

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM

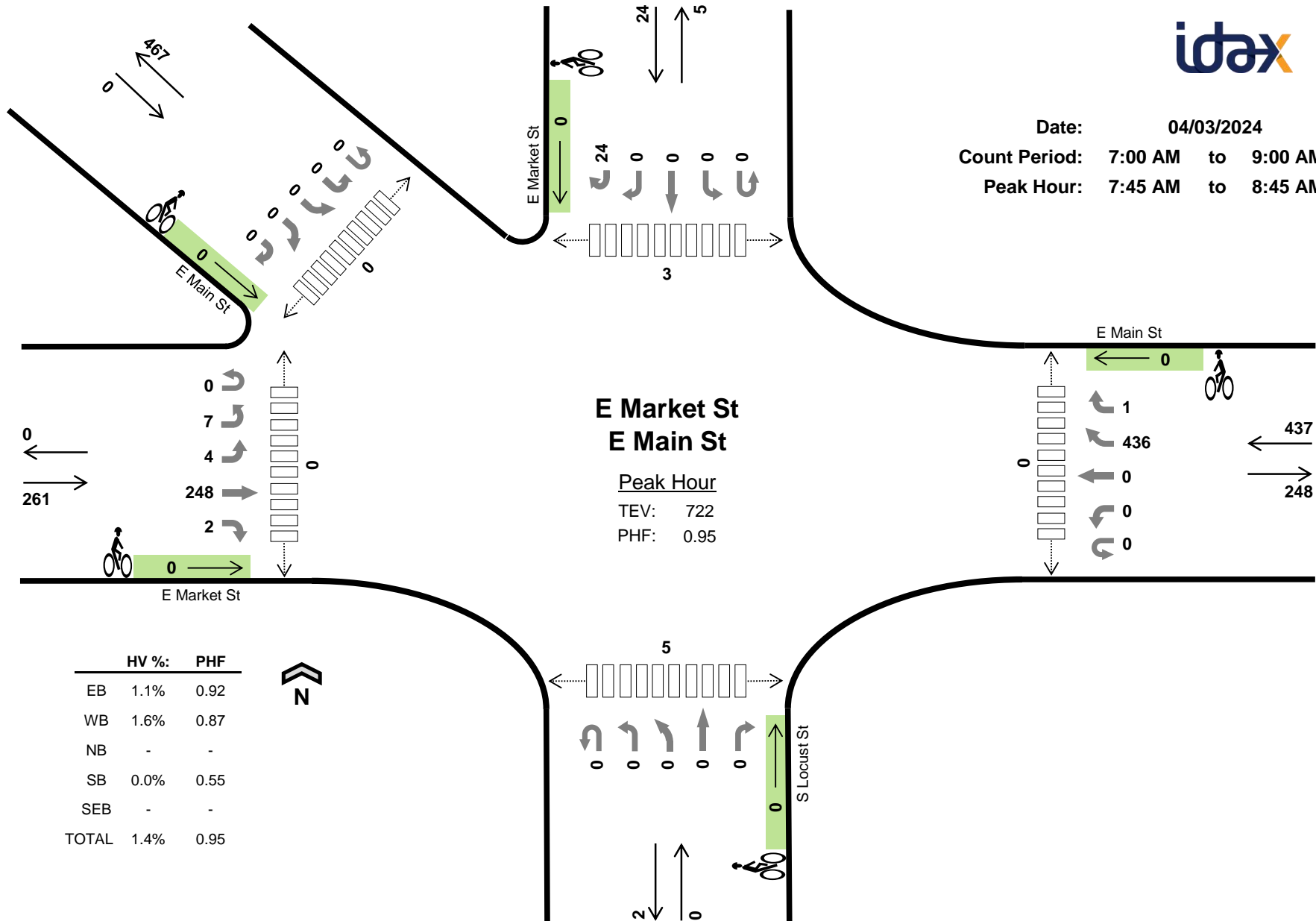
E Market St E Main St

Peak Hour

TEV: 722

PHF: 0.95

	HV %:	PHF
EB	1.1%	0.92
WB	1.6%	0.87
NB	-	-
SB	0.0%	0.55
SEB	-	-
TOTAL	1.4%	0.95



Two-Hour Count Summaries

Interval Start	E Market St Eastbound					E Main St Westbound					S Locust St Northbound					E Market St Southbound					E Main St Southeastbound					15-min Total	Rolling One Hour
	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	HL	BL	BR	HR		
7:00 AM	0	2	0	19	0	0	0	0	34	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	61	0
7:15 AM	0	1	0	29	0	0	0	0	51	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	89	0
7:30 AM	0	3	0	33	0	0	0	0	77	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	126	0
7:45 AM	0	2	0	69	0	0	0	0	106	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	188	464
8:00 AM	0	3	3	55	1	0	0	0	126	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	191	594
8:15 AM	0	1	1	57	0	0	0	0	96	1	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	162	667
8:30 AM	0	1	0	67	1	0	0	0	108	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	181	722
8:45 AM	0	0	1	56	2	0	0	0	80	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	146	680
Count Total	0	13	5	385	4	0	0	0	678	1	0	0	0	0	0	0	0	0	0	58	0	0	0	0	0	1,144	0
Peak Hour	All HV	0	7	4	248	2	0	0	0	436	1	0	0	0	0	0	0	0	0	24	0	0	0	0	0	722	0
	HV%	-	0%	0%	1%	0%	-	-	-	2%	0%	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals						Bicycles						Pedestrians (Crossing Leg)					
	EB	WB	NB	SB	SEB	Total	EB	WB	NB	SB	SEB	Total	East	West	North	South	Northwest	Total
7:00 AM	2	1	0	1	0	4	1	0	0	0	0	1	0	1	2	2	0	5
7:15 AM	5	4	0	4	0	13	0	0	0	0	0	0	0	0	2	1	0	3
7:30 AM	0	1	0	0	0	1	0	0	1	0	0	1	0	1	1	2	0	4
7:45 AM	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	4	0	0	0	4	0	0	0	0	0	0	0	0	1	1	0	2
8:15 AM	1	2	0	0	0	3	0	0	0	0	0	0	0	0	1	3	0	4
8:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	2
8:45 AM	2	2	0	1	0	5	0	0	0	0	0	0	0	0	1	4	0	5
Count Total	12	15	0	6	0	33	1	0	1	0	0	2	0	2	9	14	0	25
Peak Hr	3	7	0	0	0	10	0	0	0	0	0	0	0	0	3	5	0	8

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Market St Eastbound					E Main St Westbound					S Locust St Northbound					E Market St Southbound					n/a Southeastbound					15-min Total	Rolling One Hour
	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	HL	BL	BR	HR		
7:00 AM	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	0
7:15 AM	0	0	0	5	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	13	0
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	20
8:00 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	20
8:15 AM	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	10
8:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	10
8:45 AM	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	5	13
Count Total	0	0	0	12	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	33	0
Peak Hour	0	0	0	3	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0

Two-Hour Count Summaries - Bikes

Interval Start	E Market St Eastbound					E Main St Westbound					S Locust St Northbound					E Market St Southbound					n/a Southeastbound					15-min Total	Rolling One Hour
	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	HL	BL	BR	HR		
7:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Date: 04/03/2024

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:45 PM to 5:45 PM

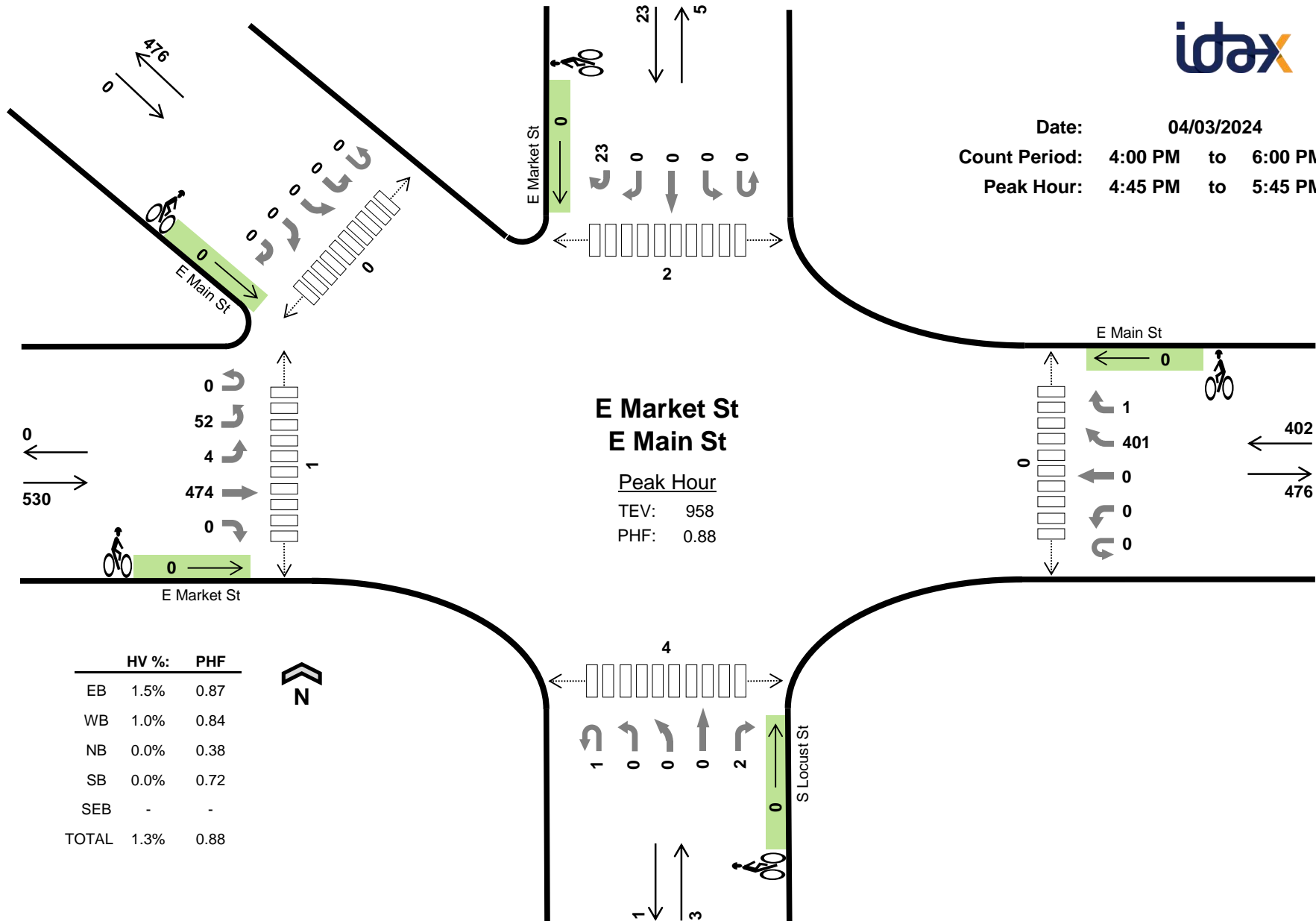
E Market St E Main St

Peak Hour

TEV: 958

PHF: 0.88

	HV %:	PHF
EB	1.5%	0.87
WB	1.0%	0.84
NB	0.0%	0.38
SB	0.0%	0.72
SEB	-	-
TOTAL	1.3%	0.88



Two-Hour Count Summaries

Interval Start	E Market St Eastbound					E Main St Westbound					S Locust St Northbound					E Market St Southbound					E Main St Southeastbound					15-min Total	Rolling One Hour
	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	HL	BL	BR	HR		
4:00 PM	0	2	3	96	0	0	0	0	115	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	224	0
4:15 PM	0	1	2	113	1	0	0	0	100	1	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	228	0
4:30 PM	0	5	2	112	1	0	0	0	77	0	0	0	0	0	1	0	0	0	0	7	0	0	0	0	0	205	0
4:45 PM	0	22	1	122	0	0	0	0	119	1	0	0	0	0	1	0	0	0	0	7	0	0	0	0	0	273	930
5:00 PM	0	19	1	132	0	0	0	0	89	0	1	0	0	0	1	0	0	0	0	8	0	0	0	0	0	251	957
5:15 PM	0	7	1	113	0	0	0	0	93	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	220	949
5:30 PM	0	4	1	107	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	214	958
5:45 PM	0	4	1	102	0	0	0	0	95	0	0	0	0	0	2	0	0	0	0	6	0	0	0	0	0	210	895
Count Total	0	64	12	897	2	0	0	0	788	2	1	0	0	0	5	0	0	0	0	54	0	0	0	0	0	1,825	0
Peak Hour	All HV	0	52	4	474	0	0	0	401	1	1	0	0	0	2	0	0	0	0	23	0	0	0	0	0	958	0
	HV%	0	0	0	8	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0
		-	0%	0%	2%	-	-	-	1%	0%	0%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals						Bicycles						Pedestrians (Crossing Leg)					
	EB	WB	NB	SB	SEB	Total	EB	WB	NB	SB	SEB	Total	East	West	North	South	Northwest	Total
4:00 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1
4:15 PM	1	3	0	0	0	4	0	1	0	0	0	1	0	5	0	5	1	11
4:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	2	1	0	0	0	3	0	0	0	0	0	0	0	1	1	2	0	4
5:15 PM	3	1	0	0	0	4	0	0	0	0	0	0	0	0	1	1	0	2
5:30 PM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	1
5:45 PM	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	11	9	0	0	0	20	0	1	0	0	0	1	0	6	3	10	1	20
Peak Hr	8	4	0	0	0	12	0	0	0	0	0	0	0	1	2	4	0	7

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Market St Eastbound					E Main St Westbound					S Locust St Northbound					E Market St Southbound					n/a Southeastbound					15-min Total	Rolling One Hour
	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	HL	BL	BR	HR		
4:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	1	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	9
5:00 PM	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	11
5:15 PM	0	0	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	11
5:30 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	12
5:45 PM	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	11
Count Total	0	0	0	11	0	0	0	0	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0
Peak Hour	0	0	0	8	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0

Two-Hour Count Summaries - Bikes

Interval Start	E Market St Eastbound					E Main St Westbound					S Locust St Northbound					E Market St Southbound					n/a Southeastbound					15-min Total	Rolling One Hour
	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	HL	BL	BR	HR		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0




APPENDIX C – EXISTING AND EXISTING BUILD CONDITIONS LEVEL OF SERVICE AND QUEUEING ANALYSIS SHEETS

HCM Signalized Intersection Capacity Analysis

2: S San Joaquin Street/N San Joaquin Street & Main Street


Existing Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔↔			↔↔			↔↔	
Traffic Volume (vph)	0	0	0	13	25	28	55	175	0	0	119	117
Future Volume (vph)	0	0	0	13	25	28	55	175	0	0	119	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			0.95			0.95	
Frpb, ped/bikes					0.93			1.00			0.98	
Flpb, ped/bikes					0.95			0.99			1.00	
Frt					0.93			1.00			0.92	
Flt Protected					0.99			0.98			1.00	
Satd. Flow (prot)					2949			3481			3212	
Flt Permitted					0.99			0.83			1.00	
Satd. Flow (perm)					2949			2929			3212	
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)	0	0	0	14	27	30	60	190	0	0	129	127
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	71	0	0	250	0	0	256	0
Confl. Peds. (#/hr)				45		31	39					39
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					4.6			29.4			29.4	
Effective Green, g (s)					4.6			29.4			29.4	
Actuated g/C Ratio					0.07			0.42			0.42	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					193			1230			1349	
v/s Ratio Prot											0.08	
v/s Ratio Perm					0.02			c0.09				
v/c Ratio					0.36			0.20			0.18	
Uniform Delay, d1					31.3			12.8			12.7	
Progression Factor					0.98			0.81			1.00	
Incremental Delay, d2					0.4			0.3			0.3	
Delay (s)					31.4			10.8			13.1	
Level of Service					C			B			B	
Approach Delay (s/veh)		0.0			31.4			10.8			13.1	
Approach LOS		A			C			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			14.4									
HCM 2000 Volume to Capacity ratio			0.13									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			31.0%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: S Sutter Street/N Sutter Street & Main Street

Existing Conditions
Timing Plan: AM PEAK


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					←↑↑			↔			↑↑	
Traffic Volume (vph)	0	0	0	9	30	6	20	64	0	0	94	24
Future Volume (vph)	0	0	0	9	30	6	20	64	0	0	94	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			1.00			0.95	
Frpb, ped/bikes					0.99			1.00			0.98	
Flpb, ped/bikes					0.98			0.98			1.00	
Frt					0.98			1.00			0.96	
Flt Protected					0.99			0.98			1.00	
Satd. Flow (prot)					3381			1814			3372	
Flt Permitted					0.99			0.91			1.00	
Satd. Flow (perm)					3381			1679			3372	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	11	37	7	24	78	0	0	115	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	55	0	0	102	0	0	144	0
Confl. Peds. (#/hr)				36		13	69					69
Confl. Bikes (#/hr)												1
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			4			4	
Permitted Phases				2			4					
Actuated Green, G (s)					15.0			19.0			19.0	
Effective Green, g (s)					15.0			19.0			19.0	
Actuated g/C Ratio					0.21			0.27			0.27	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					724			455			915	
v/s Ratio Prot											0.04	
v/s Ratio Perm					0.02			c0.06				
v/c Ratio					0.07			0.22			0.15	
Uniform Delay, d1					21.9			19.7			19.4	
Progression Factor					0.46			0.70			1.00	
Incremental Delay, d2					0.2			1.1			0.3	
Delay (s)					10.5			15.0			19.7	
Level of Service					B			B			B	
Approach Delay (s/veh)		0.0			10.5			15.0			19.7	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			16.5									HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio			0.09									
Actuated Cycle Length (s)			70.0								13.0	Sum of lost time (s)
Intersection Capacity Utilization			22.8%									ICU Level of Service A
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: California Street & Main Street

Existing Conditions


Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕↕			↕↕			↕↕	
Traffic Volume (vph)	0	0	0	63	26	34	13	251	0	0	208	11
Future Volume (vph)	0	0	0	63	26	34	13	251	0	0	208	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			0.95			0.95	
Frpb, ped/bikes					0.99			1.00			0.99	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.95			1.00			0.99	
Flt Protected					0.97			0.99			1.00	
Satd. Flow (prot)					3274			3530			3509	
Flt Permitted					0.97			0.93			1.00	
Satd. Flow (perm)					3274			3303			3509	
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)	0	0	0	73	30	40	15	292	0	0	242	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	143	0	0	307	0	0	255	0
Confl. Peds. (#/hr)				7		4	5					5
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					15.0			19.0			19.0	
Effective Green, g (s)					15.0			19.0			19.0	
Actuated g/C Ratio					0.21			0.27			0.27	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					701			896			952	
v/s Ratio Prot											0.07	
v/s Ratio Perm					0.04			c0.09				
v/c Ratio					0.20			0.34			0.26	
Uniform Delay, d1					22.5			20.4			20.0	
Progression Factor					1.49			0.77			1.00	
Incremental Delay, d2					0.5			1.0			0.6	
Delay (s)					34.3			16.8			20.7	
Level of Service					C			B			C	
Approach Delay (s/veh)		0.0			34.3			16.8			20.7	
Approach LOS		A			C			B			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			21.8									
HCM 2000 Volume to Capacity ratio			0.17									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			28.7%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: S American Street/N American Street & Main Street


Existing Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔↔↔			↔			↑	↗
Traffic Volume (vph)	0	0	0	82	87	24	16	18	0	0	31	20
Future Volume (vph)	0	0	0	82	87	24	16	18	0	0	31	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	5.0
Lane Util. Factor					0.95			1.00			1.00	1.00
Frpb, ped/bikes					0.99			1.00			1.00	0.97
Flpb, ped/bikes					0.87			0.99			1.00	1.00
Frt					0.98			1.00			1.00	0.85
Flt Protected					0.97			0.97			1.00	1.00
Satd. Flow (prot)					2953			1812			1863	1549
Flt Permitted					0.97			0.88			1.00	1.00
Satd. Flow (perm)					2953			1643			1863	1549
Peak-hour factor, PHF	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
Adj. Flow (vph)	0	0	0	139	147	41	27	31	0	0	53	34
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	327	0	0	58	0	0	53	34
Confl. Peds. (#/hr)				96		2	11					11
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			4			4	
Permitted Phases				2			4					4
Actuated Green, G (s)					11.0			23.0			23.0	23.0
Effective Green, g (s)					11.0			23.0			23.0	23.0
Actuated g/C Ratio					0.16			0.33			0.33	0.33
Clearance Time (s)					5.0			5.0			5.0	5.0
Vehicle Extension (s)					0.2			0.2			0.2	0.2
Lane Grp Cap (vph)					464			539			612	508
v/s Ratio Prot											0.03	
v/s Ratio Perm					0.11			0.04				0.02
v/c Ratio					0.70			0.10			0.08	0.06
Uniform Delay, d1					27.9			16.3			16.2	16.1
Progression Factor					1.03			0.51			1.00	1.00
Incremental Delay, d2					8.5			0.4			0.2	0.2
Delay (s)					37.4			8.8			16.5	16.3
Level of Service					D			A			B	B
Approach Delay (s/veh)		0.0			37.4			8.8			16.4	
Approach LOS		A			D			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			30.1									
HCM 2000 Volume to Capacity ratio			0.18									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			24.7%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: S Stanislaus Street/N Stanislaus Street & Main Street

Existing Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔↔			↔↔			↔↔	
Traffic Volume (vph)	0	0	0	46	78	5	86	427	0	0	209	15
Future Volume (vph)	0	0	0	46	78	5	86	427	0	0	209	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			0.95			0.95	
Frpb, ped/bikes					0.99			1.00			0.99	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.99			1.00			0.98	
Flt Protected					0.98			0.99			1.00	
Satd. Flow (prot)					3448			3506			3498	
Flt Permitted					0.98			0.82			1.00	
Satd. Flow (perm)					3448			2908			3498	
Peak-hour factor, PHF	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Adj. Flow (vph)	0	0	0	64	108	7	119	593	0	0	290	21
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	0	0	0	175	0	0	712	0	0	304	0
Confl. Peds. (#/hr)				5		2	7					7
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					1			2			2	
Permitted Phases				1			2					
Actuated Green, G (s)					25.0			35.0			35.0	
Effective Green, g (s)					25.0			35.0			35.0	
Actuated g/C Ratio					0.36			0.50			0.50	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					1231			1454			1749	
v/s Ratio Prot											0.09	
v/s Ratio Perm					0.05			c0.24				
v/c Ratio					0.14			0.48			0.17	
Uniform Delay, d1					15.2			11.5			9.5	
Progression Factor					1.00			0.77			1.00	
Incremental Delay, d2					0.2			1.0			0.2	
Delay (s)					15.4			10.0			9.7	
Level of Service					B			B			A	
Approach Delay (s/veh)		0.0			15.4			10.0			9.7	
Approach LOS		A			B			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			10.8									
HCM 2000 Volume to Capacity ratio			0.34									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			55.1%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
7: S Grant Street/N Grant Street & Main Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					EB			E			B	
Traffic Vol, veh/h	0	0	0	6	107	7	9	43	0	0	16	16
Future Vol, veh/h	0	0	0	6	107	7	9	43	0	0	16	16
Conflicting Peds, #/hr	0	0	0	2	0	5	4	0	0	0	0	4
Sign Control	Stop	Stop	Stop	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	65	65	65	65	65	65	65	65	65	65	65	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	9	165	11	14	66	0	0	25	25

Major/Minor	Major2		Minor1		Minor2	
Conflicting Flow All	2	0	0	119	201	-
Stage 1	-	-	-	2	2	-
Stage 2	-	-	-	117	199	-
Critical Hdwy	4.14	-	-	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-
Pot Cap-1 Maneuver	1619	-	-	844	694	0
Stage 1	-	-	-	-	-	0
Stage 2	-	-	-	875	735	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1616	-	-	794	685	-
Mov Cap-2 Maneuver	-	-	-	794	685	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	818	727	-

Approach	WB	NB	SB
HCM Control Delay, s/v	0.4	10.8	9.8
HCM LOS		B	A

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	702	1616	-	-	794
HCM Lane V/C Ratio	0.114	0.006	-	-	0.062
HCM Control Delay (s/veh)	10.8	7.2	0	-	9.8
HCM Lane LOS	B	A	A	-	A
HCM 95th %tile Q (veh)	0.4	0	-	-	0.2

HCM 6th TWSC
8: S Aurora Street/N Aurora Street & Main Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	6.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					EB			E			B	
Traffic Vol, veh/h	0	0	0	9	103	4	24	103	0	0	34	6
Future Vol, veh/h	0	0	0	9	103	4	24	103	0	0	34	6
Conflicting Peds, #/hr	0	0	0	1	0	4	2	0	0	0	0	2
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	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	12	141	5	33	141	0	0	47	8

Major/Minor	Major2		Minor1		Minor2	
Conflicting Flow All	1	0	0	121	175	-
Stage 1	-	-	-	1	1	-
Stage 2	-	-	-	120	174	-
Critical Hdwy	4.14	-	-	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-
Pot Cap-1 Maneuver	1620	-	-	842	717	0
Stage 1	-	-	-	-	-	0
Stage 2	-	-	-	872	754	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1618	-	-	787	708	-
Mov Cap-2 Maneuver	-	-	-	787	708	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	804	745	-

Approach	WB	NB	SB
HCM Control Delay, s/v	0.6	11.6	10.3
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	722	1618	-	-	739
HCM Lane V/C Ratio	0.241	0.008	-	-	0.074
HCM Control Delay (s/veh)	11.6	7.2	0	-	10.3
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.9	0	-	-	0.2

HCM 6th AWSC
9: Union Street & Main Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Intersection Delay, s/veh	8.1											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					←→			←			→	
Traffic Vol, veh/h	0	0	0	12	96	14	9	90	0	0	66	9
Future Vol, veh/h	0	0	0	12	96	14	9	90	0	0	66	9
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	14	112	16	10	105	0	0	77	10
Number of Lanes	0	0	0	0	2	0	0	1	0	0	1	0

Approach	WB			NB			SB		
Opposing Approach				SB			NB		
Opposing Lanes	0			1			1		
Conflicting Approach Left	NB						WB		
Conflicting Lanes Left	1			0			2		
Conflicting Approach Right	SB			WB					
Conflicting Lanes Right	1			2			0		
HCM Control Delay, s/veh	8.2			8.1			7.9		
HCM LOS	A			A			A		

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	9%	20%	0%	0%
Vol Thru, %	91%	80%	77%	88%
Vol Right, %	0%	0%	23%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	99	60	62	75
LT Vol	9	12	0	0
Through Vol	90	48	48	66
RT Vol	0	0	14	9
Lane Flow Rate	115	70	72	87
Geometry Grp	2	5	5	2
Degree of Util (X)	0.141	0.099	0.097	0.105
Departure Headway (Hd)	4.402	5.092	4.833	4.342
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	817	706	744	828
Service Time	2.412	2.807	2.548	2.354
HCM Lane V/C Ratio	0.141	0.099	0.097	0.105
HCM Control Delay, s/veh	8.1	8.4	8.1	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.3	0.3	0.4

HCM 6th TWSC
10: Pilgrim Street & Main Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					EB			E			B	
Traffic Vol, veh/h	0	0	0	9	122	5	3	7	0	0	11	0
Future Vol, veh/h	0	0	0	9	122	5	3	7	0	0	11	0
Conflicting Peds, #/hr	0	0	0	4	0	4	3	0	0	0	0	3
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	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	13	174	7	4	10	0	0	16	0

Major/Minor	Major2		Minor1		Minor2	
Conflicting Flow All	4	0	0	128	215	-
Stage 1	-	-	-	4	4	-
Stage 2	-	-	-	124	211	-
Critical Hdwy	4.14	-	-	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-
Pot Cap-1 Maneuver	1616	-	-	832	682	0
Stage 1	-	-	-	-	-	0
Stage 2	-	-	-	867	726	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1610	-	-	809	670	-
Mov Cap-2 Maneuver	-	-	-	809	670	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	840	717	-
















Approach	WB	NB	SB
HCM Control Delay, s/v	0.5	10.2	10.5
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	706	1610	-	-	672
HCM Lane V/C Ratio	0.02	0.008	-	-	0.023
HCM Control Delay (s/veh)	10.2	7.3	0	-	10.5
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1

HCM 6th Signalized Intersection Summary

11: Airport Way & Main Street

Existing Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	35	103	64	18	788	0	0	662	15
Future Volume (veh/h)	0	0	0	35	103	64	18	788	0	0	662	15
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.98	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
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				38	111	69	19	847	0	0	712	16
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				62	183	116	70	2666	0	0	2790	63
Arrive On Green				0.10	0.10	0.10	1.00	1.00	0.00	0.00	0.79	0.79
Sat Flow, veh/h				599	1765	1118	36	3480	0	0	3646	80
Grp Volume(v), veh/h				117	0	101	458	408	0	0	356	372
Grp Sat Flow(s),veh/h/ln				1840	0	1642	1814	1617	0	0	1777	1856
Q Serve(g_s), s				5.5	0.0	5.3	0.0	0.0	0.0	0.0	4.8	4.8
Cycle Q Clear(g_c), s				5.5	0.0	5.3	0.0	0.0	0.0	0.0	4.8	4.8
Prop In Lane				0.33		0.68	0.04		0.00	0.00		0.04
Lane Grp Cap(c), veh/h				191	0	170	1466	1270	0	0	1395	1457
V/C Ratio(X)				0.61	0.00	0.60	0.31	0.32	0.00	0.00	0.26	0.26
Avail Cap(c_a), veh/h				450	0	401	1466	1270	0	0	1395	1457
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.95	0.95	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				38.6	0.0	38.5	0.0	0.0	0.0	0.0	2.6	2.6
Incr Delay (d2), s/veh				1.2	0.0	1.2	0.5	0.6	0.0	0.0	0.4	0.4
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.5	0.0	2.2	0.2	0.2	0.0	0.0	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				39.8	0.0	39.8	0.5	0.6	0.0	0.0	3.0	3.0
LnGrp LOS				D		D	A	A			A	A
Approach Vol, veh/h					218			866			728	
Approach Delay, s/veh					39.8			0.6			3.0	
Approach LOS					D			A			A	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	75.7			14.3			75.7					
Change Period (Y+Rc), s	5.0			5.0			5.0					
Max Green Setting (Gmax), s	58.0			22.0			58.0					
Max Q Clear Time (g_c+I1), s	2.0			7.5			6.8					
Green Ext Time (p_c), s	0.8			0.7			0.7					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				6.3								
HCM 6th LOS				A								

HCM 6th TWSC
12: Sierra Nevada Street & Main Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					EB			E			B	
Traffic Vol, veh/h	0	0	0	9	172	12	17	17	0	0	33	11
Future Vol, veh/h	0	0	0	9	172	12	17	17	0	0	33	11
Conflicting Peds, #/hr	0	0	0	13	0	6	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	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	10	198	14	20	20	0	0	38	13



















Major/Minor	Major2		Minor1		Minor2	
Conflicting Flow All	13	0	0	151	251	-
Stage 1	-	-	-	13	13	-
Stage 2	-	-	-	138	238	-
Critical Hdwy	4.14	-	-	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-
Pot Cap-1 Maneuver	1604	-	-	802	651	0
Stage 1	-	-	-	-	-	0
Stage 2	-	-	-	851	707	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1584	-	-	742	635	-
Mov Cap-2 Maneuver	-	-	-	742	635	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	788	698	-

Approach	WB	NB	SB
HCM Control Delay, s/v	0.3	10.6	10.6
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	684	1584	-	-	693
HCM Lane V/C Ratio	0.057	0.007	-	-	0.073
HCM Control Delay (s/veh)	10.6	7.3	0	-	10.6
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.2	0	-	-	0.2

HCM 6th Signalized Intersection Summary 13: S Wilson Way & Main Street
















Existing Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	115	122	209	32	730	0	0	648	20
Future Volume (veh/h)	0	0	0	115	122	209	32	730	0	0	648	20
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	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
Work Zone On Approach				No				No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				119	126	215	33	753	0	0	668	21
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				283	331	270	570	2547	0	0	2520	79
Arrive On Green				0.17	0.17	0.17	1.00	1.00	0.00	0.00	0.72	0.72
Sat Flow, veh/h				1644	1921	1566	754	3647	0	0	3610	111
Grp Volume(v), veh/h				129	116	215	33	753	0	0	337	352
Grp Sat Flow(s),veh/h/ln				1788	1777	1566	754	1777	0	0	1777	1850
Q Serve(g_s), s				5.8	5.2	11.9	0.4	0.0	0.0	0.0	6.0	6.0
Cycle Q Clear(g_c), s				5.8	5.2	11.9	6.4	0.0	0.0	0.0	6.0	6.0
Prop In Lane				0.92		1.00	1.00		0.00	0.00		0.06
Lane Grp Cap(c), veh/h				308	306	270	570	2547	0	0	1273	1326
V/C Ratio(X)				0.42	0.38	0.80	0.06	0.30	0.00	0.00	0.26	0.27
Avail Cap(c_a), veh/h				457	454	400	570	2547	0	0	1273	1326
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.93	0.93	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.2	33.0	35.7	0.3	0.0	0.0	0.0	4.5	4.5
Incr Delay (d2), s/veh				0.3	0.3	3.7	0.2	0.3	0.0	0.0	0.5	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
%ile BackOfQ(50%),veh/ln				2.5	2.2	4.7	0.0	0.1	0.0	0.0	2.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				33.6	33.3	39.5	0.5	0.3	0.0	0.0	5.0	5.0
LnGrp LOS				C	C	D	A	A			A	A
Approach Vol, veh/h					460			786			689	
Approach Delay, s/veh					36.3			0.3			5.0	
Approach LOS					D			A			A	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	69.5			20.5			69.5					
Change Period (Y+Rc), s	5.0			5.0			5.0					
Max Green Setting (Gmax), s	57.0			23.0			57.0					
Max Q Clear Time (g_c+I1), s	8.4			13.9			8.0					
Green Ext Time (p_c), s	2.5			0.9			1.7					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				10.5								
HCM 6th LOS				B								

HCM Signalized Intersection Capacity Analysis

14: Market Street/E Market Street & Main St/Main Street

Existing Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	440	0	8	8	0	0	0	34
Future Volume (vph)	0	0	0	0	440	0	8	8	0	0	0	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0				5.0
Lane Util. Factor					0.95			1.00				1.00
Frpb, ped/bikes					1.00			1.00				0.98
Flpb, ped/bikes					1.00			0.99				1.00
Frt					1.00			1.00				0.86
Flt Protected					1.00			0.97				1.00
Satd. Flow (prot)					3539			1813				1584
Flt Permitted					1.00			0.97				1.00
Satd. Flow (perm)					3539			1813				1584
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)	0	0	0	0	478	0	9	9	0	0	0	37
RTOR Reduction (vph)	0	0	0	0	0	0	0	17	0	0	0	35
Lane Group Flow (vph)	0	0	0	0	478	0	0	1	0	0	0	2
Confl. Peds. (#/hr)						5	1					1
Turn Type					NA		Perm	NA				Perm
Protected Phases					6 4			5				
Permitted Phases							5					5
Actuated Green, G (s)					26.4			2.3				2.3
Effective Green, g (s)					26.4			2.3				2.3
Actuated g/C Ratio					0.68			0.06				0.06
Clearance Time (s)								5.0				5.0
Vehicle Extension (s)								2.0				2.0
Lane Grp Cap (vph)					2414			107				94
v/s Ratio Prot					c0.14							
v/s Ratio Perm								0.00				c0.00
v/c Ratio					0.19			0.00				0.02
Uniform Delay, d1					2.2			17.1				17.1
Progression Factor					1.00			1.00				1.00
Incremental Delay, d2					0.1			0.0				0.0
Delay (s)					2.3			17.1				17.1
Level of Service					A			B				B
Approach Delay (s/veh)		0.0			2.3			17.1			17.1	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			3.9									
HCM 2000 Volume to Capacity ratio			0.28									
Actuated Cycle Length (s)			38.7									
Intersection Capacity Utilization			32.4%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
15: B Street/E Washington Street & Main Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	3	239	18	16	406	2	23	0	30	0	0	9
Future Vol, veh/h	3	239	18	16	406	2	23	0	30	0	0	9
Conflicting Peds, #/hr	4	0	2	2	0	4	4	0	1	1	0	4
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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	257	19	17	437	2	25	0	32	0	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	443	0	0	278	0	0	532	752	141	612	760	228
Stage 1	-	-	-	-	-	-	275	275	-	476	476	-
Stage 2	-	-	-	-	-	-	257	477	-	136	284	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1113	-	-	1282	-	-	430	338	881	377	334	775
Stage 1	-	-	-	-	-	-	708	681	-	539	555	-
Stage 2	-	-	-	-	-	-	725	554	-	853	675	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1109	-	-	1280	-	-	415	329	878	356	325	769
Mov Cap-2 Maneuver	-	-	-	-	-	-	415	329	-	356	325	-
Stage 1	-	-	-	-	-	-	704	678	-	535	543	-
Stage 2	-	-	-	-	-	-	700	542	-	818	672	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.1			0.4			11.7			9.7		
HCM LOS							B			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	592	1109	-	-	1280	-	-	769
HCM Lane V/C Ratio	0.096	0.003	-	-	0.013	-	-	0.013
HCM Control Delay (s/veh)	11.7	8.3	0	-	7.9	0.1	-	9.7
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q (veh)	0.3	0	-	-	0	-	-	0

HCM 6th TWSC
16: E Lafayette Street & Main Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	36	224	4	18	370	0	13	10	17	0	4	42
Future Vol, veh/h	36	224	4	18	370	0	13	10	17	0	4	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	246	4	20	407	0	14	11	19	0	4	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	407	0	0	250	0	0	574	775	125	656	777	204
Stage 1	-	-	-	-	-	-	328	328	-	447	447	-
Stage 2	-	-	-	-	-	-	246	447	-	209	330	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1148	-	-	1313	-	-	402	327	902	351	327	803
Stage 1	-	-	-	-	-	-	659	646	-	560	572	-
Stage 2	-	-	-	-	-	-	736	572	-	774	644	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1148	-	-	1313	-	-	357	307	902	319	307	803
Mov Cap-2 Maneuver	-	-	-	-	-	-	357	307	-	319	307	-
Stage 1	-	-	-	-	-	-	632	620	-	537	561	-
Stage 2	-	-	-	-	-	-	674	561	-	714	618	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	1.2			0.5			13.8			10.5		
HCM LOS							B			B		

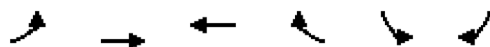
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	455	1148	-	-	1313	-	-	704
HCM Lane V/C Ratio	0.097	0.034	-	-	0.015	-	-	0.072
HCM Control Delay (s/veh)	13.8	8.2	0.1	-	7.8	0.1	-	10.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q (veh)	0.3	0.1	-	-	0	-	-	0.2

HCM Signalized Intersection Capacity Analysis

17: Main Street & D Street

Existing Conditions

Timing Plan: AM PEAK



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑↑	
Traffic Volume (vph)	3	262	402	5	6	7
Future Volume (vph)	3	262	402	5	6	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	
Lane Util. Factor		0.95	0.95		1.00	
Frt		1.00	0.99		0.92	
Flt Protected		0.99	1.00		0.97	
Satd. Flow (prot)		3537	3533		1689	
Flt Permitted		0.94	1.00		0.97	
Satd. Flow (perm)		3356	3533		1689	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	3	288	442	5	7	8
RTOR Reduction (vph)	0	0	2	0	8	0
Lane Group Flow (vph)	0	291	445	0	7	0
Turn Type	Perm	NA	NA		Perm	
Protected Phases		2	6			
Permitted Phases	2				4	
Actuated Green, G (s)		9.6	9.6		0.6	
Effective Green, g (s)		9.6	9.6		0.6	
Actuated g/C Ratio		0.48	0.48		0.03	
Clearance Time (s)		5.0	5.0		5.0	
Vehicle Extension (s)		6.0	6.0		2.0	
Lane Grp Cap (vph)		1594	1679		50	
v/s Ratio Prot			c0.13			
v/s Ratio Perm		0.09			c0.00	
v/c Ratio		0.18	0.26		0.14	
Uniform Delay, d1		3.0	3.1		9.5	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		0.1	0.2		0.4	
Delay (s)		3.2	3.4		10.0	
Level of Service		A	A		B	
Approach Delay (s/veh)		3.2	3.4		10.0	
Approach LOS		A	A		B	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			3.5		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.26			
Actuated Cycle Length (s)			20.2		Sum of lost time (s)	10.0
Intersection Capacity Utilization			22.9%		ICU Level of Service	A
Analysis Period (min)			15			

c Critical Lane Group

HCM 6th TWSC
18: Marsh Street/E Street & Main Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	16	231	1	12	372	42	0	0	10	28	3	10
Future Vol, veh/h	16	231	1	12	372	42	0	0	10	28	3	10
Conflicting Peds, #/hr	2	0	1	1	0	2	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	275	1	14	443	50	0	0	12	33	4	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	495	0	0	277	0	0	568	838	139	674	813	250
Stage 1	-	-	-	-	-	-	315	315	-	498	498	-
Stage 2	-	-	-	-	-	-	253	523	-	176	315	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1065	-	-	1283	-	-	406	301	884	340	311	750
Stage 1	-	-	-	-	-	-	671	654	-	523	543	-
Stage 2	-	-	-	-	-	-	729	529	-	809	654	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1063	-	-	1282	-	-	384	289	883	326	299	748
Mov Cap-2 Maneuver	-	-	-	-	-	-	384	289	-	326	299	-
Stage 1	-	-	-	-	-	-	656	640	-	511	534	-
Stage 2	-	-	-	-	-	-	701	520	-	781	640	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.6			0.3			9.1			16		
HCM LOS							A			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	883	1063	-	-	1282	-	-	375
HCM Lane V/C Ratio	0.013	0.018	-	-	0.011	-	-	0.13
HCM Control Delay (s/veh)	9.1	8.4	0.1	-	7.8	0.1	-	16
HCM Lane LOS	A	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0	0.1	-	-	0	-	-	0.4

HCM 6th TWSC
19: Alma Street/F Street & Main Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	13	262	0	18	386	10	0	2	13	5	4	3
Future Vol, veh/h	13	262	0	18	386	10	0	2	13	5	4	3
Conflicting Peds, #/hr	4	0	5	5	0	4	0	0	5	5	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	285	0	20	420	11	0	2	14	5	4	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	435	0	0	290	0	0	572	793	153	647	788	222
Stage 1	-	-	-	-	-	-	318	318	-	470	470	-
Stage 2	-	-	-	-	-	-	254	475	-	177	318	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1121	-	-	1269	-	-	403	320	866	356	322	782
Stage 1	-	-	-	-	-	-	668	652	-	543	558	-
Stage 2	-	-	-	-	-	-	728	556	-	808	652	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1117	-	-	1263	-	-	384	306	858	336	308	778
Mov Cap-2 Maneuver	-	-	-	-	-	-	384	306	-	336	308	-
Stage 1	-	-	-	-	-	-	655	639	-	533	544	-
Stage 2	-	-	-	-	-	-	703	542	-	776	639	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.5			0.4			10.3			14.9		
HCM LOS							B			B		


















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	692	1117	-	-	1263	-	-	378
HCM Lane V/C Ratio	0.024	0.013	-	-	0.015	-	-	0.035
HCM Control Delay (s/veh)	10.3	8.3	0.1	-	7.9	0.1	-	14.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0	-	-	0	-	-	0.1

HCM Signalized Intersection Capacity Analysis

20: S Filbert Street & Main Street

Existing Conditions

Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	220	4	5	358	250	12	49	5	242	26	54
Future Volume (vph)	55	220	4	5	358	250	12	49	5	242	26	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.98			0.99		1.00	0.98	
Flpb, ped/bikes		0.99			0.99			1.00		1.00	1.00	
Frt		0.99			0.93			0.98		1.00	0.89	
Flt Protected		0.99			0.99			0.99		0.95	1.00	
Satd. Flow (prot)		3494			3285			1825		1770	1656	
Flt Permitted		0.76			0.95			0.99		0.95	1.00	
Satd. Flow (perm)		2705			3129			1825		1770	1656	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	56	224	4	5	365	255	12	50	5	247	27	55
RTOR Reduction (vph)	0	1	0	0	109	0	0	3	0	0	42	0
Lane Group Flow (vph)	0	283	0	0	516	0	0	64	0	247	40	0
Confl. Peds. (#/hr)	7		2	2		7	7		13	13		7
Confl. Bikes (#/hr)			1									
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		2			6		4	4		3	3	
Permitted Phases	2			6								
Actuated Green, G (s)		20.9			20.9			5.4		13.4	13.4	
Effective Green, g (s)		20.9			20.9			5.4		13.4	13.4	
Actuated g/C Ratio		0.38			0.38			0.10		0.24	0.24	
Clearance Time (s)		6.0			6.0			5.0		5.0	5.0	
Vehicle Extension (s)		6.0			6.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1014			1174			176		425	398	
v/s Ratio Prot								c0.04		c0.14	0.02	
v/s Ratio Perm		0.10			c0.16							
v/c Ratio		0.27			0.43			0.36		0.58	0.10	
Uniform Delay, d1		12.1			13.0			23.5		18.6	16.4	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.4			0.7			0.4		1.3	0.0	
Delay (s)		12.5			13.7			24.0		19.9	16.5	
Level of Service		B			B			C		B	B	
Approach Delay (s/veh)		12.5			13.7			24.0			19.1	
Approach LOS		B			B			C			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		15.4			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.48										
Actuated Cycle Length (s)		55.7			Sum of lost time (s)			16.0				
Intersection Capacity Utilization		62.1%			ICU Level of Service			B				
Analysis Period (min)		15										

c Critical Lane Group

HCM 6th TWSC
21: Burkett Avenue & Main Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	19	420	14	13	581	12	9	2	6	5	2	13
Future Vol, veh/h	19	420	14	13	581	12	9	2	6	5	2	13
Conflicting Peds, #/hr	7	0	0	0	0	7	2	0	1	1	0	2
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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	442	15	14	612	13	9	2	6	5	2	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	632	0	0	457	0	0	827	1150	230	917	1151	322
Stage 1	-	-	-	-	-	-	490	490	-	654	654	-
Stage 2	-	-	-	-	-	-	337	660	-	263	497	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	947	-	-	1100	-	-	264	197	772	227	197	674
Stage 1	-	-	-	-	-	-	529	547	-	422	461	-
Stage 2	-	-	-	-	-	-	651	458	-	719	543	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	941	-	-	1100	-	-	246	186	771	213	186	668
Mov Cap-2 Maneuver	-	-	-	-	-	-	246	186	-	213	186	-
Stage 1	-	-	-	-	-	-	514	531	-	407	449	-
Stage 2	-	-	-	-	-	-	621	446	-	689	527	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.5			0.3			17.4			15.2		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	308	941	-	-	1100	-	-	373
HCM Lane V/C Ratio	0.058	0.021	-	-	0.012	-	-	0.056
HCM Control Delay (s/veh)	17.4	8.9	0.1	-	8.3	0.1	-	15.2
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.2	0.1	-	-	0	-	-	0.2

HCM 6th TWSC
22: Shasta Avenue & Main Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	2	426	5	4	597	5	9	1	5	2	0	2
Future Vol, veh/h	2	426	5	4	597	5	9	1	5	2	0	2
Conflicting Peds, #/hr	7	0	2	2	0	7	1	0	3	3	0	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	468	5	4	656	5	10	1	5	2	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	668	0	0	475	0	0	814	1153	242	916	1153	339
Stage 1	-	-	-	-	-	-	477	477	-	674	674	-
Stage 2	-	-	-	-	-	-	337	676	-	242	479	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	918	-	-	1083	-	-	270	196	759	227	196	657
Stage 1	-	-	-	-	-	-	538	554	-	410	452	-
Stage 2	-	-	-	-	-	-	651	451	-	740	553	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	912	-	-	1081	-	-	266	192	755	221	192	652
Mov Cap-2 Maneuver	-	-	-	-	-	-	266	192	-	221	192	-
Stage 1	-	-	-	-	-	-	535	551	-	406	446	-
Stage 2	-	-	-	-	-	-	644	445	-	729	550	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			0.1			16.6			16.1		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	328	912	-	-	1081	-	-	330
HCM Lane V/C Ratio	0.05	0.002	-	-	0.004	-	-	0.013
HCM Control Delay (s/veh)	16.6	9	0	-	8.3	0	-	16.1
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0

HCM 6th TWSC
23: David Avenue & Main Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	1	432	6	3	587	5	10	1	4	3	0	9
Future Vol, veh/h	1	432	6	3	587	5	10	1	4	3	0	9
Conflicting Peds, #/hr	3	0	3	3	0	3	3	0	1	1	0	3
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	470	7	3	638	5	11	1	4	3	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	646	0	0	480	0	0	807	1131	243	889	1132	328
Stage 1	-	-	-	-	-	-	479	479	-	650	650	-
Stage 2	-	-	-	-	-	-	328	652	-	239	482	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	935	-	-	1079	-	-	273	202	758	238	202	668
Stage 1	-	-	-	-	-	-	537	553	-	424	463	-
Stage 2	-	-	-	-	-	-	659	462	-	743	552	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	932	-	-	1076	-	-	266	200	755	234	200	664
Mov Cap-2 Maneuver	-	-	-	-	-	-	266	200	-	234	200	-
Stage 1	-	-	-	-	-	-	535	551	-	422	460	-
Stage 2	-	-	-	-	-	-	645	459	-	736	550	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0	17.1	13.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	313	932	-	-	1076	-	-	455
HCM Lane V/C Ratio	0.052	0.001	-	-	0.003	-	-	0.029
HCM Control Delay (s/veh)	17.1	8.9	0	-	8.4	0	-	13.1
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0.1

HCM 6th TWSC
24: Rendon Avenue & Main Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	11	411	12	8	572	9	11	3	3	13	1	18
Future Vol, veh/h	11	411	12	8	572	9	11	3	3	13	1	18
Conflicting Peds, #/hr	5	0	1	1	0	5	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	447	13	9	622	10	12	3	3	14	1	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	637	0	0	461	0	0	809	1134	231	899	1135	321
Stage 1	-	-	-	-	-	-	479	479	-	650	650	-
Stage 2	-	-	-	-	-	-	330	655	-	249	485	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	943	-	-	1096	-	-	272	201	771	234	201	675
Stage 1	-	-	-	-	-	-	537	553	-	424	463	-
Stage 2	-	-	-	-	-	-	657	461	-	733	550	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	939	-	-	1095	-	-	257	194	770	224	194	672
Mov Cap-2 Maneuver	-	-	-	-	-	-	257	194	-	224	194	-
Stage 1	-	-	-	-	-	-	527	543	-	415	455	-
Stage 2	-	-	-	-	-	-	628	453	-	713	540	-



















Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.3			0.2			19.1			16.2		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	273	939	-	-	1095	-	-	356
HCM Lane V/C Ratio	0.068	0.013	-	-	0.008	-	-	0.098
HCM Control Delay (s/veh)	19.1	8.9	0.1	-	8.3	0.1	-	16.2
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0.3

HCM 6th Signalized Intersection Summary

25: Golden Gate Avenue & Main Street

Existing Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	337	92	28	491	5	74	17	27	12	32	7
Future Volume (veh/h)	3	337	92	28	491	5	74	17	27	12	32	7
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		0.97	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	355	97	29	517	5	78	18	28	13	34	7
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	1106	298	50	1531	15	293	32	44	168	160	29
Arrive On Green	0.00	0.40	0.40	0.03	0.42	0.42	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1781	2766	746	1781	3605	35	938	253	347	282	1259	229
Grp Volume(v), veh/h	3	226	226	29	255	267	124	0	0	54	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1735	1781	1777	1863	1538	0	0	1770	0	0
Q Serve(g_s), s	0.1	3.0	3.0	0.5	3.2	3.2	1.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	3.0	3.0	0.5	3.2	3.2	2.5	0.0	0.0	0.9	0.0	0.0
Prop In Lane	1.00		0.43	1.00		0.02	0.63		0.23	0.24		0.13
Lane Grp Cap(c), veh/h	6	710	694	50	755	791	369	0	0	357	0	0
V/C Ratio(X)	0.51	0.32	0.33	0.58	0.34	0.34	0.34	0.00	0.00	0.15	0.00	0.00
Avail Cap(c_a), veh/h	1057	2530	2471	1057	2530	2653	1924	0	0	1638	0	0
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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.8	7.0	7.0	16.2	6.5	6.5	13.9	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	23.4	0.9	1.0	3.8	1.0	0.9	0.2	0.0	0.0	0.1	0.0	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	0.1	0.8	0.8	0.2	0.9	0.9	0.8	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.2	7.9	8.0	20.0	7.5	7.4	14.1	0.0	0.0	13.3	0.0	0.0
LnGrp LOS	D	A	A	C	A	A	B			B		
Approach Vol, veh/h	455			551			124			54		
Approach Delay, s/veh	8.1			8.1			14.1			13.3		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.0	18.5		9.3	5.1	19.3		9.3				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	20.0	48.0		40.0	20.0	48.0		30.0				
Max Q Clear Time (g_c+l1), s	2.5	5.0		4.5	2.1	5.2		2.9				
Green Ext Time (p_c), s	0.0	7.8		0.5	0.0	9.1		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				9.0								
HCM 6th LOS				A								

HCM 6th TWSC
26: Windsor Avenue & Main Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	2	351	15	13	515	3	8	1	5	6	3	13
Future Vol, veh/h	2	351	15	13	515	3	8	1	5	6	3	13
Conflicting Peds, #/hr	9	0	3	3	0	9	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	369	16	14	542	3	8	1	5	6	3	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	554	0	0	388	0	0	685	966	196	770	973	282
Stage 1	-	-	-	-	-	-	384	384	-	581	581	-
Stage 2	-	-	-	-	-	-	301	582	-	189	392	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1012	-	-	1167	-	-	334	253	812	290	251	715
Stage 1	-	-	-	-	-	-	611	610	-	467	498	-
Stage 2	-	-	-	-	-	-	683	497	-	795	605	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1003	-	-	1164	-	-	318	245	810	280	243	709
Mov Cap-2 Maneuver	-	-	-	-	-	-	318	245	-	280	243	-
Stage 1	-	-	-	-	-	-	607	606	-	461	485	-
Stage 2	-	-	-	-	-	-	654	484	-	786	601	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			0.3			14.5			14		
HCM LOS							B			B		



















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	395	1003	-	-	1164	-	-	422
HCM Lane V/C Ratio	0.037	0.002	-	-	0.012	-	-	0.055
HCM Control Delay (s/veh)	14.5	8.6	0	-	8.1	0.1	-	14
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0	-	-	0	-	-	0.2

HCM Signalized Intersection Capacity Analysis

27: Netherton Avenue & Main Street

Existing Conditions

Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	333	4	29	466	3	11	7	52	19	18	61
Future Volume (vph)	4	333	4	29	466	3	11	7	52	19	18	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99			0.98			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Frt	1.00	0.99		1.00	0.99			0.90			0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3533		1770	3535			1643			1676	
Flt Permitted	0.95	1.00		0.95	1.00			0.92			0.91	
Satd. Flow (perm)	1770	3533		1770	3535			1531			1544	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	4	366	4	32	512	3	12	8	57	21	20	67
RTOR Reduction (vph)	0	1	0	0	1	0	0	47	0	0	56	0
Lane Group Flow (vph)	4	369	0	32	514	0	0	30	0	0	52	0
Confl. Peds. (#/hr)			2			10	1		11	11		1
Confl. Bikes (#/hr)						2						
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	0.5	16.3		0.7	16.5			6.6			6.6	
Effective Green, g (s)	0.5	16.3		0.7	16.5			6.6			6.6	
Actuated g/C Ratio	0.01	0.42		0.02	0.43			0.17			0.17	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	2.0	6.0		2.0	6.0			2.0			2.0	
Lane Grp Cap (vph)	22	1491		32	1511			261			264	
v/s Ratio Prot	0.00	0.10		c0.02	c0.15							
v/s Ratio Perm								0.02			c0.03	
v/c Ratio	0.18	0.24		1.00	0.34			0.11			0.19	
Uniform Delay, d1	18.8	7.1		18.9	7.4			13.5			13.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.4	0.2		159.0	0.3			0.0			0.1	
Delay (s)	20.2	7.4		178.0	7.7			13.5			13.8	
Level of Service	C	A		F	A			B			B	
Approach Delay (s/veh)		7.5			17.7			13.5			13.8	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			13.6			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.32									
Actuated Cycle Length (s)			38.6			Sum of lost time (s)			15.0			
Intersection Capacity Utilization			40.5%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th TWSC
28: Broadway Avenue & Main Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↗	↗↗			↔			↔	
Traffic Vol, veh/h	105	288	5	12	432	51	3	3	6	24	5	49
Future Vol, veh/h	105	288	5	12	432	51	3	3	6	24	5	49
Conflicting Peds, #/hr	13	0	4	4	0	13	0	0	13	13	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	119	327	6	14	491	58	3	3	7	27	6	56

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	562	0	0	337	0	0	849	1162	184	977	1136	288
Stage 1	-	-	-	-	-	-	572	572	-	561	561	-
Stage 2	-	-	-	-	-	-	277	590	-	416	575	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1005	-	-	1219	-	-	254	194	827	205	201	709
Stage 1	-	-	-	-	-	-	472	502	-	480	508	-
Stage 2	-	-	-	-	-	-	706	493	-	585	501	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	993	-	-	1214	-	-	200	161	814	172	167	700
Mov Cap-2 Maneuver	-	-	-	-	-	-	200	161	-	172	167	-
Stage 1	-	-	-	-	-	-	401	427	-	404	496	-
Stage 2	-	-	-	-	-	-	635	481	-	485	426	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	2.7			0.2			17.9			20.1		
HCM LOS							C			C		













Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	293	993	-	-	1214	-	-	326
HCM Lane V/C Ratio	0.047	0.12	-	-	0.011	-	-	0.272
HCM Control Delay (s/veh)	17.9	9.1	0.4	-	8	-	-	20.1
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q (veh)	0.1	0.4	-	-	0	-	-	1.1

HCM Signalized Intersection Capacity Analysis

29: S Center Street & Market Street

Existing Conditions

Timing Plan: AM PEAK















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑									↑↑↑	
Traffic Volume (vph)	0	55	44	0	0	0	0	0	0	166	1169	0
Future Volume (vph)	0	55	44	0	0	0	0	0	0	166	1169	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0									5.0	
Lane Util. Factor		0.95									0.91	
Frpb, ped/bikes		0.99									1.00	
Flpb, ped/bikes		1.00									0.99	
Frt		0.93									1.00	
Flt Protected		1.00									0.99	
Satd. Flow (prot)		3284									5050	
Flt Permitted		1.00									0.99	
Satd. Flow (perm)		3284									5050	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	62	49	0	0	0	0	0	0	187	1313	0
RTOR Reduction (vph)	0	36	0	0	0	0	0	0	0	0	22	0
Lane Group Flow (vph)	0	75	0	0	0	0	0	0	0	0	1478	0
Confl. Peds. (#/hr)			2							6		
Turn Type		NA								Perm	NA	
Protected Phases		2									1	
Permitted Phases										1		
Actuated Green, G (s)		23.0									52.0	
Effective Green, g (s)		23.0									52.0	
Actuated g/C Ratio		0.27									0.61	
Clearance Time (s)		5.0									5.0	
Vehicle Extension (s)		0.2									0.2	
Lane Grp Cap (vph)		888									3089	
v/s Ratio Prot		0.02										
v/s Ratio Perm											0.29	
v/c Ratio		0.08									0.47	
Uniform Delay, d1		23.1									9.0	
Progression Factor		1.00									1.00	
Incremental Delay, d2		0.1									0.5	
Delay (s)		23.3									9.5	
Level of Service		C									A	
Approach Delay (s/veh)		23.3			0.0			0.0			9.5	
Approach LOS		C			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			10.5									
HCM 2000 Volume to Capacity ratio			0.36									
Actuated Cycle Length (s)			85.0							10.0		
Intersection Capacity Utilization			53.5%								A	
ICU Level of Service												
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

30: S El Dorado Street & Market Street

Existing Conditions

Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	107	0	0	0	0	0	1598	100	0	0	0
Future Volume (vph)	96	107	0	0	0	0	0	1598	100	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0				
Lane Util. Factor		0.95						0.86				
Frpb, ped/bikes		1.00						0.99				
Flpb, ped/bikes		0.99						1.00				
Frt		1.00						0.99				
Flt Protected		0.97						1.00				
Satd. Flow (prot)		3440						6342				
Flt Permitted		0.97						1.00				
Satd. Flow (perm)		3440						6342				
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)	112	124	0	0	0	0	0	1858	116	0	0	0
RTOR Reduction (vph)	0	19	0	0	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	217	0	0	0	0	0	1963	0	0	0	0
Confl. Peds. (#/hr)	9								11			
Turn Type	Perm	NA						NA				
Protected Phases		2						1				
Permitted Phases	2											
Actuated Green, G (s)		22.0						53.0				
Effective Green, g (s)		22.0						53.0				
Actuated g/C Ratio		0.26						0.62				
Clearance Time (s)		5.0						5.0				
Vehicle Extension (s)		0.2						0.2				
Lane Grp Cap (vph)		890						3954				
v/s Ratio Prot								c0.31				
v/s Ratio Perm		0.06										
v/c Ratio		0.24						0.49				
Uniform Delay, d1		24.9						8.7				
Progression Factor		0.95						1.00				
Incremental Delay, d2		0.6						0.4				
Delay (s)		24.3						9.1				
Level of Service		C						A				
Approach Delay (s/veh)		24.3			0.0			9.1			0.0	
Approach LOS		C			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		10.8						HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio		0.42										
Actuated Cycle Length (s)		85.0						Sum of lost time (s)		10.0		
Intersection Capacity Utilization		39.0%						ICU Level of Service		A		
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th AWSC
31: S Hunter Street & Market Street

Existing Conditions
Timing Plan: AM PEAK

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	0	133	66	0	0	0	0	0	29	62	84	0
Future Vol, veh/h	0	133	66	0	0	0	0	0	29	62	84	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	182	90	0	0	0	0	0	40	85	115	0
Number of Lanes	0	2	0	0	0	0	0	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay, s/veh	8.8	8.1	9.2
HCM LOS	A	A	A
















Lane	NBLn1	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	100%	0%
Vol Thru, %	0%	100%	40%	0%	100%
Vol Right, %	100%	0%	60%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	89	110	62	84
LT Vol	0	0	0	62	0
Through Vol	0	89	44	0	84
RT Vol	29	0	66	0	0
Lane Flow Rate	40	121	151	85	115
Geometry Grp	4b	5	5	5	5
Degree of Util (X)	0.053	0.174	0.199	0.135	0.167
Departure Headway (Hd)	4.83	5.159	4.739	5.733	5.23
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	740	696	757	625	686
Service Time	2.871	2.885	2.465	3.467	2.964
HCM Lane V/C Ratio	0.054	0.174	0.199	0.136	0.168
HCM Control Delay, s/veh	8.1	9	8.6	9.4	9
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.2	0.6	0.7	0.5	0.6

HCM Signalized Intersection Capacity Analysis

32: S San Joaquin Street & Market Street

Existing Conditions

Timing Plan: AM PEAK


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	114	36	0	0	0	0	170	39	25	99	0
Future Volume (vph)	66	114	36	0	0	0	0	170	39	25	99	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		0.95						0.95			0.95	
Frpb, ped/bikes		0.98						0.97			1.00	
Flpb, ped/bikes		0.99						1.00			0.98	
Frt		0.97						0.97			1.00	
Flt Protected		0.98						1.00			0.99	
Satd. Flow (prot)		3342						3351			3441	
Flt Permitted		0.98						1.00			0.87	
Satd. Flow (perm)		3342						3351			3042	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	82	142	45	0	0	0	0	212	49	31	124	0
RTOR Reduction (vph)	0	24	0	0	0	0	0	24	0	0	0	0
Lane Group Flow (vph)	0	247	0	0	0	0	0	238	0	0	155	0
Confl. Peds. (#/hr)	23		61						111	111		
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						1			1	
Permitted Phases	2									1		
Actuated Green, G (s)		24.0						36.0			36.0	
Effective Green, g (s)		24.0						36.0			36.0	
Actuated g/C Ratio		0.34						0.51			0.51	
Clearance Time (s)		5.0						5.0			5.0	
Vehicle Extension (s)		0.2						0.2			0.2	
Lane Grp Cap (vph)		1145						1723			1564	
v/s Ratio Prot								c0.07				
v/s Ratio Perm		0.07									0.05	
v/c Ratio		0.21						0.13			0.09	
Uniform Delay, d1		16.3						8.8			8.7	
Progression Factor		1.00						1.00			0.42	
Incremental Delay, d2		0.4						0.1			0.1	
Delay (s)		16.7						9.0			3.8	
Level of Service		B						A			A	
Approach Delay (s/veh)		16.7			0.0			9.0			3.8	
Approach LOS		B			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			10.9									
HCM 2000 Level of Service											B	
HCM 2000 Volume to Capacity ratio			0.17									
Actuated Cycle Length (s)			70.0								10.0	
Intersection Capacity Utilization			49.3%								A	
ICU Level of Service												
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

33: S Sutter Street & Market Street

Existing Conditions

Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔↔						↑	↗		↖↖	
Traffic Volume (vph)	22	81	80	0	0	0	0	102	16	4	95	0
Future Volume (vph)	22	81	80	0	0	0	0	102	16	4	95	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0	5.0		5.0	
Lane Util. Factor		0.95						1.00	1.00		0.95	
Frpb, ped/bikes		0.92						1.00	0.89		1.00	
Flpb, ped/bikes		0.99						1.00	1.00		0.99	
Frt		0.93						1.00	0.85		1.00	
Flt Protected		0.99						1.00	1.00		0.99	
Satd. Flow (prot)		3013						1863	1420		3522	
Flt Permitted		0.99						1.00	1.00		0.94	
Satd. Flow (perm)		3013						1863	1420		3346	
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)	29	108	107	0	0	0	0	136	21	5	127	0
RTOR Reduction (vph)	0	61	0	0	0	0	0	0	12	0	0	0
Lane Group Flow (vph)	0	183	0	0	0	0	0	136	9	0	132	0
Confl. Peds. (#/hr)	24		154						70	70		
Confl. Bikes (#/hr)			1						2			
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1								2	2		
Actuated Green, G (s)		30.0						30.0	30.0		30.0	
Effective Green, g (s)		30.0						30.0	30.0		30.0	
Actuated g/C Ratio		0.43						0.43	0.43		0.43	
Clearance Time (s)		5.0						5.0	5.0		5.0	
Vehicle Extension (s)		0.2						0.2	0.2		0.2	
Lane Grp Cap (vph)		1291						798	608		1434	
v/s Ratio Prot								c0.07				
v/s Ratio Perm		0.06							0.01		0.04	
v/c Ratio		0.14						0.17	0.01		0.09	
Uniform Delay, d1		12.1						12.3	11.5		11.8	
Progression Factor		1.90						1.00	1.00		0.28	
Incremental Delay, d2		0.2						0.4	0.0		0.1	
Delay (s)		23.3						12.7	11.5		3.4	
Level of Service		C						B	B		A	
Approach Delay (s/veh)		23.3			0.0			12.6			3.4	
Approach LOS		C			A			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		15.3										
HCM 2000 Volume to Capacity ratio		0.16										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		45.0%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Signalized Intersection Summary 34: California Street & Market Street

Existing Conditions
Timing Plan: AM PEAK


















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑						↑↑			↑↑	
Traffic Volume (veh/h)	16	70	14	0	0	0	0	268	74	34	214	0
Future Volume (veh/h)	16	70	14	0	0	0	0	268	74	34	214	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	21	92	18				0	353	97	45	282	0
Peak Hour Factor	0.76	0.76	0.76				0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	152	689	139				0	1617	438	267	1640	0
Arrive On Green	0.27	0.27	0.27				0.00	0.59	0.59	1.00	1.00	0.00
Sat Flow, veh/h	561	2539	514				0	2855	748	345	2885	0
Grp Volume(v), veh/h	69	0	62				0	225	225	167	160	0
Grp Sat Flow(s),veh/h/ln	1842	0	1772				0	1777	1733	1528	1617	0
Q Serve(g_s), s	2.0	0.0	1.9				0.0	4.2	4.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.0	1.9				0.0	4.2	4.3	0.0	0.0	0.0
Prop In Lane	0.30		0.29				0.00		0.43	0.27		0.00
Lane Grp Cap(c), veh/h	500	0	481				0	1041	1015	960	947	0
V/C Ratio(X)	0.14	0.00	0.13				0.00	0.22	0.22	0.17	0.17	0.00
Avail Cap(c_a), veh/h	500	0	481				0	1041	1015	960	947	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	0.99	0.00	0.99				0.00	1.00	1.00	0.97	0.97	0.00
Uniform Delay (d), s/veh	19.3	0.0	19.3				0.0	6.9	6.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.5				0.0	0.5	0.5	0.4	0.4	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
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.8				0.0	1.5	1.5	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.9	0.0	19.8				0.0	7.4	7.4	0.4	0.4	0.0
LnGrp LOS	B		B					A	A	A	A	
Approach Vol, veh/h		131						450			327	
Approach Delay, s/veh		19.8						7.4			0.4	
Approach LOS		B						A			A	
Timer - Assigned Phs		2		4			6					
Phs Duration (G+Y+Rc), s		46.0		24.0			46.0					
Change Period (Y+Rc), s		5.0		5.0			5.0					
Max Green Setting (Gmax), s		41.0		19.0			41.0					
Max Q Clear Time (g_c+I1), s		6.3		4.0			2.0					
Green Ext Time (p_c), s		0.5		0.1			0.4					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			6.7									
HCM 6th LOS			A									

HCM Signalized Intersection Capacity Analysis

35: S American Street & Market Street

Existing Conditions
Timing Plan: AM PEAK
















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	141	0	0	0	0	0	0	0	108	0	0
Future Volume (vph)	30	141	0	0	0	0	0	0	0	108	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0									5.0	
Lane Util. Factor		0.95									1.00	
Frpb, ped/bikes		1.00									1.00	
Flpb, ped/bikes		0.99									0.99	
Frt		1.00									1.00	
Flt Protected		0.99									0.95	
Satd. Flow (prot)		3496									1765	
Flt Permitted		0.99									0.75	
Satd. Flow (perm)		3496									1407	
Peak-hour factor, PHF	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Adj. Flow (vph)	56	261	0	0	0	0	0	0	0	200	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	317	0	0	0	0	0	0	0	0	200	0
Confl. Peds. (#/hr)	10		2							2	2	
Confl. Bikes (#/hr)			1									
Turn Type	Perm	NA								Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		40.0									20.0	
Effective Green, g (s)		40.0									20.0	
Actuated g/C Ratio		0.57									0.29	
Clearance Time (s)		5.0									5.0	
Vehicle Extension (s)		0.2									0.2	
Lane Grp Cap (vph)		1997									402	
v/s Ratio Prot												
v/s Ratio Perm		0.09									c0.14	
v/c Ratio		0.15									0.49	
Uniform Delay, d1		7.0									20.8	
Progression Factor		0.88									0.64	
Incremental Delay, d2		0.1									3.7	
Delay (s)		6.4									17.3	
Level of Service		A									B	
Approach Delay (s/veh)		6.4			0.0			0.0			17.3	
Approach LOS		A			A			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		10.6										
HCM 2000 Volume to Capacity ratio		0.27										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		36.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

36: S Stanislaus Street & Market Street

Existing Conditions

Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	94	108	0	0	0	0	512	52	9	215	0
Future Volume (vph)	51	94	108	0	0	0	0	512	52	9	215	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		0.95						0.95			0.95	
Frpb, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		0.99						1.00			0.99	
Frt		0.93						0.98			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		3246						3486			3532	
Flt Permitted		0.99						1.00			0.92	
Satd. Flow (perm)		3246						3486			3256	
Peak-hour factor, PHF	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Adj. Flow (vph)	71	131	150	0	0	0	0	711	72	12	299	0
RTOR Reduction (vph)	0	96	0	0	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	256	0	0	0	0	0	772	0	0	312	0
Confl. Peds. (#/hr)	13		4						2	2		
Confl. Bikes (#/hr)			1									
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		25.0						35.0			35.0	
Effective Green, g (s)		25.0						35.0			35.0	
Actuated g/C Ratio		0.36						0.50			0.50	
Clearance Time (s)		5.0						5.0			5.0	
Vehicle Extension (s)		0.2						0.2			0.2	
Lane Grp Cap (vph)		1159						1743			1628	
v/s Ratio Prot								c0.22				
v/s Ratio Perm		0.08									0.10	
v/c Ratio		0.22						0.44			0.19	
Uniform Delay, d1		15.7						11.2			9.6	
Progression Factor		0.96						1.00			0.70	
Incremental Delay, d2		0.4						0.8			0.2	
Delay (s)		15.5						12.0			7.0	
Level of Service		B						B			A	
Approach Delay (s/veh)		15.5			0.0			12.0			7.0	
Approach LOS		B			A			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		11.8										
HCM 2000 Volume to Capacity ratio		0.35										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		39.2%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th TWSC
37: S Grant Street & Market Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		TT						T			T	
Traffic Vol, veh/h	52	102	0	0	0	0	0	8	0	9	5	0
Future Vol, veh/h	52	102	0	0	0	0	0	8	0	9	5	0
Conflicting Peds, #/hr	10	0	0	0	0	0	0	0	4	4	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	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	146	0	0	0	0	0	11	0	13	7	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	10	0	0	-	304	77	241	304	-
Stage 1	-	-	-	-	294	-	10	10	-
Stage 2	-	-	-	-	10	-	231	294	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1608	-	-	0	608	968	693	608	0
Stage 1	-	-	-	0	668	-	-	-	0
Stage 2	-	-	-	0	-	-	751	668	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1593	-	-	-	572	968	649	572	-
Mov Cap-2 Maneuver	-	-	-	-	572	-	649	572	-
Stage 1	-	-	-	-	634	-	-	-	-
Stage 2	-	-	-	-	-	-	700	634	-

Approach	EB	NB	SB
HCM Control Delay, s/v	2.6	11.4	11
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	572	1593	-	-	619
HCM Lane V/C Ratio	0.02	0.047	-	-	0.032
HCM Control Delay (s/veh)	11.4	7.4	0.1	-	11
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0.1	-	-	0.1

HCM 6th TWSC
38: S Aurora Street & Market Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	6.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		TT						T			T	
Traffic Vol, veh/h	9	88	15	0	0	0	0	102	9	4	36	0
Future Vol, veh/h	9	88	15	0	0	0	0	102	9	4	36	0
Conflicting Peds, #/hr	2	0	1	0	0	0	0	0	2	2	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	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	113	19	0	0	0	0	131	12	5	46	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	2	0	0	-	150	69	150	159	-
Stage 1	-	-	-	-	148	-	2	2	-
Stage 2	-	-	-	-	2	-	148	157	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1619	-	-	0	741	980	803	732	0
Stage 1	-	-	-	0	774	-	-	-	0
Stage 2	-	-	-	0	-	-	840	767	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1616	-	-	-	733	979	679	724	-
Mov Cap-2 Maneuver	-	-	-	-	733	-	679	724	-
Stage 1	-	-	-	-	767	-	-	-	-
Stage 2	-	-	-	-	-	-	683	760	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.6	10.9	10.4
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	748	1616	-	-	719
HCM Lane V/C Ratio	0.19	0.007	-	-	0.071
HCM Control Delay (s/veh)	10.9	7.2	0	-	10.4
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.7	0	-	-	0.2

HCM 6th TWSC
39: Union Street & Market Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EB						EB			EB	
Traffic Vol, veh/h	8	80	5	0	0	0	0	90	8	15	39	0
Future Vol, veh/h	8	80	5	0	0	0	0	90	8	15	39	0
Conflicting Peds, #/hr	1	0	1	0	0	0	0	0	1	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	88	5	0	0	0	0	99	9	16	43	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	1	0	0	-	111	49	114	113	-
Stage 1	-	-	-	-	110	-	1	1	-
Stage 2	-	-	-	-	1	-	113	112	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1620	-	-	0	778	1009	851	776	0
Stage 1	-	-	-	0	803	-	-	-	0
Stage 2	-	-	-	0	-	-	880	802	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1618	-	-	-	772	1008	757	770	-
Mov Cap-2 Maneuver	-	-	-	-	772	-	757	770	-
Stage 1	-	-	-	-	797	-	-	-	-
Stage 2	-	-	-	-	-	-	759	796	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.6	10.3	10.1
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	787	1618	-	-	766
HCM Lane V/C Ratio	0.137	0.005	-	-	0.077
HCM Control Delay (s/veh)	10.3	7.2	0	-	10.1
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.5	0	-	-	0.3

HCM 6th TWSC
40: Pilgrim Street & Market Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EB						EB			EB	
Traffic Vol, veh/h	6	100	2	0	0	0	0	8	9	13	4	0
Future Vol, veh/h	6	100	2	0	0	0	0	8	9	13	4	0
Conflicting Peds, #/hr	3	0	1	0	0	0	0	0	9	9	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	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	149	3	0	0	0	0	12	13	19	6	0


Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	3	0	0	-	173	86	111	174	-
Stage 1	-	-	-	-	170	-	3	3	-
Stage 2	-	-	-	-	3	-	108	171	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1618	-	-	0	719	956	855	718	0
Stage 1	-	-	-	0	757	-	-	-	0
Stage 2	-	-	-	0	-	-	886	756	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1613	-	-	-	712	955	826	711	-
Mov Cap-2 Maneuver	-	-	-	-	712	-	826	711	-
Stage 1	-	-	-	-	752	-	-	-	-
Stage 2	-	-	-	-	-	-	855	751	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.4	9.5	9.7
HCM LOS	A	A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	823	1613	-	-	796
HCM Lane V/C Ratio	0.031	0.006	-	-	0.032
HCM Control Delay (s/veh)	9.5	7.2	0	-	9.7
HCM Lane LOS	A	A	A	-	A
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1

HCM 6th Signalized Intersection Summary 41: Airport Way & Market Street

Existing Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔						↔↔			↔↔	
Traffic Volume (veh/h)	26	76	19	0	0	0	0	815	39	77	591	0
Future Volume (veh/h)	26	76	19	0	0	0	0	815	39	77	591	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	29	84	21				0	906	43	86	657	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	58	172	44				0	2805	133	283	2089	0
Arrive On Green	0.08	0.08	0.08				0.00	0.81	0.81	1.00	1.00	0.00
Sat Flow, veh/h	752	2240	575				0	3547	164	287	2656	0
Grp Volume(v), veh/h	71	0	63				0	466	483	329	414	0
Grp Sat Flow(s),veh/h/ln	1833	0	1735				0	1777	1841	1241	1617	0
Q Serve(g_s), s	3.3	0.0	3.2				0.0	6.0	6.0	0.2	0.0	0.0
Cycle Q Clear(g_c), s	3.3	0.0	3.2				0.0	6.0	6.0	6.2	0.0	0.0
Prop In Lane	0.41		0.33				0.00		0.09	0.26		0.00
Lane Grp Cap(c), veh/h	140	0	133				0	1443	1495	1058	1313	0
V/C Ratio(X)	0.50	0.00	0.48				0.00	0.32	0.32	0.31	0.32	0.00
Avail Cap(c_a), veh/h	448	0	424				0	1443	1495	1058	1313	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.96	0.96	0.00
Uniform Delay (d), s/veh	39.9	0.0	39.8				0.0	2.1	2.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	1.0				0.0	0.6	0.6	0.7	0.6	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
%ile BackOfQ(50%),veh/ln	1.5	0.0	1.4				0.0	1.2	1.3	0.2	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.9	0.0	40.8				0.0	2.7	2.7	0.7	0.6	0.0
LnGrp LOS	D		D					A	A	A	A	
Approach Vol, veh/h		134						949			743	
Approach Delay, s/veh		40.9						2.7			0.7	
Approach LOS		D						A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		78.1				78.1		11.9				
Change Period (Y+Rc), s		5.0				5.0		5.0				
Max Green Setting (Gmax), s		58.0				58.0		22.0				
Max Q Clear Time (g_c+I1), s		8.2				8.0		5.3				
Green Ext Time (p_c), s		1.0				0.9		0.1				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			4.7									
HCM 6th LOS			A									

HCM 6th TWSC
42: Sierra Nevada Street & Market Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		TT						T			T	
Traffic Vol, veh/h	14	178	2	0	0	0	0	15	15	24	7	0
Future Vol, veh/h	14	178	2	0	0	0	0	15	15	24	7	0
Conflicting Peds, #/hr	2	0	2	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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	200	2	0	0	0	0	17	17	27	8	0


Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	2	0	0	-	237	103	143	238	-
Stage 1	-	-	-	-	235	-	2	2	-
Stage 2	-	-	-	-	2	-	141	236	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1619	-	-	0	663	932	812	662	0
Stage 1	-	-	-	0	709	-	-	-	0
Stage 2	-	-	-	0	-	-	847	708	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1616	-	-	-	653	930	774	652	-
Mov Cap-2 Maneuver	-	-	-	-	653	-	774	652	-
Stage 1	-	-	-	-	700	-	-	-	-
Stage 2	-	-	-	-	-	-	803	699	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.5	9.9	10.1
HCM LOS		A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	767	1616	-	-	743
HCM Lane V/C Ratio	0.044	0.01	-	-	0.047
HCM Control Delay (s/veh)	9.9	7.3	0	-	10.1
HCM Lane LOS	A	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1

HCM 6th Signalized Intersection Summary 43: S Wilson Way & Market Street

Existing Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔						↔↔		↔	↔↔	
Traffic Volume (veh/h)	15	140	50	0	0	0	0	686	63	118	623	0
Future Volume (veh/h)	15	140	50	0	0	0	0	686	63	118	623	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	16	149	53				0	730	67	126	663	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	24	229	84				0	2141	196	157	2822	0
Arrive On Green	0.03	0.03	0.03				0.00	0.65	0.65	0.12	1.00	0.00
Sat Flow, veh/h	256	2420	886				0	3384	302	1781	3647	0
Grp Volume(v), veh/h	116	0	102				0	394	403	126	663	0
Grp Sat Flow(s),veh/h/ln	1858	0	1704				0	1777	1815	1781	1777	0
Q Serve(g_s), s	5.6	0.0	5.3				0.0	9.0	9.0	6.2	0.0	0.0
Cycle Q Clear(g_c), s	5.6	0.0	5.3				0.0	9.0	9.0	6.2	0.0	0.0
Prop In Lane	0.14		0.52				0.00		0.17	1.00		0.00
Lane Grp Cap(c), veh/h	176	0	161				0	1156	1181	157	2822	0
V/C Ratio(X)	0.66	0.00	0.63				0.00	0.34	0.34	0.80	0.23	0.00
Avail Cap(c_a), veh/h	433	0	398				0	1156	1181	257	2822	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.98	0.98	0.00
Uniform Delay (d), s/veh	42.2	0.0	42.0				0.0	7.1	7.1	39.0	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	1.5				0.0	0.8	0.8	3.6	0.2	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
%ile BackOfQ(50%),veh/ln	2.7	0.0	2.4				0.0	3.3	3.4	2.8	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.7	0.0	43.6				0.0	7.9	7.8	42.6	0.2	0.0
LnGrp LOS	D		D					A	A	D	A	
Approach Vol, veh/h		218						797			789	
Approach Delay, s/veh		43.7						7.9			7.0	
Approach LOS		D						A			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	12.9	63.6				76.5		13.5				
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0				
Max Green Setting (Gmax), s	13.0	41.0				59.0		21.0				
Max Q Clear Time (g_c+I1), s	8.2	11.0				2.0		7.6				
Green Ext Time (p_c), s	0.1	14.0				15.0		0.7				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			11.8									
HCM 6th LOS			B									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 6th TWSC
44: S Eugenia Street & Market Street

Existing Conditions
Timing Plan: AM PEAK

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Traffic Vol, veh/h	304	16	0	0	0	37
Future Vol, veh/h	304	16	0	0	0	37
Conflicting Peds, #/hr	0	2	0	0	0	1
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, %	2	2	2	2	2	2
Mvmt Flow	330	17	0	0	0	40

Major/Minor	Major1		Minor1	
Conflicting Flow All	0	0	-	177
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	835
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-		
Mov Cap-1 Maneuver	-	-	-	833
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s/v	0	9.5
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	833	-	-
HCM Lane V/C Ratio	0.048	-	-
HCM Control Delay (s/veh)	9.5	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q (veh)	0.2	-	-

HCM 6th TWSC
45: Della Street & Market Street

Existing Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EB						EB			EB	
Traffic Vol, veh/h	54	256	12	0	0	0	0	3	2	5	54	0
Future Vol, veh/h	54	256	12	0	0	0	0	3	2	5	54	0
Conflicting Peds, #/hr	0	0	4	0	0	0	0	0	2	2	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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	288	13	0	0	0	0	3	2	6	61	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	0	-	421	157	270	427	-
Stage 1	-	-	-	-	421	-	0	0	-
Stage 2	-	-	-	-	0	-	270	427	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	-	-	-	0	522	861	661	518	0
Stage 1	-	-	-	0	587	-	-	-	0
Stage 2	-	-	-	0	-	-	713	584	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	520	858	656	516	-
Mov Cap-2 Maneuver	-	-	-	-	520	-	656	516	-
Stage 1	-	-	-	-	585	-	-	-	-
Stage 2	-	-	-	-	-	-	707	582	-

Approach	EB	NB	SB
HCM Control Delay, s/v		10.9	12.8
HCM LOS		B	B


Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	617	-	-	-	526
HCM Lane V/C Ratio	0.009	-	-	-	0.126
HCM Control Delay (s/veh)	10.9	-	-	-	12.8
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q (veh)	0	-	-	-	0.4

HCM Signalized Intersection Capacity Analysis

2: S San Joaquin Street/N San Joaquin Street & Main Street

Existing Conditions

Timing Plan: PM Peak


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔↔			↔↔			↔↔	
Traffic Volume (vph)	0	0	0	23	13	38	7	121	0	0	128	18
Future Volume (vph)	0	0	0	23	13	38	7	121	0	0	128	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			0.95			0.95	
Frpb, ped/bikes					0.97			1.00			0.99	
Flpb, ped/bikes					0.97			0.99			1.00	
Frt					0.92			1.00			0.98	
Flt Protected					0.98			0.99			1.00	
Satd. Flow (prot)					3055			3526			3461	
Flt Permitted					0.98			0.94			1.00	
Satd. Flow (perm)					3055			3332			3461	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	0	0	26	15	43	8	138	0	0	145	20
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	84	0	0	146	0	0	165	0
Confl. Peds. (#/hr)				16		10	28					28
Confl. Bikes (#/hr)						1						1
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					4.8			29.2			29.2	
Effective Green, g (s)					4.8			29.2			29.2	
Actuated g/C Ratio					0.07			0.42			0.42	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					209			1389			1443	
v/s Ratio Prot											c0.05	
v/s Ratio Perm					0.03			0.04				
v/c Ratio					0.40			0.10			0.11	
Uniform Delay, d1					31.2			12.4			12.4	
Progression Factor					1.01			0.72			1.00	
Incremental Delay, d2					0.4			0.1			0.1	
Delay (s)					32.1			9.1			12.6	
Level of Service					C			A			B	
Approach Delay (s/veh)		0.0			32.1			9.1			12.6	
Approach LOS		A			C			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			15.5									
HCM 2000 Volume to Capacity ratio			0.09									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			20.2%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: S Sutter Street/N Sutter Street & Main Street

Existing Conditions

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					←↑↑			↖			↑↑	
Traffic Volume (vph)	0	0	0	23	28	12	13	134	0	0	85	23
Future Volume (vph)	0	0	0	23	28	12	13	134	0	0	85	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			1.00			0.95	
Frpb, ped/bikes					0.99			1.00			0.98	
Flpb, ped/bikes					0.98			0.99			1.00	
Frt					0.97			1.00			0.96	
Flt Protected					0.98			0.99			1.00	
Satd. Flow (prot)					3302			1847			3377	
Flt Permitted					0.98			0.97			1.00	
Satd. Flow (perm)					3302			1800			3377	
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	0	0	0	29	35	15	16	170	0	0	108	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	79	0	0	186	0	0	137	0
Confl. Peds. (#/hr)				24		14	52					52
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			4			4	
Permitted Phases				2			4					
Actuated Green, G (s)					15.0			19.0			19.0	
Effective Green, g (s)					15.0			19.0			19.0	
Actuated g/C Ratio					0.21			0.27			0.27	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					707			488			916	
v/s Ratio Prot											0.04	
v/s Ratio Perm					0.02			c0.10				
v/c Ratio					0.11			0.38			0.14	
Uniform Delay, d1					22.1			20.7			19.3	
Progression Factor					0.65			0.68			1.00	
Incremental Delay, d2					0.3			2.2			0.3	
Delay (s)					14.8			16.4			19.7	
Level of Service					B			B			B	
Approach Delay (s/veh)		0.0			14.8			16.4			19.7	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			17.3									
HCM 2000 Volume to Capacity ratio			0.16									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			26.1%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: California Street & Main Street

Existing Conditions

Timing Plan: PM Peak


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔↔↔			↔↔			↔↔	
Traffic Volume (vph)	0	0	0	27	42	24	9	216	0	0	249	8
Future Volume (vph)	0	0	0	27	42	24	9	216	0	0	249	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			0.95			0.95	
Frpb, ped/bikes					0.99			1.00			0.99	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.96			1.00			0.99	
Flt Protected					0.98			0.99			1.00	
Satd. Flow (prot)					3328			3531			3521	
Flt Permitted					0.98			0.93			1.00	
Satd. Flow (perm)					3328			3321			3521	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	31	48	28	10	248	0	0	286	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	107	0	0	258	0	0	295	0
Confl. Peds. (#/hr)				2		9	9					9
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					15.0			19.0			19.0	
Effective Green, g (s)					15.0			19.0			19.0	
Actuated g/C Ratio					0.21			0.27			0.27	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					713			901			955	
v/s Ratio Prot											c0.08	
v/s Ratio Perm					0.03			0.08				
v/c Ratio					0.15			0.28			0.30	
Uniform Delay, d1					22.3			20.1			20.2	
Progression Factor					1.74			0.83			1.00	
Incremental Delay, d2					0.4			0.7			0.8	
Delay (s)					39.4			17.5			21.1	
Level of Service					D			B			C	
Approach Delay (s/veh)		0.0			39.4			17.5			21.1	
Approach LOS		A			D			B			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			22.7									
HCM 2000 Volume to Capacity ratio			0.14									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			24.2%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: S American Street/N American Street & Main Street

Existing Conditions

Timing Plan: PM Peak


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔↔			↔			↑	↗
Traffic Volume (vph)	0	0	0	22	73	19	3	24	0	0	12	15
Future Volume (vph)	0	0	0	22	73	19	3	24	0	0	12	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	5.0
Lane Util. Factor					0.95			1.00			1.00	1.00
Frpb, ped/bikes					0.99			1.00			1.00	0.98
Flpb, ped/bikes					0.99			0.99			1.00	1.00
Frt					0.97			1.00			1.00	0.85
Flt Protected					0.99			0.99			1.00	1.00
Satd. Flow (prot)					3375			1851			1863	1561
Flt Permitted					0.99			0.98			1.00	1.00
Satd. Flow (perm)					3375			1829			1863	1561
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	0	0	26	86	22	4	28	0	0	14	18
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	134	0	0	32	0	0	14	18
Confl. Peds. (#/hr)				15		5	2					2
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			4			4	
Permitted Phases				2			4					4
Actuated Green, G (s)					11.0			23.0			23.0	23.0
Effective Green, g (s)					11.0			23.0			23.0	23.0
Actuated g/C Ratio					0.16			0.33			0.33	0.33
Clearance Time (s)					5.0			5.0			5.0	5.0
Vehicle Extension (s)					0.2			0.2			0.2	0.2
Lane Grp Cap (vph)					530			600			612	512
v/s Ratio Prot											0.01	
v/s Ratio Perm					0.04			c0.02				0.01
v/c Ratio					0.25			0.05			0.02	0.03
Uniform Delay, d1					25.8			16.0			15.8	15.9
Progression Factor					0.91			0.52			1.00	1.00
Incremental Delay, d2					1.1			0.1			0.0	0.1
Delay (s)					24.7			8.6			15.9	16.0
Level of Service					C			A			B	B
Approach Delay (s/veh)		0.0			24.7			8.6			16.0	
Approach LOS		A			C			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			20.7									
HCM 2000 Volume to Capacity ratio			0.07									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			22.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: S Stanislaus Street/N Stanislaus Street & Main Street

Existing Conditions

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔↔			↔↔			↔↔	
Traffic Volume (vph)	0	0	0	66	53	12	39	249	0	0	295	8
Future Volume (vph)	0	0	0	66	53	12	39	249	0	0	295	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			0.95			0.95	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.98			1.00			0.99	
Flt Protected					0.97			0.99			1.00	
Satd. Flow (prot)					3397			3514			3523	
Flt Permitted					0.97			0.87			1.00	
Satd. Flow (perm)					3397			3104			3523	
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)	0	0	0	72	58	13	42	271	0	0	321	9
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	135	0	0	313	0	0	327	0
Confl. Peds. (#/hr)				4			5					5
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					1			2			2	
Permitted Phases				1			2					
Actuated Green, G (s)					25.0			35.0			35.0	
Effective Green, g (s)					25.0			35.0			35.0	
Actuated g/C Ratio					0.36			0.50			0.50	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					1213			1552			1761	
v/s Ratio Prot											0.09	
v/s Ratio Perm					0.04			c0.10				
v/c Ratio					0.11			0.20			0.18	
Uniform Delay, d1					15.0			9.7			9.6	
Progression Factor					1.00			0.80			1.00	
Incremental Delay, d2					0.1			0.2			0.2	
Delay (s)					15.2			8.1			9.8	
Level of Service					B			A			A	
Approach Delay (s/veh)		0.0			15.2			8.1			9.8	
Approach LOS		A			B			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			10.2									
HCM 2000 Volume to Capacity ratio			0.16									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			37.6%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
7: S Grant Street/N Grant Street & Main Street

Existing Conditions
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					EB			E			B	
Traffic Vol, veh/h	0	0	0	7	109	11	10	21	0	0	31	25
Future Vol, veh/h	0	0	0	7	109	11	10	21	0	0	31	25
Conflicting Peds, #/hr	0	0	0	1	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	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	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	10	156	16	14	30	0	0	44	36

Major/Minor	Major2		Minor1		Minor2	
Conflicting Flow All	1	0	0	121	194	-
Stage 1	-	-	-	1	1	-
Stage 2	-	-	-	120	193	-
Critical Hdwy	4.14	-	-	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-
Pot Cap-1 Maneuver	1620	-	-	842	700	0
Stage 1	-	-	-	-	-	0
Stage 2	-	-	-	872	740	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1618	-	-	766	694	-
Mov Cap-2 Maneuver	-	-	-	766	694	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	784	734	-

Approach	WB	NB	SB
HCM Control Delay, s/v	0.4	10.4	10
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	716	1618	-	-	795
HCM Lane V/C Ratio	0.062	0.006	-	-	0.101
HCM Control Delay (s/veh)	10.4	7.2	0	-	10
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.2	0	-	-	0.3

HCM 6th TWSC
8: S Aurora Street/N Aurora Street & Main Street

Existing Conditions
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	7.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					4T			4			1	
Traffic Vol, veh/h	0	0	0	15	60	1	12	96	0	0	38	5
Future Vol, veh/h	0	0	0	15	60	1	12	96	0	0	38	5
Conflicting Peds, #/hr	0	0	0	8	0	1	1	0	0	0	0	1
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	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	18	72	1	14	116	0	0	46	6

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	8	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1611	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1599	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	1.4	10.7	10
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	760	1599	-	-	779
HCM Lane V/C Ratio	0.171	0.011	-	-	0.067
HCM Control Delay (s/veh)	10.7	7.3	0	-	10
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.6	0	-	-	0.2

HCM 6th AWSC
9: Union Street & Main Street

Existing Conditions
Timing Plan: PM Peak

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					←↑↑			↑			↑	
Traffic Vol, veh/h	0	0	0	13	63	15	13	108	0	0	76	7
Future Vol, veh/h	0	0	0	13	63	15	13	108	0	0	76	7
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	14	66	16	14	114	0	0	80	7
Number of Lanes	0	0	0	0	2	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay, s/veh	8	8.1	7.8
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	11%	29%	0%	0%
Vol Thru, %	89%	71%	68%	92%
Vol Right, %	0%	0%	32%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	121	45	47	83
LT Vol	13	13	0	0
Through Vol	108	32	32	76
RT Vol	0	0	15	7
Lane Flow Rate	127	47	49	87
Geometry Grp	2	5	5	2
Degree of Util (X)	0.152	0.067	0.065	0.103
Departure Headway (Hd)	4.29	5.159	4.786	4.26
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	839	697	751	845
Service Time	2.296	2.871	2.497	2.267
HCM Lane V/C Ratio	0.151	0.067	0.065	0.103
HCM Control Delay, s/veh	8.1	8.2	7.8	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.2	0.2	0.3

HCM 6th TWSC
10: Pilgrim Street & Main Street

Existing Conditions
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					EB			E			B	
Traffic Vol, veh/h	0	0	0	18	82	15	8	16	0	0	20	5
Future Vol, veh/h	0	0	0	18	82	15	8	16	0	0	20	5
Conflicting Peds, #/hr	0	0	0	4	0	1	3	0	0	0	0	3
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	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	23	104	19	10	20	0	0	25	6

Major/Minor	Major2		Minor1		Minor2	
Conflicting Flow All	4	0	0	118	174	-
Stage 1	-	-	-	4	4	-
Stage 2	-	-	-	114	170	-
Critical Hdwy	4.14	-	-	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-
Pot Cap-1 Maneuver	1616	-	-	846	718	0
Stage 1	-	-	-	-	-	0
Stage 2	-	-	-	879	757	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1610	-	-	805	704	-
Mov Cap-2 Maneuver	-	-	-	805	704	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	831	745	-

Approach	WB	NB	SB
HCM Control Delay, s/v	1.1	10.1	10
HCM LOS		B	B





















Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	735	1610	-	-	754
HCM Lane V/C Ratio	0.041	0.014	-	-	0.042
HCM Control Delay (s/veh)	10.1	7.3	0	-	10
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1

HCM 6th Signalized Intersection Summary

11: Airport Way & Main Street

Existing Conditions

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					  			  			  	
Traffic Volume (veh/h)	0	0	0	41	78	61	10	869	0	0	749	17
Future Volume (veh/h)	0	0	0	41	78	61	10	869	0	0	749	17
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.96	1.00		1.00	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
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				43	82	64	11	915	0	0	788	18
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				77	147	115	51	2727	0	0	2805	64
Arrive On Green				0.10	0.10	0.10	1.00	1.00	0.00	0.00	0.79	0.79
Sat Flow, veh/h				777	1486	1167	13	3537	0	0	3644	81
Grp Volume(v), veh/h				101	0	88	494	432	0	0	394	412
Grp Sat Flow(s),veh/h/ln				1832	0	1598	1847	1617	0	0	1777	1855
Q Serve(g_s), s				4.7	0.0	4.7	0.0	0.0	0.0	0.0	5.4	5.4
Cycle Q Clear(g_c), s				4.7	0.0	4.7	0.0	0.0	0.0	0.0	5.4	5.4
Prop In Lane				0.42		0.73	0.02		0.00	0.00		0.04
Lane Grp Cap(c), veh/h				181	0	158	1500	1277	0	0	1404	1466
V/C Ratio(X)				0.56	0.00	0.55	0.33	0.34	0.00	0.00	0.28	0.28
Avail Cap(c_a), veh/h				448	0	391	1500	1277	0	0	1404	1466
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.94	0.94	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				38.7	0.0	38.7	0.0	0.0	0.0	0.0	2.6	2.6
Incr Delay (d2), s/veh				1.0	0.0	1.1	0.6	0.7	0.0	0.0	0.5	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
%ile BackOfQ(50%),veh/ln				2.2	0.0	1.9	0.2	0.2	0.0	0.0	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				39.7	0.0	39.8	0.6	0.7	0.0	0.0	3.1	3.0
LnGrp LOS				D		D	A	A			A	A
Approach Vol, veh/h					189			926			806	
Approach Delay, s/veh					39.7			0.6			3.0	
Approach LOS					D			A			A	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	76.1			13.9			76.1					
Change Period (Y+Rc), s	5.0			5.0			5.0					
Max Green Setting (Gmax), s	58.0			22.0			58.0					
Max Q Clear Time (g_c+I1), s	2.0			6.7			7.4					
Green Ext Time (p_c), s	0.9			0.6			0.7					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				5.5								
HCM 6th LOS				A								

HCM 6th TWSC
12: Sierra Nevada Street & Main Street

Existing Conditions
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					EB			E			B	
Traffic Vol, veh/h	0	0	0	30	139	40	9	37	0	0	49	32
Future Vol, veh/h	0	0	0	30	139	40	9	37	0	0	49	32
Conflicting Peds, #/hr	0	0	0	6	0	3	9	0	0	0	0	9
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	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	32	148	43	10	39	0	0	52	34


















Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	6	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1613	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1604	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	1.1	11.2	10.6
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	630	1604	-	-	726
HCM Lane V/C Ratio	0.078	0.02	-	-	0.119
HCM Control Delay (s/veh)	11.2	7.3	0.1	-	10.6
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.3	0.1	-	-	0.4

HCM 6th Signalized Intersection Summary 13: S Wilson Way & Main Street

Existing Conditions
Timing Plan: PM Peak
















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	107	111	183	27	936	0	0	933	29
Future Volume (veh/h)	0	0	0	107	111	183	27	936	0	0	933	29
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	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
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				110	114	189	28	965	0	0	962	30
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				247	284	236	444	2629	0	0	2602	81
Arrive On Green				0.15	0.15	0.15	1.00	1.00	0.00	0.00	0.74	0.74
Sat Flow, veh/h				1660	1904	1582	567	3647	0	0	3611	110
Grp Volume(v), veh/h				118	106	189	28	965	0	0	486	506
Grp Sat Flow(s),veh/h/ln				1787	1777	1582	567	1777	0	0	1777	1850
Q Serve(g_s), s				5.4	4.8	10.4	0.6	0.0	0.0	0.0	8.8	8.8
Cycle Q Clear(g_c), s				5.4	4.8	10.4	9.4	0.0	0.0	0.0	8.8	8.8
Prop In Lane				0.93		1.00	1.00		0.00	0.00		0.06
Lane Grp Cap(c), veh/h				266	265	236	444	2629	0	0	1315	1369
V/C Ratio(X)				0.44	0.40	0.80	0.06	0.37	0.00	0.00	0.37	0.37
Avail Cap(c_a), veh/h				457	454	404	444	2629	0	0	1315	1369
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.82	0.82	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				34.9	34.6	37.0	0.6	0.0	0.0	0.0	4.2	4.2
Incr Delay (d2), s/veh				0.4	0.4	2.4	0.2	0.3	0.0	0.0	0.8	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
%ile BackOfQ(50%),veh/ln				2.4	2.1	4.1	0.0	0.1	0.0	0.0	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				35.3	35.0	39.4	0.8	0.3	0.0	0.0	5.0	5.0
LnGrp LOS				D	D	D	A	A			A	A
Approach Vol, veh/h					413			993			992	
Approach Delay, s/veh					37.1			0.3			5.0	
Approach LOS					D			A			A	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	71.6			18.4			71.6					
Change Period (Y+Rc), s	5.0			5.0			5.0					
Max Green Setting (Gmax), s	57.0			23.0			57.0					
Max Q Clear Time (g_c+I1), s	11.4			12.4			10.8					
Green Ext Time (p_c), s	3.4			0.9			2.6					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				8.6								
HCM 6th LOS				A								

HCM Signalized Intersection Capacity Analysis

14: Market Street/E Market Street & Main St/Main Street

Existing Conditions

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	363	1	9	7	0	0	0	27
Future Volume (vph)	0	0	0	0	363	1	9	7	0	0	0	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0				5.0
Lane Util. Factor					0.95			1.00				1.00
Frpb, ped/bikes					0.99			1.00				0.94
Flpb, ped/bikes					1.00			0.98				1.00
Frt					0.99			1.00				0.86
Flt Protected					1.00			0.97				1.00
Satd. Flow (prot)					3538			1774				1530
Flt Permitted					1.00			0.97				1.00
Satd. Flow (perm)					3538			1774				1530
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)	0	0	0	0	386	1	10	7	0	0	0	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	16	0	0	0	28
Lane Group Flow (vph)	0	0	0	0	387	0	0	1	0	0	0	1
Confl. Peds. (#/hr)						1	4					4
Confl. Bikes (#/hr)						2						1
Turn Type					NA		Perm	NA				Perm
Protected Phases					6 4			5				
Permitted Phases							5					5
Actuated Green, G (s)					27.4			1.4				1.4
Effective Green, g (s)					27.4			1.4				1.4
Actuated g/C Ratio					0.71			0.04				0.04
Clearance Time (s)								5.0				5.0
Vehicle Extension (s)								2.0				2.0
Lane Grp Cap (vph)					2498			64				55
v/s Ratio Prot					c0.11							
v/s Ratio Perm								0.00				c0.00
v/c Ratio					0.15			0.00				0.01
Uniform Delay, d1					1.8			18.0				18.0
Progression Factor					1.00			1.00				1.00
Incremental Delay, d2					0.0			0.0				0.0
Delay (s)					1.9			18.0				18.0
Level of Service					A			B				B
Approach Delay (s/veh)		0.0			1.9			18.0			18.0	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			3.7									
HCM 2000 Volume to Capacity ratio			0.23									
Actuated Cycle Length (s)			38.8									
Intersection Capacity Utilization			29.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
15: B Street/E Washington Street & Main Street

Existing Conditions
Timing Plan: PM Peak

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	5	392	32	15	311	1	28	2	38	1	2	14
Future Vol, veh/h	5	392	32	15	311	1	28	2	38	1	2	14
Conflicting Peds, #/hr	1	0	1	1	0	1	3	0	0	0	0	3
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	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	417	34	16	331	1	30	2	40	1	2	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	333	0	0	452	0	0	647	810	227	585	827	170
Stage 1	-	-	-	-	-	-	445	445	-	365	365	-
Stage 2	-	-	-	-	-	-	202	365	-	220	462	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1223	-	-	1105	-	-	356	312	776	394	305	844
Stage 1	-	-	-	-	-	-	562	573	-	627	622	-
Stage 2	-	-	-	-	-	-	781	622	-	762	563	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1222	-	-	1104	-	-	340	304	775	364	297	841
Mov Cap-2 Maneuver	-	-	-	-	-	-	340	304	-	364	297	-
Stage 1	-	-	-	-	-	-	559	570	-	623	610	-
Stage 2	-	-	-	-	-	-	749	610	-	716	560	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.1			0.5			13.6			10.7		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	493	1222	-	-	1104	-	-	651
HCM Lane V/C Ratio	0.147	0.004	-	-	0.014	-	-	0.028
HCM Control Delay (s/veh)	13.6	8	0	-	8.3	0.1	-	10.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q (veh)	0.5	0	-	-	0	-	-	0.1

HCM 6th TWSC
16: E Lafayette Street & Main Street

Existing Conditions
Timing Plan: PM Peak

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	40	370	9	25	318	12	11	4	31	0	3	15
Future Vol, veh/h	40	370	9	25	318	12	11	4	31	0	3	15
Conflicting Peds, #/hr	1	0	0	0	0	1	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	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	378	9	26	324	12	11	4	32	0	3	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	337	0	0	387	0	0	681	854	194	656	852	169
Stage 1	-	-	-	-	-	-	465	465	-	383	383	-
Stage 2	-	-	-	-	-	-	216	389	-	273	469	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1219	-	-	1168	-	-	336	294	815	351	295	845
Stage 1	-	-	-	-	-	-	547	561	-	611	610	-
Stage 2	-	-	-	-	-	-	766	607	-	710	559	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1218	-	-	1168	-	-	310	273	815	316	274	844
Mov Cap-2 Maneuver	-	-	-	-	-	-	310	273	-	316	274	-
Stage 1	-	-	-	-	-	-	523	537	-	584	593	-
Stage 2	-	-	-	-	-	-	728	590	-	648	535	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.9			0.7			12.6			10.9		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	522	1218	-	-	1168	-	-	627
HCM Lane V/C Ratio	0.09	0.034	-	-	0.022	-	-	0.029
HCM Control Delay (s/veh)	12.6	8.1	0.1	-	8.2	0.1	-	10.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q (veh)	0.3	0.1	-	-	0.1	-	-	0.1

HCM Signalized Intersection Capacity Analysis

17: Main Street & D Street

Existing Conditions

Timing Plan: PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑↑	
Traffic Volume (vph)	9	426	355	15	8	8
Future Volume (vph)	9	426	355	15	8	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.99		1.00	
Flpb, ped/bikes		0.99	1.00		1.00	
Frt		1.00	0.99		0.93	
Flt Protected		0.99	1.00		0.97	
Satd. Flow (prot)		3535	3515		1695	
Flt Permitted		0.94	1.00		0.97	
Satd. Flow (perm)		3332	3515		1695	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	453	378	16	9	9
RTOR Reduction (vph)	0	0	6	0	9	0
Lane Group Flow (vph)	0	463	388	0	9	0
Confl. Peds. (#/hr)	1			1		
Turn Type	Perm	NA	NA		Perm	
Protected Phases		2	6			
Permitted Phases	2				4	
Actuated Green, G (s)		9.8	9.8		0.6	
Effective Green, g (s)		9.8	9.8		0.6	
Actuated g/C Ratio		0.48	0.48		0.03	
Clearance Time (s)		5.0	5.0		5.0	
Vehicle Extension (s)		6.0	6.0		2.0	
Lane Grp Cap (vph)		1600	1688		49	
v/s Ratio Prot			0.11			
v/s Ratio Perm		c0.14			c0.01	
v/c Ratio		0.28	0.23		0.18	
Uniform Delay, d1		3.1	3.0		9.6	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		0.2	0.1		0.6	
Delay (s)		3.4	3.2		10.3	
Level of Service		A	A		B	
Approach Delay (s/veh)		3.4	3.2		10.3	
Approach LOS		A	A		B	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			3.5		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.28			
Actuated Cycle Length (s)			20.4		Sum of lost time (s)	10.0
Intersection Capacity Utilization			29.9%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th TWSC
18: Marsh Street/E Street & Main Street

Existing Conditions
Timing Plan: PM Peak

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	6	404	0	18	317	37	4	3	18	51	8	25
Future Vol, veh/h	6	404	0	18	317	37	4	3	18	51	8	25
Conflicting Peds, #/hr	1	0	5	5	0	1	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	439	0	20	345	40	4	3	20	55	9	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	386	0	0	444	0	0	676	884	225	641	864	195
Stage 1	-	-	-	-	-	-	458	458	-	406	406	-
Stage 2	-	-	-	-	-	-	218	426	-	235	458	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1169	-	-	1112	-	-	339	283	778	360	291	814
Stage 1	-	-	-	-	-	-	552	565	-	593	596	-
Stage 2	-	-	-	-	-	-	764	584	-	747	565	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1168	-	-	1107	-	-	311	273	774	339	280	812
Mov Cap-2 Maneuver	-	-	-	-	-	-	311	273	-	339	280	-
Stage 1	-	-	-	-	-	-	545	558	-	588	582	-
Stage 2	-	-	-	-	-	-	710	570	-	718	558	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.1			0.5			12.1			16.6		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	531	1168	-	-	1107	-	-	400
HCM Lane V/C Ratio	0.051	0.006	-	-	0.018	-	-	0.228
HCM Control Delay (s/veh)	12.1	8.1	0	-	8.3	0.1	-	16.6
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.2	0	-	-	0.1	-	-	0.9

HCM 6th TWSC
19: Alma Street/F Street & Main Street

Existing Conditions
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	13	434	1	31	316	12	2	0	17	17	2	3
Future Vol, veh/h	13	434	1	31	316	12	2	0	17	17	2	3
Conflicting Peds, #/hr	0	0	5	5	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	477	1	34	347	13	2	0	19	19	2	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	360	0	0	483	0	0	754	939	245	690	933	180
Stage 1	-	-	-	-	-	-	511	511	-	422	422	-
Stage 2	-	-	-	-	-	-	243	428	-	268	511	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1195	-	-	1076	-	-	298	263	755	331	265	832
Stage 1	-	-	-	-	-	-	514	535	-	580	587	-
Stage 2	-	-	-	-	-	-	739	583	-	714	535	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1195	-	-	1071	-	-	281	247	751	309	249	832
Mov Cap-2 Maneuver	-	-	-	-	-	-	281	247	-	309	249	-
Stage 1	-	-	-	-	-	-	503	524	-	571	564	-
Stage 2	-	-	-	-	-	-	704	560	-	684	524	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.3			0.8			10.8			16.8		
HCM LOS							B			C		


















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	639	1195	-	-	1071	-	-	330
HCM Lane V/C Ratio	0.033	0.012	-	-	0.032	-	-	0.073
HCM Control Delay (s/veh)	10.8	8	0.1	-	8.5	0.1	-	16.8
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1	-	-	0.2

HCM Signalized Intersection Capacity Analysis

20: S Filbert Street & Main Street

Existing Conditions

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	373	16	2	304	237	17	49	10	390	35	71
Future Volume (vph)	55	373	16	2	304	237	17	49	10	390	35	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.98			1.00		1.00	0.99	
Flpb, ped/bikes		0.99			0.99			1.00		1.00	1.00	
Frt		0.99			0.93			0.98		1.00	0.89	
Flt Protected		0.99			0.99			0.98		0.95	1.00	
Satd. Flow (prot)		3494			3272			1809		1770	1661	
Flt Permitted		0.81			0.95			0.98		0.95	1.00	
Satd. Flow (perm)		2859			3120			1809		1770	1661	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	58	393	17	2	320	249	18	52	11	411	37	75
RTOR Reduction (vph)	0	3	0	0	132	0	0	5	0	0	51	0
Lane Group Flow (vph)	0	465	0	0	439	0	0	76	0	411	61	0
Confl. Peds. (#/hr)	4		5	5		4	1					1
Confl. Bikes (#/hr)			2									
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		2			6		4	4		3	3	
Permitted Phases	2			6								
Actuated Green, G (s)		20.9			20.9			6.1		20.4	20.4	
Effective Green, g (s)		20.9			20.9			6.1		20.4	20.4	
Actuated g/C Ratio		0.33			0.33			0.10		0.32	0.32	
Clearance Time (s)		6.0			6.0			5.0		5.0	5.0	
Vehicle Extension (s)		6.0			6.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		942			1028			174		569	534	
v/s Ratio Prot								c0.04		c0.23	0.04	
v/s Ratio Perm		c0.16			0.14							
v/c Ratio		0.49			0.42			0.43		0.72	0.11	
Uniform Delay, d1		17.0			16.5			27.0		18.9	15.1	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		1.1			0.8			0.6		3.8	0.0	
Delay (s)		18.1			17.3			27.6		22.8	15.1	
Level of Service		B			B			C		C	B	
Approach Delay (s/veh)		18.1			17.3			27.6			21.1	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		19.3			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.58										
Actuated Cycle Length (s)		63.4			Sum of lost time (s)			16.0				
Intersection Capacity Utilization		72.8%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th TWSC
21: Burkett Avenue & Main Street

Existing Conditions
Timing Plan: PM Peak

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	17	699	30	11	528	11	8	2	16	5	0	7
Future Vol, veh/h	17	699	30	11	528	11	8	2	16	5	0	7
Conflicting Peds, #/hr	3	0	3	3	0	3	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	752	32	12	568	12	9	2	17	5	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	583	0	0	787	0	0	1115	1414	395	1014	1424	293
Stage 1	-	-	-	-	-	-	807	807	-	601	601	-
Stage 2	-	-	-	-	-	-	308	607	-	413	823	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	987	-	-	828	-	-	163	136	604	193	135	703
Stage 1	-	-	-	-	-	-	341	392	-	454	488	-
Stage 2	-	-	-	-	-	-	677	485	-	587	386	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	984	-	-	826	-	-	154	128	602	177	127	701
Mov Cap-2 Maneuver	-	-	-	-	-	-	154	128	-	177	127	-
Stage 1	-	-	-	-	-	-	329	378	-	438	476	-
Stage 2	-	-	-	-	-	-	656	473	-	548	372	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.3			0.3			19.5			17		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	276	984	-	-	826	-	-	314
HCM Lane V/C Ratio	0.101	0.019	-	-	0.014	-	-	0.041
HCM Control Delay (s/veh)	19.5	8.7	0.1	-	9.4	0.1	-	17
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.3	0.1	-	-	0	-	-	0.1

HCM 6th TWSC
22: Shasta Avenue & Main Street

Existing Conditions
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	8	696	15	5	541	10	5	0	12	3	1	5
Future Vol, veh/h	8	696	15	5	541	10	5	0	12	3	1	5
Conflicting Peds, #/hr	3	0	4	4	0	3	1	0	0	0	0	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	757	16	5	588	11	5	0	13	3	1	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	602	0	0	777	0	0	1093	1399	391	1004	1402	304
Stage 1	-	-	-	-	-	-	787	787	-	607	607	-
Stage 2	-	-	-	-	-	-	306	612	-	397	795	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	971	-	-	835	-	-	169	139	608	196	139	692
Stage 1	-	-	-	-	-	-	351	401	-	450	485	-
Stage 2	-	-	-	-	-	-	679	482	-	600	398	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	968	-	-	832	-	-	163	135	606	188	135	689
Mov Cap-2 Maneuver	-	-	-	-	-	-	163	135	-	188	135	-
Stage 1	-	-	-	-	-	-	344	393	-	441	479	-
Stage 2	-	-	-	-	-	-	665	476	-	578	390	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.2			0.1			16.3			17.7		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	337	968	-	-	832	-	-	294
HCM Lane V/C Ratio	0.055	0.009	-	-	0.007	-	-	0.033
HCM Control Delay (s/veh)	16.3	8.8	0.1	-	9.4	0	-	17.7
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0.1

HCM 6th TWSC
23: David Avenue & Main Street

Existing Conditions
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	8	691	10	4	541	8	11	1	1	2	1	5
Future Vol, veh/h	8	691	10	4	541	8	11	1	1	2	1	5
Conflicting Peds, #/hr	1	0	4	4	0	1	0	0	2	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	751	11	4	588	9	12	1	1	2	1	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	598	0	0	766	0	0	1082	1385	387	998	1386	300
Stage 1	-	-	-	-	-	-	779	779	-	602	602	-
Stage 2	-	-	-	-	-	-	303	606	-	396	784	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	975	-	-	843	-	-	172	142	611	198	142	696
Stage 1	-	-	-	-	-	-	355	404	-	453	487	-
Stage 2	-	-	-	-	-	-	681	485	-	601	402	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	974	-	-	840	-	-	166	138	608	192	138	695
Mov Cap-2 Maneuver	-	-	-	-	-	-	166	138	-	192	138	-
Stage 1	-	-	-	-	-	-	348	396	-	445	483	-
Stage 2	-	-	-	-	-	-	669	481	-	588	394	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.2			0.1			27.7			16.5		
HCM LOS							D			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	173	974	-	-	840	-	-	322
HCM Lane V/C Ratio	0.082	0.009	-	-	0.005	-	-	0.027
HCM Control Delay (s/veh)	27.7	8.7	0.1	-	9.3	0	-	16.5
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.3	0	-	-	0	-	-	0.1

HCM 6th TWSC
24: Rendon Avenue & Main Street

Existing Conditions
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇄			⇄			⇄			⇄	
Traffic Vol, veh/h	10	655	34	18	518	12	16	4	11	6	3	12
Future Vol, veh/h	10	655	34	18	518	12	16	4	11	6	3	12
Conflicting Peds, #/hr	4	0	7	7	0	4	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	704	37	19	557	13	17	4	12	6	3	13



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	574	0	0	748	0	0	1070	1364	381	985	1376	289
Stage 1	-	-	-	-	-	-	752	752	-	606	606	-
Stage 2	-	-	-	-	-	-	318	612	-	379	770	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	995	-	-	856	-	-	175	146	617	202	144	708
Stage 1	-	-	-	-	-	-	368	416	-	451	485	-
Stage 2	-	-	-	-	-	-	668	482	-	615	408	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	991	-	-	850	-	-	161	137	611	185	135	705
Mov Cap-2 Maneuver	-	-	-	-	-	-	161	137	-	185	135	-
Stage 1	-	-	-	-	-	-	358	405	-	441	467	-
Stage 2	-	-	-	-	-	-	630	464	-	584	397	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.2			0.4			25.2			18.3		
HCM LOS							D			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	211	991	-	-	850	-	-	293
HCM Lane V/C Ratio	0.158	0.011	-	-	0.023	-	-	0.077
HCM Control Delay (s/veh)	25.2	8.7	0.1	-	9.3	0.1	-	18.3
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.5	0	-	-	0.1	-	-	0.2

HCM 6th Signalized Intersection Summary 25: Golden Gate Avenue & Main Street

Existing Conditions
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	486	190	23	399	9	128	23	24	13	30	8
Future Volume (veh/h)	8	486	190	23	399	9	128	23	24	13	30	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		1.00	0.99		0.99	0.99		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	517	202	24	424	10	136	24	26	14	32	9
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	17	1165	453	41	1715	40	320	52	39	138	234	54
Arrive On Green	0.01	0.47	0.47	0.02	0.48	0.48	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1781	2481	964	1781	3548	84	998	277	207	224	1243	287
Grp Volume(v), veh/h	9	370	349	24	212	222	186	0	0	55	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1668	1781	1777	1855	1482	0	0	1754	0	0
Q Serve(g_s), s	0.2	6.5	6.6	0.6	3.3	3.3	4.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	6.5	6.6	0.6	3.3	3.3	5.3	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		0.58	1.00		0.05	0.73		0.14	0.25		0.16
Lane Grp Cap(c), veh/h	17	835	784	41	859	896	411	0	0	426	0	0
V/C Ratio(X)	0.54	0.44	0.45	0.59	0.25	0.25	0.45	0.00	0.00	0.13	0.00	0.00
Avail Cap(c_a), veh/h	759	1816	1704	759	1816	1896	1362	0	0	1171	0	0
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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.2	8.3	8.4	22.7	7.1	7.1	17.5	0.0	0.0	16.0	0.0	0.0
Incr Delay (d2), s/veh	9.5	1.3	1.4	4.9	0.5	0.5	0.3	0.0	0.0	0.1	0.0	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	0.1	2.1	2.0	0.3	1.0	1.0	1.7	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.6	9.7	9.8	27.7	7.7	7.6	17.8	0.0	0.0	16.0	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	728			458			186			55		
Approach Delay, s/veh	10.0			8.7			17.8			16.0		
Approach LOS	B			A			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	27.1		13.8	5.4	27.7		13.8				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	20.0	48.0		40.0	20.0	48.0		30.0				
Max Q Clear Time (g_c+I1), s	2.6	8.6		7.3	2.2	5.3		3.2				
Green Ext Time (p_c), s	0.0	13.5		0.8	0.0	7.3		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				10.8								
HCM 6th LOS				B								

HCM 6th TWSC
26: Windsor Avenue & Main Street

Existing Conditions
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	7	500	26	4	417	4	11	0	5	4	2	7
Future Vol, veh/h	7	500	26	4	417	4	11	0	5	4	2	7
Conflicting Peds, #/hr	6	0	6	6	0	6	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	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	515	27	4	430	4	11	0	5	4	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	440	0	0	548	0	0	773	997	277	718	1008	223
Stage 1	-	-	-	-	-	-	549	549	-	446	446	-
Stage 2	-	-	-	-	-	-	224	448	-	272	562	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1116	-	-	1018	-	-	289	243	720	316	239	780
Stage 1	-	-	-	-	-	-	488	515	-	561	572	-
Stage 2	-	-	-	-	-	-	758	571	-	711	508	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1110	-	-	1012	-	-	280	237	716	309	233	776
Mov Cap-2 Maneuver	-	-	-	-	-	-	280	237	-	309	233	-
Stage 1	-	-	-	-	-	-	481	507	-	553	566	-
Stage 2	-	-	-	-	-	-	744	565	-	700	500	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.1			0.1			15.9			13.7		
HCM LOS							C			B		



















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	346	1110	-	-	1012	-	-	426
HCM Lane V/C Ratio	0.048	0.007	-	-	0.004	-	-	0.031
HCM Control Delay (s/veh)	15.9	8.3	0	-	8.6	0	-	13.7
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0.1

HCM Signalized Intersection Capacity Analysis

27: Netherton Avenue & Main Street

Existing Conditions

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	448	27	38	387	5	21	6	67	27	12	48
Future Volume (vph)	11	448	27	38	387	5	21	6	67	27	12	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99			0.98			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Frt	1.00	0.99		1.00	0.99			0.90			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	3504		1770	3532			1647			1685	
Flt Permitted	0.95	1.00		0.95	1.00			0.89			0.86	
Satd. Flow (perm)	1770	3504		1770	3532			1497			1472	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	11	453	27	38	391	5	21	6	68	27	12	48
RTOR Reduction (vph)	0	4	0	0	1	0	0	56	0	0	40	0
Lane Group Flow (vph)	11	476	0	38	395	0	0	39	0	0	47	0
Confl. Peds. (#/hr)			4			1	2		6	6		2
Confl. Bikes (#/hr)			1									
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	0.6	15.0		0.7	15.1			6.5			6.5	
Effective Green, g (s)	0.6	15.0		0.7	15.1			6.5			6.5	
Actuated g/C Ratio	0.02	0.40		0.02	0.41			0.17			0.17	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	2.0	6.0		2.0	6.0			2.0			2.0	
Lane Grp Cap (vph)	28	1412		33	1433			261			257	
v/s Ratio Prot	0.01	c0.14		c0.02	0.11							
v/s Ratio Perm								0.03			c0.03	
v/c Ratio	0.39	0.33		1.15	0.27			0.14			0.18	
Uniform Delay, d1	18.1	7.6		18.2	7.3			13.0			13.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	3.2	0.4		205.6	0.2			0.0			0.1	
Delay (s)	21.4	8.0		223.8	7.6			13.1			13.2	
Level of Service	C	A		F	A			B			B	
Approach Delay (s/veh)		8.3			26.6			13.1			13.2	
Approach LOS		A			C			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		16.3			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.32										
Actuated Cycle Length (s)		37.2			Sum of lost time (s)			15.0				
Intersection Capacity Utilization		39.4%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th TWSC
28: Broadway Avenue & Main Street

Existing Conditions
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔			↔	
Traffic Vol, veh/h	26	478	6	10	392	16	12	2	11	13	5	14
Future Vol, veh/h	26	478	6	10	392	16	12	2	11	13	5	14
Conflicting Peds, #/hr	8	0	14	14	0	8	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	493	6	10	404	16	12	2	11	13	5	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	428	0	0	513	0	0	789	1012	267	745	1007	218
Stage 1	-	-	-	-	-	-	564	564	-	440	440	-
Stage 2	-	-	-	-	-	-	225	448	-	305	567	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1128	-	-	1049	-	-	281	238	731	302	239	786
Stage 1	-	-	-	-	-	-	478	507	-	566	576	-
Stage 2	-	-	-	-	-	-	757	571	-	680	505	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1119	-	-	1035	-	-	259	223	719	283	224	780
Mov Cap-2 Maneuver	-	-	-	-	-	-	259	223	-	283	224	-
Stage 1	-	-	-	-	-	-	456	484	-	543	566	-
Stage 2	-	-	-	-	-	-	729	561	-	643	482	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.5	0.2	16	15.6
HCM LOS			C	C


Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	354	1119	-	-	1035	-	-	371
HCM Lane V/C Ratio	0.073	0.024	-	-	0.01	-	-	0.089
HCM Control Delay (s/veh)	16	8.3	0.1	-	8.5	-	-	15.6
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q (veh)	0.2	0.1	-	-	0	-	-	0.3

HCM Signalized Intersection Capacity Analysis

29: S Center Street & Market Street

Existing Conditions

Timing Plan: PM Peak


















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑									↑↑↑	
Traffic Volume (vph)	0	39	58	0	0	0	0	0	0	56	1771	0
Future Volume (vph)	0	39	58	0	0	0	0	0	0	56	1771	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0									5.0	
Lane Util. Factor		0.95									0.91	
Frpb, ped/bikes		0.98									1.00	
Flpb, ped/bikes		1.00									0.99	
Frt		0.91									1.00	
Flt Protected		1.00									0.99	
Satd. Flow (prot)		3176									5076	
Flt Permitted		1.00									0.99	
Satd. Flow (perm)		3176									5076	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	43	64	0	0	0	0	0	0	62	1946	0
RTOR Reduction (vph)	0	9	0	0	0	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	98	0	0	0	0	0	0	0	0	1998	0
Confl. Peds. (#/hr)	5		11							11		
Turn Type		NA								Perm	NA	
Protected Phases		2									1	
Permitted Phases										1		
Actuated Green, G (s)		24.0									51.0	
Effective Green, g (s)		24.0									51.0	
Actuated g/C Ratio		0.28									0.60	
Clearance Time (s)		5.0									5.0	
Vehicle Extension (s)		0.2									0.2	
Lane Grp Cap (vph)		896									3045	
v/s Ratio Prot		0.03										
v/s Ratio Perm											0.39	
v/c Ratio		0.10									0.65	
Uniform Delay, d1		22.5									11.2	
Progression Factor		1.00									1.00	
Incremental Delay, d2		0.2									1.1	
Delay (s)		22.8									12.3	
Level of Service		C									B	
Approach Delay (s/veh)		22.8			0.0			0.0			12.3	
Approach LOS		C			A			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			12.9									
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			85.0							10.0		
Intersection Capacity Utilization			62.9%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

30: S El Dorado Street & Market Street

Existing Conditions

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						  				
Traffic Volume (vph)	67	57	0	0	0	0	0	1446	39	0	0	0
Future Volume (vph)	67	57	0	0	0	0	0	1446	39	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0				
Lane Util. Factor		0.95						0.86				
Frpb, ped/bikes		1.00						0.99				
Flpb, ped/bikes		0.99						1.00				
Frt		1.00						0.99				
Flt Protected		0.97						1.00				
Satd. Flow (prot)		3439						6378				
Flt Permitted		0.97						1.00				
Satd. Flow (perm)		3439						6378				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	70	59	0	0	0	0	0	1506	41	0	0	0
RTOR Reduction (vph)	0	24	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	105	0	0	0	0	0	1543	0	0	0	0
Confl. Peds. (#/hr)	3								10			
Confl. Bikes (#/hr)			2						3			
Turn Type	Perm	NA						NA				
Protected Phases		2						1				
Permitted Phases	2											
Actuated Green, G (s)		25.0						50.0				
Effective Green, g (s)		25.0						50.0				
Actuated g/C Ratio		0.29						0.59				
Clearance Time (s)		5.0						5.0				
Vehicle Extension (s)		0.2						0.2				
Lane Grp Cap (vph)		1011						3751				
v/s Ratio Prot								c0.24				
v/s Ratio Perm		0.03										
v/c Ratio		0.10						0.41				
Uniform Delay, d1		21.8						9.5				
Progression Factor		1.00						1.00				
Incremental Delay, d2		0.1						0.3				
Delay (s)		22.0						9.8				
Level of Service		C						A				
Approach Delay (s/veh)		22.0			0.0			9.8			0.0	
Approach LOS		C			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		10.8						HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio		0.31										
Actuated Cycle Length (s)		85.0						Sum of lost time (s)		10.0		
Intersection Capacity Utilization		33.7%						ICU Level of Service		A		
Analysis Period (min)		15										

c Critical Lane Group

HCM 6th AWSC
31: S Hunter Street & Market Street

Existing Conditions
Timing Plan: PM Peak

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	0	82	13	0	0	0	0	0	24	32	36	0
Future Vol, veh/h	0	82	13	0	0	0	0	0	24	32	36	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	96	15	0	0	0	0	0	28	38	42	0
Number of Lanes	0	2	0	0	0	0	0	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay, s/veh	7.8	7.5	8
HCM LOS	A	A	A
















Lane	NBLn1	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	100%	0%
Vol Thru, %	0%	100%	68%	0%	100%
Vol Right, %	100%	0%	32%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	55	40	32	36
LT Vol	0	0	0	32	0
Through Vol	0	55	27	0	36
RT Vol	24	0	13	0	0
Lane Flow Rate	28	64	47	38	42
Geometry Grp	4b	5	5	5	5
Degree of Util (X)	0.034	0.084	0.059	0.055	0.056
Departure Headway (Hd)	4.3	4.717	4.491	5.241	4.74
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	838	749	786	676	746
Service Time	2.3	2.509	2.283	3.031	2.53
HCM Lane V/C Ratio	0.033	0.085	0.06	0.056	0.056
HCM Control Delay, s/veh	7.5	7.9	7.6	8.3	7.8
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.2	0.2	0.2

HCM Signalized Intersection Capacity Analysis

32: S San Joaquin Street & Market Street

Existing Conditions

Timing Plan: PM Peak


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	81	36	0	0	0	0	118	48	15	129	0
Future Volume (vph)	21	81	36	0	0	0	0	118	48	15	129	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		0.95						0.95			0.95	
Frpb, ped/bikes		0.98						0.97			1.00	
Flpb, ped/bikes		0.99						1.00			0.99	
Frt		0.96						0.95			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		3319						3284			3495	
Flt Permitted		0.99						1.00			0.92	
Satd. Flow (perm)		3319						3284			3248	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	24	92	41	0	0	0	0	134	55	17	147	0
RTOR Reduction (vph)	0	27	0	0	0	0	0	27	0	0	0	0
Lane Group Flow (vph)	0	130	0	0	0	0	0	162	0	0	164	0
Confl. Peds. (#/hr)	19		49						78	78		
Confl. Bikes (#/hr)									4			
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						1			1	
Permitted Phases	2									1		
Actuated Green, G (s)		24.0						36.0			36.0	
Effective Green, g (s)		24.0						36.0			36.0	
Actuated g/C Ratio		0.34						0.51			0.51	
Clearance Time (s)		5.0						5.0			5.0	
Vehicle Extension (s)		0.2						0.2			0.2	
Lane Grp Cap (vph)		1137						1688			1670	
v/s Ratio Prot								0.05				
v/s Ratio Perm		0.04									c0.05	
v/c Ratio		0.11						0.09			0.09	
Uniform Delay, d1		15.7						8.6			8.6	
Progression Factor		1.00						1.00			0.36	
Incremental Delay, d2		0.2						0.1			0.1	
Delay (s)		15.9						8.8			3.2	
Level of Service		B						A			A	
Approach Delay (s/veh)		15.9			0.0			8.8			3.2	
Approach LOS		B			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		9.2										
HCM 2000 Volume to Capacity ratio		0.10										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		43.6%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

33: S Sutter Street & Market Street

Existing Conditions

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔↔						↑	↗		↖↖	
Traffic Volume (vph)	18	97	30	0	0	0	0	112	41	18	124	0
Future Volume (vph)	18	97	30	0	0	0	0	112	41	18	124	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0	5.0		5.0	
Lane Util. Factor		0.95						1.00	1.00		0.95	
Frpb, ped/bikes		0.97						1.00	0.88		1.00	
Flpb, ped/bikes		0.99						1.00	1.00		0.98	
Frt		0.96						1.00	0.85		1.00	
Flt Protected		0.99						1.00	1.00		0.99	
Satd. Flow (prot)		3281						1863	1399		3478	
Flt Permitted		0.99						1.00	1.00		0.91	
Satd. Flow (perm)		3281						1863	1399		3204	
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	24	128	39	0	0	0	0	147	54	24	163	0
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	31	0	0	0
Lane Group Flow (vph)	0	169	0	0	0	0	0	147	23	0	187	0
Confl. Peds. (#/hr)	35		123						81	81		
Confl. Bikes (#/hr)									1			
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1								2	2		
Actuated Green, G (s)		30.0						30.0	30.0		30.0	
Effective Green, g (s)		30.0						30.0	30.0		30.0	
Actuated g/C Ratio		0.43						0.43	0.43		0.43	
Clearance Time (s)		5.0						5.0	5.0		5.0	
Vehicle Extension (s)		0.2						0.2	0.2		0.2	
Lane Grp Cap (vph)		1406						798	599		1373	
v/s Ratio Prot								c0.08				
v/s Ratio Perm		0.05							0.02		0.06	
v/c Ratio		0.11						0.18	0.03		0.13	
Uniform Delay, d1		12.0						12.4	11.6		12.1	
Progression Factor		1.34						1.00	1.00		0.69	
Incremental Delay, d2		0.1						0.5	0.1		0.2	
Delay (s)		16.4						12.9	11.7		8.6	
Level of Service		B						B	B		A	
Approach Delay (s/veh)		16.4			0.0			12.6			8.6	
Approach LOS		B			A			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		12.6										
HCM 2000 Volume to Capacity ratio		0.15										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		45.6%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

34: California Street & Market Street

Existing Conditions
Timing Plan: PM Peak


















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕			↕↕	
Traffic Volume (veh/h)	27	107	18	0	0	0	0	190	32	31	247	0
Future Volume (veh/h)	27	107	18	0	0	0	0	190	32	31	247	0
Initial Q (Qb), veh	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
Parking Bus, Adj	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	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	30	119	20				0	211	36	34	274	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	169	695	121				0	1782	299	228	1769	0
Arrive On Green	0.27	0.27	0.27				0.00	0.59	0.59	1.00	1.00	0.00
Sat Flow, veh/h	621	2560	446				0	3136	511	283	3105	0
Grp Volume(v), veh/h	89	0	80				0	122	125	162	146	0
Grp Sat Flow(s),veh/h/ln	1839	0	1788				0	1777	1777	1685	1617	0
Q Serve(g_s), s	2.6	0.0	2.4				0.0	2.1	2.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.6	0.0	2.4				0.0	2.1	2.2	0.0	0.0	0.0
Prop In Lane	0.34		0.25				0.00		0.29	0.21		0.00
Lane Grp Cap(c), veh/h	499	0	485				0	1041	1041	1049	947	0
V/C Ratio(X)	0.18	0.00	0.17				0.00	0.12	0.12	0.15	0.15	0.00
Avail Cap(c_a), veh/h	499	0	485				0	1041	1041	1049	947	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.96	0.96	0.00
Uniform Delay (d), s/veh	19.5	0.0	19.5				0.0	6.4	6.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.7				0.0	0.2	0.2	0.3	0.3	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
%ile BackOfQ(50%),veh/ln	1.2	0.0	1.1				0.0	0.7	0.8	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.3	0.0	20.2				0.0	6.7	6.7	0.3	0.3	0.0
LnGrp LOS	C		C					A	A	A	A	
Approach Vol, veh/h	169						247			308		
Approach Delay, s/veh	20.2						6.7			0.3		
Approach LOS	C						A			A		
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	46.0			24.0			46.0					
Change Period (Y+Rc), s	5.0			5.0			5.0					
Max Green Setting (Gmax), s	41.0			19.0			41.0					
Max Q Clear Time (g_c+l1), s	4.2			4.6			2.0					
Green Ext Time (p_c), s	0.3			0.2			0.3					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	7.1											
HCM 6th LOS	A											

HCM Signalized Intersection Capacity Analysis

35: S American Street & Market Street

Existing Conditions

Timing Plan: PM Peak
















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	154	0	0	0	0	0	0	0	38	1	0
Future Volume (vph)	25	154	0	0	0	0	0	0	0	38	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0									5.0	
Lane Util. Factor		0.95									1.00	
Frpb, ped/bikes		1.00									1.00	
Flpb, ped/bikes		0.99									0.99	
Frt		1.00									1.00	
Flt Protected		0.99									0.95	
Satd. Flow (prot)		3510									1762	
Flt Permitted		0.99									0.77	
Satd. Flow (perm)		3510									1430	
Peak-hour factor, PHF	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Adj. Flow (vph)	36	220	0	0	0	0	0	0	0	54	1	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	256	0	0	0	0	0	0	0	0	55	0
Confl. Peds. (#/hr)	5		1							6	6	
Turn Type	Perm	NA								Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		40.0									20.0	
Effective Green, g (s)		40.0									20.0	
Actuated g/C Ratio		0.57									0.29	
Clearance Time (s)		5.0									5.0	
Vehicle Extension (s)		0.2									0.2	
Lane Grp Cap (vph)		2005									408	
v/s Ratio Prot												
v/s Ratio Perm		0.07									c0.04	
v/c Ratio		0.12									0.13	
Uniform Delay, d1		6.9									18.5	
Progression Factor		0.61									0.78	
Incremental Delay, d2		0.1									0.6	
Delay (s)		4.3									15.2	
Level of Service		A									B	
Approach Delay (s/veh)		4.3			0.0			0.0			15.2	
Approach LOS		A			A			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		6.3										
HCM 2000 Volume to Capacity ratio		0.13										
Actuated Cycle Length (s)		70.0								10.0		
Intersection Capacity Utilization		36.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

36: S Stanislaus Street & Market Street

Existing Conditions

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	111	64	0	0	0	0	263	32	6	365	0
Future Volume (vph)	17	111	64	0	0	0	0	263	32	6	365	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		0.95						0.95			0.95	
Frpb, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		0.99						1.00			0.99	
Frt		0.95						0.98			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		3325						3475			3536	
Flt Permitted		0.99						1.00			0.94	
Satd. Flow (perm)		3325						3475			3361	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	21	135	78	0	0	0	0	321	39	7	445	0
RTOR Reduction (vph)	0	50	0	0	0	0	0	14	0	0	0	0
Lane Group Flow (vph)	0	184	0	0	0	0	0	347	0	0	452	0
Confl. Peds. (#/hr)	4		5						5	5		
Confl. Bikes (#/hr)			1						1			
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		25.0						35.0			35.0	
Effective Green, g (s)		25.0						35.0			35.0	
Actuated g/C Ratio		0.36						0.50			0.50	
Clearance Time (s)		5.0						5.0			5.0	
Vehicle Extension (s)		0.2						0.2			0.2	
Lane Grp Cap (vph)		1187						1737			1680	
v/s Ratio Prot								0.10				
v/s Ratio Perm		0.06									c0.13	
v/c Ratio		0.15						0.19			0.26	
Uniform Delay, d1		15.3						9.7			10.1	
Progression Factor		0.46						1.00			0.72	
Incremental Delay, d2		0.2						0.2			0.3	
Delay (s)		7.3						9.9			7.7	
Level of Service		A						A			A	
Approach Delay (s/veh)		7.3			0.0			9.9			7.7	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		8.4										
HCM 2000 Volume to Capacity ratio		0.22										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		37.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th TWSC
37: S Grant Street & Market Street

Existing Conditions
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		LT						RT			LT	
Traffic Vol, veh/h	24	125	2	0	0	0	0	2	5	26	10	0
Future Vol, veh/h	24	125	2	0	0	0	0	2	5	26	10	0
Conflicting Peds, #/hr	2	0	1	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	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	149	2	0	0	0	0	2	6	31	12	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	2	0	0	-	211	77	136	212	-
Stage 1	-	-	-	-	209	-	2	2	-
Stage 2	-	-	-	-	2	-	134	210	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1619	-	-	0	685	968	822	684	0
Stage 1	-	-	-	0	728	-	-	-	0
Stage 2	-	-	-	0	-	-	855	727	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1616	-	-	-	669	967	801	668	-
Mov Cap-2 Maneuver	-	-	-	-	669	-	801	668	-
Stage 1	-	-	-	-	713	-	-	-	-
Stage 2	-	-	-	-	-	-	830	712	-

Approach	EB	NB	SB
HCM Control Delay, s/v	1.2	9.2	10
HCM LOS	A	A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	858	1616	-	-	759
HCM Lane V/C Ratio	0.01	0.018	-	-	0.056
HCM Control Delay (s/veh)	9.2	7.3	0.1	-	10
HCM Lane LOS	A	A	A	-	B
HCM 95th %tile Q (veh)	0	0.1	-	-	0.2

HCM 6th TWSC
38: S Aurora Street & Market Street

Existing Conditions
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	6.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		LT						RT			LT	
Traffic Vol, veh/h	26	104	21	0	0	0	0	115	28	8	53	0
Future Vol, veh/h	26	104	21	0	0	0	0	115	28	8	53	0
Conflicting Peds, #/hr	1	0	1	0	0	0	0	0	2	2	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	112	23	0	0	0	0	124	30	9	57	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	1	0	0	-	182	71	177	193	-
Stage 1	-	-	-	-	181	-	1	1	-
Stage 2	-	-	-	-	1	-	176	192	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1620	-	-	0	711	977	769	701	0
Stage 1	-	-	-	0	749	-	-	-	0
Stage 2	-	-	-	0	-	-	809	740	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1618	-	-	-	696	976	634	686	-
Mov Cap-2 Maneuver	-	-	-	-	696	-	634	686	-
Stage 1	-	-	-	-	734	-	-	-	-
Stage 2	-	-	-	-	-	-	640	725	-

Approach	EB	NB	SB
HCM Control Delay, s/v	1.3	11.2	10.9
HCM LOS	B	B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	737	1618	-	-	679
HCM Lane V/C Ratio	0.209	0.017	-	-	0.097
HCM Control Delay (s/veh)	11.2	7.3	0	-	10.9
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.8	0.1	-	-	0.3

HCM 6th TWSC
39: Union Street & Market Street

Existing Conditions
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	6.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EB						EB			EB	
Traffic Vol, veh/h	17	142	7	0	0	0	0	87	27	16	91	0
Future Vol, veh/h	17	142	7	0	0	0	0	87	27	16	91	0
Conflicting Peds, #/hr	0	0	3	0	0	0	0	0	1	1	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	153	8	0	0	0	0	94	29	17	98	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	0	-	196	85	161	200	-
Stage 1	-	-	-	-	196	-	0	0	-
Stage 2	-	-	-	-	0	-	161	200	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	-	-	-	0	698	957	789	695	0
Stage 1	-	-	-	0	737	-	-	-	0
Stage 2	-	-	-	0	-	-	825	735	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	696	954	686	693	-
Mov Cap-2 Maneuver	-	-	-	-	696	-	686	693	-
Stage 1	-	-	-	-	735	-	-	-	-
Stage 2	-	-	-	-	-	-	698	733	-

Approach	EB	NB	SB
HCM Control Delay, s/v		10.8	11.2
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	744	-	-	-	692
HCM Lane V/C Ratio	0.165	-	-	-	0.166
HCM Control Delay (s/veh)	10.8	-	-	-	11.2
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q (veh)	0.6	-	-	-	0.6

HCM 6th TWSC
40: Pilgrim Street & Market Street

Existing Conditions
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		TT						T			T	
Traffic Vol, veh/h	11	172	3	0	0	0	0	11	10	15	8	0
Future Vol, veh/h	11	172	3	0	0	0	0	11	10	15	8	0
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	8	8	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	185	3	0	0	0	0	12	11	16	9	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	0	-	212	103	131	213	-
Stage 1	-	-	-	-	212	-	0	0	-
Stage 2	-	-	-	-	0	-	131	213	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	-	-	-	0	684	932	828	683	0
Stage 1	-	-	-	0	726	-	-	-	0
Stage 2	-	-	-	0	-	-	859	725	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	683	931	807	682	-
Mov Cap-2 Maneuver	-	-	-	-	683	-	807	682	-
Stage 1	-	-	-	-	725	-	-	-	-
Stage 2	-	-	-	-	-	-	835	724	-

Approach	EB	NB	SB
HCM Control Delay, s/v		9.7	9.9
HCM LOS		A	A
















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	782	-	-	-	759
HCM Lane V/C Ratio	0.029	-	-	-	0.033
HCM Control Delay (s/veh)	9.7	-	-	-	9.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0.1	-	-	-	0.1

HCM 6th Signalized Intersection Summary

41: Airport Way & Market Street

Existing Conditions

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	136	22	0	0	0	0	845	53	97	688	0
Future Volume (veh/h)	23	136	22	0	0	0	0	845	53	97	688	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.98	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	25	149	24				0	929	58	107	756	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	39	242	40				0	2714	169	289	1972	0
Arrive On Green	0.09	0.09	0.09				0.00	0.80	0.80	1.00	1.00	0.00
Sat Flow, veh/h	443	2729	456				0	3485	212	297	2549	0
Grp Volume(v), veh/h	104	0	94				0	487	500	367	496	0
Grp Sat Flow(s),veh/h/ln	1848	0	1779				0	1777	1826	1144	1617	0
Q Serve(g_s), s	4.9	0.0	4.6				0.0	6.8	6.8	1.3	0.0	0.0
Cycle Q Clear(g_c), s	4.9	0.0	4.6				0.0	6.8	6.8	8.1	0.0	0.0
Prop In Lane	0.24		0.26				0.00		0.12	0.29		0.00
Lane Grp Cap(c), veh/h	164	0	158				0	1422	1461	967	1294	0
V/C Ratio(X)	0.64	0.00	0.59				0.00	0.34	0.34	0.38	0.38	0.00
Avail Cap(c_a), veh/h	452	0	435				0	1422	1461	967	1294	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.94	0.94	0.00
Uniform Delay (d), s/veh	39.6	0.0	39.5				0.0	2.5	2.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	1.3				0.0	0.7	0.6	1.1	0.8	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
%ile BackOfQ(50%),veh/ln	2.3	0.0	2.0				0.0	1.5	1.6	0.3	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.1	0.0	40.8				0.0	3.1	3.1	1.1	0.8	0.0
LnGrp LOS	D		D					A	A	A	A	
Approach Vol, veh/h		198						987			863	
Approach Delay, s/veh		41.0						3.1			0.9	
Approach LOS		D						A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		77.0				77.0		13.0				
Change Period (Y+Rc), s		5.0				5.0		5.0				
Max Green Setting (Gmax), s		58.0				58.0		22.0				
Max Q Clear Time (g_c+I1), s		10.1				8.8		6.9				
Green Ext Time (p_c), s		1.3				0.9		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			5.9									
HCM 6th LOS			A									

HCM 6th TWSC
42: Sierra Nevada Street & Market Street

Existing Conditions
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		LT						RT			LT	
Traffic Vol, veh/h	23	260	5	0	0	0	0	20	15	70	26	0
Future Vol, veh/h	23	260	5	0	0	0	0	20	15	70	26	0
Conflicting Peds, #/hr	1	0	3	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	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	277	5	0	0	0	0	21	16	74	28	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	1	0	0	-	332	144	198	334	-
Stage 1	-	-	-	-	331	-	1	1	-
Stage 2	-	-	-	-	1	-	197	333	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1620	-	-	0	586	877	743	585	0
Stage 1	-	-	-	0	644	-	-	-	0
Stage 2	-	-	-	0	-	-	786	642	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1618	-	-	-	573	874	698	572	-
Mov Cap-2 Maneuver	-	-	-	-	573	-	698	572	-
Stage 1	-	-	-	-	630	-	-	-	-
Stage 2	-	-	-	-	-	-	732	629	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.7	10.7	11.5
HCM LOS		B	B

















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	672	1618	-	-	659
HCM Lane V/C Ratio	0.055	0.015	-	-	0.155
HCM Control Delay (s/veh)	10.7	7.3	0.1	-	11.5
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.2	0	-	-	0.5

HCM 6th Signalized Intersection Summary

43: S Wilson Way & Market Street

Existing Conditions

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	238	75	0	0	0	0	850	112	188	814	0
Future Volume (veh/h)	38	238	75	0	0	0	0	850	112	188	814	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	40	251	79				0	895	118	198	857	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	57	367	120				0	1743	230	228	2615	0
Arrive On Green	0.05	0.05	0.05				0.00	0.55	0.55	0.26	1.00	0.00
Sat Flow, veh/h	373	2399	786				0	3249	416	1781	3647	0
Grp Volume(v), veh/h	198	0	172				0	504	509	198	857	0
Grp Sat Flow(s),veh/h/ln	1852	0	1707				0	1777	1795	1781	1777	0
Q Serve(g_s), s	9.5	0.0	8.9				0.0	16.0	16.0	9.6	0.0	0.0
Cycle Q Clear(g_c), s	9.5	0.0	8.9				0.0	16.0	16.0	9.6	0.0	0.0
Prop In Lane	0.20		0.46				0.00		0.23	1.00		0.00
Lane Grp Cap(c), veh/h	283	0	261				0	981	991	228	2615	0
V/C Ratio(X)	0.70	0.00	0.66				0.00	0.51	0.51	0.87	0.33	0.00
Avail Cap(c_a), veh/h	432	0	398				0	981	991	257	2615	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.93	0.93	0.00
Uniform Delay (d), s/veh	40.7	0.0	40.4				0.0	12.6	12.6	32.7	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	1.1				0.0	1.9	1.9	20.6	0.3	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
%ile BackOfQ(50%),veh/ln	4.8	0.0	4.1				0.0	6.5	6.6	4.9	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.9	0.0	41.5				0.0	14.5	14.5	53.3	0.3	0.0
LnGrp LOS	D		D					B	B	D	A	
Approach Vol, veh/h		370						1013			1055	
Approach Delay, s/veh		41.7						14.5			10.3	
Approach LOS		D						B			B	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	16.5	54.7				71.2		18.8				
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0				
Max Green Setting (Gmax), s	13.0	41.0				59.0		21.0				
Max Q Clear Time (g_c+I1), s	11.6	18.0				2.0		11.5				
Green Ext Time (p_c), s	0.0	15.1				21.3		1.1				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			16.8									
HCM 6th LOS			B									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 6th TWSC
44: S Eugenia Street & Market Street

Existing Conditions
Timing Plan: PM Peak

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Traffic Vol, veh/h	550	12	0	0	0	42
Future Vol, veh/h	550	12	0	0	0	42
Conflicting Peds, #/hr	0	6	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, %	2	2	2	2	2	2
Mvmt Flow	598	13	0	0	0	46

Major/Minor	Major1		Minor1	
Conflicting Flow All	0	0	-	312
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	684
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-		
Mov Cap-1 Maneuver	-	-	-	680
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s/v	0	10.7
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	680	-	-
HCM Lane V/C Ratio	0.067	-	-
HCM Control Delay (s/veh)	10.7	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q (veh)	0.2	-	-

HCM 6th TWSC
45: Della Street & Market Street

Existing Conditions
Timing Plan: PM Peak

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EB						EB			EB	
Traffic Vol, veh/h	55	511	18	0	0	0	0	1	1	34	44	0
Future Vol, veh/h	55	511	18	0	0	0	0	1	1	34	44	0
Conflicting Peds, #/hr	2	0	1	0	0	0	0	0	1	1	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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	574	20	0	0	0	0	1	1	38	49	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	2	0	0	-	711	299	415	721	-
Stage 1	-	-	-	-	709	-	2	2	-
Stage 2	-	-	-	-	2	-	413	719	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1619	-	-	0	357	697	522	352	0
Stage 1	-	-	-	0	435	-	-	-	0
Stage 2	-	-	-	0	-	-	587	431	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1616	-	-	-	336	696	496	331	-
Mov Cap-2 Maneuver	-	-	-	-	336	-	496	331	-
Stage 1	-	-	-	-	410	-	-	-	-
Stage 2	-	-	-	-	-	-	551	406	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.9	13	17
HCM LOS		B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	453	1616	-	-	387
HCM Lane V/C Ratio	0.005	0.038	-	-	0.226
HCM Control Delay (s/veh)	13	7.3	0.2	-	17
HCM Lane LOS	B	A	A	-	C
HCM 95th %tile Q (veh)	0	0.1	-	-	0.9

Queues

Existing Conditions

2: S San Joaquin Street/N San Joaquin Street & Main Street

Timing Plan: AM PEAK



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	71	250	256
v/c Ratio	0.34	0.20	0.19
Control Delay (s/veh)	35.2	11.2	13.5
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	35.2	11.2	13.5
Queue Length 50th (ft)	16	26	34
Queue Length 95th (ft)	34	42	60
Internal Link Dist (ft)	301	264	331
Turn Bay Length (ft)			
Base Capacity (vph)	492	1225	1342
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.14	0.20	0.19
Intersection Summary			

Queues

3: S Sutter Street/N Sutter Street & Main Street

Existing Conditions

Timing Plan: AM PEAK

	←	↑	↓
Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	55	102	144
v/c Ratio	0.07	0.22	0.15
Control Delay (s/veh)	10.6	15.4	20.0
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	10.6	15.4	20.0
Queue Length 50th (ft)	7	20	24
Queue Length 95th (ft)	16	36	41
Internal Link Dist (ft)	298	256	344
Turn Bay Length (ft)			
Base Capacity (vph)	724	455	915
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.08	0.22	0.16
Intersection Summary			

Queues

Existing Conditions

4: California Street & Main Street

Timing Plan: AM PEAK



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	143	307	255
v/c Ratio	0.20	0.34	0.26
Control Delay (s/veh)	34.7	17.0	20.9
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	34.7	17.0	20.9
Queue Length 50th (ft)	31	56	45
Queue Length 95th (ft)	m47	85	70
Internal Link Dist (ft)	307	257	324
Turn Bay Length (ft)			
Base Capacity (vph)	701	897	952
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.20	0.34	0.27

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

5: S American Street/N American Street & Main Street

Existing Conditions

Timing Plan: AM PEAK



Lane Group	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	327	58	53	34
v/c Ratio	0.70	0.10	0.08	0.06
Control Delay (s/veh)	38.4	9.0	16.8	16.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.4	9.0	16.8	16.7
Queue Length 50th (ft)	72	8	16	10
Queue Length 95th (ft)	72	11	24	18
Internal Link Dist (ft)	303	260	330	
Turn Bay Length (ft)				
Base Capacity (vph)	463	539	612	508
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.71	0.11	0.09	0.07
Intersection Summary				

Queues

6: S Stanislaus Street/N Stanislaus Street & Main Street

Existing Conditions

Timing Plan: AM PEAK



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	179	712	311
v/c Ratio	0.14	0.48	0.17
Control Delay (s/veh)	15.1	10.2	9.4
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	15.1	10.2	9.4
Queue Length 50th (ft)	25	64	34
Queue Length 95th (ft)	36	73	42
Internal Link Dist (ft)	300	272	338
Turn Bay Length (ft)			
Base Capacity (vph)	1234	1455	1757
Starvation Cap Reductn	0	46	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.15	0.51	0.18
Intersection Summary			

Queues

11: Airport Way & Main Street

Existing Conditions

Timing Plan: AM PEAK



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	218	866	728
v/c Ratio	0.25	0.40	0.32
Control Delay (s/veh)	9.7	5.9	7.5
Queue Delay	0.0	0.1	0.0
Total Delay (s/veh)	9.7	6.0	7.5
Queue Length 50th (ft)	8	119	86
Queue Length 95th (ft)	54	11	115
Internal Link Dist (ft)	310	254	262
Turn Bay Length (ft)			
Base Capacity (vph)	864	2125	2274
Starvation Cap Reductn	0	440	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.25	0.51	0.32
Intersection Summary			

Queues

13: S Wilson Way & Main Street

Existing Conditions

Timing Plan: AM PEAK



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	245	215	33	753	689
v/c Ratio	0.51	0.52	0.06	0.28	0.26
Control Delay (s/veh)	38.5	9.4	9.1	7.6	4.4
Queue Delay	0.0	0.0	0.0	0.3	0.0
Total Delay (s/veh)	38.5	9.4	9.1	8.0	4.4
Queue Length 50th (ft)	70	0	4	51	45
Queue Length 95th (ft)	91	53	36	215	112
Internal Link Dist (ft)	710			271	283
Turn Bay Length (ft)		215	70		
Base Capacity (vph)	879	564	538	2651	2638
Starvation Cap Reductn	0	0	0	1275	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.28	0.38	0.06	0.55	0.26
Intersection Summary					

Queues

Existing Conditions

14: Market Street/E Market Street & Main St/Main Street

Timing Plan: AM PEAK



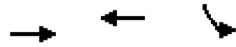
Lane Group	WBT	NET	SWR
Lane Group Flow (vph)	478	18	37
v/c Ratio	0.16	0.05	0.05
Control Delay (s/veh)	2.2	0.2	0.1
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	2.2	0.2	0.1
Queue Length 50th (ft)	17	0	0
Queue Length 95th (ft)	26	0	0
Internal Link Dist (ft)	87	10	
Turn Bay Length (ft)			
Base Capacity (vph)	3369	1130	1136
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.14	0.02	0.03
Intersection Summary			

Queues

17: Main Street & D Street

Existing Conditions

Timing Plan: AM PEAK



Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	291	447	15
v/c Ratio	0.12	0.14	0.03
Control Delay (s/veh)	2.1	1.5	7.1
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	2.1	1.5	7.1
Queue Length 50th (ft)	1	0	1
Queue Length 95th (ft)	20	29	9
Internal Link Dist (ft)	615	624	178
Turn Bay Length (ft)			
Base Capacity (vph)	3315	3490	1542
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.09	0.13	0.01
Intersection Summary			

Queues

20: S Filbert Street & Main Street

Existing Conditions

Timing Plan: AM PEAK







	→	←	↑	↘	↓
Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	284	625	67	247	82
v/c Ratio	0.27	0.47	0.23	0.56	0.18
Control Delay (s/veh)	16.0	12.8	24.8	26.5	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.0	12.8	24.8	26.5	11.3
Queue Length 50th (ft)	33	55	18	68	6
Queue Length 95th (ft)	95	159	61	193	46
Internal Link Dist (ft)	616	739	220		239
Turn Bay Length (ft)				50	
Base Capacity (vph)	2102	2466	749	1263	1192
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.14	0.25	0.09	0.20	0.07
Intersection Summary					

Queues

25: Golden Gate Avenue & Main Street







Existing Conditions

Timing Plan: AM PEAK

						
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	3	452	29	522	124	54
v/c Ratio	0.01	0.25	0.09	0.27	0.29	0.11
Control Delay (s/veh)	23.0	9.7	21.1	10.0	12.9	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	23.0	9.7	21.1	10.0	12.9	11.0
Queue Length 50th (ft)	1	21	4	27	16	6
Queue Length 95th (ft)	9	117	35	137	65	33
Internal Link Dist (ft)		249		250	364	346
Turn Bay Length (ft)	95		95			
Base Capacity (vph)	1113	3193	1113	3308	1279	1503
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.14	0.03	0.16	0.10	0.04
Intersection Summary						

Queues
27: Netherton Avenue & Main Street

Existing Conditions
Timing Plan: AM PEAK

						
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	4	370	32	515	77	108
v/c Ratio	0.01	0.19	0.09	0.26	0.18	0.25
Control Delay (s/veh)	21.5	9.5	19.5	9.2	6.6	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.5	9.5	19.5	9.2	6.6	7.6
Queue Length 50th (ft)	1	14	4	20	3	5
Queue Length 95th (ft)	10	100	36	132	28	39
Internal Link Dist (ft)		247		244	354	364
Turn Bay Length (ft)	90		90			
Base Capacity (vph)	1364	3175	1562	3240	1348	1368
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.12	0.02	0.16	0.06	0.08
Intersection Summary						

Queues
29: S Center Street & Market Street

Existing Conditions
Timing Plan: AM PEAK

	→	↓
Lane Group	EBT	SBT
Lane Group Flow (vph)	111	1500
v/c Ratio	0.12	0.48
Control Delay (s/veh)	14.4	9.3
Queue Delay	0.0	0.0
Total Delay (s/veh)	14.4	9.3
Queue Length 50th (ft)	13	140
Queue Length 95th (ft)	32	169
Internal Link Dist (ft)	316	666
Turn Bay Length (ft)		
Base Capacity (vph)	924	3111
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.12	0.48
Intersection Summary		

Queues
30: S El Dorado Street & Market Street

Existing Conditions
Timing Plan: AM PEAK

	→	↑
Lane Group	EBT	NBT
Lane Group Flow (vph)	236	1974
v/c Ratio	0.25	0.49
Control Delay (s/veh)	22.0	9.1
Queue Delay	0.0	0.0
Total Delay (s/veh)	22.0	9.1
Queue Length 50th (ft)	50	147
Queue Length 95th (ft)	80	163
Internal Link Dist (ft)	266	322
Turn Bay Length (ft)		
Base Capacity (vph)	909	3964
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.26	0.50
Intersection Summary		

Queues
32: S San Joaquin Street & Market Street

Existing Conditions
Timing Plan: AM PEAK

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	271	262	155
v/c Ratio	0.23	0.14	0.09
Control Delay (s/veh)	14.7	7.4	3.8
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	14.7	7.4	3.8
Queue Length 50th (ft)	36	23	5
Queue Length 95th (ft)	54	35	8
Internal Link Dist (ft)	297	287	264
Turn Bay Length (ft)			
Base Capacity (vph)	1169	1747	1563
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.23	0.15	0.10
Intersection Summary			

Queues

33: S Sutter Street & Market Street

Existing Conditions

Timing Plan: AM PEAK

	→	↑	↗	↓
Lane Group	EBT	NBT	NBR	SBT
Lane Group Flow (vph)	244	136	21	132
v/c Ratio	0.18	0.17	0.03	0.09
Control Delay (s/veh)	13.5	13.0	3.6	3.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.5	13.0	3.6	3.5
Queue Length 50th (ft)	25	35	0	3
Queue Length 95th (ft)	42	55	6	5
Internal Link Dist (ft)	296	293		256
Turn Bay Length (ft)				
Base Capacity (vph)	1352	798	626	1434
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.17	0.03	0.09
Intersection Summary				

Queues

34: California Street & Market Street

Existing Conditions

Timing Plan: AM PEAK

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	131	450	327
v/c Ratio	0.13	0.22	0.18
Control Delay (s/veh)	8.9	5.8	0.5
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	8.9	5.8	0.5
Queue Length 50th (ft)	9	34	1
Queue Length 95th (ft)	14	43	1
Internal Link Dist (ft)	309	298	257
Turn Bay Length (ft)			
Base Capacity (vph)	943	2034	1777
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.14	0.22	0.18
Intersection Summary			

Queues

35: S American Street & Market Street

Existing Conditions

Timing Plan: AM PEAK

	→	↓
Lane Group	EBT	SBT
Lane Group Flow (vph)	317	200
v/c Ratio	0.15	0.49
Control Delay (s/veh)	6.5	17.8
Queue Delay	0.0	0.0
Total Delay (s/veh)	6.5	17.8
Queue Length 50th (ft)	26	90
Queue Length 95th (ft)	27	55
Internal Link Dist (ft)	303	260
Turn Bay Length (ft)		
Base Capacity (vph)	1997	401
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.16	0.50
Intersection Summary		

Queues

36: S Stanislaus Street & Market Street

Existing Conditions

Timing Plan: AM PEAK

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	352	783	312
v/c Ratio	0.28	0.44	0.19
Control Delay (s/veh)	9.2	11.9	7.1
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	9.2	11.9	7.1
Queue Length 50th (ft)	21	103	15
Queue Length 95th (ft)	30	106	18
Internal Link Dist (ft)	304	325	272
Turn Bay Length (ft)			
Base Capacity (vph)	1255	1753	1628
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.28	0.45	0.19
Intersection Summary			

Queues
41: Airport Way & Market Street

Existing Conditions
Timing Plan: AM PEAK

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	134	949	743
v/c Ratio	0.38	0.34	0.35
Control Delay (s/veh)	33.5	3.8	3.4
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	33.5	3.8	3.5
Queue Length 50th (ft)	33	45	35
Queue Length 95th (ft)	50	158	56
Internal Link Dist (ft)	289	285	254
Turn Bay Length (ft)			
Base Capacity (vph)	847	2787	2071
Starvation Cap Reductn	0	0	228
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.16	0.34	0.40
Intersection Summary			

Queues
43: S Wilson Way & Market Street

Existing Conditions
Timing Plan: AM PEAK

	→	↑	↘	↓
Lane Group	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	218	797	126	663
v/c Ratio	0.48	0.38	0.62	0.24
Control Delay (s/veh)	35.0	11.2	46.4	4.5
Queue Delay	0.0	0.0	0.0	0.1
Total Delay (s/veh)	35.0	11.2	46.4	4.7
Queue Length 50th (ft)	52	106	71	67
Queue Length 95th (ft)	61	211	126	135
Internal Link Dist (ft)	296	296		271
Turn Bay Length (ft)			90	
Base Capacity (vph)	824	2095	255	2720
Starvation Cap Reductn	0	0	0	1161
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.26	0.38	0.49	0.43
Intersection Summary				

Queues

Existing Conditions

2: S San Joaquin Street/N San Joaquin Street & Main Street

Timing Plan: PM Peak



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	84	146	165
v/c Ratio	0.38	0.10	0.11
Control Delay (s/veh)	36.5	9.5	13.0
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	36.5	9.5	13.0
Queue Length 50th (ft)	19	13	22
Queue Length 95th (ft)	37	21	40
Internal Link Dist (ft)	301	264	331
Turn Bay Length (ft)			
Base Capacity (vph)	492	1387	1441
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.17	0.11	0.11
Intersection Summary			

Queues

3: S Sutter Street/N Sutter Street & Main Street

Existing Conditions

Timing Plan: PM Peak



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	79	186	137
v/c Ratio	0.11	0.38	0.14
Control Delay (s/veh)	15.0	16.8	19.9
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	15.0	16.8	19.9
Queue Length 50th (ft)	14	37	23
Queue Length 95th (ft)	27	55	38
Internal Link Dist (ft)	298	256	344
Turn Bay Length (ft)			
Base Capacity (vph)	708	488	916
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.11	0.38	0.15
Intersection Summary			

Queues

Existing Conditions

4: California Street & Main Street

Timing Plan: PM Peak

	←	↑	↓
Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	107	258	295
v/c Ratio	0.15	0.28	0.30
Control Delay (s/veh)	39.8	17.7	21.3
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	39.8	17.7	21.3
Queue Length 50th (ft)	25	48	53
Queue Length 95th (ft)	47	75	81
Internal Link Dist (ft)	307	257	324
Turn Bay Length (ft)			
Base Capacity (vph)	713	900	955
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.15	0.29	0.31
Intersection Summary			

Queues

Existing Conditions

5: S American Street/N American Street & Main Street

Timing Plan: PM Peak



Lane Group	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	134	32	14	18
v/c Ratio	0.25	0.05	0.02	0.03
Control Delay (s/veh)	25.0	8.7	16.1	16.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.0	8.7	16.1	16.3
Queue Length 50th (ft)	26	4	4	5
Queue Length 95th (ft)	49	11	14	17
Internal Link Dist (ft)	303	260	330	
Turn Bay Length (ft)				
Base Capacity (vph)	530	600	612	512
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.05	0.02	0.04
Intersection Summary				

Queues

Existing Conditions

6: S Stanislaus Street/N Stanislaus Street & Main Street

Timing Plan: PM Peak



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	143	313	330
v/c Ratio	0.11	0.20	0.18
Control Delay (s/veh)	14.0	8.2	9.8
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	14.0	8.2	9.8
Queue Length 50th (ft)	19	26	37
Queue Length 95th (ft)	37	40	59
Internal Link Dist (ft)	300	272	338
Turn Bay Length (ft)			
Base Capacity (vph)	1220	1553	1764
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.12	0.20	0.19
Intersection Summary			

Queues

11: Airport Way & Main Street

Existing Conditions

Timing Plan: PM Peak

	←	↑	↓
Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	189	926	806
v/c Ratio	0.22	0.43	0.35
Control Delay (s/veh)	10.8	5.7	7.8
Queue Delay	0.0	0.1	0.0
Total Delay (s/veh)	10.8	5.8	7.8
Queue Length 50th (ft)	14	129	98
Queue Length 95th (ft)	51	10	130
Internal Link Dist (ft)	310	254	262
Turn Bay Length (ft)			
Base Capacity (vph)	851	2153	2274
Starvation Cap Reductn	0	381	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.22	0.52	0.35
Intersection Summary			

Queues

13: S Wilson Way & Main Street

Existing Conditions

Timing Plan: PM Peak



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	224	189	28	965	992
v/c Ratio	0.48	0.56	0.07	0.36	0.37
Control Delay (s/veh)	38.3	16.1	11.4	10.3	4.9
Queue Delay	0.0	0.0	0.0	0.9	0.0
Total Delay (s/veh)	38.3	16.1	11.4	11.2	4.9
Queue Length 50th (ft)	64	22	5	112	71
Queue Length 95th (ft)	84	72	m23	286	176
Internal Link Dist (ft)	710			271	283
Turn Bay Length (ft)		215	70		
Base Capacity (vph)	882	508	380	2668	2655
Starvation Cap Reductn	0	0	0	1334	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.25	0.37	0.07	0.72	0.37

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Existing Conditions

14: Market Street/E Market Street & Main St/Main Street

Timing Plan: PM Peak



Lane Group	WBT	NET	SWR
Lane Group Flow (vph)	387	17	29
v/c Ratio	0.12	0.04	0.04
Control Delay (s/veh)	1.5	0.2	0.1
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	1.5	0.2	0.1
Queue Length 50th (ft)	0	0	0
Queue Length 95th (ft)	21	0	0
Internal Link Dist (ft)	87	10	
Turn Bay Length (ft)			
Base Capacity (vph)	3369	1131	1166
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.11	0.02	0.02
Intersection Summary			

Queues
17: Main Street & D Street

Existing Conditions
Timing Plan: PM Peak



Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	463	394	18
v/c Ratio	0.15	0.12	0.03
Control Delay (s/veh)	1.5	1.5	7.2
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	1.5	1.5	7.2
Queue Length 50th (ft)	0	0	1
Queue Length 95th (ft)	32	26	10
Internal Link Dist (ft)	615	624	178
Turn Bay Length (ft)			
Base Capacity (vph)	3281	3459	1541
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.14	0.11	0.01
Intersection Summary			

Queues

20: S Filbert Street & Main Street







Existing Conditions

Timing Plan: PM Peak

	→	←	↑	↘	↓
Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	468	571	81	411	112
v/c Ratio	0.49	0.49	0.35	0.72	0.19
Control Delay (s/veh)	21.4	14.2	33.7	28.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.4	14.2	33.7	28.7	8.7
Queue Length 50th (ft)	75	57	27	139	10
Queue Length 95th (ft)	161	138	84	289	47
Internal Link Dist (ft)	616	739	220		239
Turn Bay Length (ft)				50	
Base Capacity (vph)	1906	2142	642	1076	1039
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.25	0.27	0.13	0.38	0.11
Intersection Summary					







Queues
25: Golden Gate Avenue & Main Street

Existing Conditions
Timing Plan: PM Peak

						
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	9	719	24	434	186	55
v/c Ratio	0.04	0.48	0.11	0.25	0.50	0.12
Control Delay (s/veh)	29.2	12.4	28.5	9.6	21.8	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	29.2	12.4	28.5	9.6	21.8	14.9
Queue Length 50th (ft)	2	44	5	26	33	8
Queue Length 95th (ft)	18	185	33	110	122	39
Internal Link Dist (ft)		249		250	364	346
Turn Bay Length (ft)	95		95			
Base Capacity (vph)	811	2971	811	3113	1141	1373
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.24	0.03	0.14	0.16	0.04
Intersection Summary						

Queues
27: Netherton Avenue & Main Street

Existing Conditions
Timing Plan: PM Peak

						
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	11	480	38	396	95	87
v/c Ratio	0.03	0.26	0.10	0.21	0.21	0.21
Control Delay (s/veh)	20.1	9.8	18.7	9.3	6.6	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	20.1	9.8	18.7	9.3	6.6	7.8
Queue Length 50th (ft)	1	18	4	15	3	4
Queue Length 95th (ft)	19	130	40	103	33	35
Internal Link Dist (ft)		247		244	354	364
Turn Bay Length (ft)	90		90			
Base Capacity (vph)	1413	3151	1571	3237	1331	1311
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.15	0.02	0.12	0.07	0.07
Intersection Summary						

Queues
29: S Center Street & Market Street

Existing Conditions
Timing Plan: PM Peak

	→	↓
Lane Group	EBT	SBT
Lane Group Flow (vph)	107	2008
v/c Ratio	0.11	0.65
Control Delay (s/veh)	20.2	12.3
Queue Delay	0.0	0.0
Total Delay (s/veh)	20.2	12.3
Queue Length 50th (ft)	19	232
Queue Length 95th (ft)	38	281
Internal Link Dist (ft)	316	666
Turn Bay Length (ft)		
Base Capacity (vph)	905	3054
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.12	0.66
Intersection Summary		

Queues
30: S El Dorado Street & Market Street

Existing Conditions
Timing Plan: PM Peak

	→	↑
Lane Group	EBT	NBT
Lane Group Flow (vph)	129	1547
v/c Ratio	0.12	0.41
Control Delay (s/veh)	16.5	9.8
Queue Delay	0.0	0.0
Total Delay (s/veh)	16.5	9.8
Queue Length 50th (ft)	17	118
Queue Length 95th (ft)	m33	142
Internal Link Dist (ft)	266	322
Turn Bay Length (ft)		
Base Capacity (vph)	1036	3755
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.12	0.41
Intersection Summary		
m Volume for 95th percentile queue is metered by upstream signal.		

Queues

32: S San Joaquin Street & Market Street

Existing Conditions

Timing Plan: PM Peak

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	157	189	164
v/c Ratio	0.13	0.11	0.09
Control Delay (s/veh)	12.0	6.3	3.3
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	12.0	6.3	3.3
Queue Length 50th (ft)	17	14	4
Queue Length 95th (ft)	35	28	7
Internal Link Dist (ft)	297	287	264
Turn Bay Length (ft)			
Base Capacity (vph)	1164	1714	1669
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.13	0.11	0.10
Intersection Summary			

Queues

33: S Sutter Street & Market Street

Existing Conditions

Timing Plan: PM Peak

	→	↑	↗	↓
Lane Group	EBT	NBT	NBR	SBT
Lane Group Flow (vph)	191	147	54	187
v/c Ratio	0.13	0.18	0.08	0.13
Control Delay (s/veh)	13.2	13.2	4.2	8.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.2	13.2	4.2	8.7
Queue Length 50th (ft)	21	38	0	13
Queue Length 95th (ft)	35	59	13	20
Internal Link Dist (ft)	296	293		256
Turn Bay Length (ft)				
Base Capacity (vph)	1428	798	630	1374
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.13	0.18	0.09	0.14
Intersection Summary				

Queues

34: California Street & Market Street

Existing Conditions

Timing Plan: PM Peak

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	169	247	308
v/c Ratio	0.17	0.12	0.16
Control Delay (s/veh)	12.3	5.6	0.2
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	12.3	5.6	0.2
Queue Length 50th (ft)	14	18	0
Queue Length 95th (ft)	28	33	0
Internal Link Dist (ft)	309	298	257
Turn Bay Length (ft)			
Base Capacity (vph)	947	2036	1877
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.18	0.12	0.16
Intersection Summary			

Queues

35: S American Street & Market Street

Existing Conditions

Timing Plan: PM Peak



Lane Group	EBT	SBT
Lane Group Flow (vph)	256	55
v/c Ratio	0.12	0.13
Control Delay (s/veh)	4.4	15.6
Queue Delay	0.0	0.0
Total Delay (s/veh)	4.4	15.6
Queue Length 50th (ft)	17	12
Queue Length 95th (ft)	21	28
Internal Link Dist (ft)	303	260
Turn Bay Length (ft)		
Base Capacity (vph)	2005	408
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.13	0.13
Intersection Summary		

Queues

36: S Stanislaus Street & Market Street

Existing Conditions

Timing Plan: PM Peak

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	234	360	452
v/c Ratio	0.18	0.20	0.26
Control Delay (s/veh)	5.1	9.3	7.8
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	5.1	9.3	7.8
Queue Length 50th (ft)	0	38	24
Queue Length 95th (ft)	1	55	32
Internal Link Dist (ft)	304	325	272
Turn Bay Length (ft)			
Base Capacity (vph)	1238	1751	1681
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.19	0.21	0.27
Intersection Summary			

Queues
41: Airport Way & Market Street

Existing Conditions
Timing Plan: PM Peak

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	198	987	863
v/c Ratio	0.51	0.36	0.44
Control Delay (s/veh)	37.9	4.1	4.3
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	37.9	4.1	4.4
Queue Length 50th (ft)	53	56	41
Queue Length 95th (ft)	72	167	67
Internal Link Dist (ft)	289	285	254
Turn Bay Length (ft)			
Base Capacity (vph)	854	2736	1938
Starvation Cap Reductn	0	0	2
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.23	0.36	0.45
Intersection Summary			

Queues
43: S Wilson Way & Market Street

Existing Conditions
Timing Plan: PM Peak

	→	↑	↘	↓
Lane Group	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	370	1013	198	857
v/c Ratio	0.66	0.54	0.74	0.33
Control Delay (s/veh)	42.6	16.3	50.3	6.4
Queue Delay	0.2	0.0	0.0	0.2
Total Delay (s/veh)	42.8	16.3	50.3	6.6
Queue Length 50th (ft)	104	191	109	113
Queue Length 95th (ft)	97	286	#220	191
Internal Link Dist (ft)	296	296		271
Turn Bay Length (ft)			90	
Base Capacity (vph)	818	1842	280	2594
Starvation Cap Reductn	0	0	0	917
Spillback Cap Reductn	92	69	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.51	0.57	0.71	0.51

Intersection Summary


95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

Existing Build Conditions

2: S San Joaquin Street/N San Joaquin Street & Main Street


Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Volume (vph)	0	0	0	13	25	28	55	175	0	0	119	117
Future Volume (vph)	0	0	0	13	25	28	55	175	0	0	119	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			0.95			0.95	
Frpb, ped/bikes					0.95			1.00			0.96	
Flpb, ped/bikes					0.96			0.99			1.00	
Frt					0.94			1.00			0.92	
Flt Protected					0.99			0.98			1.00	
Satd. Flow (prot)					1601			3469			3166	
Flt Permitted					0.99			0.83			1.00	
Satd. Flow (perm)					1601			2914			3166	
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)	0	0	0	14	27	30	60	190	0	0	129	127
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	71	0	0	250	0	0	256	0
Confl. Peds. (#/hr)				45		31	39					39
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					6.0			28.0			28.0	
Effective Green, g (s)					6.0			28.0			28.0	
Actuated g/C Ratio					0.09			0.40			0.40	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					137			1165			1266	
v/s Ratio Prot											0.08	
v/s Ratio Perm					0.04			0.09				
v/c Ratio					0.51			0.21			0.20	
Uniform Delay, d1					30.6			13.7			13.7	
Progression Factor					0.88			0.81			1.00	
Incremental Delay, d2					1.3			0.4			0.3	
Delay (s)					28.5			11.6			14.0	
Level of Service					C			B			B	
Approach Delay (s/veh)		0.0			28.5			11.6			14.0	
Approach LOS		A			C			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			14.8									
HCM 2000 Volume to Capacity ratio			0.16									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			32.6%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: S Sutter Street/N Sutter Street & Main Street

Existing Build Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↕	
Traffic Volume (vph)	0	0	0	9	30	6	20	64	0	0	94	24
Future Volume (vph)	0	0	0	9	30	6	20	64	0	0	94	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			1.00			0.95	
Frpb, ped/bikes					0.99			1.00			0.97	
Flpb, ped/bikes					0.98			0.97			1.00	
Frt					0.98			1.00			0.96	
Flt Protected					0.99			0.98			1.00	
Satd. Flow (prot)					1783			1796			3332	
Flt Permitted					0.99			0.91			1.00	
Satd. Flow (perm)					1783			1662			3332	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	11	37	7	24	78	0	0	115	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	55	0	0	102	0	0	144	0
Confl. Peds. (#/hr)				36		13	69					69
Confl. Bikes (#/hr)												1
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			4			4	
Permitted Phases				2			4					
Actuated Green, G (s)					15.0			19.0			19.0	
Effective Green, g (s)					15.0			19.0			19.0	
Actuated g/C Ratio					0.21			0.27			0.27	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					382			451			904	
v/s Ratio Prot											0.04	
v/s Ratio Perm					0.03			c0.06				
v/c Ratio					0.14			0.22			0.15	
Uniform Delay, d1					22.2			19.7			19.4	
Progression Factor					0.50			0.68			1.00	
Incremental Delay, d2					0.7			1.1			0.3	
Delay (s)					12.0			14.7			19.7	
Level of Service					B			B			B	
Approach Delay (s/veh)		0.0			12.0			14.7			19.7	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			16.7									HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio			0.11									
Actuated Cycle Length (s)			70.0								13.0	
Intersection Capacity Utilization			22.8%									ICU Level of Service A
Analysis Period (min)			15									
















c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

4: California Street & Main Street

Existing Build Conditions

















Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	63	26	34	13	251	0	0	208	11
Future Volume (vph)	0	0	0	63	26	34	13	251	0	0	208	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			0.99	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.96			1.00			0.99	
Flt Protected					0.97			0.99			1.00	
Satd. Flow (prot)					1719			1858			1847	
Flt Permitted					0.97			0.97			1.00	
Satd. Flow (perm)					1719			1821			1847	
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)	0	0	0	73	30	40	15	292	0	0	242	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	143	0	0	307	0	0	255	0
Confl. Peds. (#/hr)				7		4	5					5
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					15.0			19.0			19.0	
Effective Green, g (s)					15.0			19.0			19.0	
Actuated g/C Ratio					0.21			0.27			0.27	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					368			494			501	
v/s Ratio Prot											0.14	
v/s Ratio Perm					0.08			0.17				
v/c Ratio					0.38			0.62			0.50	
Uniform Delay, d1					23.5			22.3			21.5	
Progression Factor					1.51			0.71			1.00	
Incremental Delay, d2					2.1			5.3			3.6	
Delay (s)					37.8			21.3			25.2	
Level of Service					D			C			C	
Approach Delay (s/veh)		0.0			37.8			21.3			25.2	
Approach LOS		A			D			C			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			26.1									
HCM 2000 Volume to Capacity ratio			0.31									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			39.2%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: S American Street/N American Street & Main Street


Existing Build Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	82	87	24	16	18	0	0	31	20
Future Volume (vph)	0	0	0	82	87	24	16	18	0	0	31	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	5.0
Lane Util. Factor					1.00			1.00			1.00	1.00
Frpb, ped/bikes					0.99			1.00			1.00	0.96
Flpb, ped/bikes					0.90			0.99			1.00	1.00
Frt					0.98			1.00			1.00	0.85
Flt Protected					0.97			0.97			1.00	1.00
Satd. Flow (prot)					1617			1804			1863	1520
Flt Permitted					0.97			0.87			1.00	1.00
Satd. Flow (perm)					1617			1620			1863	1520
Peak-hour factor, PHF	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
Adj. Flow (vph)	0	0	0	139	147	41	27	31	0	0	53	34
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	327	0	0	58	0	0	53	34
Confl. Peds. (#/hr)				96		2	11					11
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			4			4	
Permitted Phases				2			4					4
Actuated Green, G (s)					15.0			19.0			19.0	19.0
Effective Green, g (s)					15.0			19.0			19.0	19.0
Actuated g/C Ratio					0.21			0.27			0.27	0.27
Clearance Time (s)					5.0			5.0			5.0	5.0
Vehicle Extension (s)					0.2			0.2			0.2	0.2
Lane Grp Cap (vph)					346			439			505	412
v/s Ratio Prot											0.03	
v/s Ratio Perm					0.20			0.04				0.02
v/c Ratio					0.94			0.13			0.10	0.08
Uniform Delay, d1					27.0			19.2			19.1	19.0
Progression Factor					1.01			0.97			1.00	1.00
Incremental Delay, d2					35.6			0.6			0.4	0.3
Delay (s)					63.2			19.3			19.5	19.3
Level of Service					E			B			B	B
Approach Delay (s/veh)		0.0			63.2			19.3			19.4	
Approach LOS		A			E			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			49.8									
HCM 2000 Volume to Capacity ratio			0.29									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			29.8%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis




6: S Stanislaus Street/N Stanislaus Street & Main Street

Existing Build Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Volume (vph)	0	0	0	46	78	5	86	427	0	0	209	15
Future Volume (vph)	0	0	0	46	78	5	86	427	0	0	209	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			0.95			0.95	
Frpb, ped/bikes					0.99			1.00			0.99	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.99			1.00			0.98	
Flt Protected					0.98			0.99			1.00	
Satd. Flow (prot)					1816			3504			3495	
Flt Permitted					0.98			0.82			1.00	
Satd. Flow (perm)					1816			2906			3495	
Peak-hour factor, PHF	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Adj. Flow (vph)	0	0	0	64	108	7	119	593	0	0	290	21
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	0	0	0	179	0	0	712	0	0	304	0
Confl. Peds. (#/hr)				5		2	7					7
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					1			2			2	
Permitted Phases				1			2					
Actuated Green, G (s)					25.0			35.0			35.0	
Effective Green, g (s)					25.0			35.0			35.0	
Actuated g/C Ratio					0.36			0.50			0.50	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					648			1453			1747	
v/s Ratio Prot											0.09	
v/s Ratio Perm					0.10			c0.24				
v/c Ratio					0.27			0.49			0.17	
Uniform Delay, d1					16.0			11.5			9.5	
Progression Factor					1.00			0.72			1.00	
Incremental Delay, d2					1.0			1.0			0.2	
Delay (s)					17.1			9.5			9.7	
Level of Service					B			A			A	
Approach Delay (s/veh)		0.0			17.1			9.5			9.7	
Approach LOS		A			B			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			10.7									
HCM 2000 Volume to Capacity ratio			0.40									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			55.1%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
7: S Grant Street/N Grant Street & Main Street

Existing Build Conditions
Timing Plan: AM PEAK

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	0	0	0	6	107	7	9	43	0	0	16	16
Future Vol, veh/h	0	0	0	6	107	7	9	43	0	0	16	16
Conflicting Peds, #/hr	0	0	0	2	0	5	4	0	0	0	0	4
Sign Control	Stop	Stop	Stop	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	65	65	65	65	65	65	65	65	65	65	65	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	9	165	11	14	66	0	0	25	25




Major/Minor	Major2		Minor1		Minor2	
Conflicting Flow All	2	0	0	220	201	-
Stage 1	-	-	-	2	2	-
Stage 2	-	-	-	218	199	-
Critical Hdwy	4.12	-	-	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	3.518	4.018	-
Pot Cap-1 Maneuver	1620	-	-	736	695	0
Stage 1	-	-	-	-	-	0
Stage 2	-	-	-	784	736	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1617	-	-	691	686	-
Mov Cap-2 Maneuver	-	-	-	691	686	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	732	728	-

Approach	WB	NB	SB
HCM Control Delay, s/v	0.4	10.9	10
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	687	1617	-	-	765
HCM Lane V/C Ratio	0.116	0.006	-	-	0.064
HCM Control Delay (s/veh)	10.9	7.2	0	-	10
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.4	0	-	-	0.2

HCM 6th TWSC
8: S Aurora Street/N Aurora Street & Main Street

Existing Build Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	9	103	4	24	103	0	0	34	6
Future Vol, veh/h	0	0	0	9	103	4	24	103	0	0	34	6
Conflicting Peds, #/hr	0	0	0	1	0	4	2	0	0	0	0	2
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	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	12	141	5	33	141	0	0	47	8

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1622	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1620	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-




Approach	WB	NB	SB
HCM Control Delay, s/v	0.6	11.7	10.3
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	710	1620	-	-	733
HCM Lane V/C Ratio	0.245	0.008	-	-	0.075
HCM Control Delay (s/veh)	11.7	7.2	0	-	10.3
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	1	0	-	-	0.2

HCM 6th AWSC
9: Union Street & Main Street

Existing Build Conditions
Timing Plan: AM PEAK

Intersection												
Intersection Delay, s/veh	8.1											
Intersection LOS	A											




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	12	96	14	9	90	0	0	66	9
Future Vol, veh/h	0	0	0	12	96	14	9	90	0	0	66	9
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	14	112	16	10	105	0	0	77	10
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB			NB			SB		
Opposing Approach				SB			NB		
Opposing Lanes	0			1			1		
Conflicting Approach Left	NB						WB		
Conflicting Lanes Left	1			0			1		
Conflicting Approach Right	SB			WB					
Conflicting Lanes Right	1			1			0		
HCM Control Delay, s/veh	8.2			8.1			7.8		
HCM LOS	A			A			A		

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	9%	10%	0%
Vol Thru, %	91%	79%	88%
Vol Right, %	0%	11%	12%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	99	122	75
LT Vol	9	12	0
Through Vol	90	96	66
RT Vol	0	14	9
Lane Flow Rate	115	142	87
Geometry Grp	1	1	1
Degree of Util (X)	0.14	0.171	0.105
Departure Headway (Hd)	4.374	4.342	4.315
Convergence, Y/N	Yes	Yes	Yes
Cap	823	828	834
Service Time	2.385	2.353	2.326
HCM Lane V/C Ratio	0.14	0.171	0.104
HCM Control Delay, s/veh	8.1	8.2	7.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.6	0.4

HCM 6th TWSC
10: Pilgrim Street & Main Street

Existing Build Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	9	122	5	3	7	0	0	11	0
Future Vol, veh/h	0	0	0	9	122	5	3	7	0	0	11	0
Conflicting Peds, #/hr	0	0	0	4	0	4	3	0	0	0	0	3
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	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	13	174	7	4	10	0	0	16	0

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	4	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1618	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1612	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-
















Approach	WB	NB	SB
HCM Control Delay, s/v	0.5	10.4	10.5
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	684	1612	-	-	673
HCM Lane V/C Ratio	0.021	0.008	-	-	0.023
HCM Control Delay (s/veh)	10.4	7.3	0	-	10.5
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1

HCM 6th Signalized Intersection Summary




11: Airport Way & Main Street

Existing Build Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	35	103	64	18	788	0	0	662	15
Future Volume (veh/h)	0	0	0	35	103	64	18	788	0	0	662	15
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	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
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				38	111	69	19	847	0	0	712	16
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				48	141	88	67	2481	0	0	2593	58
Arrive On Green				0.05	0.05	0.05	1.00	1.00	0.00	0.00	0.73	0.73
Sat Flow, veh/h				305	889	553	34	3484	0	0	3646	80
Grp Volume(v), veh/h				218	0	0	459	407	0	0	356	372
Grp Sat Flow(s),veh/h/ln				1747	0	0	1816	1617	0	0	1777	1856
Q Serve(g_s), s				11.1	0.0	0.0	0.0	0.0	0.0	0.0	6.1	6.1
Cycle Q Clear(g_c), s				11.1	0.0	0.0	0.0	0.0	0.0	0.0	6.1	6.1
Prop In Lane				0.17		0.32	0.04		0.00	0.00		0.04
Lane Grp Cap(c), veh/h				278	0	0	1367	1180	0	0	1297	1354
V/C Ratio(X)				0.78	0.00	0.00	0.34	0.35	0.00	0.00	0.27	0.27
Avail Cap(c_a), veh/h				427	0	0	1367	1180	0	0	1297	1354
HCM Platoon Ratio				0.33	0.33	0.33	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.94	0.94	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				41.1	0.0	0.0	0.0	0.0	0.0	0.0	4.1	4.1
Incr Delay (d2), s/veh				2.3	0.0	0.0	0.6	0.8	0.0	0.0	0.5	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
%ile BackOfQ(50%),veh/ln				5.4	0.0	0.0	0.2	0.2	0.0	0.0	1.8	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				43.4	0.0	0.0	0.6	0.8	0.0	0.0	4.6	4.6
LnGrp LOS				D			A	A			A	A
Approach Vol, veh/h					218			866			728	
Approach Delay, s/veh					43.4			0.7			4.6	
Approach LOS					D			A			A	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	70.7			19.3			70.7					
Change Period (Y+Rc), s	5.0			5.0			5.0					
Max Green Setting (Gmax), s	58.0			22.0			58.0					
Max Q Clear Time (g_c+I1), s	2.0			13.1			8.1					
Green Ext Time (p_c), s	0.8			0.6			0.7					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				7.4								
HCM 6th LOS				A								

HCM 6th TWSC
12: Sierra Nevada Street & Main Street

Existing Build Conditions
Timing Plan: AM PEAK

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	0	0	0	9	172	12	17	17	0	0	33	11
Future Vol, veh/h	0	0	0	9	172	12	17	17	0	0	33	11
Conflicting Peds, #/hr	0	0	0	13	0	6	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	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	10	198	14	20	20	0	0	38	13



















Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	13	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1606	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1586	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	0.3	11	10.7
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	636	1586	-	-	680
HCM Lane V/C Ratio	0.061	0.007	-	-	0.074
HCM Control Delay (s/veh)	11	7.3	0	-	10.7
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.2	0	-	-	0.2

HCM 6th Signalized Intersection Summary 13: S Wilson Way & Main Street

Existing Build Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	115	122	209	32	730	0	0	648	20
Future Volume (veh/h)	0	0	0	115	122	209	32	730	0	0	648	20
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	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
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				119	126	215	33	753	0	0	668	21
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				153	162	270	570	2546	0	0	2519	79
Arrive On Green				0.17	0.17	0.17	1.00	1.00	0.00	0.00	0.72	0.72
Sat Flow, veh/h				887	939	1566	754	3647	0	0	3610	111
Grp Volume(v), veh/h				245	0	215	33	753	0	0	337	352
Grp Sat Flow(s),veh/h/ln				1826	0	1566	754	1777	0	0	1777	1850
Q Serve(g_s), s				11.5	0.0	11.9	0.4	0.0	0.0	0.0	6.0	6.0
Cycle Q Clear(g_c), s				11.5	0.0	11.9	6.4	0.0	0.0	0.0	6.0	6.0
Prop In Lane				0.49		1.00	1.00		0.00	0.00		0.06
Lane Grp Cap(c), veh/h				315	0	270	570	2546	0	0	1273	1326
V/C Ratio(X)				0.78	0.00	0.80	0.06	0.30	0.00	0.00	0.27	0.27
Avail Cap(c_a), veh/h				467	0	400	570	2546	0	0	1273	1326
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.91	0.91	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				35.6	0.0	35.7	0.3	0.0	0.0	0.0	4.5	4.5
Incr Delay (d2), s/veh				2.5	0.0	3.7	0.2	0.3	0.0	0.0	0.5	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
%ile BackOfQ(50%),veh/ln				5.3	0.0	4.7	0.0	0.1	0.0	0.0	2.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				38.1	0.0	39.4	0.5	0.3	0.0	0.0	5.0	5.0
LnGrp LOS				D		D	A	A			A	A
Approach Vol, veh/h					460			786			689	
Approach Delay, s/veh					38.7			0.3			5.0	
Approach LOS					D			A			A	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	69.5			20.5			69.5					
Change Period (Y+Rc), s	5.0			5.0			5.0					
Max Green Setting (Gmax), s	57.0			23.0			57.0					
Max Q Clear Time (g_c+I1), s	8.4			13.9			8.0					
Green Ext Time (p_c), s	2.5			1.0			1.7					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				11.1								
HCM 6th LOS				B								

HCM 6th TWSC

Existing Build Conditions

15: B Street/E Washington Street & Main Street

Timing Plan: AM PEAK

Intersection																			
Int Delay, s/veh		1.3																	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR							
Lane Configurations																			
Traffic Vol, veh/h	3	239	18	16	406	2	23	0	30	0	0	9							
Future Vol, veh/h	3	239	18	16	406	2	23	0	30	0	0	9							
Conflicting Peds, #/hr	4	0	2	2	0	4	4	0	1	1	0	4							
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	93	93	93	93	93	93	93	93	93	93	93	93							
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2							
Mvmt Flow	3	257	19	17	437	2	25	0	32	0	0	10							

Major/Minor	Major1	Major2	Minor1	Minor2															
Conflicting Flow All	443	0	0	278	0	0	756	752	270	766	760	446							
Stage 1	-	-	-	-	-	-	275	275	-	476	476	-							
Stage 2	-	-	-	-	-	-	481	477	-	290	284	-							
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22							
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-							
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-							
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318							
Pot Cap-1 Maneuver	1117	-	-	1285	-	-	325	339	769	320	336	612							
Stage 1	-	-	-	-	-	-	731	683	-	570	557	-							
Stage 2	-	-	-	-	-	-	566	556	-	718	676	-							
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-							
Mov Cap-1 Maneuver	1113	-	-	1283	-	-	313	330	767	300	327	607							
Mov Cap-2 Maneuver	-	-	-	-	-	-	313	330	-	300	327	-							
Stage 1	-	-	-	-	-	-	727	680	-	566	545	-							
Stage 2	-	-	-	-	-	-	545	544	-	685	673	-							

Approach	EB	WB	NB	SB															
HCM Control Delay, s/v	0.1	0.3	13.7	11															
HCM LOS			B	B															

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1											
Capacity (veh/h)	471	1113	-	-	1283	-	-	607											
HCM Lane V/C Ratio	0.121	0.003	-	-	0.013	-	-	0.016											
HCM Control Delay (s/veh)	13.7	8.2	0	-	7.8	0	-	11											
HCM Lane LOS	B	A	A	-	A	A	-	B											
HCM 95th %tile Q (veh)	0.4	0	-	-	0	-	-	0											

HCM 6th TWSC

Existing Build Conditions

16: E Lafayette Street & Main Street

Timing Plan: AM PEAK

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	36	224	4	18	370	0	13	10	17	0	4	42	↕	
Future Vol, veh/h	36	224	4	18	370	0	13	10	17	0	4	42		
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop		
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None		
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-		
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-		
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-		
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91		
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2		
Mvmt Flow	40	246	4	20	407	0	14	11	19	0	4	46		

Major/Minor	Major1	Major2	Minor1	Minor2													
Conflicting Flow All	407	0	0	0	800	775	248	790	777	407							
Stage 1	-	-	-	-	-	328	328	-	447	447	-						
Stage 2	-	-	-	-	-	472	447	-	343	330	-						
Critical Hdwy	4.12	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22						
Critical Hdwy Stg 1	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-						
Critical Hdwy Stg 2	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-						
Follow-up Hdwy	2.218	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318						
Pot Cap-1 Maneuver	1152	-	1316	-	-	303	329	791	308	328	644						
Stage 1	-	-	-	-	-	685	647	-	591	573	-						
Stage 2	-	-	-	-	-	573	573	-	672	646	-						
Platoon blocked, %																	
Mov Cap-1 Maneuver	1152	-	1316	-	-	266	310	791	279	309	644						
Mov Cap-2 Maneuver	-	-	-	-	-	266	310	-	279	309	-						
Stage 1	-	-	-	-	-	658	621	-	567	562	-						
Stage 2	-	-	-	-	-	517	562	-	619	620	-						

Approach	EB	WB	NB	SB										
HCM Control Delay, s/v	1.1	0.4	15.4	11.7										
HCM LOS	C			B										

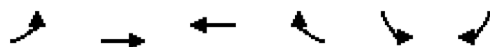
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	390	1152	-	-	1316	-	-	589						
HCM Lane V/C Ratio	0.113	0.034	-	-	0.015	-	-	0.086						
HCM Control Delay (s/veh)	15.4	8.2	0	-	7.8	0	-	11.7						
HCM Lane LOS	C	A	A	-	A	A	-	B						
HCM 95th %tile Q (veh)	0.4	0.1	-	-	0	-	-	0.3						

HCM Signalized Intersection Capacity Analysis

17: Main Street & D Street

Existing Build Conditions

Timing Plan: AM PEAK



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	3	262	402	5	6	7
Future Volume (vph)	3	262	402	5	6	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	0.99		0.92	
Flt Protected		0.99	1.00		0.97	
Satd. Flow (prot)		1862	1860		1689	
Flt Permitted		0.99	1.00		0.97	
Satd. Flow (perm)		1851	1860		1689	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	3	288	442	5	7	8
RTOR Reduction (vph)	0	0	0	0	8	0
Lane Group Flow (vph)	0	291	447	0	7	0
Turn Type	Perm	NA	NA		Perm	
Protected Phases		2	6			
Permitted Phases	2				4	
Actuated Green, G (s)		10.8	10.8		0.6	
Effective Green, g (s)		10.8	10.8		0.6	
Actuated g/C Ratio		0.50	0.50		0.03	
Clearance Time (s)		5.0	5.0		5.0	
Vehicle Extension (s)		6.0	6.0		2.0	
Lane Grp Cap (vph)		934	938		47	
v/s Ratio Prot		c0.24				
v/s Ratio Perm		0.16			c0.00	
v/c Ratio		0.31	0.47		0.15	
Uniform Delay, d1		3.1	3.4		10.1	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		0.5	1.0		0.5	
Delay (s)		3.6	4.5		10.7	
Level of Service		A	A		B	
Approach Delay (s/veh)		3.6	4.5		10.7	
Approach LOS		A	A		B	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			4.3		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.46			
Actuated Cycle Length (s)			21.4		Sum of lost time (s)	10.0
Intersection Capacity Utilization			33.1%		ICU Level of Service	A
Analysis Period (min)			15			

c Critical Lane Group

HCM 6th TWSC

Existing Build Conditions

18: Marsh Street/E Street & Main Street

Timing Plan: AM PEAK

Intersection													
Int Delay, s/veh 1.4													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	16	231	1	12	372	42	0	0	10	28	3	10	↔↔
Future Vol, veh/h	16	231	1	12	372	42	0	0	10	28	3	10	
Conflicting Peds, #/hr	2	0	1	1	0	2	0	0	0	0	0	1	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-	
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, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	19	275	1	14	443	50	0	0	12	33	4	12	

Major/Minor	Major1	Major2	Minor1	Minor2												
Conflicting Flow All	495	0	0	277	0	0	820	838	277	818	813	471				
Stage 1	-	-	-	-	-	-	315	315	-	498	498	-				
Stage 2	-	-	-	-	-	-	505	523	-	320	315	-				
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22				
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-				
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-				
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318				
Pot Cap-1 Maneuver	1069	-	-	1286	-	-	294	302	762	295	313	593				
Stage 1	-	-	-	-	-	-	696	656	-	554	544	-				
Stage 2	-	-	-	-	-	-	549	530	-	692	656	-				
Platoon blocked, %																
Mov Cap-1 Maneuver	1067	-	-	1285	-	-	277	290	761	282	301	591				
Mov Cap-2 Maneuver	-	-	-	-	-	-	277	290	-	282	301	-				
Stage 1	-	-	-	-	-	-	681	642	-	541	535	-				
Stage 2	-	-	-	-	-	-	526	521	-	667	642	-				

Approach	EB	WB	NB	SB													
HCM Control Delay, s/v	0.5	0.2	9.8	18													
HCM LOS				A	C												

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1								
Capacity (veh/h)	761	1067	-	-	1285	-	-	325								
HCM Lane V/C Ratio	0.016	0.018	-	-	0.011	-	-	0.15								
HCM Control Delay (s/veh)	9.8	8.4	0	-	7.8	0	-	18								
HCM Lane LOS	A	A	A	-	A	A	-	C								
HCM 95th %tile Q (veh)	0	0.1	-	-	0	-	-	0.5								

HCM 6th TWSC

Existing Build Conditions

19: Alma Street/F Street & Main Street

Timing Plan: AM PEAK

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	13	262	0	18	386	10	0	2	13	5	4	3	↕	
Future Vol, veh/h	13	262	0	18	386	10	0	2	13	5	4	3		
Conflicting Peds, #/hr	4	0	5	5	0	4	0	0	5	5	0	2		
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop		
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None		
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-		
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, %	2	2	2	2	2	2	2	2	2	2	2	2		
Mvmt Flow	14	285	0	20	420	11	0	2	14	5	4	3		

Major/Minor	Major1	Major2	Minor1	Minor2										
Conflicting Flow All	435	0	0	290	0	0	789	793	295	796	788	432		
Stage 1	-	-	-	-	-	-	318	318	-	470	470	-		
Stage 2	-	-	-	-	-	-	471	475	-	326	318	-		
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318		
Pot Cap-1 Maneuver	1125	-	-	1272	-	-	308	321	744	305	323	624		
Stage 1	-	-	-	-	-	-	693	654	-	574	560	-		
Stage 2	-	-	-	-	-	-	573	557	-	687	654	-		
Platoon blocked, %														
Mov Cap-1 Maneuver	1121	-	-	1266	-	-	293	307	737	287	309	620		
Mov Cap-2 Maneuver	-	-	-	-	-	-	293	307	-	287	309	-		
Stage 1	-	-	-	-	-	-	679	641	-	563	546	-		
Stage 2	-	-	-	-	-	-	553	543	-	658	641	-		

Approach	EB	WB	NB	SB										
HCM Control Delay, s/v	0.4	0.3	11	16										
HCM LOS				B	C									

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	621	1121	-	-	1266	-	-	341						
HCM Lane V/C Ratio	0.026	0.013	-	-	0.015	-	-	0.038						
HCM Control Delay (s/veh)	11	8.3	0	-	7.9	0	-	16						
HCM Lane LOS	B	A	A	-	A	A	-	C						
HCM 95th %tile Q (veh)	0.1	0	-	-	0	-	-	0.1						

HCM 6th TWSC

21: Burkett Avenue & Main Street

Existing Build Conditions

Timing Plan: AM PEAK

Intersection													
Int Delay, s/veh													
1													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	19	420	14	13	581	12	9	2	6	5	2	13	↕
Future Vol, veh/h	19	420	14	13	581	12	9	2	6	5	2	13	
Conflicting Peds, #/hr	7	0	0	0	0	7	2	0	1	1	0	2	
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	95	95	95	95	95	95	95	95	95	95	95	95	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	20	442	15	14	612	13	9	2	6	5	2	14	

Major/Minor	Major1	Major2	Minor1	Minor2										
Conflicting Flow All	632	0	0	457	0	0	1147	1150	451	1149	1151	628		
Stage 1	-	-	-	-	-	-	490	490	-	654	654	-		
Stage 2	-	-	-	-	-	-	657	660	-	495	497	-		
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318		
Pot Cap-1 Maneuver	951	-	-	1104	-	-	176	198	608	176	198	483		
Stage 1	-	-	-	-	-	-	560	549	-	456	463	-		
Stage 2	-	-	-	-	-	-	454	460	-	556	545	-		
Platoon blocked, %														
Mov Cap-1 Maneuver	945	-	-	1104	-	-	163	188	607	165	188	479		
Mov Cap-2 Maneuver	-	-	-	-	-	-	163	188	-	165	188	-		
Stage 1	-	-	-	-	-	-	544	534	-	440	451	-		
Stage 2	-	-	-	-	-	-	430	448	-	532	530	-		

Approach	EB	WB	NB	SB										
HCM Control Delay, s/v	0.4	0.2	22.5	18.2										
HCM LOS	C			C										

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	224	945	-	-	1104	-	-	294						
HCM Lane V/C Ratio	0.08	0.021	-	-	0.012	-	-	0.072						
HCM Control Delay (s/veh)	22.5	8.9	0	-	8.3	0	-	18.2						
HCM Lane LOS	C	A	A	-	A	A	-	C						
HCM 95th %tile Q (veh)	0.3	0.1	-	-	0	-	-	0.2						

HCM 6th TWSC

22: Shasta Avenue & Main Street

Existing Build Conditions

Timing Plan: AM PEAK

Intersection													
Int Delay, s/veh 0.4													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	2	426	5	4	597	5	9	1	5	2	0	2	↔
Future Vol, veh/h	2	426	5	4	597	5	9	1	5	2	0	2	
Conflicting Peds, #/hr	7	0	2	2	0	7	1	0	3	3	0	1	
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, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	2	468	5	4	656	5	10	1	5	2	0	2	

Major/Minor	Major1	Major2	Minor1	Minor2										
Conflicting Flow All	668	0	0	475	0	0	1146	1153	476	1155	1153	667		
Stage 1	-	-	-	-	-	-	477	477	-	674	674	-		
Stage 2	-	-	-	-	-	-	669	676	-	481	479	-		
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318		
Pot Cap-1 Maneuver	922	-	-	1087	-	-	176	197	589	174	197	459		
Stage 1	-	-	-	-	-	-	569	556	-	444	454	-		
Stage 2	-	-	-	-	-	-	447	453	-	566	555	-		
Platoon blocked, %														
Mov Cap-1 Maneuver	916	-	-	1085	-	-	174	193	586	169	193	456		
Mov Cap-2 Maneuver	-	-	-	-	-	-	174	193	-	169	193	-		
Stage 1	-	-	-	-	-	-	566	553	-	440	448	-		
Stage 2	-	-	-	-	-	-	442	447	-	556	552	-		

Approach	EB	WB	NB	SB										
HCM Control Delay, s/v	0	0.1	21.9	19.8										
HCM LOS	C			C										

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	229	916	-	-	1085	-	-	247						
HCM Lane V/C Ratio	0.072	0.002	-	-	0.004	-	-	0.018						
HCM Control Delay (s/veh)	21.9	8.9	0	-	8.3	0	-	19.8						
HCM Lane LOS	C	A	A	A	A	A	-	C						
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0.1						

HCM 6th TWSC

23: David Avenue & Main Street

Existing Build Conditions

Timing Plan: AM PEAK

Intersection													
Int Delay, s/veh 0.5													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	1	432	6	3	587	5	10	1	4	3	0	9	↕
Future Vol, veh/h	1	432	6	3	587	5	10	1	4	3	0	9	
Conflicting Peds, #/hr	3	0	3	3	0	3	3	0	1	1	0	3	
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, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	1	470	7	3	638	5	11	1	4	3	0	10	

Major/Minor	Major1	Major2	Minor1	Minor2										
Conflicting Flow All	646	0	0	480	0	0	1134	1131	478	1129	1132	647		
Stage 1	-	-	-	-	-	-	479	479	-	650	650	-		
Stage 2	-	-	-	-	-	-	655	652	-	479	482	-		
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318		
Pot Cap-1 Maneuver	939	-	-	1082	-	-	180	203	587	181	203	471		
Stage 1	-	-	-	-	-	-	568	555	-	458	465	-		
Stage 2	-	-	-	-	-	-	455	464	-	568	553	-		
Platoon blocked, %														
Mov Cap-1 Maneuver	936	-	-	1079	-	-	175	201	585	178	201	468		
Mov Cap-2 Maneuver	-	-	-	-	-	-	175	201	-	178	201	-		
Stage 1	-	-	-	-	-	-	566	553	-	456	462	-		
Stage 2	-	-	-	-	-	-	442	461	-	562	551	-		

Approach	EB	WB	NB	SB										
HCM Control Delay, s/v	0	0	22.8	16.3										
HCM LOS	C			C										

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	218	936	-	-	1079	-	-	333						
HCM Lane V/C Ratio	0.075	0.001	-	-	0.003	-	-	0.039						
HCM Control Delay (s/veh)	22.8	8.9	0	-	8.3	0	-	16.3						
HCM Lane LOS	C	A	A	-	A	A	-	C						
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0.1						

HCM 6th TWSC
24: Rendon Avenue & Main Street

Existing Build Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	11	411	12	8	572	9	11	3	3	13	1	18
Future Vol, veh/h	11	411	12	8	572	9	11	3	3	13	1	18
Conflicting Peds, #/hr	5	0	1	1	0	5	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	447	13	9	622	10	12	3	3	14	1	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	637	0	0	461	0	0	1135	1134	455	1131	1135	632
Stage 1	-	-	-	-	-	-	479	479	-	650	650	-
Stage 2	-	-	-	-	-	-	656	655	-	481	485	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	947	-	-	1100	-	-	179	203	605	181	202	480
Stage 1	-	-	-	-	-	-	568	555	-	458	465	-
Stage 2	-	-	-	-	-	-	454	463	-	566	552	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	942	-	-	1099	-	-	167	196	604	173	195	478
Mov Cap-2 Maneuver	-	-	-	-	-	-	167	196	-	173	195	-
Stage 1	-	-	-	-	-	-	558	545	-	448	457	-
Stage 2	-	-	-	-	-	-	429	455	-	550	542	-




















Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.2			0.1			25.2			20.2		
HCM LOS							D			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	197	942	-	-	1099	-	-	271
HCM Lane V/C Ratio	0.094	0.013	-	-	0.008	-	-	0.128
HCM Control Delay (s/veh)	25.2	8.9	0	-	8.3	-	-	20.2
HCM Lane LOS	D	A	A	-	A	-	-	C
HCM 95th %tile Q (veh)	0.3	0	-	-	0	-	-	0.4

HCM 6th Signalized Intersection Summary

25: Golden Gate Avenue & Main Street

Existing Build Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	337	92	28	491	5	74	17	27	12	32	7
Future Volume (veh/h)	3	337	92	28	491	5	74	17	27	12	32	7
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		0.97	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	355	97	29	517	5	78	18	28	13	34	7
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	662	181	49	911	9	262	35	43	146	159	29
Arrive On Green	0.00	0.47	0.47	0.03	0.49	0.49	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1781	1414	386	1781	1849	18	908	282	347	263	1278	230
Grp Volume(v), veh/h	3	0	452	29	0	522	124	0	0	54	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1800	1781	0	1867	1538	0	0	1771	0	0
Q Serve(g_s), s	0.1	0.0	7.0	0.6	0.0	7.8	1.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	7.0	0.6	0.0	7.8	2.9	0.0	0.0	1.1	0.0	0.0
Prop In Lane	1.00		0.21	1.00		0.01	0.63		0.23	0.24		0.13
Lane Grp Cap(c), veh/h	6	0	843	49	0	919	340	0	0	334	0	0
V/C Ratio(X)	0.51	0.00	0.54	0.59	0.00	0.57	0.36	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	901	0	2186	901	0	2267	1640	0	0	1398	0	0
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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.7	0.0	7.5	19.0	0.0	7.1	16.4	0.0	0.0	15.6	0.0	0.0
Incr Delay (d2), s/veh	23.6	0.0	1.9	4.1	0.0	2.0	0.2	0.0	0.0	0.1	0.0	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	0.1	0.0	2.1	0.3	0.0	2.3	1.0	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.2	0.0	9.4	23.1	0.0	9.1	16.6	0.0	0.0	15.7	0.0	0.0
LnGrp LOS	D		A	C		A	B			B		
Approach Vol, veh/h	455			551			124			54		
Approach Delay, s/veh	9.6			9.8			16.6			15.7		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	23.5		9.9	5.1	24.5		9.9				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	20.0	48.0		40.0	20.0	48.0		30.0				
Max Q Clear Time (g_c+I1), s	2.6	9.0		4.9	2.1	9.8		3.1				
Green Ext Time (p_c), s	0.0	8.3		0.5	0.0	9.7		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				10.7								
HCM 6th LOS				B								

HCM 6th TWSC

26: Windsor Avenue & Main Street

Existing Build Conditions Timing Plan: AM PEAK

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	2	351	15	13	515	3	8	1	5	6	3	13
Future Vol, veh/h	2	351	15	13	515	3	8	1	5	6	3	13
Conflicting Peds, #/hr	9	0	3	3	0	9	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	369	16	14	542	3	8	1	5	6	3	14

Major/Minor	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	554	0	0	388	0	0	964	966	380	965	973	553
Stage 1	-	-	-	-	-	-	384	384	-	581	581	-
Stage 2	-	-	-	-	-	-	580	582	-	384	392	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1016	-	-	1170	-	-	235	255	667	234	252	533
Stage 1	-	-	-	-	-	-	639	611	-	499	500	-
Stage 2	-	-	-	-	-	-	500	499	-	639	606	-
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	1007	-	-	1167	-	-	223	247	665	226	244	528
Mov Cap-2 Maneuver	-	-	-	-	-	-	223	247	-	226	244	-
Stage 1	-	-	-	-	-	-	635	607	-	493	487	-
Stage 2	-	-	-	-	-	-	476	486	-	631	602	-

Approach	EB	WB	NB	SB									
HCM Control Delay, s/v	0	0.2	17.8	16.1									
HCM LOS					C	C							



















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	295	1007	-	-	1167	-	-	347				
HCM Lane V/C Ratio	0.05	0.002	-	-	0.012	-	-	0.067				
HCM Control Delay (s/veh)	17.8	8.6	0	-	8.1	0	-	16.1				
HCM Lane LOS	C	A	A	-	A	A	-	C				
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0.2				

HCM Signalized Intersection Capacity Analysis

27: Netherton Avenue & Main Street

Existing Build Conditions








Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	333	4	29	466	3	11	7	52	19	18	61
Future Volume (vph)	4	333	4	29	466	3	11	7	52	19	18	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99			0.98			0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Frt	1.00	0.99		1.00	0.99			0.90			0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	1859		1770	1861			1642			1667	
Flt Permitted	0.95	1.00		0.95	1.00			0.92			0.91	
Satd. Flow (perm)	1770	1859		1770	1861			1531			1536	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	4	366	4	32	512	3	12	8	57	21	20	67
RTOR Reduction (vph)	0	0	0	0	0	0	0	48	0	0	57	0
Lane Group Flow (vph)	4	370	0	32	515	0	0	29	0	0	51	0
Confl. Peds. (#/hr)			2			10	1		11	11		1
Confl. Bikes (#/hr)						2						
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	0.5	20.7		2.0	22.2			6.8			6.8	
Effective Green, g (s)	0.5	20.7		2.0	22.2			6.8			6.8	
Actuated g/C Ratio	0.01	0.47		0.04	0.50			0.15			0.15	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	2.0	6.0		2.0	6.0			2.0			2.0	
Lane Grp Cap (vph)	19	864		79	928			233			234	
v/s Ratio Prot	0.00	0.20		c0.02	c0.28							
v/s Ratio Perm								0.02			c0.03	
v/c Ratio	0.21	0.42		0.40	0.55			0.12			0.21	
Uniform Delay, d1	21.8	7.9		20.6	7.7			16.2			16.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	2.0	0.9		1.2	1.5			0.0			0.1	
Delay (s)	23.8	8.9		21.9	9.2			16.3			16.6	
Level of Service	C	A		C	A			B			B	
Approach Delay (s/veh)		9.0			10.0			16.3			16.6	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			10.8			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			44.5			Sum of lost time (s)			15.0			
Intersection Capacity Utilization			44.2%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th TWSC
28: Broadway Avenue & Main Street

Existing Build Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	105	288	5	12	432	51	3	3	6	24	5	49
Future Vol, veh/h	105	288	5	12	432	51	3	3	6	24	5	49
Conflicting Peds, #/hr	13	0	4	4	0	13	0	0	13	13	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	119	327	6	14	491	58	3	3	7	27	6	56

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	562	0	0	337	0	0	1151	1162	347	1118	1107	504
Stage 1	-	-	-	-	-	-	572	572	-	532	532	-
Stage 2	-	-	-	-	-	-	579	590	-	586	575	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1009	-	-	1222	-	-	175	195	696	184	210	568
Stage 1	-	-	-	-	-	-	505	504	-	531	526	-
Stage 2	-	-	-	-	-	-	501	495	-	496	503	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	997	-	-	1217	-	-	138	167	685	158	180	561
Mov Cap-2 Maneuver	-	-	-	-	-	-	138	167	-	158	180	-
Stage 1	-	-	-	-	-	-	443	442	-	462	513	-
Stage 2	-	-	-	-	-	-	441	483	-	424	441	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	2.4			0.2			20.4			22.6		
HCM LOS							C			C		


Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	248	997	-	-	1217	-	-	292
HCM Lane V/C Ratio	0.055	0.12	-	-	0.011	-	-	0.304
HCM Control Delay (s/veh)	20.4	9.1	-	-	8	-	-	22.6
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q (veh)	0.2	0.4	-	-	0	-	-	1.2

HCM Signalized Intersection Capacity Analysis

29: S Center Street & Market Street

Existing Build Conditions

















Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↶									↶↶↶	
Traffic Volume (vph)	0	55	44	0	0	0	0	0	0	166	1169	0
Future Volume (vph)	0	55	44	0	0	0	0	0	0	166	1169	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0									5.0	
Lane Util. Factor		1.00									0.91	
Frpb, ped/bikes		0.99									1.00	
Flpb, ped/bikes		1.00									0.99	
Frt		0.94									1.00	
Flt Protected		1.00									0.99	
Satd. Flow (prot)		1741									5048	
Flt Permitted		1.00									0.99	
Satd. Flow (perm)		1741									5048	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	62	49	0	0	0	0	0	0	187	1313	0
RTOR Reduction (vph)	0	34	0	0	0	0	0	0	0	0	22	0
Lane Group Flow (vph)	0	77	0	0	0	0	0	0	0	0	1478	0
Confl. Peds. (#/hr)			2								6	
Turn Type		NA									Perm	NA
Protected Phases		2										1
Permitted Phases											1	
Actuated Green, G (s)		23.0									52.0	
Effective Green, g (s)		23.0									52.0	
Actuated g/C Ratio		0.27									0.61	
Clearance Time (s)		5.0									5.0	
Vehicle Extension (s)		0.2									0.2	
Lane Grp Cap (vph)		471									3088	
v/s Ratio Prot		0.04										
v/s Ratio Perm												0.29
v/c Ratio		0.16									0.47	
Uniform Delay, d1		23.6									9.0	
Progression Factor		1.00									1.00	
Incremental Delay, d2		0.7									0.5	
Delay (s)		24.4									9.5	
Level of Service		C									A	
Approach Delay (s/veh)		24.4			0.0			0.0			9.5	
Approach LOS		C			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			10.6									HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio			0.38									B
Actuated Cycle Length (s)			85.0								10.0	Sum of lost time (s)
Intersection Capacity Utilization			53.5%									ICU Level of Service
Analysis Period (min)			15									A
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

30: S El Dorado Street & Market Street





Existing Build Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Traffic Volume (vph)	96	107	0	0	0	0	0	1598	100	0	0	0
Future Volume (vph)	96	107	0	0	0	0	0	1598	100	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0				
Lane Util. Factor		1.00						0.91				
Frpb, ped/bikes		1.00						0.99				
Flpb, ped/bikes		0.99						1.00				
Frt		1.00						0.99				
Flt Protected		0.97						1.00				
Satd. Flow (prot)		1811						5028				
Flt Permitted		0.97						1.00				
Satd. Flow (perm)		1811						5028				
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)	112	124	0	0	0	0	0	1858	116	0	0	0
RTOR Reduction (vph)	0	19	0	0	0	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	217	0	0	0	0	0	1966	0	0	0	0
Confl. Peds. (#/hr)	9								11			
Turn Type	Perm	NA						NA				
Protected Phases		2						1				
Permitted Phases	2											
Actuated Green, G (s)		22.0						53.0				
Effective Green, g (s)		22.0						53.0				
Actuated g/C Ratio		0.26						0.62				
Clearance Time (s)		5.0						5.0				
Vehicle Extension (s)		0.2						0.2				
Lane Grp Cap (vph)		468						3135				
v/s Ratio Prot								c0.39				
v/s Ratio Perm		0.12										
v/c Ratio		0.46						0.62				
Uniform Delay, d1		26.5						9.8				
Progression Factor		0.96						1.00				
Incremental Delay, d2		3.0						0.9				
Delay (s)		28.7						10.8				
Level of Service		C						B				
Approach Delay (s/veh)		28.7			0.0			10.8			0.0	
Approach LOS		C			A			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		12.8						HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio		0.58										
Actuated Cycle Length (s)		85.0						Sum of lost time (s)		10.0		
Intersection Capacity Utilization		52.4%						ICU Level of Service		A		
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th AWSC
31: S Hunter Street & Market Street

Existing Build Conditions
Timing Plan: AM PEAK

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	133	66	0	0	0	0	0	29	62	84	0
Future Vol, veh/h	0	133	66	0	0	0	0	0	29	62	84	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	182	90	0	0	0	0	0	40	85	115	0
Number of Lanes	0	1	0	0	0	0	0	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	9.5	7.6	9.1
HCM LOS	A	A	A
















Lane	NBLn1	EBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%
Vol Thru, %	0%	67%	0%	100%
Vol Right, %	100%	33%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	199	62	84
LT Vol	0	0	62	0
Through Vol	0	133	0	84
RT Vol	29	66	0	0
Lane Flow Rate	40	273	85	115
Geometry Grp	4a	2	5	5
Degree of Util (X)	0.048	0.328	0.134	0.166
Departure Headway (Hd)	4.309	4.336	5.691	5.187
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	828	831	630	692
Service Time	2.349	2.354	3.426	2.922
HCM Lane V/C Ratio	0.048	0.329	0.135	0.166
HCM Control Delay, s/veh	7.6	9.5	9.3	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	1.4	0.5	0.6

HCM Signalized Intersection Capacity Analysis

32: S San Joaquin Street & Market Street

Existing Build Conditions

Timing Plan: AM PEAK


















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	114	36	0	0	0	0	170	39	25	99	0
Future Volume (vph)	66	114	36	0	0	0	0	170	39	25	99	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						0.95			0.95	
Frpb, ped/bikes		0.98						0.95			1.00	
Flpb, ped/bikes		0.99						1.00			0.97	
Frt		0.97						0.97			1.00	
Flt Protected		0.98						1.00			0.99	
Satd. Flow (prot)		1763						3291			3399	
Flt Permitted		0.98						1.00			0.87	
Satd. Flow (perm)		1763						3291			3004	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	82	142	45	0	0	0	0	212	49	31	124	0
RTOR Reduction (vph)	0	11	0	0	0	0	0	24	0	0	0	0
Lane Group Flow (vph)	0	260	0	0	0	0	0	238	0	0	155	0
Confl. Peds. (#/hr)	23		61						111	111		
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						1			1	
Permitted Phases	2									1		
Actuated Green, G (s)		24.0						36.0			36.0	
Effective Green, g (s)		24.0						36.0			36.0	
Actuated g/C Ratio		0.34						0.51			0.51	
Clearance Time (s)		5.0						5.0			5.0	
Vehicle Extension (s)		0.2						0.2			0.2	
Lane Grp Cap (vph)		604						1692			1544	
v/s Ratio Prot								c0.07				
v/s Ratio Perm		0.15									0.05	
v/c Ratio		0.43						0.14			0.10	
Uniform Delay, d1		17.7						8.9			8.7	
Progression Factor		1.00						1.00			0.42	
Incremental Delay, d2		2.2						0.1			0.1	
Delay (s)		19.9						9.0			3.8	
Level of Service		B						A			A	
Approach Delay (s/veh)		19.9			0.0			9.0			3.8	
Approach LOS		B			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		12.2										
HCM 2000 Volume to Capacity ratio		0.26										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		49.3%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

33: S Sutter Street & Market Street


Existing Build Conditions

Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	81	80	0	0	0	0	102	16	4	95	0
Future Volume (vph)	22	81	80	0	0	0	0	102	16	4	95	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0	5.0		5.0	
Lane Util. Factor		1.00						1.00	1.00		0.95	
Frpb, ped/bikes		0.92						1.00	0.82		1.00	
Flpb, ped/bikes		0.99						1.00	1.00		0.99	
Frt		0.94						1.00	0.85		1.00	
Flt Protected		0.99						1.00	1.00		0.99	
Satd. Flow (prot)		1597						1863	1312		3516	
Flt Permitted		0.99						1.00	1.00		0.94	
Satd. Flow (perm)		1597						1863	1312		3340	
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)	29	108	107	0	0	0	0	136	21	5	127	0
RTOR Reduction (vph)	0	40	0	0	0	0	0	0	12	0	0	0
Lane Group Flow (vph)	0	204	0	0	0	0	0	136	9	0	132	0
Confl. Peds. (#/hr)	24		154						70	70		
Confl. Bikes (#/hr)			1						2			
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1								2	2		
Actuated Green, G (s)		30.0						30.0	30.0		30.0	
Effective Green, g (s)		30.0						30.0	30.0		30.0	
Actuated g/C Ratio		0.43						0.43	0.43		0.43	
Clearance Time (s)		5.0						5.0	5.0		5.0	
Vehicle Extension (s)		0.2						0.2	0.2		0.2	
Lane Grp Cap (vph)		684						798	562		1431	
v/s Ratio Prot								c0.07				
v/s Ratio Perm		0.13							0.01		0.04	
v/c Ratio		0.29						0.17	0.01		0.09	
Uniform Delay, d1		13.1						12.3	11.5		11.8	
Progression Factor		1.66						1.00	1.00		0.27	
Incremental Delay, d2		1.0						0.4	0.0		0.1	
Delay (s)		22.8						12.7	11.5		3.4	
Level of Service		C						B	B		A	
Approach Delay (s/veh)		22.8			0.0			12.6			3.4	
Approach LOS		C			A			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		15.0										
HCM 2000 Volume to Capacity ratio		0.23										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		45.0%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Signalized Intersection Summary 34: California Street & Market Street
















Existing Build Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱					↰			↱	
Traffic Volume (veh/h)	16	70	14	0	0	0	0	268	74	34	214	0
Future Volume (veh/h)	16	70	14	0	0	0	0	268	74	34	214	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.99	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	21	92	18				0	353	97	45	282	0
Peak Hour Factor	0.76	0.76	0.76				0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	93	410	423				0	826	227	153	908	0
Arrive On Green	0.27	0.27	0.27				0.00	0.59	0.59	1.00	1.00	0.00
Sat Flow, veh/h	344	1509	1559				0	1411	388	161	1551	0
Grp Volume(v), veh/h	113	0	18				0	0	450	327	0	0
Grp Sat Flow(s),veh/h/ln	1853	0	1559				0	0	1798	1711	0	0
Q Serve(g_s), s	3.3	0.0	0.6				0.0	0.0	9.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.3	0.0	0.6				0.0	0.0	9.7	0.0	0.0	0.0
Prop In Lane	0.19		1.00				0.00		0.22	0.14		0.00
Lane Grp Cap(c), veh/h	503	0	423				0	0	1053	1061	0	0
V/C Ratio(X)	0.22	0.00	0.04				0.00	0.00	0.43	0.31	0.00	0.00
Avail Cap(c_a), veh/h	503	0	423				0	0	1053	1061	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	0.96	0.00	0.96				0.00	0.00	1.00	0.85	0.00	0.00
Uniform Delay (d), s/veh	19.8	0.0	18.8				0.0	0.0	8.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.2				0.0	0.0	1.3	0.6	0.0	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
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.2				0.0	0.0	3.5	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.8	0.0	19.0				0.0	0.0	9.3	0.6	0.0	0.0
LnGrp LOS	C		B						A	A		
Approach Vol, veh/h		131						450			327	
Approach Delay, s/veh		20.5						9.3			0.6	
Approach LOS		C						A			A	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		46.0		24.0		46.0						
Change Period (Y+Rc), s		5.0		5.0		5.0						
Max Green Setting (Gmax), s		41.0		19.0		41.0						
Max Q Clear Time (g_c+I1), s		11.7		5.3		2.0						
Green Ext Time (p_c), s		0.5		0.1		0.4						
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			7.8									
HCM 6th LOS			A									

HCM Signalized Intersection Capacity Analysis

35: S American Street & Market Street

Existing Build Conditions
Timing Plan: AM PEAK


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	141	0	0	0	0	0	0	0	108	0	0
Future Volume (vph)	30	141	0	0	0	0	0	0	0	108	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0									5.0	
Lane Util. Factor		1.00									1.00	
Frpb, ped/bikes		1.00									1.00	
Flpb, ped/bikes		0.99									0.99	
Frt		1.00									1.00	
Flt Protected		0.99									0.95	
Satd. Flow (prot)		1840									1762	
Flt Permitted		0.99									0.75	
Satd. Flow (perm)		1840									1404	
Peak-hour factor, PHF	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Adj. Flow (vph)	56	261	0	0	0	0	0	0	0	200	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	317	0	0	0	0	0	0	0	0	200	0
Confl. Peds. (#/hr)	10		2							2	2	
Confl. Bikes (#/hr)			1									
Turn Type	Perm	NA								Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		40.0									20.0	
Effective Green, g (s)		40.0									20.0	
Actuated g/C Ratio		0.57									0.29	
Clearance Time (s)		5.0									5.0	
Vehicle Extension (s)		0.2									0.2	
Lane Grp Cap (vph)		1051									401	
v/s Ratio Prot												
v/s Ratio Perm		0.17									c0.14	
v/c Ratio		0.30									0.49	
Uniform Delay, d1		7.7									20.8	
Progression Factor		1.03									0.71	
Incremental Delay, d2		0.7									3.1	
Delay (s)		8.7									18.0	
Level of Service		A									B	
Approach Delay (s/veh)		8.7			0.0			0.0			18.0	
Approach LOS		A			A			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		12.3										
HCM 2000 Volume to Capacity ratio		0.37										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		36.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

36: S Stanislaus Street & Market Street

Existing Build Conditions

Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔						↕			↕	
Traffic Volume (vph)	51	94	108	0	0	0	0	512	52	9	215	0
Future Volume (vph)	51	94	108	0	0	0	0	512	52	9	215	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						0.95			0.95	
Frpb, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		0.99						1.00			0.99	
Frt		0.94						0.98			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		1720						3483			3532	
Flt Permitted		0.99						1.00			0.92	
Satd. Flow (perm)		1720						3483			3256	
Peak-hour factor, PHF	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Adj. Flow (vph)	71	131	150	0	0	0	0	711	72	12	299	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	352	0	0	0	0	0	772	0	0	312	0
Confl. Peds. (#/hr)	13		4						2	2		
Confl. Bikes (#/hr)			1									
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		25.0						35.0			35.0	
Effective Green, g (s)		25.0						35.0			35.0	
Actuated g/C Ratio		0.36						0.50			0.50	
Clearance Time (s)		5.0						5.0			5.0	
Vehicle Extension (s)		0.2						0.2			0.2	
Lane Grp Cap (vph)		614						1741			1628	
v/s Ratio Prot								c0.22				
v/s Ratio Perm		0.20									0.10	
v/c Ratio		0.57						0.44			0.19	
Uniform Delay, d1		18.1						11.2			9.6	
Progression Factor		0.85						1.00			0.69	
Incremental Delay, d2		3.6						0.8			0.2	
Delay (s)		19.1						12.0			7.0	
Level of Service		B						B			A	
Approach Delay (s/veh)		19.1			0.0			12.0			7.0	
Approach LOS		B			A			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			12.7									
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			39.2%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
37: S Grant Street & Market Street

Existing Build Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	52	102	0	0	0	0	0	8	0	9	5	0
Future Vol, veh/h	52	102	0	0	0	0	0	8	0	9	5	0
Conflicting Peds, #/hr	10	0	0	0	0	0	0	0	4	4	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	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	146	0	0	0	0	0	11	0	13	7	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	10	0	0	-	304	150	314	304	-
Stage 1	-	-	-	-	294	-	10	10	-
Stage 2	-	-	-	-	10	-	304	294	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1610	-	-	0	609	896	639	609	0
Stage 1	-	-	-	0	670	-	-	-	0
Stage 2	-	-	-	0	-	-	705	670	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1595	-	-	-	573	896	599	573	-
Mov Cap-2 Maneuver	-	-	-	-	573	-	599	573	-
Stage 1	-	-	-	-	637	-	-	-	-
Stage 2	-	-	-	-	-	-	658	637	-

Approach	EB	NB	SB
HCM Control Delay, s/v	2.5	11.4	11.3
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	573	1595	-	-	589
HCM Lane V/C Ratio	0.02	0.047	-	-	0.034
HCM Control Delay (s/veh)	11.4	7.4	0	-	11.3
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0.1	-	-	0.1

HCM 6th TWSC
38: S Aurora Street & Market Street

Existing Build Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	6.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	9	88	15	0	0	0	0	102	9	4	36	0
Future Vol, veh/h	9	88	15	0	0	0	0	102	9	4	36	0
Conflicting Peds, #/hr	2	0	1	0	0	0	0	0	2	2	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	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	113	19	0	0	0	0	131	12	5	46	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	2	0	0	-	150	126	222	159	-
Stage 1	-	-	-	-	148	-	2	2	-
Stage 2	-	-	-	-	2	-	220	157	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1620	-	-	0	742	924	734	733	0
Stage 1	-	-	-	0	775	-	-	-	0
Stage 2	-	-	-	0	-	-	782	768	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1617	-	-	-	734	923	621	725	-
Mov Cap-2 Maneuver	-	-	-	-	734	-	621	725	-
Stage 1	-	-	-	-	768	-	-	-	-
Stage 2	-	-	-	-	-	-	636	761	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.6	11	10.4
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	746	1617	-	-	713
HCM Lane V/C Ratio	0.191	0.007	-	-	0.072
HCM Control Delay (s/veh)	11	7.2	0	-	10.4
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.7	0	-	-	0.2

HCM 6th TWSC
39: Union Street & Market Street

Existing Build Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↔			↕	
Traffic Vol, veh/h	8	80	5	0	0	0	0	90	8	15	39	0
Future Vol, veh/h	8	80	5	0	0	0	0	90	8	15	39	0
Conflicting Peds, #/hr	1	0	1	0	0	0	0	0	1	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	88	5	0	0	0	0	99	9	16	43	0




Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	1	0	0	-	111	93	165	113	-
Stage 1	-	-	-	-	110	-	1	1	-
Stage 2	-	-	-	-	1	-	164	112	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1622	-	-	0	779	964	800	777	0
Stage 1	-	-	-	0	804	-	-	-	0
Stage 2	-	-	-	0	-	-	838	803	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1620	-	-	-	773	963	711	771	-
Mov Cap-2 Maneuver	-	-	-	-	773	-	711	771	-
Stage 1	-	-	-	-	798	-	-	-	-
Stage 2	-	-	-	-	-	-	723	797	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.6	10.3	10.2
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	786	1620	-	-	753
HCM Lane V/C Ratio	0.137	0.005	-	-	0.079
HCM Control Delay (s/veh)	10.3	7.2	0	-	10.2
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.5	0	-	-	0.3

HCM 6th TWSC
40: Pilgrim Street & Market Street

Existing Build Conditions
Timing Plan: AM PEAK

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	6	100	2	0	0	0	0	8	9	13	4	0
Future Vol, veh/h	6	100	2	0	0	0	0	8	9	13	4	0
Conflicting Peds, #/hr	3	0	1	0	0	0	0	0	9	9	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	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	149	3	0	0	0	0	12	13	19	6	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	3	0	0	-	173	161	193	174	-
Stage 1	-	-	-	-	170	-	3	3	-
Stage 2	-	-	-	-	3	-	190	171	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1619	-	-	0	720	884	767	719	0
Stage 1	-	-	-	0	758	-	-	-	0
Stage 2	-	-	-	0	-	-	812	757	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1614	-	-	-	713	883	740	712	-
Mov Cap-2 Maneuver	-	-	-	-	713	-	740	712	-
Stage 1	-	-	-	-	753	-	-	-	-
Stage 2	-	-	-	-	-	-	782	752	-
















Approach	EB	NB	SB
HCM Control Delay, s/v	0.4	9.7	10.1
HCM LOS		A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	794	1614	-	-	733
HCM Lane V/C Ratio	0.032	0.006	-	-	0.035
HCM Control Delay (s/veh)	9.7	7.2	0	-	10.1
HCM Lane LOS	A	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1

HCM 6th Signalized Intersection Summary

41: Airport Way & Market Street

Existing Build Conditions
Timing Plan: AM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	76	19	0	0	0	0	815	39	77	591	0
Future Volume (veh/h)	26	76	19	0	0	0	0	815	39	77	591	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	29	84	21				0	906	43	86	657	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	42	120	30				0	2699	128	270	2003	0
Arrive On Green	0.11	0.11	0.11				0.00	0.78	0.78	1.00	1.00	0.00
Sat Flow, veh/h	387	1121	280				0	3547	164	281	2648	0
Grp Volume(v), veh/h	134	0	0				0	466	483	329	414	0
Grp Sat Flow(s),veh/h/ln	1788	0	0				0	1777	1840	1227	1617	0
Q Serve(g_s), s	6.5	0.0	0.0				0.0	7.0	7.0	0.7	0.0	0.0
Cycle Q Clear(g_c), s	6.5	0.0	0.0				0.0	7.0	7.0	7.7	0.0	0.0
Prop In Lane	0.22		0.16				0.00		0.09	0.26		0.00
Lane Grp Cap(c), veh/h	192	0	0				0	1389	1439	1009	1264	0
V/C Ratio(X)	0.70	0.00	0.00				0.00	0.34	0.34	0.33	0.33	0.00
Avail Cap(c_a), veh/h	437	0	0				0	1389	1439	1009	1264	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	0.96	0.96	0.00
Uniform Delay (d), s/veh	38.8	0.0	0.0				0.0	2.9	2.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	0.0				0.0	0.7	0.6	0.8	0.7	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
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0				0.0	1.7	1.8	0.2	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.5	0.0	0.0				0.0	3.6	3.5	0.8	0.7	0.0
LnGrp LOS	D							A	A	A	A	
Approach Vol, veh/h		134						949			743	
Approach Delay, s/veh		40.5						3.6			0.7	
Approach LOS		D						A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		75.3				75.3		14.7				
Change Period (Y+Rc), s		5.0				5.0		5.0				
Max Green Setting (Gmax), s		58.0				58.0		22.0				
Max Q Clear Time (g_c+I1), s		9.7				9.0		8.5				
Green Ext Time (p_c), s		1.0				0.9		0.1				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			5.1									
HCM 6th LOS			A									

HCM 6th TWSC
42: Sierra Nevada Street & Market Street

Existing Build Conditions
Timing Plan: AM PEAK

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	14	178	2	0	0	0	0	15	15	24	7	0
Future Vol, veh/h	14	178	2	0	0	0	0	15	15	24	7	0
Conflicting Peds, #/hr	2	0	2	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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	200	2	0	0	0	0	17	17	27	8	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	2	0	0	-	237	203	252	238	-
Stage 1	-	-	-	-	235	-	2	2	-
Stage 2	-	-	-	-	2	-	250	236	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1620	-	-	0	664	838	701	663	0
Stage 1	-	-	-	0	710	-	-	-	0
Stage 2	-	-	-	0	-	-	754	710	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1617	-	-	-	654	836	667	653	-
Mov Cap-2 Maneuver	-	-	-	-	654	-	667	653	-
Stage 1	-	-	-	-	701	-	-	-	-
Stage 2	-	-	-	-	-	-	713	701	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.5	10.1	10.7
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	734	1617	-	-	664
HCM Lane V/C Ratio	0.046	0.01	-	-	0.052
HCM Control Delay (s/veh)	10.1	7.2	0	-	10.7
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0	-	-	0.2



HCM 6th Signalized Intersection Summary 43: S Wilson Way & Market Street

Existing Build Conditions
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔						↔		↔	↔	
Traffic Volume (veh/h)	15	140	50	0	0	0	0	686	63	118	623	0
Future Volume (veh/h)	15	140	50	0	0	0	0	686	63	118	623	0
Initial Q (Qb), veh	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
Parking Bus, Adj	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	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	16	149	53				0	730	67	126	663	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	20	183	65				0	1958	180	157	2624	0
Arrive On Green	0.05	0.05	0.05				0.00	0.59	0.59	0.12	0.98	0.00
Sat Flow, veh/h	131	1219	434				0	3384	302	1781	3647	0
Grp Volume(v), veh/h	218	0	0				0	394	403	126	663	0
Grp Sat Flow(s),veh/h/ln	1784	0	0				0	1777	1815	1781	1777	0
Q Serve(g_s), s	10.9	0.0	0.0				0.0	10.4	10.4	6.2	0.4	0.0
Cycle Q Clear(g_c), s	10.9	0.0	0.0				0.0	10.4	10.4	6.2	0.4	0.0
Prop In Lane	0.07		0.24				0.00		0.17	1.00		0.00
Lane Grp Cap(c), veh/h	268	0	0				0	1057	1080	157	2624	0
V/C Ratio(X)	0.81	0.00	0.00				0.00	0.37	0.37	0.80	0.25	0.00
Avail Cap(c_a), veh/h	416	0	0				0	1057	1080	257	2624	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	0.97	0.97	0.00
Uniform Delay (d), s/veh	41.5	0.0	0.0				0.0	9.5	9.5	39.0	0.2	0.0
Incr Delay (d2), s/veh	3.5	0.0	0.0				0.0	1.0	1.0	3.5	0.2	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
%ile BackOfQ(50%),veh/ln	5.5	0.0	0.0				0.0	4.1	4.2	2.8	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.0	0.0	0.0				0.0	10.5	10.5	42.5	0.4	0.0
LnGrp LOS	D							B	B	D	A	
Approach Vol, veh/h		218						797			789	
Approach Delay, s/veh		45.0						10.5			7.2	
Approach LOS		D						B			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	12.9	58.5				71.5		18.5				
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0				
Max Green Setting (Gmax), s	13.0	41.0				59.0		21.0				
Max Q Clear Time (g_c+I1), s	8.2	12.4				2.4		12.9				
Green Ext Time (p_c), s	0.1	13.6				15.0		0.5				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			13.2									
HCM 6th LOS			B									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 6th TWSC
44: S Eugenia Street & Market Street

Existing Build Conditions
Timing Plan: AM PEAK

Intersection						
Int Delay, s/veh	1.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	304	16	0	0	0	37
Future Vol, veh/h	304	16	0	0	0	37
Conflicting Peds, #/hr	0	2	0	0	0	1
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, %	2	2	2	2	2	2
Mvmt Flow	330	17	0	0	0	40

Major/Minor	Major1		Minor1	
Conflicting Flow All	0	0	-	342
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	701
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-		
Mov Cap-1 Maneuver	-	-	-	700
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s/v	0	10.5
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	700	-	-
HCM Lane V/C Ratio	0.057	-	-
HCM Control Delay (s/veh)	10.5	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q (veh)	0.2	-	-

HCM 6th TWSC
45: Della Street & Market Street

Existing Build Conditions
Timing Plan: AM PEAK

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	54	256	12	0	0	0	0	3	2	5	54	0
Future Vol, veh/h	54	256	12	0	0	0	0	3	2	5	54	0
Conflicting Peds, #/hr	0	0	4	0	0	0	0	0	2	2	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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	288	13	0	0	0	0	3	2	6	61	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	0	-	421	301	421	427	-
Stage 1	-	-	-	-	421	-	0	0	-
Stage 2	-	-	-	-	0	-	421	427	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	-	-	-	0	524	739	543	520	0
Stage 1	-	-	-	0	589	-	-	-	0
Stage 2	-	-	-	0	-	-	610	585	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	522	736	539	518	-
Mov Cap-2 Maneuver	-	-	-	-	522	-	539	518	-
Stage 1	-	-	-	-	587	-	-	-	-
Stage 2	-	-	-	-	-	-	605	583	-


Approach	EB	NB	SB
HCM Control Delay, s/v		11.2	12.9
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	591	-	-	-	520
HCM Lane V/C Ratio	0.01	-	-	-	0.127
HCM Control Delay (s/veh)	11.2	-	-	-	12.9
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q (veh)	0	-	-	-	0.4

HCM Signalized Intersection Capacity Analysis

2: S San Joaquin Street/N San Joaquin Street & Main Street

Existing Build Conditions
Timing Plan: PM PEAK


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Volume (vph)	0	0	0	23	13	38	7	121	0	0	128	18
Future Volume (vph)	0	0	0	23	13	38	7	121	0	0	128	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			0.95			0.95	
Frpb, ped/bikes					0.97			1.00			0.99	
Flpb, ped/bikes					0.98			0.99			1.00	
Frt					0.93			1.00			0.98	
Flt Protected					0.98			0.99			1.00	
Satd. Flow (prot)					1641			3524			3451	
Flt Permitted					0.98			0.94			1.00	
Satd. Flow (perm)					1641			3329			3451	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	0	0	26	15	43	8	138	0	0	145	20
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	84	0	0	146	0	0	165	0
Confl. Peds. (#/hr)				16		10	28					28
Confl. Bikes (#/hr)						1						1
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					6.5			27.5			27.5	
Effective Green, g (s)					6.5			27.5			27.5	
Actuated g/C Ratio					0.09			0.39			0.39	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					152			1307			1355	
v/s Ratio Prot											c0.05	
v/s Ratio Perm					0.05			0.04				
v/c Ratio					0.55			0.11			0.12	
Uniform Delay, d1					30.3			13.4			13.5	
Progression Factor					0.94			0.72			1.00	
Incremental Delay, d2					2.4			0.1			0.1	
Delay (s)					31.2			10.0			13.7	
Level of Service					C			B			B	
Approach Delay (s/veh)		0.0			31.2			10.0			13.7	
Approach LOS		A			C			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			16.1									HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio			0.12									
Actuated Cycle Length (s)			70.0									Sum of lost time (s) 13.0
Intersection Capacity Utilization			21.7%									ICU Level of Service A
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

3: S Sutter Street/N Sutter Street & Main Street

Existing Build Conditions
Timing Plan: PM PEAK
















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↕	
Traffic Volume (vph)	0	0	0	23	28	12	13	134	0	0	85	23
Future Volume (vph)	0	0	0	23	28	12	13	134	0	0	85	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			1.00			0.95	
Frpb, ped/bikes					0.99			1.00			0.97	
Flpb, ped/bikes					0.98			0.99			1.00	
Frt					0.97			1.00			0.96	
Flt Protected					0.98			0.99			1.00	
Satd. Flow (prot)					1743			1842			3344	
Flt Permitted					0.98			0.97			1.00	
Satd. Flow (perm)					1743			1795			3344	
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	0	0	0	29	35	15	16	170	0	0	108	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	79	0	0	186	0	0	137	0
Confl. Peds. (#/hr)				24		14	52					52
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			4			4	
Permitted Phases				2			4					
Actuated Green, G (s)					15.0			19.0			19.0	
Effective Green, g (s)					15.0			19.0			19.0	
Actuated g/C Ratio					0.21			0.27			0.27	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					373			487			907	
v/s Ratio Prot											0.04	
v/s Ratio Perm					0.05			c0.10				
v/c Ratio					0.21			0.38			0.15	
Uniform Delay, d1					22.6			20.7			19.3	
Progression Factor					0.66			0.68			1.00	
Incremental Delay, d2					1.2			2.2			0.3	
Delay (s)					16.2			16.3			19.7	
Level of Service					B			B			B	
Approach Delay (s/veh)		0.0			16.2			16.3			19.7	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			17.5									
HCM 2000 Volume to Capacity ratio			0.18									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			26.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: California Street & Main Street

Existing Build Conditions

















Timing Plan: PM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	27	42	24	9	216	0	0	249	8
Future Volume (vph)	0	0	0	27	42	24	9	216	0	0	249	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			1.00			1.00	
Frpb, ped/bikes					0.98			1.00			0.99	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.96			1.00			0.99	
Flt Protected					0.98			0.99			1.00	
Satd. Flow (prot)					1750			1858			1853	
Flt Permitted					0.98			0.98			1.00	
Satd. Flow (perm)					1750			1830			1853	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	31	48	28	10	248	0	0	286	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	107	0	0	258	0	0	295	0
Confl. Peds. (#/hr)				2		9	9					9
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					15.0			19.0			19.0	
Effective Green, g (s)					15.0			19.0			19.0	
Actuated g/C Ratio					0.21			0.27			0.27	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					375			496			502	
v/s Ratio Prot											c0.16	
v/s Ratio Perm					0.06			0.14				
v/c Ratio					0.28			0.52			0.58	
Uniform Delay, d1					23.0			21.6			22.1	
Progression Factor					1.68			0.81			1.00	
Incremental Delay, d2					1.7			3.8			4.9	
Delay (s)					40.6			21.4			27.0	
Level of Service					D			C			C	
Approach Delay (s/veh)		0.0			40.6			21.4			27.0	
Approach LOS		A			D			C			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			27.1									
HCM 2000 Volume to Capacity ratio			0.27									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			32.4%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: S American Street/N American Street & Main Street


Existing Build Conditions
Timing Plan: PM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	22	73	19	3	24	0	0	12	15
Future Volume (vph)	0	0	0	22	73	19	3	24	0	0	12	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	5.0
Lane Util. Factor					1.00			1.00			1.00	1.00
Frpb, ped/bikes					0.99			1.00			1.00	0.97
Flpb, ped/bikes					0.99			0.99			1.00	1.00
Frt					0.97			1.00			1.00	0.85
Flt Protected					0.99			0.99			1.00	1.00
Satd. Flow (prot)					1777			1850			1863	1547
Flt Permitted					0.99			0.98			1.00	1.00
Satd. Flow (perm)					1777			1829			1863	1547
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	0	0	26	86	22	4	28	0	0	14	18
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	134	0	0	32	0	0	14	18
Confl. Peds. (#/hr)				15		5	2					2
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			4			4	
Permitted Phases				2			4					4
Actuated Green, G (s)					11.0			23.0			23.0	23.0
Effective Green, g (s)					11.0			23.0			23.0	23.0
Actuated g/C Ratio					0.16			0.33			0.33	0.33
Clearance Time (s)					5.0			5.0			5.0	5.0
Vehicle Extension (s)					0.2			0.2			0.2	0.2
Lane Grp Cap (vph)					279			600			612	508
v/s Ratio Prot											0.01	
v/s Ratio Perm					0.08			c0.02				0.01
v/c Ratio					0.48			0.05			0.02	0.03
Uniform Delay, d1					26.8			16.0			15.8	15.9
Progression Factor					0.88			0.82			1.00	1.00
Incremental Delay, d2					5.7			0.1			0.0	0.1
Delay (s)					29.6			13.4			15.9	16.0
Level of Service					C			B			B	B
Approach Delay (s/veh)		0.0			29.6			13.4			16.0	
Approach LOS		A			C			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			24.9									
HCM 2000 Volume to Capacity ratio			0.11									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			25.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis




6: S Stanislaus Street/N Stanislaus Street & Main Street

Existing Build Conditions
Timing Plan: PM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Volume (vph)	0	0	0	66	53	12	39	249	0	0	295	8
Future Volume (vph)	0	0	0	66	53	12	39	249	0	0	295	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			0.95			0.95	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.98			1.00			0.99	
Flt Protected					0.97			0.99			1.00	
Satd. Flow (prot)					1790			3512			3522	
Flt Permitted					0.97			0.87			1.00	
Satd. Flow (perm)					1790			3103			3522	
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)	0	0	0	72	58	13	42	271	0	0	321	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	143	0	0	313	0	0	327	0
Confl. Peds. (#/hr)				4			5					5
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					1			2			2	
Permitted Phases				1			2					
Actuated Green, G (s)					25.0			35.0			35.0	
Effective Green, g (s)					25.0			35.0			35.0	
Actuated g/C Ratio					0.36			0.50			0.50	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					639			1551			1761	
v/s Ratio Prot											0.09	
v/s Ratio Perm					0.08			c0.10				
v/c Ratio					0.22			0.20			0.18	
Uniform Delay, d1					15.7			9.7			9.6	
Progression Factor					1.00			0.79			1.00	
Incremental Delay, d2					0.8			0.2			0.2	
Delay (s)					16.5			7.9			9.8	
Level of Service					B			A			A	
Approach Delay (s/veh)		0.0			16.5			7.9			9.8	
Approach LOS		A			B			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			10.3									HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio			0.21									
Actuated Cycle Length (s)			70.0								10.0	
Intersection Capacity Utilization			41.0%									ICU Level of Service A
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
7: S Grant Street/N Grant Street & Main Street

Existing Build Conditions
Timing Plan: PM PEAK

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	7	109	11	10	21	0	0	31	25
Future Vol, veh/h	0	0	0	7	109	11	10	21	0	0	31	25
Conflicting Peds, #/hr	0	0	0	1	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	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	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	10	156	16	14	30	0	0	44	36




Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1622	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1620	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	0.4	10.6	10.2
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	684	1620	-	-	771
HCM Lane V/C Ratio	0.065	0.006	-	-	0.104
HCM Control Delay (s/veh)	10.6	7.2	0	-	10.2
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.2	0	-	-	0.3

HCM 6th TWSC
8: S Aurora Street/N Aurora Street & Main Street

Existing Build Conditions
Timing Plan: PM PEAK

Intersection												
Int Delay, s/veh	7.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	15	60	1	12	96	0	0	38	5
Future Vol, veh/h	0	0	0	15	60	1	12	96	0	0	38	5
Conflicting Peds, #/hr	0	0	0	8	0	1	1	0	0	0	0	1
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	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	18	72	1	14	116	0	0	46	6

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	8	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1612	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1600	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-




Approach	WB	NB	SB
HCM Control Delay, s/v	1.4	10.7	10
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	757	1600	-	-	777
HCM Lane V/C Ratio	0.172	0.011	-	-	0.067
HCM Control Delay (s/veh)	10.7	7.3	0	-	10
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.6	0	-	-	0.2

HCM 6th AWSC
9: Union Street & Main Street

Existing Build Conditions
Timing Plan: PM PEAK

Intersection												
Intersection Delay, s/veh	7.9											
Intersection LOS	A											




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	13	63	15	13	108	0	0	76	7
Future Vol, veh/h	0	0	0	13	63	15	13	108	0	0	76	7
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	14	66	16	14	114	0	0	80	7
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB			NB			SB		
Opposing Approach				SB			NB		
Opposing Lanes	0			1			1		
Conflicting Approach Left	NB						WB		
Conflicting Lanes Left	1			0			1		
Conflicting Approach Right	SB			WB					
Conflicting Lanes Right	1			1			0		
HCM Control Delay, s/veh	7.9			8			7.7		
HCM LOS	A			A			A		

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	11%	14%	0%
Vol Thru, %	89%	69%	92%
Vol Right, %	0%	16%	8%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	121	91	83
LT Vol	13	13	0
Through Vol	108	63	76
RT Vol	0	15	7
Lane Flow Rate	127	96	87
Geometry Grp	1	1	1
Degree of Util (X)	0.148	0.115	0.101
Departure Headway (Hd)	4.191	4.34	4.149
Convergence, Y/N	Yes	Yes	Yes
Cap	844	830	850
Service Time	2.271	2.34	2.241
HCM Lane V/C Ratio	0.15	0.116	0.102
HCM Control Delay, s/veh	8	7.9	7.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.4	0.3

HCM 6th TWSC
10: Pilgrim Street & Main Street

Existing Build Conditions
Timing Plan: PM PEAK

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	0	0	0	18	82	15	8	16	0	0	20	5
Future Vol, veh/h	0	0	0	18	82	15	8	16	0	0	20	5
Conflicting Peds, #/hr	0	0	0	4	0	1	3	0	0	0	0	3
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	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	23	104	19	10	20	0	0	25	6
















Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	4	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1618	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1612	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	1.1	10.2	10
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	717	1612	-	-	748
HCM Lane V/C Ratio	0.042	0.014	-	-	0.042
HCM Control Delay (s/veh)	10.2	7.3	0	-	10
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1

HCM 6th Signalized Intersection Summary 11: Airport Way & Main Street

Existing Build Conditions
Timing Plan: PM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	41	78	61	10	869	0	0	749	17
Future Volume (veh/h)	0	0	0	41	78	61	10	869	0	0	749	17
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.97	1.00		1.00	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
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				43	82	64	11	915	0	0	788	18
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				58	110	86	51	2561	0	0	2635	60
Arrive On Green				0.05	0.05	0.05	1.00	1.00	0.00	0.00	0.74	0.74
Sat Flow, veh/h				392	747	583	13	3536	0	0	3644	81
Grp Volume(v), veh/h				189	0	0	494	432	0	0	394	412
Grp Sat Flow(s),veh/h/ln				1722	0	0	1847	1617	0	0	1777	1855
Q Serve(g_s), s				9.8	0.0	0.0	0.0	0.0	0.0	0.0	6.6	6.6
Cycle Q Clear(g_c), s				9.8	0.0	0.0	0.0	0.0	0.0	0.0	6.6	6.6
Prop In Lane				0.23		0.34	0.02		0.00	0.00		0.04
Lane Grp Cap(c), veh/h				253	0	0	1412	1200	0	0	1318	1376
V/C Ratio(X)				0.75	0.00	0.00	0.35	0.36	0.00	0.00	0.30	0.30
Avail Cap(c_a), veh/h				421	0	0	1412	1200	0	0	1318	1376
HCM Platoon Ratio				0.33	0.33	0.33	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.93	0.93	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				41.2	0.0	0.0	0.0	0.0	0.0	0.0	3.8	3.8
Incr Delay (d2), s/veh				1.7	0.0	0.0	0.6	0.8	0.0	0.0	0.6	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
%ile BackOfQ(50%),veh/ln				4.6	0.0	0.0	0.2	0.3	0.0	0.0	1.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				42.8	0.0	0.0	0.6	0.8	0.0	0.0	4.4	4.4
LnGrp LOS				D			A	A			A	A
Approach Vol, veh/h					189			926			806	
Approach Delay, s/veh					42.8			0.7			4.4	
Approach LOS					D			A			A	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	71.8			18.2			71.8					
Change Period (Y+Rc), s	5.0			5.0			5.0					
Max Green Setting (Gmax), s	58.0			22.0			58.0					
Max Q Clear Time (g_c+I1), s	2.0			11.8			8.6					
Green Ext Time (p_c), s	0.9			0.5			0.7					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	6.4											
HCM 6th LOS	A											

HCM 6th TWSC
12: Sierra Nevada Street & Main Street

Existing Build Conditions
Timing Plan: PM PEAK

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					4T			4			4	
Traffic Vol, veh/h	0	0	0	30	139	40	9	37	0	0	49	32
Future Vol, veh/h	0	0	0	30	139	40	9	37	0	0	49	32
Conflicting Peds, #/hr	0	0	0	6	0	3	9	0	0	0	0	9
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	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	32	148	43	10	39	0	0	52	34



















Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	6	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1613	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1604	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	1.1	11.2	10.6
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	630	1604	-	-	726
HCM Lane V/C Ratio	0.078	0.02	-	-	0.119
HCM Control Delay (s/veh)	11.2	7.3	0.1	-	10.6
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.3	0.1	-	-	0.4

HCM 6th Signalized Intersection Summary 13: S Wilson Way & Main Street

Existing Build Conditions
Timing Plan: PM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	107	111	183	27	936	0	0	933	29
Future Volume (veh/h)	0	0	0	107	111	183	27	936	0	0	933	29
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	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
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				110	114	189	28	965	0	0	962	30
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				136	141	241	442	2618	0	0	2591	81
Arrive On Green				0.15	0.15	0.15	1.00	1.00	0.00	0.00	0.74	0.74
Sat Flow, veh/h				896	929	1582	567	3647	0	0	3611	110
Grp Volume(v), veh/h				224	0	189	28	965	0	0	486	506
Grp Sat Flow(s),veh/h/ln				1826	0	1582	567	1777	0	0	1777	1850
Q Serve(g_s), s				10.7	0.0	10.4	0.6	0.0	0.0	0.0	8.9	8.9
Cycle Q Clear(g_c), s				10.7	0.0	10.4	9.6	0.0	0.0	0.0	8.9	8.9
Prop In Lane				0.49		1.00	1.00		0.00	0.00		0.06
Lane Grp Cap(c), veh/h				278	0	241	442	2618	0	0	1309	1363
V/C Ratio(X)				0.81	0.00	0.79	0.06	0.37	0.00	0.00	0.37	0.37
Avail Cap(c_a), veh/h				467	0	404	442	2618	0	0	1309	1363
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.75	0.75	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.9	0.0	36.7	0.6	0.0	0.0	0.0	4.3	4.3
Incr Delay (d2), s/veh				2.1	0.0	2.1	0.2	0.3	0.0	0.0	0.8	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
%ile BackOfQ(50%),veh/ln				4.8	0.0	4.1	0.0	0.1	0.0	0.0	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				39.0	0.0	38.9	0.8	0.3	0.0	0.0	5.1	5.1
LnGrp LOS				D		D	A	A			A	A
Approach Vol, veh/h					413			993			992	
Approach Delay, s/veh					38.9			0.3			5.1	
Approach LOS					D			A			A	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	71.3			18.7			71.3					
Change Period (Y+Rc), s	5.0			5.0			5.0					
Max Green Setting (Gmax), s	57.0			23.0			57.0					
Max Q Clear Time (g_c+I1), s	11.6			12.7			10.9					
Green Ext Time (p_c), s	3.4			0.9			2.6					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				8.9								
HCM 6th LOS				A								

HCM 6th TWSC

Existing Build Conditions

15: B Street/E Washington Street & Main Street

Timing Plan: PM PEAK

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	5	392	32	15	311	1	28	2	38	1	2	14	↔
Future Vol, veh/h	5	392	32	15	311	1	28	2	38	1	2	14	
Conflicting Peds, #/hr	1	0	1	1	0	1	3	0	0	0	0	3	
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	94	94	94	94	94	94	94	94	94	94	94	94	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	5	417	34	16	331	1	30	2	40	1	2	15	

Major/Minor	Major1	Major2	Minor1	Minor2										
Conflicting Flow All	333	0	0	452	0	0	820	810	435	830	827	336		
Stage 1	-	-	-	-	-	-	445	445	-	365	365	-		
Stage 2	-	-	-	-	-	-	375	365	-	465	462	-		
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318		
Pot Cap-1 Maneuver	1226	-	-	1109	-	-	294	314	621	289	307	706		
Stage 1	-	-	-	-	-	-	592	575	-	654	623	-		
Stage 2	-	-	-	-	-	-	646	623	-	578	565	-		
Platoon blocked, %														
Mov Cap-1 Maneuver	1225	-	-	1108	-	-	280	306	620	264	299	703		
Mov Cap-2 Maneuver	-	-	-	-	-	-	280	306	-	264	299	-		
Stage 1	-	-	-	-	-	-	588	572	-	650	611	-		
Stage 2	-	-	-	-	-	-	617	611	-	536	562	-		

Approach	EB	WB	NB	SB										
HCM Control Delay, s/v	0.1	0.4	15.8	11.7										
HCM LOS					C				B					

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	405	1225	-	-	1108	-	-	559					
HCM Lane V/C Ratio	0.179	0.004	-	-	0.014	-	-	0.032					
HCM Control Delay (s/veh)	15.8	8	0	-	8.3	0	-	11.7					
HCM Lane LOS	C	A	A	-	A	A	-	B					
HCM 95th %tile Q (veh)	0.6	0	-	-	0	-	-	0.1					

HCM 6th TWSC
16: E Lafayette Street & Main Street

Existing Build Conditions
Timing Plan: PM PEAK

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↔			↕	
Traffic Vol, veh/h	40	370	9	25	318	12	11	4	31	0	3	15
Future Vol, veh/h	40	370	9	25	318	12	11	4	31	0	3	15
Conflicting Peds, #/hr	1	0	0	0	0	1	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	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	378	9	26	324	12	11	4	32	0	3	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	337	0	0	387	0	0	856	854	383	866	852	331
Stage 1	-	-	-	-	-	-	465	465	-	383	383	-
Stage 2	-	-	-	-	-	-	391	389	-	483	469	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1222	-	-	1171	-	-	278	296	664	274	297	711
Stage 1	-	-	-	-	-	-	578	563	-	640	612	-
Stage 2	-	-	-	-	-	-	633	608	-	565	561	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1221	-	-	1171	-	-	255	275	664	244	276	710
Mov Cap-2 Maneuver	-	-	-	-	-	-	255	275	-	244	276	-
Stage 1	-	-	-	-	-	-	553	539	-	612	595	-
Stage 2	-	-	-	-	-	-	600	591	-	511	537	-

Approach	EB			WB			NE			SW		
HCM Control Delay, s/v	0.8			0.6			11.7			11.6		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NELn1	EBL	EBT	EBR	WBL	WBT	WBRSWLn1
Capacity (veh/h)	572	1221	-	-	1171	-	- 563
HCM Lane V/C Ratio	0.062	0.033	-	-	0.022	-	- 0.033
HCM Control Delay (s/veh)	11.7	8.1	0	-	8.1	0	- 11.6
HCM Lane LOS	B	A	A	-	A	A	- B
HCM 95th %tile Q (veh)	0.2	0.1	-	-	0.1	-	- 0.1

HCM Signalized Intersection Capacity Analysis

17: Main Street & D Street

Existing Build Conditions





Timing Plan: PM PEAK



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	426	355	15	8	8
Future Volume (vph)	9	426	355	15	8	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	
Lane Util. Factor		1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.99		1.00	
Flpb, ped/bikes		0.99	1.00		1.00	
Frt		1.00	0.99		0.93	
Flt Protected		0.99	1.00		0.97	
Satd. Flow (prot)		1861	1851		1695	
Flt Permitted		0.98	1.00		0.97	
Satd. Flow (perm)		1838	1851		1695	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	453	378	16	9	9
RTOR Reduction (vph)	0	0	0	0	9	0
Lane Group Flow (vph)	0	463	394	0	9	0
Confl. Peds. (#/hr)	1			1		
Turn Type	Perm	NA	NA		Perm	
Protected Phases		2	6			
Permitted Phases	2				4	
Actuated Green, G (s)		11.2	11.2		0.6	
Effective Green, g (s)		11.2	11.2		0.6	
Actuated g/C Ratio		0.51	0.51		0.03	
Clearance Time (s)		5.0	5.0		5.0	
Vehicle Extension (s)		6.0	6.0		2.0	
Lane Grp Cap (vph)		944	950		46	
v/s Ratio Prot			0.21			
v/s Ratio Perm		c0.25			c0.01	
v/c Ratio		0.49	0.41		0.20	
Uniform Delay, d1		3.4	3.2		10.3	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		1.1	0.8		0.7	
Delay (s)		4.5	4.1		11.1	
Level of Service		A	A		B	
Approach Delay (s/veh)		4.5	4.1		11.1	
Approach LOS		A	A		B	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			4.5		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.48			
Actuated Cycle Length (s)			21.8		Sum of lost time (s)	10.0
Intersection Capacity Utilization			41.3%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th TWSC
18: Marsh Street & Main Street & E Street

Existing Build Conditions
Timing Plan: PM PEAK

Intersection											
Int Delay, s/veh	2.5										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL	NER	
Lane Configurations											
Traffic Vol, veh/h	6	404	0	18	317	37	51	8	3	18	
Future Vol, veh/h	6	404	0	18	317	37	51	8	3	18	
Conflicting Peds, #/hr	1	0	5	5	0	1	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	-	None	
Storage Length	-	-	-	-	-	-	0	-	0	-	
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	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	7	439	0	20	345	40	55	9	3	20	





Major/Minor	Major1			Major2			Minor2		Minor1		
Conflicting Flow All	386	0	0	444	0	0	871	367	882	444	
Stage 1	-	-	-	-	-	-	406	-	458	-	
Stage 2	-	-	-	-	-	-	465	-	424	-	
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.22	7.12	6.22	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	-	6.12	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	-	6.12	-	
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	3.318	3.518	3.318	
Pot Cap-1 Maneuver	1172	-	-	1116	-	-	271	678	267	614	
Stage 1	-	-	-	-	-	-	622	-	583	-	
Stage 2	-	-	-	-	-	-	578	-	608	-	
Platoon blocked, %		-	-		-	-					
Mov Cap-1 Maneuver	1171	-	-	1111	-	-	254	677	243	611	
Mov Cap-2 Maneuver	-	-	-	-	-	-	254	-	243	-	
Stage 1	-	-	-	-	-	-	616	-	575	-	
Stage 2	-	-	-	-	-	-	552	-	561	-	

Approach	EB			WB			SB		NE		
HCM Control Delay, s/v	0.1			0.4			20.1		12.3		
HCM LOS							C		B		

Minor Lane/Major Mvmt	NELn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)	519	1171	-	-	1111	-	-	320			
HCM Lane V/C Ratio	0.044	0.006	-	-	0.018	-	-	0.258			
HCM Control Delay (s/veh)	12.3	8.1	0	-	8.3	0	-	20.1			
HCM Lane LOS	B	A	A	-	A	A	-	C			
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1	-	-	1			

HCM 6th TWSC
19: Alma Street & Main Street & F Street

Existing Build Conditions
Timing Plan: PM PEAK

Intersection											
Int Delay, s/veh	1.2										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL	NER	
Lane Configurations											
Traffic Vol, veh/h	13	434	1	31	316	12	17	2	0	17	
Future Vol, veh/h	13	434	1	31	316	12	17	2	0	17	
Conflicting Peds, #/hr	0	0	5	5	0	0	1	0	0	1	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	-	None	
Storage Length	-	-	-	-	-	-	0	-	0	-	
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	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	14	477	1	34	347	13	19	2	0	19	
Major/Minor	Major1			Major2			Minor2		Minor1		
Conflicting Flow All	360	0	0	483	0	0	938	354	935	484	
Stage 1	-	-	-	-	-	-	422	-	511	-	
Stage 2	-	-	-	-	-	-	516	-	424	-	
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.22	7.12	6.22	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	-	6.12	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	-	6.12	-	
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	3.318	3.518	3.318	
Pot Cap-1 Maneuver	1199	-	-	1080	-	-	244	690	246	583	
Stage 1	-	-	-	-	-	-	609	-	545	-	
Stage 2	-	-	-	-	-	-	542	-	608	-	
Platoon blocked, %		-	-		-	-					
Mov Cap-1 Maneuver	1199	-	-	1075	-	-	226	690	232	580	
Mov Cap-2 Maneuver	-	-	-	-	-	-	226	-	232	-	
Stage 1	-	-	-	-	-	-	599	-	534	-	
Stage 2	-	-	-	-	-	-	516	-	579	-	
Approach	EB			WB			SB		NE		
HCM Control Delay, s/v	0.2			0.7			20.7		12.5		
HCM LOS							C		B		
Minor Lane/Major Mvmt	NELn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)	501	1199	-	-	1075	-	-	251			
HCM Lane V/C Ratio	0.042	0.012	-	-	0.032	-	-	0.088			
HCM Control Delay (s/veh)	12.5	8	0	-	8.5	0	-	20.7			
HCM Lane LOS	B	A	A	-	A	A	-	C			
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1	-	-	0.3			

HCM 6th TWSC

21: Burkett Avenue & Main Street

Existing Build Conditions

Timing Plan: PM PEAK

Intersection														
Int Delay, s/veh 0.9														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Vol, veh/h	17	699	30	11	528	11	8	2	16	5	0	7	↕	
Future Vol, veh/h	17	699	30	11	528	11	8	2	16	5	0	7		
Conflicting Peds, #/hr	3	0	3	3	0	3	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	93	93	93	93	93	93	93	93	93	93	93	93		
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2		
Mvmt Flow	18	752	32	12	568	12	9	2	17	5	0	8		

Major/Minor	Major1	Major2	Minor1	Minor2										
Conflicting Flow All	583	0	0	787	0	0	1409	1414	771	1415	1424	577		
Stage 1	-	-	-	-	-	-	807	807	-	601	601	-		
Stage 2	-	-	-	-	-	-	602	607	-	814	823	-		
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318		
Pot Cap-1 Maneuver	991	-	-	832	-	-	116	138	400	115	136	516		
Stage 1	-	-	-	-	-	-	375	394	-	487	489	-		
Stage 2	-	-	-	-	-	-	486	486	-	372	388	-		
Platoon blocked, %														
Mov Cap-1 Maneuver	988	-	-	830	-	-	109	130	399	104	128	515		
Mov Cap-2 Maneuver	-	-	-	-	-	-	109	130	-	104	128	-		
Stage 1	-	-	-	-	-	-	362	380	-	470	477	-		
Stage 2	-	-	-	-	-	-	469	474	-	343	374	-		

Approach	EB	WB	NB	SB										
HCM Control Delay, s/v	0.2	0.2	25.7	24.8										
HCM LOS				D	C									

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1							
Capacity (veh/h)	202	988	-	-	830	-	-	195							
HCM Lane V/C Ratio	0.138	0.019	-	-	0.014	-	-	0.066							
HCM Control Delay (s/veh)	25.7	8.7	0	-	9.4	0	-	24.8							
HCM Lane LOS	D	A	A	A	A	A	-	C							
HCM 95th %tile Q (veh)	0.5	0.1	-	-	0	-	-	0.2							

HCM 6th TWSC

22: Shasta Avenue & Main Street

Existing Build Conditions

Timing Plan: PM PEAK

Intersection																			
Int Delay, s/veh		0.5																	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR							
Lane Configurations																			
Traffic Vol, veh/h	8	696	15	5	541	10	5	0	12	3	1	5							
Future Vol, veh/h	8	696	15	5	541	10	5	0	12	3	1	5							
Conflicting Peds, #/hr	3	0	4	4	0	3	1	0	0	0	0	1							
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, %	2	2	2	2	2	2	2	2	2	2	2	2							
Mvmt Flow	9	757	16	5	588	11	5	0	13	3	1	5							

Major/Minor	Major1	Major2	Minor1	Minor2															
Conflicting Flow All	602	0	0	777	0	0	1395	1399	769	1397	1402	598							
Stage 1	-	-	-	-	-	-	787	787	-	607	607	-							
Stage 2	-	-	-	-	-	-	608	612	-	790	795	-							
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22							
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-							
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-							
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318							
Pot Cap-1 Maneuver	975	-	-	839	-	-	119	141	401	118	140	502							
Stage 1	-	-	-	-	-	-	385	403	-	483	486	-							
Stage 2	-	-	-	-	-	-	483	484	-	383	399	-							
Platoon blocked, %	-	-	-	-	-	-													
Mov Cap-1 Maneuver	972	-	-	836	-	-	114	136	399	112	136	500							
Mov Cap-2 Maneuver	-	-	-	-	-	-	114	136	-	112	136	-							
Stage 1	-	-	-	-	-	-	377	395	-	474	480	-							
Stage 2	-	-	-	-	-	-	472	478	-	365	391	-							

Approach	EB	WB	NB	SB															
HCM Control Delay, s/v	0.1	0.1	22	23.5															
HCM LOS			C	C															

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1											
Capacity (veh/h)	230	972	-	-	836	-	-	204											
HCM Lane V/C Ratio	0.08	0.009	-	-	0.007	-	-	0.048											
HCM Control Delay (s/veh)	22	8.7	0	-	9.3	0	-	23.5											
HCM Lane LOS	C	A	A	A	A	A	A	C											
HCM 95th %tile Q (veh)	0.3	0	-	-	0	-	-	0.2											

HCM 6th TWSC

23: David Avenue & Main Street

Existing Build Conditions

Timing Plan: PM PEAK

Intersection													
Int Delay, s/veh 0.6													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔			↔			↔			↔		
Traffic Vol, veh/h	8	691	10	4	541	8	11	1	1	2	1	5	
Future Vol, veh/h	8	691	10	4	541	8	11	1	1	2	1	5	
Conflicting Peds, #/hr	1	0	4	4	0	1	0	0	2	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	9	751	11	4	588	9	12	1	1	2	1	5	

Major/Minor	Major1	Major2	Minor1	Minor2										
Conflicting Flow All	598	0	766	0	0	1383	1385	763	1380	1386	594			
Stage 1	-	-	-	-	-	779	779	-	602	602	-			
Stage 2	-	-	-	-	-	604	606	-	778	784	-			
Critical Hdwy	4.12	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-			
Follow-up Hdwy	2.218	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318			
Pot Cap-1 Maneuver	979	-	847	-	-	121	143	404	122	143	505			
Stage 1	-	-	-	-	-	389	406	-	486	489	-			
Stage 2	-	-	-	-	-	485	487	-	389	404	-			
Platoon blocked, %	-	-	-	-	-									
Mov Cap-1 Maneuver	978	-	844	-	-	117	139	402	118	139	505			
Mov Cap-2 Maneuver	-	-	-	-	-	117	139	-	118	139	-			
Stage 1	-	-	-	-	-	381	398	-	478	485	-			
Stage 2	-	-	-	-	-	475	483	-	380	396	-			

Approach	EB	WB	NB	SB										
HCM Control Delay, s/v	0.1	0.1	37.4	20.9										
HCM LOS	E			C										

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	125	978	-	-	844	-	-	235					
HCM Lane V/C Ratio	0.113	0.009	-	-	0.005	-	-	0.037					
HCM Control Delay (s/veh)	37.4	8.7	0	-	9.3	0	-	20.9					
HCM Lane LOS	E	A	A	-	A	A	-	C					
HCM 95th %tile Q (veh)	0.4	0	-	-	0	-	-	0.1					

HCM 6th TWSC

24: Rendon Avenue & Main Street

Existing Build Conditions

Timing Plan: PM PEAK

Intersection													
Int Delay, s/veh		1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	10	655	34	18	518	12	16	4	11	6	3	12	↔
Future Vol, veh/h	10	655	34	18	518	12	16	4	11	6	3	12	
Conflicting Peds, #/hr	4	0	7	7	0	4	0	0	3	3	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	11	704	37	19	557	13	17	4	12	6	3	13	

Major/Minor	Major1	Major2	Minor1	Minor2												
Conflicting Flow All	574	0	748	0	0	1362	1364	733	1362	1376	568					
Stage 1	-	-	-	-	-	752	752	-	606	606	-					
Stage 2	-	-	-	-	-	610	612	-	756	770	-					
Critical Hdwy	4.12	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22					
Critical Hdwy Stg 1	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-					
Critical Hdwy Stg 2	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-					
Follow-up Hdwy	2.218	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318					
Pot Cap-1 Maneuver	999	-	861	-	-	125	148	421	125	145	522					
Stage 1	-	-	-	-	-	402	418	-	484	487	-					
Stage 2	-	-	-	-	-	482	484	-	400	410	-					
Platoon blocked, %																
Mov Cap-1 Maneuver	995	-	855	-	-	114	139	417	113	136	520					
Mov Cap-2 Maneuver	-	-	-	-	-	114	139	-	113	136	-					
Stage 1	-	-	-	-	-	392	407	-	473	469	-					
Stage 2	-	-	-	-	-	451	466	-	376	399	-					




















Approach	EB	WB	NB	SB												
HCM Control Delay, s/v	0.1	0.3	33.5	23.8												
HCM LOS					D	C										

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	159	995	-	-	855	-	-	214						
HCM Lane V/C Ratio	0.21	0.011	-	-	0.023	-	-	0.106						
HCM Control Delay (s/veh)	33.5	8.7	0	-	9.3	0	-	23.8						
HCM Lane LOS	D	A	A	-	A	A	-	C						
HCM 95th %tile Q (veh)	0.8	0	-	-	0.1	-	-	0.3						

HCM 6th Signalized Intersection Summary

25: Golden Gate Avenue & Main Street

Existing Build Conditions
Timing Plan: PM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	486	190	23	399	9	128	23	24	13	30	8
Future Volume (veh/h)	8	486	190	23	399	9	128	23	24	13	30	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		1.00	0.99		0.99	0.99		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	517	202	24	424	10	136	24	26	14	32	9
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	17	703	275	39	1030	24	284	46	37	119	218	51
Arrive On Green	0.01	0.55	0.55	0.02	0.57	0.57	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1781	1270	496	1781	1820	43	1019	258	208	250	1224	289
Grp Volume(v), veh/h	9	0	719	24	0	434	186	0	0	55	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1766	1781	0	1862	1485	0	0	1763	0	0
Q Serve(g_s), s	0.3	0.0	18.7	0.8	0.0	8.0	5.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	18.7	0.8	0.0	8.0	7.0	0.0	0.0	1.6	0.0	0.0
Prop In Lane	1.00		0.28	1.00		0.02	0.73		0.14	0.25		0.16
Lane Grp Cap(c), veh/h	17	0	978	39	0	1055	367	0	0	388	0	0
V/C Ratio(X)	0.54	0.00	0.74	0.61	0.00	0.41	0.51	0.00	0.00	0.14	0.00	0.00
Avail Cap(c_a), veh/h	585	0	1392	585	0	1468	1052	0	0	908	0	0
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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.0	0.0	10.2	29.5	0.0	7.5	23.3	0.0	0.0	21.2	0.0	0.0
Incr Delay (d2), s/veh	10.0	0.0	3.9	5.7	0.0	0.9	0.4	0.0	0.0	0.1	0.0	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	0.2	0.0	6.4	0.4	0.0	2.7	2.4	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.0	0.0	14.2	35.2	0.0	8.4	23.7	0.0	0.0	21.3	0.0	0.0
LnGrp LOS	D		B	D		A	C			C		
Approach Vol, veh/h		728			458			186			55	
Approach Delay, s/veh		14.5			9.8			23.7			21.3	
Approach LOS		B			A			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	38.7		15.9	5.6	39.5		15.9				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	20.0	48.0		40.0	20.0	48.0		30.0				
Max Q Clear Time (g_c+I1), s	2.8	20.7		9.0	2.3	10.0		3.6				
Green Ext Time (p_c), s	0.0	13.1		0.8	0.0	7.7		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			14.4									
HCM 6th LOS			B									

HCM 6th TWSC

26: Windsor Avenue & Main Street

Existing Build Conditions

Timing Plan: PM PEAK

Intersection													
Int Delay, s/veh 0.6													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	7	500	26	4	417	4	11	0	5	4	2	7	↔↔
Future Vol, veh/h	7	500	26	4	417	4	11	0	5	4	2	7	
Conflicting Peds, #/hr	6	0	6	6	0	6	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	97	97	97	97	97	97	97	97	97	97	97	97	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	7	515	27	4	430	4	11	0	5	4	2	7	

Major/Minor	Major1	Major2	Minor1			Minor2						
Conflicting Flow All	440	0	0	548	0	0	994	997	535	991	1008	438
Stage 1	-	-	-	-	-	-	549	549	-	446	446	-
Stage 2	-	-	-	-	-	-	445	448	-	545	562	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1120	-	-	1021	-	-	224	244	545	225	240	619
Stage 1	-	-	-	-	-	-	520	516	-	591	574	-
Stage 2	-	-	-	-	-	-	592	573	-	523	510	-
Platoon blocked, %												
Mov Cap-1 Maneuver	1114	-	-	1015	-	-	216	238	542	219	234	615
Mov Cap-2 Maneuver	-	-	-	-	-	-	216	238	-	219	234	-
Stage 1	-	-	-	-	-	-	512	508	-	582	568	-
Stage 2	-	-	-	-	-	-	580	567	-	513	502	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.1	0.1	19.4	16
HCM LOS			C	C



















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	266	1114	-	-	1015	-	-	340
HCM Lane V/C Ratio	0.062	0.006	-	-	0.004	-	-	0.039
HCM Control Delay (s/veh)	19.4	8.3	0	-	8.6	0	-	16
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0.1

HCM Signalized Intersection Capacity Analysis

27: Netherton Avenue & Main Street








Existing Build Conditions

Timing Plan: PM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	448	27	38	387	5	21	6	67	27	12	48
Future Volume (vph)	11	448	27	38	387	5	21	6	67	27	12	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99			0.98			0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Frt	1.00	0.99		1.00	0.99			0.90			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	1844		1770	1859			1646			1676	
Flt Permitted	0.95	1.00		0.95	1.00			0.89			0.86	
Satd. Flow (perm)	1770	1844		1770	1859			1496			1465	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	11	453	27	38	391	5	21	6	68	27	12	48
RTOR Reduction (vph)	0	0	0	0	0	0	0	57	0	0	40	0
Lane Group Flow (vph)	11	480	0	38	396	0	0	38	0	0	47	0
Confl. Peds. (#/hr)			4			1	2		6	6		2
Confl. Bikes (#/hr)			1									
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	0.6	18.3		0.8	18.5			6.6			6.6	
Effective Green, g (s)	0.6	18.3		0.8	18.5			6.6			6.6	
Actuated g/C Ratio	0.01	0.45		0.02	0.45			0.16			0.16	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	2.0	6.0		2.0	6.0			2.0			2.0	
Lane Grp Cap (vph)	26	829		34	845			242			237	
v/s Ratio Prot	0.01	c0.26		c0.02	0.21							
v/s Ratio Perm								0.03			c0.03	
v/c Ratio	0.42	0.57		1.11	0.46			0.15			0.19	
Uniform Delay, d1	19.8	8.3		19.9	7.6			14.6			14.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	3.9	1.9		191.7	1.1			0.1			0.1	
Delay (s)	23.8	10.2		211.7	8.8			14.7			14.9	
Level of Service	C	B		F	A			B			B	
Approach Delay (s/veh)		10.5			26.6			14.7			14.9	
Approach LOS		B			C			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		17.6			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.50										
Actuated Cycle Length (s)		40.7			Sum of lost time (s)			15.0				
Intersection Capacity Utilization		49.9%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th TWSC
28: Broadway Avenue & Main Street

Existing Build Conditions
Timing Plan: PM PEAK

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	478	6	10	392	16	12	2	11	13	5	14
Future Vol, veh/h	26	478	6	10	392	16	12	2	11	13	5	14
Conflicting Peds, #/hr	8	0	14	14	0	8	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	493	6	10	404	16	12	2	11	13	5	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	428	0	0	513	0	0	1006	1012	513	992	999	412
Stage 1	-	-	-	-	-	-	564	564	-	432	432	-
Stage 2	-	-	-	-	-	-	442	448	-	560	567	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1131	-	-	1052	-	-	220	239	561	225	243	640
Stage 1	-	-	-	-	-	-	510	508	-	602	582	-
Stage 2	-	-	-	-	-	-	594	573	-	513	507	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1122	-	-	1038	-	-	203	226	552	211	230	635
Mov Cap-2 Maneuver	-	-	-	-	-	-	203	226	-	211	230	-
Stage 1	-	-	-	-	-	-	491	489	-	583	572	-
Stage 2	-	-	-	-	-	-	570	563	-	487	488	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.4			0.2			18.9			18.3		
HCM LOS							C			C		


Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	284	1122	-	-	1038	-	-	304
HCM Lane V/C Ratio	0.091	0.024	-	-	0.01	-	-	0.109
HCM Control Delay (s/veh)	18.9	8.3	-	-	8.5	-	-	18.3
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q (veh)	0.3	0.1	-	-	0	-	-	0.4

HCM Signalized Intersection Capacity Analysis

29: S Center Street & Market Street

Existing Build Conditions

















Timing Plan: PM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↶									↶↶↶	
Traffic Volume (vph)	0	39	58	0	0	0	0	0	0	56	1771	0
Future Volume (vph)	0	39	58	0	0	0	0	0	0	56	1771	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0									5.0	
Lane Util. Factor		1.00									0.91	
Frpb, ped/bikes		0.98									1.00	
Flpb, ped/bikes		1.00									0.99	
Frt		0.91									1.00	
Flt Protected		1.00									0.99	
Satd. Flow (prot)		1688									5075	
Flt Permitted		1.00									0.99	
Satd. Flow (perm)		1688									5075	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	43	64	0	0	0	0	0	0	62	1946	0
RTOR Reduction (vph)	0	9	0	0	0	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	98	0	0	0	0	0	0	0	0	1998	0
Confl. Peds. (#/hr)	5		11							11		
Turn Type		NA									Perm	NA
Protected Phases		2										1
Permitted Phases											1	
Actuated Green, G (s)		24.0										51.0
Effective Green, g (s)		24.0										51.0
Actuated g/C Ratio		0.28										0.60
Clearance Time (s)		5.0										5.0
Vehicle Extension (s)		0.2										0.2
Lane Grp Cap (vph)		476										3045
v/s Ratio Prot		c0.06										
v/s Ratio Perm												0.39
v/c Ratio		0.20										0.65
Uniform Delay, d1		23.2										11.2
Progression Factor		1.00										1.00
Incremental Delay, d2		0.9										1.1
Delay (s)		24.2										12.3
Level of Service		C										B
Approach Delay (s/veh)		24.2			0.0			0.0				12.3
Approach LOS		C			A			A				B
Intersection Summary												
HCM 2000 Control Delay (s/veh)			12.9									B
HCM 2000 Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			85.0							10.0		
Intersection Capacity Utilization			62.9%									B
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

30: S El Dorado Street & Market Street

Existing Build Conditions
Timing Plan: PM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Traffic Volume (vph)	67	57	0	0	0	0	0	1446	39	0	0	0
Future Volume (vph)	67	57	0	0	0	0	0	1446	39	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0				
Lane Util. Factor		1.00						0.91				
Frpb, ped/bikes		1.00						0.99				
Flpb, ped/bikes		0.99						1.00				
Frt		1.00						0.99				
Flt Protected		0.97						1.00				
Satd. Flow (prot)		1810						5060				
Flt Permitted		0.97						1.00				
Satd. Flow (perm)		1810						5060				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	70	59	0	0	0	0	0	1506	41	0	0	0
RTOR Reduction (vph)	0	24	0	0	0	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	105	0	0	0	0	0	1544	0	0	0	0
Confl. Peds. (#/hr)	3								10			
Confl. Bikes (#/hr)			2						3			
Turn Type	Perm	NA						NA				
Protected Phases		2						1				
Permitted Phases	2											
Actuated Green, G (s)		25.0						50.0				
Effective Green, g (s)		25.0						50.0				
Actuated g/C Ratio		0.29						0.59				
Clearance Time (s)		5.0						5.0				
Vehicle Extension (s)		0.2						0.2				
Lane Grp Cap (vph)		532						2976				
v/s Ratio Prot								c0.31				
v/s Ratio Perm		0.06										
v/c Ratio		0.19						0.51				
Uniform Delay, d1		22.4						10.3				
Progression Factor		0.99						1.00				
Incremental Delay, d2		0.7						0.6				
Delay (s)		23.2						11.0				
Level of Service		C						B				
Approach Delay (s/veh)		23.2			0.0			11.0			0.0	
Approach LOS		C			A			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		12.0						HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio		0.41										
Actuated Cycle Length (s)		85.0						Sum of lost time (s)		10.0		
Intersection Capacity Utilization		43.9%						ICU Level of Service		A		
Analysis Period (min)		15										
c Critical Lane Group												





HCM 6th AWSC
31: S Hunter Street & Market Street

Existing Build Conditions
Timing Plan: PM PEAK

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	0	82	13	0	0	0	0	0	24	32	36	0
Future Vol, veh/h	0	82	13	0	0	0	0	0	24	32	36	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	96	15	0	0	0	0	0	28	38	42	0
Number of Lanes	0	1	0	0	0	0	0	0	1	1	1	0
















Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7.7	6.9	8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%
Vol Thru, %	0%	86%	0%	100%
Vol Right, %	100%	14%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	95	32	36
LT Vol	0	0	32	0
Through Vol	0	82	0	36
RT Vol	24	13	0	0
Lane Flow Rate	28	112	38	42
Geometry Grp	4a	2	5	5
Degree of Util (X)	0.029	0.125	0.055	0.056
Departure Headway (Hd)	3.69	4.033	5.247	4.746
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	954	876	680	750
Service Time	1.775	2.114	3.002	2.5
HCM Lane V/C Ratio	0.029	0.128	0.056	0.056
HCM Control Delay, s/veh	6.9	7.7	8.3	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.4	0.2	0.2

HCM Signalized Intersection Capacity Analysis

32: S San Joaquin Street & Market Street

Existing Build Conditions
Timing Plan: PM PEAK


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	81	36	0	0	0	0	118	48	15	129	0
Future Volume (vph)	21	81	36	0	0	0	0	118	48	15	129	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						0.95			0.95	
Frpb, ped/bikes		0.98						0.95			1.00	
Flpb, ped/bikes		0.99						1.00			0.98	
Frt		0.96						0.95			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		1754						3216			3478	
Flt Permitted		0.99						1.00			0.92	
Satd. Flow (perm)		1754						3216			3232	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	24	92	41	0	0	0	0	134	55	17	147	0
RTOR Reduction (vph)	0	18	0	0	0	0	0	27	0	0	0	0
Lane Group Flow (vph)	0	139	0	0	0	0	0	162	0	0	164	0
Confl. Peds. (#/hr)	19		49						78	78		
Confl. Bikes (#/hr)									4			
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						1			1	
Permitted Phases	2									1		
Actuated Green, G (s)		24.0						36.0			36.0	
Effective Green, g (s)		24.0						36.0			36.0	
Actuated g/C Ratio		0.34						0.51			0.51	
Clearance Time (s)		5.0						5.0			5.0	
Vehicle Extension (s)		0.2						0.2			0.2	
Lane Grp Cap (vph)		601						1653			1662	
v/s Ratio Prot								0.05				
v/s Ratio Perm		0.08									c0.05	
v/c Ratio		0.23						0.09			0.09	
Uniform Delay, d1		16.4						8.6			8.6	
Progression Factor		1.00						1.00			0.36	
Incremental Delay, d2		0.8						0.1			0.1	
Delay (s)		17.3						8.8			3.2	
Level of Service		B						A			A	
Approach Delay (s/veh)		17.3			0.0			8.8			3.2	
Approach LOS		B			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		9.6										
HCM 2000 Volume to Capacity ratio		0.15										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		43.6%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

33: S Sutter Street & Market Street

Existing Build Conditions

















Timing Plan: PM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔						↑	↗		↖↑	
Traffic Volume (vph)	18	97	30	0	0	0	0	112	41	18	124	0
Future Volume (vph)	18	97	30	0	0	0	0	112	41	18	124	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0	5.0		5.0	
Lane Util. Factor		1.00						1.00	1.00		0.95	
Frpb, ped/bikes		0.97						1.00	0.80		1.00	
Flpb, ped/bikes		0.99						1.00	1.00		0.98	
Frt		0.97						1.00	0.85		1.00	
Flt Protected		0.99						1.00	1.00		0.99	
Satd. Flow (prot)		1733						1863	1276		3451	
Flt Permitted		0.99						1.00	1.00		0.91	
Satd. Flow (perm)		1733						1863	1276		3180	
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	24	128	39	0	0	0	0	147	54	24	163	0
RTOR Reduction (vph)	0	13	0	0	0	0	0	0	31	0	0	0
Lane Group Flow (vph)	0	178	0	0	0	0	0	147	23	0	187	0
Confl. Peds. (#/hr)	35		123						81	81		
Confl. Bikes (#/hr)									1			
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1								2	2		
Actuated Green, G (s)		30.0						30.0	30.0		30.0	
Effective Green, g (s)		30.0						30.0	30.0		30.0	
Actuated g/C Ratio		0.43						0.43	0.43		0.43	
Clearance Time (s)		5.0						5.0	5.0		5.0	
Vehicle Extension (s)		0.2						0.2	0.2		0.2	
Lane Grp Cap (vph)		742						798	546		1362	
v/s Ratio Prot								c0.08				
v/s Ratio Perm		0.10							0.02		0.06	
v/c Ratio		0.23						0.18	0.04		0.13	
Uniform Delay, d1		12.7						12.4	11.6		12.1	
Progression Factor		1.35						1.00	1.00		0.68	
Incremental Delay, d2		0.7						0.5	0.1		0.2	
Delay (s)		18.0						12.9	11.7		8.5	
Level of Service		B						B	B		A	
Approach Delay (s/veh)		18.0			0.0			12.6			8.5	
Approach LOS		B			A			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		13.1										
HCM 2000 Volume to Capacity ratio		0.21										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		45.6%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

34: California Street & Market Street

Existing Build Conditions
Timing Plan: PM PEAK
















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	107	18	0	0	0	0	190	32	31	247	0
Future Volume (veh/h)	27	107	18	0	0	0	0	190	32	31	247	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		0.99	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	30	119	20				0	211	36	34	274	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	101	401	427				0	911	155	130	976	0
Arrive On Green	0.09	0.09	0.09				0.00	0.59	0.59	1.00	1.00	0.00
Sat Flow, veh/h	373	1479	1573				0	1556	265	124	1666	0
Grp Volume(v), veh/h	149	0	20				0	0	247	308	0	0
Grp Sat Flow(s),veh/h/ln	1852	0	1573				0	0	1821	1789	0	0
Q Serve(g_s), s	5.3	0.0	0.8				0.0	0.0	4.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.3	0.0	0.8				0.0	0.0	4.6	0.0	0.0	0.0
Prop In Lane	0.20		1.00				0.00		0.15	0.11		0.00
Lane Grp Cap(c), veh/h	503	0	427				0	0	1067	1105	0	0
V/C Ratio(X)	0.30	0.00	0.05				0.00	0.00	0.23	0.28	0.00	0.00
Avail Cap(c_a), veh/h	503	0	427				0	0	1067	1105	0	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	0.98	0.00	0.98				0.00	0.00	1.00	0.78	0.00	0.00
Uniform Delay (d), s/veh	25.6	0.0	23.6				0.0	0.0	6.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.2				0.0	0.0	0.5	0.5	0.0	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
%ile BackOfQ(50%),veh/ln	2.6	0.0	0.3				0.0	0.0	1.6	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.1	0.0	23.8				0.0	0.0	7.5	0.5	0.0	0.0
LnGrp LOS	C		C						A	A		
Approach Vol, veh/h		169						247			308	
Approach Delay, s/veh		26.7						7.5			0.5	
Approach LOS		C						A			A	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		46.0		24.0		46.0						
Change Period (Y+Rc), s		5.0		5.0		5.0						
Max Green Setting (Gmax), s		41.0		19.0		41.0						
Max Q Clear Time (g_c+I1), s		6.6		7.3		2.0						
Green Ext Time (p_c), s		0.3		0.1		0.3						
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			9.0									
HCM 6th LOS			A									

HCM Signalized Intersection Capacity Analysis

35: S American Street & Market Street

Existing Build Conditions
















Timing Plan: PM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	154	0	0	0	0	0	0	0	38	1	0
Future Volume (vph)	25	154	0	0	0	0	0	0	0	38	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0									5.0	
Lane Util. Factor		1.00									1.00	
Frpb, ped/bikes		1.00									1.00	
Flpb, ped/bikes		0.99									0.98	
Frt		1.00									1.00	
Flt Protected		0.99									0.95	
Satd. Flow (prot)		1847									1753	
Flt Permitted		0.99									0.77	
Satd. Flow (perm)		1847									1423	
Peak-hour factor, PHF	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Adj. Flow (vph)	36	220	0	0	0	0	0	0	0	54	1	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	256	0	0	0	0	0	0	0	0	55	0
Confl. Peds. (#/hr)	5		1							6	6	
Turn Type	Perm	NA								Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		40.0									20.0	
Effective Green, g (s)		40.0									20.0	
Actuated g/C Ratio		0.57									0.29	
Clearance Time (s)		5.0									5.0	
Vehicle Extension (s)		0.2									0.2	
Lane Grp Cap (vph)		1055									406	
v/s Ratio Prot												
v/s Ratio Perm		0.14									c0.04	
v/c Ratio		0.24									0.13	
Uniform Delay, d1		7.4									18.5	
Progression Factor		0.58									0.75	
Incremental Delay, d2		0.5									0.6	
Delay (s)		4.8									14.7	
Level of Service		A									B	
Approach Delay (s/veh)		4.8			0.0			0.0			14.7	
Approach LOS		A			A			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		6.6										
HCM 2000 Volume to Capacity ratio		0.21										
Actuated Cycle Length (s)		70.0								10.0		
Intersection Capacity Utilization		36.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

36: S Stanislaus Street & Market Street

Existing Build Conditions
Timing Plan: PM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	111	64	0	0	0	0	263	32	6	365	0
Future Volume (vph)	17	111	64	0	0	0	0	263	32	6	365	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						0.95			0.95	
Frpb, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		0.99						1.00			0.99	
Frt		0.95						0.98			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		1759						3470			3536	
Flt Permitted		0.99						1.00			0.94	
Satd. Flow (perm)		1759						3470			3361	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	21	135	78	0	0	0	0	321	39	7	445	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	14	0	0	0	0
Lane Group Flow (vph)	0	234	0	0	0	0	0	347	0	0	452	0
Confl. Peds. (#/hr)	4		5						5	5		
Confl. Bikes (#/hr)			1						1			
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		25.0						35.0			35.0	
Effective Green, g (s)		25.0						35.0			35.0	
Actuated g/C Ratio		0.36						0.50			0.50	
Clearance Time (s)		5.0						5.0			5.0	
Vehicle Extension (s)		0.2						0.2			0.2	
Lane Grp Cap (vph)		628						1735			1680	
v/s Ratio Prot								0.10				
v/s Ratio Perm		0.13									c0.13	
v/c Ratio		0.37						0.19			0.26	
Uniform Delay, d1		16.6						9.7			10.1	
Progression Factor		0.55						1.00			0.75	
Incremental Delay, d2		1.6						0.2			0.3	
Delay (s)		10.9						9.9			8.0	
Level of Service		B						A			A	
Approach Delay (s/veh)		10.9			0.0			9.9			8.0	
Approach LOS		B			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		9.4										
HCM 2000 Volume to Capacity ratio		0.31										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		37.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th TWSC
37: S Grant Street & Market Street

Existing Build Conditions
Timing Plan: PM PEAK

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	24	125	2	0	0	0	0	2	5	26	10	0
Future Vol, veh/h	24	125	2	0	0	0	0	2	5	26	10	0
Conflicting Peds, #/hr	2	0	1	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	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	149	2	0	0	0	0	2	6	31	12	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	2	0	0	-	211	151	214	212	-
Stage 1	-	-	-	-	209	-	2	2	-
Stage 2	-	-	-	-	2	-	212	210	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1620	-	-	0	686	895	743	685	0
Stage 1	-	-	-	0	729	-	-	-	0
Stage 2	-	-	-	0	-	-	790	728	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1617	-	-	-	670	894	724	669	-
Mov Cap-2 Maneuver	-	-	-	-	670	-	724	669	-
Stage 1	-	-	-	-	714	-	-	-	-
Stage 2	-	-	-	-	-	-	766	713	-

Approach	EB	NB	SB
HCM Control Delay, s/v	1.2	9.5	10.4
HCM LOS		A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	816	1617	-	-	708
HCM Lane V/C Ratio	0.01	0.018	-	-	0.061
HCM Control Delay (s/veh)	9.5	7.3	0	-	10.4
HCM Lane LOS	A	A	A	-	B
HCM 95th %tile Q (veh)	0	0.1	-	-	0.2

HCM 6th TWSC
38: S Aurora Street & Market Street

Existing Build Conditions
Timing Plan: PM PEAK

Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	26	104	21	0	0	0	0	115	28	8	53	0
Future Vol, veh/h	26	104	21	0	0	0	0	115	28	8	53	0
Conflicting Peds, #/hr	1	0	1	0	0	0	0	0	2	2	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	112	23	0	0	0	0	124	30	9	57	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	1	0	0	-	182	127	260	193	-
Stage 1	-	-	-	-	181	-	1	1	-
Stage 2	-	-	-	-	1	-	259	192	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1622	-	-	0	712	923	693	702	0
Stage 1	-	-	-	0	750	-	-	-	0
Stage 2	-	-	-	0	-	-	746	742	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1620	-	-	-	697	922	570	687	-
Mov Cap-2 Maneuver	-	-	-	-	697	-	570	687	-
Stage 1	-	-	-	-	735	-	-	-	-
Stage 2	-	-	-	-	-	-	589	727	-

Approach	EB	NB	SB
HCM Control Delay, s/v	1.3	11.2	11
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	732	1620	-	-	669
HCM Lane V/C Ratio	0.21	0.017	-	-	0.098
HCM Control Delay (s/veh)	11.2	7.3	0	-	11
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.8	0.1	-	-	0.3

HCM 6th TWSC
39: Union Street & Market Street

Existing Build Conditions
Timing Plan: PM PEAK

Intersection												
Int Delay, s/veh	6.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔						↔			↔	
Traffic Vol, veh/h	17	142	7	0	0	0	0	87	27	16	91	0
Future Vol, veh/h	17	142	7	0	0	0	0	87	27	16	91	0
Conflicting Peds, #/hr	0	0	3	0	0	0	0	0	1	1	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	153	8	0	0	0	0	94	29	17	98	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	0	-	196	161	256	200	-
Stage 1	-	-	-	-	196	-	0	0	-
Stage 2	-	-	-	-	0	-	256	200	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	-	-	-	0	699	884	697	696	0
Stage 1	-	-	-	0	739	-	-	-	0
Stage 2	-	-	-	0	-	-	749	736	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	697	881	605	694	-
Mov Cap-2 Maneuver	-	-	-	-	697	-	605	694	-
Stage 1	-	-	-	-	737	-	-	-	-
Stage 2	-	-	-	-	-	-	632	734	-

Approach	EB	NB	SB
HCM Control Delay, s/v		10.9	11.4
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	733	-	-	-	679
HCM Lane V/C Ratio	0.167	-	-	-	0.169
HCM Control Delay (s/veh)	10.9	-	-	-	11.4
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q (veh)	0.6	-	-	-	0.6

HCM 6th TWSC
40: Pilgrim Street & Market Street

Existing Build Conditions
Timing Plan: PM PEAK

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	11	172	3	0	0	0	0	11	10	15	8	0
Future Vol, veh/h	11	172	3	0	0	0	0	11	10	15	8	0
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	8	8	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	185	3	0	0	0	0	12	11	16	9	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	0	-	212	196	230	213	-
Stage 1	-	-	-	-	212	-	0	0	-
Stage 2	-	-	-	-	0	-	230	213	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	-	-	-	0	685	845	725	684	0
Stage 1	-	-	-	0	727	-	-	-	0
Stage 2	-	-	-	0	-	-	773	726	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	684	844	706	683	-
Mov Cap-2 Maneuver	-	-	-	-	684	-	706	683	-
Stage 1	-	-	-	-	726	-	-	-	-
Stage 2	-	-	-	-	-	-	751	725	-
















Approach	EB	NB	SB
HCM Control Delay, s/v		9.9	10.3
HCM LOS		A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	752	-	-	-	698
HCM Lane V/C Ratio	0.03	-	-	-	0.035
HCM Control Delay (s/veh)	9.9	-	-	-	10.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q (veh)	0.1	-	-	-	0.1

HCM 6th Signalized Intersection Summary

41: Airport Way & Market Street

Existing Build Conditions
Timing Plan: PM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	136	22	0	0	0	0	845	53	97	688	0
Future Volume (veh/h)	23	136	22	0	0	0	0	845	53	97	688	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		0.97	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	25	149	24				0	929	58	107	756	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	31	186	30				0	2553	159	267	1845	0
Arrive On Green	0.14	0.14	0.14				0.00	0.75	0.75	1.00	1.00	0.00
Sat Flow, veh/h	229	1367	220				0	3484	212	286	2536	0
Grp Volume(v), veh/h	198	0	0				0	487	500	368	495	0
Grp Sat Flow(s),veh/h/ln	1816	0	0				0	1777	1826	1120	1617	0
Q Serve(g_s), s	9.5	0.0	0.0				0.0	8.4	8.4	2.7	0.0	0.0
Cycle Q Clear(g_c), s	9.5	0.0	0.0				0.0	8.4	8.4	11.1	0.0	0.0
Prop In Lane	0.13		0.12				0.00		0.12	0.29		0.00
Lane Grp Cap(c), veh/h	247	0	0				0	1338	1375	895	1217	0
V/C Ratio(X)	0.80	0.00	0.00				0.00	0.36	0.36	0.41	0.41	0.00
Avail Cap(c_a), veh/h	444	0	0				0	1338	1375	895	1217	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	0.94	0.94	0.00
Uniform Delay (d), s/veh	37.7	0.0	0.0				0.0	3.8	3.8	0.2	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.0				0.0	0.8	0.7	1.3	0.9	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
%ile BackOfQ(50%),veh/ln	4.4	0.0	0.0				0.0	2.3	2.4	0.3	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.0	0.0	0.0				0.0	4.6	4.5	1.5	0.9	0.0
LnGrp LOS	D							A	A	A	A	
Approach Vol, veh/h		198						987			863	
Approach Delay, s/veh		40.0						4.5			1.2	
Approach LOS		D						A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		72.8				72.8		17.2				
Change Period (Y+Rc), s		5.0				5.0		5.0				
Max Green Setting (Gmax), s		58.0				58.0		22.0				
Max Q Clear Time (g_c+I1), s		13.1				10.4		11.5				
Green Ext Time (p_c), s		1.3				0.9		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			6.6									
HCM 6th LOS			A									

HCM 6th TWSC
42: Sierra Nevada Street & Market Street

Existing Build Conditions
Timing Plan: PM PEAK

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	23	260	5	0	0	0	0	20	15	70	26	0
Future Vol, veh/h	23	260	5	0	0	0	0	20	15	70	26	0
Conflicting Peds, #/hr	1	0	3	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	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	277	5	0	0	0	0	21	16	74	28	0


Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	1	0	0	-	332	283	347	334	-
Stage 1	-	-	-	-	331	-	1	1	-
Stage 2	-	-	-	-	1	-	346	333	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1622	-	-	0	588	756	607	586	0
Stage 1	-	-	-	0	645	-	-	-	0
Stage 2	-	-	-	0	-	-	670	644	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1620	-	-	-	575	754	569	573	-
Mov Cap-2 Maneuver	-	-	-	-	575	-	569	573	-
Stage 1	-	-	-	-	631	-	-	-	-
Stage 2	-	-	-	-	-	-	622	630	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.6	11	12.7
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	640	1620	-	-	570
HCM Lane V/C Ratio	0.058	0.015	-	-	0.179
HCM Control Delay (s/veh)	11	7.3	0	-	12.7
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.2	0	-	-	0.6



HCM 6th Signalized Intersection Summary 43: S Wilson Way & Market Street

Existing Build Conditions
Timing Plan: PM PEAK

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔						↔		↔	↔	
Traffic Volume (veh/h)	38	238	75	0	0	0	0	850	112	188	814	0
Future Volume (veh/h)	38	238	75	0	0	0	0	850	112	188	814	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	40	251	79				0	895	118	198	857	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	44	278	87				0	1496	197	231	2343	0
Arrive On Green	0.08	0.08	0.08				0.00	0.47	0.47	0.17	0.88	0.00
Sat Flow, veh/h	193	1211	381				0	3249	416	1781	3647	0
Grp Volume(v), veh/h	370	0	0				0	504	509	198	857	0
Grp Sat Flow(s),veh/h/ln	1785	0	0				0	1777	1795	1781	1777	0
Q Serve(g_s), s	18.5	0.0	0.0				0.0	18.7	18.7	9.7	3.9	0.0
Cycle Q Clear(g_c), s	18.5	0.0	0.0				0.0	18.7	18.7	9.7	3.9	0.0
Prop In Lane	0.11		0.21				0.00		0.23	1.00		0.00
Lane Grp Cap(c), veh/h	410	0	0				0	842	851	231	2343	0
V/C Ratio(X)	0.90	0.00	0.00				0.00	0.60	0.60	0.86	0.37	0.00
Avail Cap(c_a), veh/h	416	0	0				0	842	851	257	2343	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	0.92	0.92	0.00
Uniform Delay (d), s/veh	40.6	0.0	0.0				0.0	17.4	17.4	36.4	2.1	0.0
Incr Delay (d2), s/veh	21.7	0.0	0.0				0.0	3.1	3.1	19.1	0.4	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
%ile BackOfQ(50%),veh/ln	11.3	0.0	0.0				0.0	8.1	8.2	5.2	1.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	62.3	0.0	0.0				0.0	20.5	20.5	55.5	2.5	0.0
LnGrp LOS	E							C	C	E	A	
Approach Vol, veh/h		370						1013			1055	
Approach Delay, s/veh		62.3						20.5			12.5	
Approach LOS		E						C			B	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	16.7	47.7				64.3		25.7				
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0				
Max Green Setting (Gmax), s	13.0	41.0				59.0		21.0				
Max Q Clear Time (g_c+I1), s	11.7	20.7				5.9		20.5				
Green Ext Time (p_c), s	0.0	13.7				20.7		0.1				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			23.4									
HCM 6th LOS			C									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 6th TWSC
44: S Eugenia Street & Market Street

Existing Build Conditions
Timing Plan: PM PEAK

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	550	12	0	0	0	42
Future Vol, veh/h	550	12	0	0	0	42
Conflicting Peds, #/hr	0	6	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, %	2	2	2	2	2	2
Mvmt Flow	598	13	0	0	0	46

Major/Minor	Major1		Minor1	
Conflicting Flow All	0	0	-	611
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	494
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-		
Mov Cap-1 Maneuver	-	-	-	491
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s/v	0	13.1
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	491	-	-
HCM Lane V/C Ratio	0.093	-	-
HCM Control Delay (s/veh)	13.1	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q (veh)	0.3	-	-

HCM 6th TWSC
45: Della Street & Market Street

Existing Build Conditions
Timing Plan: PM PEAK

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	55	511	18	0	0	0	0	1	1	34	44	0
Future Vol, veh/h	55	511	18	0	0	0	0	1	1	34	44	0
Conflicting Peds, #/hr	2	0	1	0	0	0	0	0	1	1	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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	574	20	0	0	0	0	1	1	38	49	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	2	0	0	-	711	586	712	721	-
Stage 1	-	-	-	-	709	-	2	2	-
Stage 2	-	-	-	-	2	-	710	719	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1620	-	-	0	358	510	347	353	0
Stage 1	-	-	-	0	437	-	-	-	0
Stage 2	-	-	-	0	-	-	424	433	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1617	-	-	-	337	510	330	332	-
Mov Cap-2 Maneuver	-	-	-	-	337	-	330	332	-
Stage 1	-	-	-	-	412	-	-	-	-
Stage 2	-	-	-	-	-	-	398	408	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.7	13.9	19.7
HCM LOS		B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	406	1617	-	-	331
HCM Lane V/C Ratio	0.006	0.038	-	-	0.265
HCM Control Delay (s/veh)	13.9	7.3	0	-	19.7
HCM Lane LOS	B	A	A	-	C
HCM 95th %tile Q (veh)	0	0.1	-	-	1

Queues

Existing Build Conditions

2: S San Joaquin Street/N San Joaquin Street & Main Street

Timing Plan: AM PEAK



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	71	250	256
v/c Ratio	0.50	0.21	0.20
Control Delay (s/veh)	38.9	12.2	14.7
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	38.9	12.2	14.7
Queue Length 50th (ft)	29	27	36
Queue Length 95th (ft)	60	43	65
Internal Link Dist (ft)	301	264	331
Turn Bay Length (ft)			
Base Capacity (vph)	260	1163	1261
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.27	0.21	0.20
Intersection Summary			

Queues

Existing Build Conditions

3: S Sutter Street/N Sutter Street & Main Street

Timing Plan: AM PEAK



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	55	102	144
v/c Ratio	0.14	0.22	0.15
Control Delay (s/veh)	12.2	15.0	20.0
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	12.2	15.0	20.0
Queue Length 50th (ft)	15	20	24
Queue Length 95th (ft)	m33	36	41
Internal Link Dist (ft)	298	256	344
Turn Bay Length (ft)			
Base Capacity (vph)	382	451	904
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.14	0.23	0.16

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Existing Build Conditions

4: California Street & Main Street

Timing Plan: AM PEAK



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	143	307	255
v/c Ratio	0.38	0.62	0.50
Control Delay (s/veh)	38.8	21.8	25.8
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	38.8	21.8	25.8
Queue Length 50th (ft)	63	118	93
Queue Length 95th (ft)	m79	181	150
Internal Link Dist (ft)	307	257	324
Turn Bay Length (ft)			
Base Capacity (vph)	368	494	501
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.39	0.62	0.51

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Existing Build Conditions

5: S American Street/N American Street & Main Street

Timing Plan: AM PEAK



Lane Group	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	327	58	53	34
v/c Ratio	0.94	0.13	0.10	0.08
Control Delay (s/veh)	66.7	19.7	19.9	19.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	66.7	19.7	19.9	19.8
Queue Length 50th (ft)	141	13	17	11
Queue Length 95th (ft)	141	19	27	20
Internal Link Dist (ft)	303	260	330	
Turn Bay Length (ft)				
Base Capacity (vph)	346	439	505	412
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.95	0.13	0.10	0.08
Intersection Summary				

Queues

Existing Build Conditions

6: S Stanislaus Street/N Stanislaus Street & Main Street

Timing Plan: AM PEAK



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	179	712	311
v/c Ratio	0.27	0.48	0.17
Control Delay (s/veh)	17.5	9.6	9.4
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	17.5	9.7	9.4
Queue Length 50th (ft)	54	61	34
Queue Length 95th (ft)	76	67	42
Internal Link Dist (ft)	300	272	338
Turn Bay Length (ft)			
Base Capacity (vph)	648	1454	1755
Starvation Cap Reductn	0	47	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.28	0.51	0.18
Intersection Summary			

Queues

Existing Build Conditions

11: Airport Way & Main Street

Timing Plan: AM PEAK



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	218	866	728
v/c Ratio	0.50	0.40	0.32
Control Delay (s/veh)	22.8	5.3	7.5
Queue Delay	0.0	0.1	0.0
Total Delay (s/veh)	22.8	5.5	7.5
Queue Length 50th (ft)	91	121	86
Queue Length 95th (ft)	177	11	115
Internal Link Dist (ft)	310	254	262
Turn Bay Length (ft)			
Base Capacity (vph)	429	2125	2274
Starvation Cap Reductn	0	413	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.51	0.51	0.32
Intersection Summary			

Queues

Existing Build Conditions

13: S Wilson Way & Main Street

Timing Plan: AM PEAK



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	245	215	33	753	689
v/c Ratio	0.73	0.46	0.06	0.30	0.27
Control Delay (s/veh)	47.4	7.6	11.2	9.8	5.6
Queue Delay	0.0	0.0	0.0	0.4	0.0
Total Delay (s/veh)	47.4	7.6	11.2	10.3	5.6
Queue Length 50th (ft)	133	0	5	70	63
Queue Length 95th (ft)	195	53	m34	213	112
Internal Link Dist (ft)	710			271	283
Turn Bay Length (ft)		300	70		
Base Capacity (vph)	462	564	497	2495	2483
Starvation Cap Reductn	0	0	0	1205	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.38	0.07	0.58	0.28

Intersection Summary

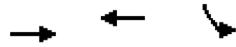
m Volume for 95th percentile queue is metered by upstream signal.

Queues

Existing Build Conditions

17: Main Street & D Street

Timing Plan: AM PEAK









Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	291	447	15
v/c Ratio	0.21	0.26	0.03
Control Delay (s/veh)	2.6	2.0	8.1
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	2.6	2.0	8.1
Queue Length 50th (ft)	5	0	1
Queue Length 95th (ft)	46	75	11
Internal Link Dist (ft)	615	624	178
Turn Bay Length (ft)			
Base Capacity (vph)	1790	1797	1503
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.16	0.25	0.01
Intersection Summary			

Queues

25: Golden Gate Avenue & Main Street

Existing Build Conditions

Timing Plan: AM PEAK







						
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	3	452	29	522	124	54
v/c Ratio	0.01	0.44	0.11	0.45	0.34	0.13
Control Delay (s/veh)	32.0	13.6	29.3	11.2	19.9	17.5
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay (s/veh)	32.0	13.6	29.3	11.3	19.9	17.5
Queue Length 50th (ft)	1	56	6	68	21	8
Queue Length 95th (ft)	10	288	41	320	89	45
Internal Link Dist (ft)		249		250	364	346
Turn Bay Length (ft)	95		95			
Base Capacity (vph)	944	1570	944	1628	1159	1366
Starvation Cap Reductn	0	0	0	352	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.29	0.03	0.41	0.11	0.04
Intersection Summary						

Queues

27: Netherton Avenue & Main Street

Existing Build Conditions

Timing Plan: AM PEAK

						
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	4	370	32	515	77	108
v/c Ratio	0.01	0.36	0.10	0.45	0.20	0.27
Control Delay (s/veh)	27.0	12.4	24.5	10.6	9.2	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.0	12.4	24.5	10.6	9.2	10.4
Queue Length 50th (ft)	1	32	5	49	3	6
Queue Length 95th (ft)	12	220	43	309	38	52
Internal Link Dist (ft)		247		244	354	364
Turn Bay Length (ft)	90		90			
Base Capacity (vph)	1222	1602	1436	1662	1246	1257
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.23	0.02	0.31	0.06	0.09
Intersection Summary						

Queues
29: S Center Street & Market Street

Existing Build Conditions
Timing Plan: AM PEAK

	→	↓
Lane Group	EBT	SBT
Lane Group Flow (vph)	111	1500
v/c Ratio	0.22	0.48
Control Delay (s/veh)	16.1	9.3
Queue Delay	0.0	0.0
Total Delay (s/veh)	16.1	9.3
Queue Length 50th (ft)	26	140
Queue Length 95th (ft)	65	169
Internal Link Dist (ft)	316	666
Turn Bay Length (ft)		
Base Capacity (vph)	504	3110
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.22	0.48
Intersection Summary		

Queues
30: S El Dorado Street & Market Street

Existing Build Conditions
Timing Plan: AM PEAK

	→	↑
Lane Group	EBT	NBT
Lane Group Flow (vph)	236	1974
v/c Ratio	0.48	0.62
Control Delay (s/veh)	26.5	10.8
Queue Delay	0.0	0.0
Total Delay (s/veh)	26.5	10.8
Queue Length 50th (ft)	102	212
Queue Length 95th (ft)	166	236
Internal Link Dist (ft)	266	322
Turn Bay Length (ft)		
Base Capacity (vph)	488	3142
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.48	0.63
Intersection Summary		

Queues
32: S San Joaquin Street & Market Street

Existing Build Conditions
Timing Plan: AM PEAK

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	271	262	155
v/c Ratio	0.44	0.15	0.10
Control Delay (s/veh)	19.4	7.4	3.8
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	19.4	7.4	3.8
Queue Length 50th (ft)	83	23	5
Queue Length 95th (ft)	125	35	8
Internal Link Dist (ft)	297	287	264
Turn Bay Length (ft)			
Base Capacity (vph)	615	1716	1544
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.44	0.15	0.10
Intersection Summary			

Queues

33: S Sutter Street & Market Street

Existing Build Conditions

Timing Plan: AM PEAK

	→	↑	↗	↓
Lane Group	EBT	NBT	NBR	SBT
Lane Group Flow (vph)	244	136	21	132
v/c Ratio	0.33	0.17	0.03	0.09
Control Delay (s/veh)	17.2	13.0	3.7	3.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.2	13.0	3.7	3.4
Queue Length 50th (ft)	71	35	0	3
Queue Length 95th (ft)	85	55	6	5
Internal Link Dist (ft)	296	293		256
Turn Bay Length (ft)				
Base Capacity (vph)	724	798	580	1431
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.34	0.17	0.04	0.09
Intersection Summary				

Queues

Existing Build Conditions

34: California Street & Market Street

Timing Plan: AM PEAK

	→	↘	↑	↓
Lane Group	EBT	EBR	NBT	SBT
Lane Group Flow (vph)	113	18	450	327
v/c Ratio	0.22	0.04	0.42	0.33
Control Delay (s/veh)	11.1	0.5	8.7	1.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	11.1	0.5	8.7	1.1
Queue Length 50th (ft)	17	1	87	2
Queue Length 95th (ft)	27	1	111	2
Internal Link Dist (ft)	309		298	257
Turn Bay Length (ft)		50		
Base Capacity (vph)	499	443	1066	987
Starvation Cap Reductn	0	0	0	15
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.23	0.04	0.42	0.34
Intersection Summary				

Queues

Existing Build Conditions

35: S American Street & Market Street

Timing Plan: AM PEAK



Lane Group	EBT	SBT
Lane Group Flow (vph)	317	200
v/c Ratio	0.30	0.49
Control Delay (s/veh)	8.9	18.5
Queue Delay	0.0	0.0
Total Delay (s/veh)	8.9	18.5
Queue Length 50th (ft)	65	82
Queue Length 95th (ft)	59	75
Internal Link Dist (ft)	303	260
Turn Bay Length (ft)		
Base Capacity (vph)	1051	401
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.30	0.50
Intersection Summary		

Queues
36: S Stanislaus Street & Market Street

Existing Build Conditions
Timing Plan: AM PEAK

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	352	783	312
v/c Ratio	0.57	0.44	0.19
Control Delay (s/veh)	19.6	11.9	7.1
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	19.6	11.9	7.1
Queue Length 50th (ft)	136	103	15
Queue Length 95th (ft)	140	106	18
Internal Link Dist (ft)	304	325	272
Turn Bay Length (ft)			
Base Capacity (vph)	613	1752	1628
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.57	0.45	0.19
Intersection Summary			

Queues
41: Airport Way & Market Street

Existing Build Conditions
Timing Plan: AM PEAK

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	134	949	743
v/c Ratio	0.61	0.35	0.37
Control Delay (s/veh)	47.8	4.4	3.8
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	47.8	4.4	3.8
Queue Length 50th (ft)	75	63	35
Queue Length 95th (ft)	113	159	55
Internal Link Dist (ft)	289	285	254
Turn Bay Length (ft)			
Base Capacity (vph)	438	2693	1999
Starvation Cap Reductn	0	0	181
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.31	0.35	0.41
Intersection Summary			

Queues
43: S Wilson Way & Market Street

Existing Build Conditions
Timing Plan: AM PEAK

	→	↑	↘	↓
Lane Group	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	218	797	126	663
v/c Ratio	0.72	0.41	0.62	0.26
Control Delay (s/veh)	51.7	13.6	45.3	6.4
Queue Delay	0.0	0.0	0.0	0.2
Total Delay (s/veh)	51.7	13.6	45.3	6.6
Queue Length 50th (ft)	117	130	70	90
Queue Length 95th (ft)	156	211	126	153
Internal Link Dist (ft)	296	296		271
Turn Bay Length (ft)			90	
Base Capacity (vph)	417	1922	255	2546
Starvation Cap Reductn	0	0	0	1082
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.52	0.41	0.49	0.45
Intersection Summary				

Queues

Existing Build Conditions

2: S San Joaquin Street/N San Joaquin Street & Main Street

Timing Plan: PM PEAK



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	84	146	165
v/c Ratio	0.54	0.11	0.12
Control Delay (s/veh)	41.4	10.6	14.5
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	41.4	10.6	14.5
Queue Length 50th (ft)	35	13	23
Queue Length 95th (ft)	69	22	44
Internal Link Dist (ft)	301	264	331
Turn Bay Length (ft)			
Base Capacity (vph)	261	1309	1356
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.32	0.11	0.12
Intersection Summary			

Queues

Existing Build Conditions

3: S Sutter Street/N Sutter Street & Main Street

Timing Plan: PM PEAK



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	79	186	137
v/c Ratio	0.21	0.38	0.15
Control Delay (s/veh)	16.5	16.7	19.9
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	16.5	16.7	19.9
Queue Length 50th (ft)	28	37	23
Queue Length 95th (ft)	m54	56	38
Internal Link Dist (ft)	298	256	344
Turn Bay Length (ft)			
Base Capacity (vph)	373	487	907
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.21	0.38	0.15

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Existing Build Conditions

4: California Street & Main Street

Timing Plan: PM PEAK

	←	↑	↓
Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	107	258	295
v/c Ratio	0.28	0.52	0.58
Control Delay (s/veh)	41.6	21.9	27.7
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	41.6	21.9	27.7
Queue Length 50th (ft)	49	98	110
Queue Length 95th (ft)	92	160	177
Internal Link Dist (ft)	307	257	324
Turn Bay Length (ft)			
Base Capacity (vph)	375	496	502
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.29	0.52	0.59
Intersection Summary			

Queues

Existing Build Conditions

5: S American Street/N American Street & Main Street

Timing Plan: PM PEAK



Lane Group	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	134	32	14	18
v/c Ratio	0.48	0.05	0.02	0.03
Control Delay (s/veh)	30.2	13.6	16.1	16.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	30.2	13.6	16.1	16.3
Queue Length 50th (ft)	52	4	4	5
Queue Length 95th (ft)	98	16	14	17
Internal Link Dist (ft)	303	260	330	
Turn Bay Length (ft)				
Base Capacity (vph)	279	600	612	508
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.48	0.05	0.02	0.04
Intersection Summary				

Queues

Existing Build Conditions

6: S Stanislaus Street/N Stanislaus Street & Main Street

Timing Plan: PM PEAK



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	143	313	330
v/c Ratio	0.22	0.20	0.18
Control Delay (s/veh)	16.9	8.1	9.8
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	16.9	8.1	9.8
Queue Length 50th (ft)	42	26	37
Queue Length 95th (ft)	81	38	59
Internal Link Dist (ft)	300	272	338
Turn Bay Length (ft)			
Base Capacity (vph)	639	1552	1764
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.22	0.20	0.19
Intersection Summary			

Queues
11: Airport Way & Main Street

Existing Build Conditions
Timing Plan: PM PEAK

	←	↑	↓
Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	189	926	806
v/c Ratio	0.44	0.43	0.35
Control Delay (s/veh)	24.1	4.7	7.8
Queue Delay	0.0	0.1	0.0
Total Delay (s/veh)	24.1	4.8	7.8
Queue Length 50th (ft)	75	130	98
Queue Length 95th (ft)	156	11	130
Internal Link Dist (ft)	310	254	262
Turn Bay Length (ft)			
Base Capacity (vph)	424	2153	2273
Starvation Cap Reductn	0	338	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.45	0.51	0.35
Intersection Summary			

Queues

Existing Build Conditions

13: S Wilson Way & Main Street

Timing Plan: PM PEAK



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	224	189	28	965	992
v/c Ratio	0.70	0.47	0.08	0.38	0.39
Control Delay (s/veh)	46.2	12.9	14.4	14.9	6.2
Queue Delay	0.0	0.0	0.0	1.7	0.0
Total Delay (s/veh)	46.2	12.9	14.4	16.7	6.2
Queue Length 50th (ft)	122	21	10	209	97
Queue Length 95th (ft)	179	72	m20	m283	176
Internal Link Dist (ft)	710			271	283
Turn Bay Length (ft)		300	70		
Base Capacity (vph)	464	508	349	2525	2513
Starvation Cap Reductn	0	0	0	1337	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	0.37	0.08	0.81	0.39

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Existing Build Conditions

17: Main Street & D Street

Timing Plan: PM PEAK









Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	463	394	18
v/c Ratio	0.27	0.23	0.03
Control Delay (s/veh)	2.1	1.9	8.4
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	2.1	1.9	8.4
Queue Length 50th (ft)	0	0	1
Queue Length 95th (ft)	80	65	12
Internal Link Dist (ft)	615	624	178
Turn Bay Length (ft)			
Base Capacity (vph)	1770	1783	1481
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.26	0.22	0.01
Intersection Summary			

Queues

25: Golden Gate Avenue & Main Street

Existing Build Conditions

Timing Plan: PM PEAK

						
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	9	719	24	434	186	55
v/c Ratio	0.07	0.65	0.18	0.36	0.68	0.16
Control Delay (s/veh)	41.2	16.7	41.4	9.3	41.1	24.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	41.2	16.7	41.4	9.3	41.1	24.2
Queue Length 50th (ft)	4	148	9	69	68	16
Queue Length 95th (ft)	21	#590	40	246	161	52
Internal Link Dist (ft)		249		250	364	346
Turn Bay Length (ft)	95		95			
Base Capacity (vph)	474	1137	474	1248	732	899
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.63	0.05	0.35	0.25	0.06







Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues
27: Netherton Avenue & Main Street

Existing Build Conditions
Timing Plan: PM PEAK

						
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	11	480	38	396	95	87
v/c Ratio	0.03	0.46	0.11	0.37	0.23	0.22
Control Delay (s/veh)	23.1	12.3	21.4	10.6	8.1	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	23.1	12.3	21.4	10.6	8.1	9.6
Queue Length 50th (ft)	2	43	5	33	4	5
Queue Length 95th (ft)	20	311	45	232	40	43
Internal Link Dist (ft)		247		244	354	364
Turn Bay Length (ft)	90		90			
Base Capacity (vph)	1319	1635	1521	1676	1290	1264
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.29	0.02	0.24	0.07	0.07
Intersection Summary						

Queues
29: S Center Street & Market Street

Existing Build Conditions
Timing Plan: PM PEAK

	→	↓
Lane Group	EBT	SBT
Lane Group Flow (vph)	107	2008
v/c Ratio	0.22	0.65
Control Delay (s/veh)	21.9	12.3
Queue Delay	0.0	0.0
Total Delay (s/veh)	21.9	12.3
Queue Length 50th (ft)	38	232
Queue Length 95th (ft)	78	281
Internal Link Dist (ft)	316	666
Turn Bay Length (ft)		
Base Capacity (vph)	485	3053
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.22	0.66
Intersection Summary		

Queues
30: S El Dorado Street & Market Street

Existing Build Conditions
Timing Plan: PM PEAK

	→	↑
Lane Group	EBT	NBT
Lane Group Flow (vph)	129	1547
v/c Ratio	0.23	0.51
Control Delay (s/veh)	17.7	11.0
Queue Delay	0.0	0.0
Total Delay (s/veh)	17.7	11.0
Queue Length 50th (ft)	34	163
Queue Length 95th (ft)	m64	200
Internal Link Dist (ft)	266	322
Turn Bay Length (ft)		
Base Capacity (vph)	556	2979
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.23	0.52
Intersection Summary		
m Volume for 95th percentile queue is metered by upstream signal.		

Queues

32: S San Joaquin Street & Market Street

Existing Build Conditions

Timing Plan: PM PEAK

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	157	189	164
v/c Ratio	0.25	0.11	0.09
Control Delay (s/veh)	14.8	6.3	3.2
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	14.8	6.3	3.2
Queue Length 50th (ft)	39	14	4
Queue Length 95th (ft)	77	28	7
Internal Link Dist (ft)	297	287	264
Turn Bay Length (ft)			
Base Capacity (vph)	619	1680	1661
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.25	0.11	0.10
Intersection Summary			

Queues

33: S Sutter Street & Market Street

Existing Build Conditions

Timing Plan: PM PEAK

	→	↑	↗	↓
Lane Group	EBT	NBT	NBR	SBT
Lane Group Flow (vph)	191	147	54	187
v/c Ratio	0.25	0.18	0.09	0.13
Control Delay (s/veh)	16.4	13.2	4.3	8.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.4	13.2	4.3	8.6
Queue Length 50th (ft)	58	38	0	13
Queue Length 95th (ft)	89	59	13	20
Internal Link Dist (ft)	296	293		256
Turn Bay Length (ft)				
Base Capacity (vph)	755	798	577	1363
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.18	0.09	0.14
Intersection Summary				

Queues

Existing Build Conditions

34: California Street & Market Street

Timing Plan: PM PEAK

	→	↘	↑	↓
Lane Group	EBT	EBR	NBT	SBT
Lane Group Flow (vph)	149	20	247	308
v/c Ratio	0.29	0.04	0.23	0.29
Control Delay (s/veh)	15.4	2.6	6.9	0.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.4	2.6	6.9	0.6
Queue Length 50th (ft)	28	1	41	0
Queue Length 95th (ft)	54	0	74	0
Internal Link Dist (ft)	309		298	257
Turn Bay Length (ft)		50		
Base Capacity (vph)	499	443	1072	1037
Starvation Cap Reductn	0	0	0	52
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.30	0.05	0.23	0.31
Intersection Summary				

Queues

Existing Build Conditions

35: S American Street & Market Street

Timing Plan: PM PEAK



Lane Group	EBT	SBT
Lane Group Flow (vph)	256	55
v/c Ratio	0.24	0.13
Control Delay (s/veh)	5.0	15.0
Queue Delay	0.0	0.0
Total Delay (s/veh)	5.0	15.0
Queue Length 50th (ft)	32	12
Queue Length 95th (ft)	39	24
Internal Link Dist (ft)	303	260
Turn Bay Length (ft)		
Base Capacity (vph)	1055	406
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.24	0.14
Intersection Summary		

Queues

Existing Build Conditions

36: S Stanislaus Street & Market Street

Timing Plan: PM PEAK

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	234	360	452
v/c Ratio	0.37	0.20	0.26
Control Delay (s/veh)	11.2	9.3	8.1
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	11.2	9.3	8.1
Queue Length 50th (ft)	36	38	25
Queue Length 95th (ft)	47	55	32
Internal Link Dist (ft)	304	325	272
Turn Bay Length (ft)			
Base Capacity (vph)	628	1749	1681
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.37	0.21	0.27
Intersection Summary			

Queues
41: Airport Way & Market Street

Existing Build Conditions
Timing Plan: PM PEAK

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	198	987	863
v/c Ratio	0.73	0.38	0.46
Control Delay (s/veh)	52.1	5.2	5.0
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	52.1	5.2	5.0
Queue Length 50th (ft)	110	82	46
Queue Length 95th (ft)	161	167	69
Internal Link Dist (ft)	289	285	254
Turn Bay Length (ft)			
Base Capacity (vph)	444	2596	1838
Starvation Cap Reductn	0	0	3
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.45	0.38	0.47
Intersection Summary			

Queues
43: S Wilson Way & Market Street

Existing Build Conditions
Timing Plan: PM PEAK

	→	↑	↘	↓
Lane Group	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	370	1013	198	857
v/c Ratio	0.92	0.61	0.82	0.36
Control Delay (s/veh)	59.3	19.6	59.0	9.1
Queue Delay	50.4	0.0	0.0	0.3
Total Delay (s/veh)	109.7	19.7	59.0	9.4
Queue Length 50th (ft)	156	219	112	146
Queue Length 95th (ft)	#348	286	#221	205
Internal Link Dist (ft)	296	296		271
Turn Bay Length (ft)			90	
Base Capacity (vph)	417	1650	255	2350
Starvation Cap Reductn	0	0	0	843
Spillback Cap Reductn	97	68	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.16	0.64	0.78	0.57

Intersection Summary






95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

DETAILED OUTPUT

 Site: 101 [Main St._Market St._AM]

New Site
Site Category: (None)
Roundabout

OUTPUT TABLE LINKS

-  Roundabouts
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 - Roundabout Circulating / Exiting Stream Parameters
 - Roundabout Gap Acceptance Parameters
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Roundabouts

Roundabout Basic Parameters
Site: Main St._Market St._AM

Site ID: 101											
Roundabout											
Central Island Diam	Circ Width	Insc Diam.	Entry Radius	Entry Angle	Circ Lanes	Entry Lanes	Av.Entry Lane Width	App Dist	Prop Upstr	Queued Signal	Extra Bunching
ft	ft	ft	ft	deg			ft	ft			%

South: Locust Street											
40.0	25.0	120.0U	100.0	30.0	1	1	13.00	200		NA	0.0N

East: Main Street											
40.0	15.0	120.0U	100.0	30.0	1	1	13.00	400		NA	0.0N

NorthEast: Market Street											
40.0	15.0	120.0U	100.0	30.0	1	1	13.00	350		NA	0.0N

SouthWest: Market Street											
40.0	15.0	120.0U	100.0	30.0	1	1	13.00	300		NA	0.0N

Roundabout Capacity Model: SIDRA Standard											
U Inscribed diameter value was specified by the user.											
NA Not Applicable (single Site analysis or unconnected Site in Network analysis).											
N Program option resulted in zero value (single Site analysis or unconnected Site in Network analysis).											

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Roundabout Circulating / Exiting Stream Parameters

Site: Main St._Market St._AM

Site ID: 101
Roundabout

Dest	Turn	Lane No.	Lane Type	Opng Flow veh/h	HVE pcu/veh	Adj. Flow pcu/h	%Near Lane Only	%Exit Flow Incl.	Cap. Const. Effect	O-D Factor	Aver Speed mph	In-Bunch Headway sec	Prop. Bunched
South: Locust Street													
W	L2	1	Dominant	317	1.02	324	0.0	0.0	N	0.997	22.0	2.00	0.325
E	R2	1	Dominant	317	1.02	324	0.0	0.0	N	0.997	22.0	2.00	0.325
East: Main Street													
S	L2	1	Dominant	18	1.02	19	0.0	0.0	N	1.000	14.6	2.00	0.023
W	T1	1	Dominant	18	1.02	19	0.0	0.0	N	1.000	14.6	2.00	0.023
NorthEast: Market Street													
E	L3	1	Dominant	498	1.02	508	0.0	0.0	N	0.983	23.5	2.00	0.464
S	L1	1	Dominant	498	1.02	508	0.0	0.0	N	0.983	23.5	2.00	0.464
W	R1	1	Dominant	498	1.02	508	0.0	0.0	N	0.983	23.5	2.00	0.464
SouthWest: Market Street													
W	L3	1	Dominant	3	1.02	3	0.0	0.0	N	1.000	13.9	2.00	0.004
E	R1	1	Dominant	3	1.02	3	0.0	0.0	N	1.000	13.9	2.00	0.004
S	R3	1	Dominant	3	1.02	3	0.0	0.0	N	1.000	13.9	2.00	0.004
Roundabout Capacity Model: SIDRA Standard													

[Go to Table Links \(Top\)](#)

Roundabout Gap Acceptance Parameters

Site: Main St._Market St._AM

Site ID: 101
Roundabout

Dest	Turn	Lane No.	Lane Type	In-Bunch Headway sec	Prop. Bunched	Priority Sharing	HVE for Entry	Critical Gap		Follow-up Headway sec
								Headway sec	Dist ft	
South: Locust Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
W	L2	1	Dominant	2.00	0.325	N	1.02	4.78	154.5	2.57
E	R2	1	Dominant	2.00	0.325	N	1.02	4.78	154.5	2.57
East: Main Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
S	L2	1	Dominant	2.00	0.023	N	1.02	5.28	113.5	2.69
W	T1	1	Dominant	2.00	0.023	N	1.02	5.28	113.5	2.69
NorthEast: Market Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
E	L3	1	Dominant	2.00	0.464	N	1.02	4.52	156.0	2.50
S	L1	1	Dominant	2.00	0.464	N	1.02	4.52	156.0	2.50
W	R1	1	Dominant	2.00	0.464	N	1.02	4.52	156.0	2.50
SouthWest: Market Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
W	L3	1	Dominant	2.00	0.004	N	1.02	5.31	108.5	2.69
E	R1	1	Dominant	2.00	0.004	N	1.02	5.31	108.5	2.69
S	R3	1	Dominant	2.00	0.004	N	1.02	5.31	108.5	2.69
Roundabout Capacity Model: SIDRA Standard										

Dist (Distance): Spacing, i.e. distance between the front ends of two successive vehicles across all lanes in the circulating or exiting stream

[Go to Table Links \(Top\)](#)

Roundabout Flow Rates
Site: Main St._Market St._AM

Site ID: 101
Roundabout

CIRCULATING LANE FLOW RATES

Lane No.	Circulating Flow Rate		
	veh/h	pcu/h	Percent
South: Locust Street			
1	317	324	100.0%
Total	317	324	
East: Main Street			
1	18	19	100.0%
Total	18	19	
NorthEast: Market Street			
1	498	508	100.0%
Total	498	508	
SouthWest: Market Street			
1	3	3	100.0%
Total	3	3	

The SIDRA Standard roundabout capacity model option is in use.
This model takes into account the total circulating flow as well as the effect of flow distribution in circulating lanes on the entry capacity results.

APPROACH LANE FLOW RATES

Lane No.	Approach Flows (veh/h)		
	Out	To Downst	Total
South: Locust Street			
1	2	1	3
Total	2	1	3
East: Main Street			
1	0	479	479
Total	0	479	479
NorthEast: Market Street			
1	37	2	39
Total	37	2	39
SouthWest: Market Street			
1	2	316	318
Total	2	316	318

[Go to Table Links \(Top\)](#)

Roundabout Pedestrian Effects
Site: Main St._Market St._AM

Site ID: 101
Roundabout

ROUNDAABOUT ENTRY

Lane	Turn	Pedestrian Flow Rate ped/h	Adj.Flow Rate ped/h	Oposing Ped.Factor	Circulating Flow Rate veh/h	Circulating Flow Rate pcu/h	Adjustment Factor
South: Locust Street							
1	L2	1	1	1.00	317	324	1.000
1	R2	1	1	1.00	317	324	1.000
East: Main Street							

[Go to Table Links \(Top\)](#)

Movements

Intersection Negotiation and Travel Data

Site: Main St. Market St. AM

11/26/2024

From Approach	To Exit	Turn	Radius ft	Speed mph	Dist ft	Dist ft	Dist ft	Dist ft

South: Locust Street								
	West	L2	49.0	14.6	192.4	200	91	NA
	East	R2	88.6	18.3	46.5	200	122	NA

East: Main Street								
	South	L2	44.5	14.1	174.8	400	61	NA
	West	T1	180.0	23.9	115.8	400	91	NA

NorthEast: Market Street								
	East	L3	43.0	13.9	202.6	350	122	NA
	South	L1	42.3	13.8	133.0	350	61	NA
	West	R1	180.0	23.9	86.9	350	91	NA

SouthWest: Market Street								
	West	L3	49.5	14.7	233.3	300	91	NA
	East	R1	153.0	22.5	85.8	300	122	NA
	South	R3	75.0	17.2	32.8	300	61	NA

Maximum Negotiation (Design) Speed = 30.0 mph								
NA Downstream Distance does not apply if:								
- Exit is an internal leg of a network								
- "Program" option was specified								
- Distance specified was less than the Exit Negotiation Distance								
- Distance specified was greater than the exit leg length								
MOVEMENT SPEEDS AND GEOMETRIC DELAY								

		App. Speeds		Exit Speeds		Queue		
Mov ID	Turn	Cruise mph	Negn mph	Negn mph	Cruise mph	Move-up Speed mph	Geom Delay sec	

South: Locust Street								
3	L2	30.0	14.6	14.6	30.0	25.9	7.0	
18	R2	30.0	18.3	18.3	30.0	25.9	2.4	

East: Main Street								
1	L2	30.0	14.1	14.1	30.0	38.4	7.0	
6	T1	30.0	23.9	23.9	30.0	38.4	1.6	

NorthEast: Market Street								
1bx	L3	30.0	13.9	13.9	30.0	22.4	7.9	
1ax	L1	30.0	13.8	13.8	30.0	22.4	6.1	
16ax	R1	30.0	23.9	23.9	30.0	22.4	1.5	

SouthWest: Market Street								
5bx	L3	30.0	14.7	14.7	30.0	35.4	8.0	
12ax	R1	30.0	22.5	22.5	30.0	35.4	1.9	
12bx	R3	30.0	17.2	17.2	30.0	35.4	2.6	

[Go to Table Links \(Top\)](#)

Movement Capacity and Performance Parameters
Site: Main St._Market St._AM

Site ID: 101									
Roundabout									
MOVEMENT CAPACITY PARAMETERS									

Mov ID	Turn	Mov Cl.	Arv Flow veh/h	Opng Flow veh/h	Movement Adjust. Flow pcu/h	Total Cap. veh/h	Prac. Deg. Satn xp	Prac. Spare Cap. %	Deg. Satn x

South: Locust Street									
3	L2	#	1	317	324	340	0.85	****	0.003
18	R2	#	2	317	324	681	0.85	****	0.003

East: Main Street									

1	L2	#	1	18	19	3	0.85	133	0.366*	
6	T1	#	478	18	19	1308	0.85	133	0.366*	

NorthEast: Market Street										
1bx	L3	#	1	498	508	25	0.85	1831	0.044	
1ax	L1	#	1	498	508	25	0.85	1831	0.044	
16ax	R1	#	37	498	508	839	0.85	1831	0.044	

SouthWest: Market Street										
5bx	L3	#	17	3	3	73	0.85	255	0.239	
12ax	R1	#	299	3	3	1249	0.85	255	0.239	
12bx	R3	#	2	3	3	9	0.85	255	0.239	

* Maximum degree of saturation										
# Combined Movement Capacity parameters are shown for all Movement Classes.										
MOVEMENT PERFORMANCE										
Mov ID	Turn	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Eff. Stop Rate	Total Stops	Perf. Index	Tot.Trav. Distance (veh-mi/h)	Tot.Trav. Time (veh-h/h)	Aver. Speed (mph)

South: Locust Street										
3	L2	0.00	0.00	8.4	0.48	0.5	0.02	0.1	0.0	19.8
18	R2	0.00	0.00	3.9	0.48	1.0	0.03	0.3	0.0	22.4

East: Main Street										
1	L2	0.00	0.00	7.2	0.23	0.2	1.95	0.1	0.0	24.2
6	T1	0.24	0.28	1.8	0.23	108.1	5.24	73.9	2.5	29.8

NorthEast: Market Street										
1bx	L3	0.00	0.00	10.6	0.50	0.5	0.19	0.2	0.0	27.6
1ax	L1	0.00	0.00	8.8	0.50	0.5	0.19	0.1	0.0	21.1
16ax	R1	0.04	0.05	4.1	0.50	18.5	0.50	5.2	0.2	25.4

SouthWest: Market Street										
5bx	L3	0.04	0.05	8.0	0.28	5.0	1.35	2.3	0.1	23.0
12ax	R1	0.16	0.19	1.9	0.28	85.1	3.34	44.9	1.6	28.7
12bx	R3	0.00	0.00	2.6	0.28	0.6	1.22	0.2	0.0	25.0

[Go to Table Links \(Top\)](#)

Fuel Consumption, Emissions and Cost

Site: Main St._Market St._AM

Site ID: 101
Roundabout

FUEL CONSUMPTION, EMISSIONS AND COST (TOTAL)

Mov ID	Turn	Cost Total \$/h	Fuel Total gal/h	CO2 Total kg/h	CO Total kg/h	HC Total kg/h	NOX Total kg/h

South: Locust Street							
3	L2	0.12	0.0	0.1	0.00	0.000	0.000
18	R2	0.24	0.0	0.2	0.00	0.000	0.000
		0.36	0.0	0.3	0.00	0.000	0.000

East: Main Street							
1	L2	0.09	0.0	0.1	0.00	0.000	0.000
6	T1	41.99	3.1	27.7	0.02	0.002	0.036
		42.08	3.1	27.8	0.02	0.002	0.036

NorthEast: Market Street							
1bx	L3	0.11	0.0	0.1	0.00	0.000	0.000
1ax	L1	0.11	0.0	0.1	0.00	0.000	0.000
16ax	R1	3.73	0.3	2.5	0.00	0.000	0.003
		3.95	0.3	2.6	0.00	0.000	0.004

SouthWest: Market Street							
5bx	L3	1.37	0.1	1.0	0.00	0.000	0.001

12ax	R1	23.81	2.0	17.8	0.01	0.001	0.021
12bx	R3	0.17	0.0	0.1	0.00	0.000	0.000

		25.35	2.1	18.9	0.01	0.002	0.022

INTERSECTION:		71.74	5.5	49.6	0.04	0.004	0.062

FUEL CONSUMPTION, EMISSIONS AND COST (RATE)

Mov ID	Turn	Cost Rate \$/mi	Fuel Eff. mpg	CO2 Rate g/km	CO Rate g/km	HC Rate g/km	NOX Rate g/km

South: Locust Street							
3	L2	0.99	12.8	434.6	0.38	0.040	0.544
18	R2	0.85	14.1	393.6	0.34	0.036	0.483

		0.89	13.7	405.9	0.35	0.037	0.501

East: Main Street							
1	L2	0.64	22.7	244.6	0.18	0.019	0.323
6	T1	0.57	23.8	233.0	0.17	0.018	0.299

		0.57	23.8	233.0	0.17	0.018	0.299

NorthEast: Market Street							
1bx	L3	0.64	19.8	280.8	0.23	0.024	0.374
1ax	L1	0.82	17.2	321.7	0.27	0.028	0.452
16ax	R1	0.72	18.6	298.5	0.24	0.026	0.408

		0.72	18.6	298.5	0.24	0.026	0.408

SouthWest: Market Street							
5bx	L3	0.60	21.3	260.8	0.20	0.021	0.315
12ax	R1	0.53	22.5	246.8	0.19	0.020	0.291
12bx	R3	0.69	19.9	279.5	0.22	0.023	0.347

		0.53	22.4	247.6	0.19	0.020	0.292

INTERSECTION:		0.56	23.0	241.8	0.18	0.019	0.301

[Go to Table Links \(Top\)](#)

Lanes

Lane Performance and Capacity Information
Site: Main St._Market St._AM

Site ID: 101
Roundabout

LANE PERFORMANCE

Lane No.	Flow	Cap	Deg.	Aver.	Eff.	Q u e u e		Lane Length ft
	veh/h	veh/h	Satn x	Delay sec	Stop Rate	95% Back veh	----- ft	

South: Locust Street								
1	3	1021	0.003	5.4	0.48	0.0	0.4	200.0

East: Main Street								
1	479	1311	0.366	1.8	0.23	2.4	61.3	400.0

NorthEast: Market Street								
1	39	889	0.044	4.5	0.50	0.2	5.7	350.0

SouthWest: Market Street								
1	318	1331	0.239	2.2	0.28	1.5	38.2	300.0

LANE FLOW AND CAPACITY INFORMATION

Lane No.	Total Arv Flow veh/h	Min Cap veh/h	Tot Cap veh/h	Deg. Satn x	Lane Util %
South: Locust Street					
1	3	3	1021	0.003	100
East: Main Street					
1	479	150	1311	0.366	100
NorthEast: Market Street					
1	39	39	889	0.044	100
SouthWest: Market Street					
1	318	150	1331	0.239	100

The capacity values of Continuous Lanes are obtained by adjusting the basic saturation flow for lane width, grade, movement class and turning vehicle effects. Saturation flow scale applies if specified.

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Lane, Approach and Intersection Performance
Site: Main St._Market St._AM

Site ID: 101
Roundabout

Lane No.	Arrival Flow (veh/h)	%HV	Adj. Basic Satf.	Deg Sat x	Aver. Delay sec	Longest Queue ft	Lane Length ft
South: Locust Street							
1	3	2		0.003	5.4	0	200
	3	2		0.003	5.4	0	
East: Main Street							
1	479	2		0.366	1.8	61	400
	479	2		0.366	1.8	61	
NorthEast: Market Street							
1	39	2		0.044	4.5	6	350
	39	2		0.044	4.5	6	
SouthWest: Market Street							
1	318	2		0.239	2.2	38	300
	318	2		0.239	2.2	38	

ALL VEHICLES					
Total Flow	% HV		Max X	Aver. Delay	Max Queue
840	2		0.366	2.1	61

Peak flow period = 15 minutes.

Queue values in this table are 95% queue (feet)
Note: Basic Saturation Flows at roundabouts or sign-controlled intersections apply only to continuous lanes.

[Go to Table Links \(Top\)](#)

Driver Characteristics
Site: Main St._Market St._AM

Site ID: 101
Roundabout

Lane	Satn	Satn	Satn	Satn	Average Queue	Driver Response
------	------	------	------	------	---------------	-----------------

No.	Speed mph	Flow veh/h	Hdwy sec	Spacing ft	Space ft	Time sec

South: Locust Street						
1	17.0	1400	2.57	64.32	25.40	1.56

East: Main Street						
1	23.9	1339	2.69	94.17	25.40	1.96

NorthEast: Market Street						
1	23.3	1439	2.50	85.67	25.40	1.76

SouthWest: Market Street						
1	22.0	1336	2.69	86.99	25.40	1.91

Saturation Flow and Saturation Headway are derived from follow-up headway.

[Go to Table Links \(Top\)](#)

Lane Delays
Site: Main St._Market St._AM

Site ID: 101
Roundabout

LANE DELAYS

				Delay (seconds/veh)									
Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Min Del dm	Stop-line 1st d1	2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic

South: Locust Street													
1	0.003	NA	NA	1.3	1.5	0.0	1.5	1.6	0.0	0.0	0.0	3.9	5.4

East: Main Street													
1	0.366	NA	NA	0.1	0.1	0.0	0.1	0.8	0.0	0.0	0.0	1.7	1.8

NorthEast: Market Street													
1	0.044	NA	NA	2.3	2.7	0.0	2.7	2.8	0.1	0.0	0.1	1.8	4.5

SouthWest: Market Street													
1	0.239	NA	NA	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	2.2	2.2

SIDRA Standard Delay Model is used. Control Delay is the sum of Stop-line Delay and Geometric Delay.
dm: Minimum delay for gap acceptance cases
dSL: Stop-line delay (=d1+d2)
dn: Average stop-start delay for all vehicles queued and unqueued
dq: Queuing delay (the part of the stop-line delay that includes stopped delay and queue move-up delay)
dqm: Queue move-up delay
di: Stopped delay (stopped (idling) time at near-zero speed)
dig: Geometric delay
dic: Control delay

Geometric delay is less than 2 seconds for some movements. The negotiation speed may be too high or the approach and exit speeds may be too low for given geometric design (e.g. for a large roundabout).
Check Detailed Output for geometric delay data including negotiation speeds.
If necessary, specify appropriate values of approach and exit speeds, negotiation radius or negotiation speed data in the Path Data dialog.

[Go to Table Links \(Top\)](#)

Lane Queues
Site: Main St._Market St._AM

Site ID: 101
Roundabout

BACK OF QUEUE (VEHICLES)

Deg.	% Arv	Prog.	Ovrfl.	Back of Queue (veh)	Queue Stor.	Prob.	Prob.

Lane No.	Satn x	During Green	Factor	Queue No	-----				Ratio		Block %	SL Ov. %
					Nb1	Nb2	Nb	95%	Av.	95%		

South: Locust Street												
1	0.003	NA	NA	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA

East: Main Street												
1	0.366	NA	NA	0.0	1.0	0.0	1.0	2.4	0.06	0.15	0.0	NA

NorthEast: Market Street												
1	0.044	NA	NA	0.0	0.1	0.0	0.1	0.2	0.01	0.02	0.0	NA

SouthWest: Market Street												
1	0.239	NA	NA	0.0	0.6	0.0	0.6	1.5	0.05	0.13	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

BACK OF QUEUE (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (ft)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
					Nb1	Nb2	Nb	95%	Av.	95%		

South: Locust Street												
1	0.003	NA	NA	0.0	0.2	0.0	0.2	0.4	0.00	0.00	0.0	NA

East: Main Street												
1	0.366	NA	NA	0.0	24.7	0.0	24.7	61.3	0.06	0.15	0.0	NA

NorthEast: Market Street												
1	0.044	NA	NA	0.0	2.3	0.0	2.3	5.7	0.01	0.02	0.0	NA

SouthWest: Market Street												
1	0.239	NA	NA	0.0	15.4	0.0	15.4	38.2	0.05	0.13	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

OTHER QUEUE RESULTS (VEHICLES)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%

South: Locust Street						
1	0.003	NA	NA	0.0	0.0	0.0

East: Main Street						
1	0.366	NA	NA	0.0	0.0	0.0

NorthEast: Market Street						
1	0.044	NA	NA	0.0	0.0	0.1

SouthWest: Market Street						
1	0.239	NA	NA	0.0	0.0	0.0

OTHER QUEUE RESULTS (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%

South: Locust Street						
1	0.003	NA	NA	0.0	0.0	0.1

East: Main Street						
1	0.366	NA	NA	0.0	0.5	0.9

NorthEast: Market Street						
1	0.044	NA	NA	0.0	0.7	1.3

SouthWest: Market Street						

1	0.239	NA	NA	0.0	0.0	0.1

[Go to Table Links \(Top\)](#)

Lane Queue Percentiles
Site: Main St._Market St._AM

Site ID: 101
Roundabout

LANE QUEUE PERCENTILES (VEHICLES)

Lane No.	Deg. Satn	Percentile Back of Queue (veh)						
	x	50%	70%	85%	90%	95%	98%	100%
South: Locust Street								
1	0.003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
East: Main Street								
1	0.366	1.0	1.3	1.8	2.1	2.4	2.7	2.9
NorthEast: Market Street								
1	0.044	0.1	0.1	0.2	0.2	0.2	0.3	0.3
SouthWest: Market Street								
1	0.239	0.6	0.8	1.1	1.3	1.5	1.7	1.8

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

LANE QUEUE PERCENTILES (DISTANCE)

Lane No.	Deg. Satn	Percentile Back of Queue (feet)						
	x	50%	70%	85%	90%	95%	98%	100%
South: Locust Street								
1	0.003	0.2	0.2	0.3	0.3	0.4	0.4	0.5
East: Main Street								
1	0.366	24.7	32.0	45.1	52.2	61.3	68.1	73.2
NorthEast: Market Street								
1	0.044	2.3	3.0	4.2	4.9	5.7	6.4	6.8
SouthWest: Market Street								
1	0.239	15.4	19.9	28.1	32.5	38.2	42.4	45.6

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

[Go to Table Links \(Top\)](#)

Lane Stops
Site: Main St._Market St._AM

Site ID: 101
Roundabout

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	-- Effective Stop Rate --				Total Stops	Queue Move-up Rate	Total Queue Move-ups	Prop. Queued	Aver. Num. of Cycles to Depart
	x			he1	he2	Geom. hig	Overall h	H	hqm	Hqm	pq	
South: Locust Street												
1	0.003	NA	NA	0.21	0.00	0.27	0.48	1.5	0.00	0.0	0.43	0.43
East: Main Street												
1	0.366	NA	NA	0.04	0.00	0.19	0.23	108.3	0.00	0.0	0.13	0.13

NorthEast: Market Street											
1	0.044	NA	NA	0.39	0.00	0.11	0.50	19.6	0.00	0.0	0.55 0.55

SouthWest: Market Street											
1	0.239	NA	NA	0.01	0.00	0.28	0.28	90.7	0.00	0.0	0.04 0.04

hig is the average value for all movements in a shared lane											
hqm is average queue move-up rate for all vehicles queued and unqueued											

[Go to Table Links \(Top\)](#)

Flow Rates

Origin-Destination Flow Rates (Total)
Site: Main St._Market St._AM

Site ID: 101
Roundabout

TOTAL FLOW RATES for All Movement Classes (veh/h)

From SOUTH To:	W	E		
Turn:	L2	R2	TOT	
Flow Rate	1.1	2.2	3.3	
%HV (all designations)	2.0	2.0	2.0	

From EAST To:	S	W		
Turn:	L2	T1	TOT	
Flow Rate	1.1	478.3	479.3	
%HV (all designations)	2.0	2.0	2.0	

From NORTHEAST To:	E	S	W	
Turn:	L3	L1	R1	TOT
Flow Rate	1.1	1.1	37.0	39.1
%HV (all designations)	2.0	2.0	2.0	2.0

From SOUTHWEST To:	W	E	S	
Turn:	L3	R1	R3	TOT
Flow Rate	17.4	298.9	2.2	318.5
%HV (all designations)	2.0	2.0	2.0	2.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:
Unit Time for Volumes = 60 minutes
Peak Flow Period = 15 minutes
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Origin-Destination Flow Rates by Movement Class
Site: Main St._Market St._AM

Site ID: 101
Roundabout

FLOW RATES for Light Vehicles (veh/h)

From SOUTH To:	W	E	
Turn:	L2	R2	TOT

Flow Rate	1.1	2.1	3.2
Mov Class %	98.0	98.0	98.0
Flow Scale	1.00	1.00	-
Peak Flow Factor	0.92	0.92	-
Residual Demand	0.0	0.0	0.0

From EAST To:	S	W	
Turn:	L2	T1	TOT

Flow Rate	1.1	468.7	469.8

Mov Class %	98.0	98.0	98.0	
Flow Scale	1.00	1.00	-	
Peak Flow Factor	0.92	0.92	-	
Residual Demand	0.0	0.0	0.0	

From NORTHEAST To:	E	S	W	
Turn:	L3	L1	R1	TOT

Flow Rate	1.1	1.1	36.2	38.3
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From SOUTHWEST To:	W	E	S	
Turn:	L3	R1	R3	TOT

Flow Rate	17.0	292.9	2.1	312.1
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

FLOW RATES for Heavy Vehicles (veh/h)

From SOUTH To:	W	E	
Turn:	L2	R2	TOT

Flow Rate	0.0	0.0	0.1
Mov Class %	2.0	2.0	2.0
Flow Scale	1.00	1.00	-
Peak Flow Factor	0.92	0.92	-
Residual Demand	0.0	0.0	0.0

From EAST To:	S	W	
Turn:	L2	T1	TOT

Flow Rate	0.0	9.6	9.6
Mov Class %	2.0	2.0	2.0
Flow Scale	1.00	1.00	-
Peak Flow Factor	0.92	0.92	-
Residual Demand	0.0	0.0	0.0

From NORTHEAST To:	E	S	W	
Turn:	L3	L1	R1	TOT

Flow Rate	0.0	0.0	0.7	0.8
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From SOUTHWEST To:	W	E	S	
Turn:	L3	R1	R3	TOT

Flow Rate	0.3	6.0	0.0	6.4
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:

Unit Time for Volumes = 60 minutes

Peak Flow Period = 15 minutes

Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.

Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Lane Flow Rates

Site: Main St._Market St._AM

Site ID: 101
Roundabout

LANE FLOW RATES AT STOP LINE (veh/h)

From SOUTH To:	W	E		
Turn:	L2	R2	TOT	
Lane 1				
LV	1.1	2.1	3.2	
HV	0.0	0.0	0.1	
Total	1.1	2.2	3.3	
Approach	1.1	2.2	3.3	
From EAST To:	S	W		
Turn:	L2	T1	TOT	
Lane 1				
LV	1.1	468.7	469.8	
HV	0.0	9.6	9.6	
Total	1.1	478.3	479.3	
Approach	1.1	478.3	479.3	
From NORTHEAST To:	E	S	W	
Turn:	L3	L1	R1	TOT
Lane 1				
LV	1.1	1.1	36.2	38.3
HV	0.0	0.0	0.7	0.8
Total	1.1	1.1	37.0	39.1
Approach	1.1	1.1	37.0	39.1
From SOUTHWEST To:	W	E	S	
Turn:	L3	R1	R3	TOT
Lane 1				
LV	17.0	292.9	2.1	312.1
HV	0.3	6.0	0.0	6.4
Total	17.4	298.9	2.2	318.5
Approach	17.4	298.9	2.2	318.5

EXIT LANE FLOW RATES

Movement Class:	LV	HV	TOT
Exit: SOUTH			
Lane: 1	4.3	0.1	4.3
Total	4.3	0.1	4.3
Exit: EAST			
Lane: 1	296.1	6.0	302.2
Total	296.1	6.0	302.2
Exit: WEST			
Lane: 1	523.0	10.7	533.7
Total	523.0	10.7	533.7

DOWNSTREAM LANE FLOW RATES FOR EXIT ROADS

Movement Class:	LV	HV	TOT
Exit: SOUTH			
Lane: 1	4.3	0.1	4.3
Total	4.3	0.1	4.3
Exit: EAST			
Lane: 1	296.1	6.0	302.2
Total	296.1	6.0	302.2
Exit: WEST			
Lane: 1	523.0	10.7	533.7
Total	523.0	10.7	533.7

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:
Unit Time for Volumes = 60 minutes
Peak Flow Period = 15 minutes
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Other

Parameter Settings Summary Site: Main St._Market St._AM

Site ID: 101
Roundabout

* Basic Parameters:
Intersection Type: Roundabout
Driving on the right-hand side of the road
Input data specified in US units
Model Defaults: US HCM (Customary)
Peak Flow Period (for performance): 15 minutes
Unit time (for volumes): 60 minutes.
SIDRA Standard Delay model used
HCM Queue Model option used
Level of Service based on: Delay and v/c (HCM 6)
Queue percentile: 95%

[Go to Table Links \(Top\)](#)

Diagnostics Site: Main St._Market St._AM

Site ID: 101
Roundabout

Lane Flow-Capacity Iterations:

Site Model Variability Index (Iterations 3 to N): 0.9%
Number of Iterations: 3 (Maximum: 10)

Other Diagnostic Messages (if any):

Geometric delay is less than 2 seconds for some movements. The negotiation speed may be too high or the approach and exit speeds may be too low for given geometric design (e.g. for a large roundabout).
Check Detailed Output for geometric delay data including negotiation speeds.
If necessary, specify appropriate values of approach and exit speeds, negotiation radius or negotiation speed data in the Path Data dialog.

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Tuesday, November 26, 2024 11:12:11 AM
Project: J:\JURISDICTION\SI\Stockton\011-101 Main St Complete Streets\Analysis\Sidra\Project_v2.sip8

MOVEMENT SUMMARY

 Site: 101 [Main St._Market St._AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Locust Street												
3	L2	1	2.0	0.003	8.4	LOS A	0.0	0.4	0.43	0.48	0.43	19.8
18	R2	2	2.0	0.003	3.9	LOS A	0.0	0.4	0.43	0.48	0.43	22.4
Approach		3	2.0	0.003	5.4	LOS A	0.0	0.4	0.43	0.48	0.43	21.6
East: Main Street												
1	L2	1	2.0	0.366	7.2	LOS A	2.4	61.3	0.13	0.23	0.13	24.2
6	T1	478	2.0	0.366	1.8	LOS A	2.4	61.3	0.13	0.23	0.13	29.8
Approach		479	2.0	0.366	1.8	LOS A	2.4	61.3	0.13	0.23	0.13	29.8
NorthEast: Market Street												
1bx	L3	1	2.0	0.044	10.6	LOS B	0.2	5.7	0.55	0.50	0.55	27.6
1ax	L1	1	2.0	0.044	8.8	LOS A	0.2	5.7	0.55	0.50	0.55	21.1
16ax	R1	37	2.0	0.044	4.1	LOS A	0.2	5.7	0.55	0.50	0.55	25.4
Approach		39	2.0	0.044	4.5	LOS A	0.2	5.7	0.55	0.50	0.55	25.4
SouthWest: Market Street												
5bx	L3	17	2.0	0.239	8.0	LOS A	1.5	38.2	0.04	0.28	0.04	23.0
12ax	R1	299	2.0	0.239	1.9	LOS A	1.5	38.2	0.04	0.28	0.04	28.7
12bx	R3	2	2.0	0.239	2.6	LOS A	1.5	38.2	0.04	0.28	0.04	25.0
Approach		318	2.0	0.239	2.2	LOS A	1.5	38.2	0.04	0.28	0.04	28.3
All Vehicles		840	2.0	0.366	2.1	LOS A	2.4	61.3	0.12	0.26	0.12	29.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).






HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

DETAILED OUTPUT

 Site: 101 [Main St._Market St._PM]

New Site
Site Category: (None)
Roundabout

OUTPUT TABLE LINKS

-  Roundabouts
 - Roundabout Basic Parameters
 - Roundabout Circulating / Exiting Stream Parameters
 - Roundabout Gap Acceptance Parameters
 - Roundabout Flow Rates
 - Roundabout Pedestrian Effects
-  Movements
 - Intersection Negotiation and Travel Data
 - Movement Capacity and Performance Parameters
 - Fuel Consumption, Emissions and Cost
-  Lanes
 - Lane Performance and Capacity Information
 - Lane, Approach and Intersection Performance
 - Driver Characteristics
 - Lane Delays
 - Lane Queues
 - Lane Queue Percentiles
 - Lane Stops
-  Flow Rates
 - Origin-Destination Flow Rates (Total)
 - Origin-Destination Flow Rates by Movement Class
 - Lane Flow Rates
-  Other
 - Parameter Settings Summary
 - Diagnostics

Roundabouts

Roundabout Basic Parameters
Site: Main St._Market St._PM

Site ID: 101											
Roundabout											
Central Island Diam ft	Circ Width ft	Insc Diam. ft	Entry Radius ft	Entry Angle deg	Circ Lanes	Entry Lanes	Av.Entry Lane Width ft	App Dist ft	Prop Upstr	Queued Signal	Extra Bunching %

South: Locust Street											
40.0	25.0	120.0U	100.0	30.0	1	1	13.00	200		NA	0.0N

East: Main Street											
40.0	15.0	120.0U	100.0	30.0	1	1	13.00	400		NA	0.0N

NorthEast: Market Street											
40.0	15.0	120.0U	100.0	30.0	1	1	13.00	350		NA	0.0N

SouthWest: Market Street											
40.0	15.0	120.0U	100.0	30.0	1	1	13.00	300		NA	0.0N

Roundabout Capacity Model: SIDRA Standard											
U Inscribed diameter value was specified by the user.											
NA Not Applicable (single Site analysis or unconnected Site in Network analysis).											
N Program option resulted in zero value (single Site analysis or unconnected Site in Network analysis).											

[Go to Table Links \(Top\)](#)

Roundabout Circulating / Exiting Stream Parameters

Site: Main St._Market St._PM

Site ID: 101
Roundabout

Dest	Turn	Lane No.	Lane Type	Opng Flow veh/h	HVE pcu/veh	Adj. Flow pcu/h	%Near Lane Only	%Exit Flow Incl.	Cap. Const. Effect	O-D Factor	Aver Speed mph	In-Bunch Headway sec	Prop. Bunched
South: Locust Street													
W	L2	1	Dominant	515	1.02	526	0.0	0.0	N	0.993	22.2	2.00	0.476
E	R2	1	Dominant	515	1.02	526	0.0	0.0	N	0.993	22.2	2.00	0.476
East: Main Street													
S	L2	1	Dominant	18	1.02	19	0.0	0.0	N	1.000	14.6	2.00	0.023
W	T1	1	Dominant	18	1.02	19	0.0	0.0	N	1.000	14.6	2.00	0.023
NorthEast: Market Street													
E	L3	1	Dominant	414	1.02	422	0.0	0.0	N	0.988	23.5	2.00	0.403
S	L1	1	Dominant	414	1.02	422	0.0	0.0	N	0.988	23.5	2.00	0.403
W	R1	1	Dominant	414	1.02	422	0.0	0.0	N	0.988	23.5	2.00	0.403
SouthWest: Market Street													
W	L3	1	Dominant	3	1.02	3	0.0	0.0	N	1.000	13.9	2.00	0.004
E	R1	1	Dominant	3	1.02	3	0.0	0.0	N	1.000	13.9	2.00	0.004
S	R3	1	Dominant	3	1.02	3	0.0	0.0	N	1.000	13.9	2.00	0.004
Roundabout Capacity Model: SIDRA Standard													

[Go to Table Links \(Top\)](#)

Roundabout Gap Acceptance Parameters

Site: Main St._Market St._PM

Site ID: 101
Roundabout

Dest	Turn	Lane No.	Lane Type	In-Bunch Headway sec	Prop. Bunched	Priority Sharing	HVE for Entry	Critical Gap		Follow-up Headway sec
								Headway sec	Dist ft	
South: Locust Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
W	L2	1	Dominant	2.00	0.476	Y	1.02	4.49	146.3	2.50
E	R2	1	Dominant	2.00	0.476	Y	1.02	4.49	146.3	2.50
East: Main Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
S	L2	1	Dominant	2.00	0.023	N	1.02	5.28	113.5	2.69
W	T1	1	Dominant	2.00	0.023	N	1.02	5.28	113.5	2.69
NorthEast: Market Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
E	L3	1	Dominant	2.00	0.403	N	1.02	4.64	159.6	2.53
S	L1	1	Dominant	2.00	0.403	N	1.02	4.64	159.6	2.53
W	R1	1	Dominant	2.00	0.403	N	1.02	4.64	159.6	2.53
SouthWest: Market Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
W	L3	1	Dominant	2.00	0.004	N	1.02	5.31	108.5	2.69
E	R1	1	Dominant	2.00	0.004	N	1.02	5.31	108.5	2.69
S	R3	1	Dominant	2.00	0.004	N	1.02	5.31	108.5	2.69

Roundabout Capacity Model: SIDRA Standard

Priority sharing means Follow-up Headway plus Intra-bunch Headway is larger than the Critical Gap.

Dist (Distance): Spacing, i.e. distance between the front ends of two successive vehicles across all lanes in the circulating

or exiting stream

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Roundabout Flow Rates
Site: Main St._Market St._PM

Site ID: 101
Roundabout

CIRCULATING LANE FLOW RATES

Lane No.	Circulating Flow Rate		
	veh/h	pcu/h	Percent
South: Locust Street			
1	515	526	100.0%
Total	515	526	
East: Main Street			
1	18	19	100.0%
Total	18	19	
NorthEast: Market Street			
1	414	422	100.0%
Total	414	422	
SouthWest: Market Street			
1	3	3	100.0%
Total	3	3	

The SIDRA Standard roundabout capacity model option is in use.
This model takes into account the total circulating flow as well as the effect of flow distribution in circulating lanes on the entry capacity results.

APPROACH LANE FLOW RATES

Lane No.	Approach Flows (veh/h)		
	Out	To Downst	Total
South: Locust Street			
1	4	1	5
Total	4	1	5
East: Main Street			
1	0	396	396
Total	0	396	396
NorthEast: Market Street			
1	29	3	32
Total	29	3	32
SouthWest: Market Street			
1	3	514	517
Total	3	514	517

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Roundabout Pedestrian Effects
Site: Main St._Market St._PM

Site ID: 101
Roundabout

ROUNDBOUT ENTRY

Lane	Turn	Pedestrian		Opposing Ped.Factor	Circulating Flow Rate veh/h	Circulating Flow Rate pcu/h	Adjustment Factor
		Flow Rate ped/h	Adj.Flow Rate ped/h				
South: Locust Street							
1	L2	2	2	1.00	515	526	1.000
1	R2	2	2	1.00	515	526	1.000

East: Main Street									
1	L2	1	1	1.00	18	19	1.000		
1	T1	1	1	1.00	18	19	1.000		

NorthEast: Market Street									
1	L3	5	5	1.00	414	422	0.999		
1	L1	5	5	1.00	414	422	0.999		
1	R1	5	5	1.00	414	422	0.999		

ROUNDABOUT EXIT									

Pedestrian			Opposing	Conflict	Critical	Follow-up	Exit Lane	Exit	Flow
Flow Rate	Adj.Flow Rate		Ped.Factor	Zone Length	Gap	Headway	Capacity	Total	Average
ped/h	ped/h			ft	sec	sec	veh/h	veh/h	veh/h/lane

South: Locust Street									
1		1	1.00	16.00	3.72	2.23	1611	5	5

East: Main Street									
1		1	1.00	16.00	3.72	2.23	1611	502	502

West: Main Street									
1		1	1.00	16.00	3.72	2.23	1611	442	442

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Movements

Intersection Negotiation and Travel Data
Site: Main St._Market St._PM

Site ID: 101									
Roundabout									
TRAVEL SPEED, TRAVEL DISTANCE AND TRAVEL TIME									

From	To		Running	Travel	Travel	Travel	Total	Travel	Distance
Approach	Exit	Turn	Speed	Speed	Distance	Time	Dem Flows	Arv Flows	Tot.Trav.
			mph	mph	ft	s	veh-mi/h	veh-mi/h	Time
									veh-h/h

South: Locust Street									
	West	L2	19.8	19.3	575.6#	20.4#	0.1	0.1	0.0
	East	R2	22.4	21.9	675.6#	21.1#	0.6	0.6	0.0

East: Main Street									
	South	L2	24.3	24.3	716.0#	20.1#	0.1	0.1	0.0
	West	T1	29.9	29.9	816.0#	18.6#	61.0	61.0	2.0

NorthEast: Market Street									
	East	L3	28.0	27.9	842.5#	20.6#	0.2	0.2	0.0
	South	L1	21.4	21.3	642.5#	20.5#	0.1	0.1	0.0
	West	R1	25.8	25.7	742.5#	19.7#	4.1	4.1	0.2

SouthWest: Market Street									
	West	L3	23.1	23.1	690.4#	20.4#	2.3	2.3	0.1
	East	R1	28.8	28.8	790.4#	18.7#	74.4	74.4	2.6
	South	R3	25.1	25.1	590.4#	16.0#	0.4	0.4	0.0

ALL VEHICLES:			29.0	29.0	796.1#	18.7#	143.2	143.2	4.9

"Running Speed" is the average speed excluding stopped periods.									
Travel Time values include cruise times and intersection delays including acceleration, deceleration and idling delays.									
# Travel Distance and Travel Time values include travel on the External Exit section based on the Exit Distance or user-specified Downstream Distance value as applicable.									
INTERSECTION NEGOTIATION DATA									

From Approach	To Exit	Turn	Negn Radius ft	Negn Speed mph	Negn Dist ft	App Dist ft	Exit Dist ft	Downstr Dist ft
South: Locust Street								
	West	L2	49.0	14.6	192.4	200	91	NA
	East	R2	88.6	18.3	46.5	200	122	NA
East: Main Street								
	South	L2	44.5	14.1	174.8	400	61	NA
	West	T1	180.0	23.9	115.8	400	91	NA
NorthEast: Market Street								
	East	L3	43.0	13.9	202.6	350	122	NA
	South	L1	42.3	13.8	133.0	350	61	NA
	West	R1	180.0	23.9	86.9	350	91	NA
SouthWest: Market Street								
	West	L3	49.5	14.7	233.3	300	91	NA
	East	R1	153.0	22.5	85.8	300	122	NA
	South	R3	75.0	17.2	32.8	300	61	NA

Maximum Negotiation (Design) Speed = 30.0 mph

- NA Downstream Distance does not apply if:
- Exit is an internal leg of a network
 - "Program" option was specified
 - Distance specified was less than the Exit Negotiation Distance
 - Distance specified was greater than the exit leg length

MOVEMENT SPEEDS AND GEOMETRIC DELAY

		App. Speeds		Exit Speeds		Queue	Geom Delay sec
Mov ID	Turn	Cruise mph	Negn mph	Negn mph	Cruise mph	Move-up Speed mph	
South: Locust Street							
3	L2	30.0	14.6	14.6	30.0	22.1	7.0
18	R2	30.0	18.3	18.3	30.0	22.1	2.4
East: Main Street							
1	L2	30.0	14.1	14.1	30.0	38.4	7.0
6	T1	30.0	23.9	23.9	30.0	38.4	1.6
NorthEast: Market Street							
1bx	L3	30.0	13.9	13.9	30.0	23.7	7.9
1ax	L1	30.0	13.8	13.8	30.0	23.7	6.1
16ax	R1	30.0	23.9	23.9	30.0	23.7	1.5
SouthWest: Market Street							
5bx	L3	30.0	14.7	14.7	30.0	35.7	8.0
12ax	R1	30.0	22.5	22.5	30.0	35.7	1.9
12bx	R3	30.0	17.2	17.2	30.0	35.7	2.6

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Movement Capacity and Performance Parameters
Site: Main St._Market St._PM

Site ID: 101
Roundabout

MOVEMENT CAPACITY PARAMETERS

Mov ID	Turn	Mov Cl.	Arv Flow veh/h	Opng Flow veh/h	Movement Adjust. pcu/h	Total Cap. veh/h	Prac. Deg. Satn xp	Prac. Spare Cap. %	Deg. Satn x
South: Locust Street									
3	L2	#	1	515	526	176	0.85	****	0.006
18	R2	#	4	515	526	706	0.85	****	0.006

East: Main Street										
1	L2	#	1	18	19	4	0.85	182	0.302	
6	T1	#	395	18	19	1308	0.85	182	0.302	

NorthEast: Market Street										
1bx	L3	#	1	414	422	33	0.85	2452	0.033	
1ax	L1	#	1	414	422	33	0.85	2452	0.033	
16ax	R1	#	29	414	422	881	0.85	2452	0.033	

SouthWest: Market Street										
5bx	L3	#	17	3	3	45	0.85	119	0.389*	
12ax	R1	#	497	3	3	1278	0.85	119	0.389*	
12bx	R3	#	3	3	3	8	0.85	119	0.389*	

* Maximum degree of saturation										
# Combined Movement Capacity parameters are shown for all Movement Classes.										

MOVEMENT PERFORMANCE										

Mov ID	Turn	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Eff. Stop Rate	Total Stops	Perf. Index	Tot.Trav. Distance (veh-mi/h)	Tot.Trav. Time (veh-h/h)	Aver. Speed (mph)

South: Locust Street										
3	L2	0.00	0.00	9.6	0.52	0.6	0.03	0.1	0.0	19.3
18	R2	0.01	0.01	5.0	0.52	2.2	0.06	0.6	0.0	21.9

East: Main Street										
1	L2	0.00	0.00	7.2	0.22	0.2	1.49	0.1	0.0	24.3
6	T1	0.19	0.23	1.8	0.22	88.7	4.20	61.0	2.0	29.9

NorthEast: Market Street										
1bx	L3	0.00	0.00	10.0	0.46	0.5	0.14	0.2	0.0	27.9
1ax	L1	0.00	0.00	8.2	0.46	0.5	0.14	0.1	0.0	21.3
16ax	R1	0.03	0.04	3.6	0.46	13.4	0.37	4.1	0.2	25.7

SouthWest: Market Street										
5bx	L3	0.04	0.05	8.0	0.27	4.7	2.50	2.3	0.1	23.1
12ax	R1	0.26	0.31	1.9	0.27	135.6	5.85	74.4	2.6	28.8
12bx	R3	0.00	0.00	2.6	0.27	0.9	2.38	0.4	0.0	25.1

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Fuel Consumption, Emissions and Cost
Site: Main St._Market St._PM

Site ID: 101

Roundabout

FUEL CONSUMPTION, EMISSIONS AND COST (TOTAL)

Mov ID	Turn	Cost Total \$/h	Fuel Total gal/h	CO2 Total kg/h	CO Total kg/h	HC Total kg/h	NOX Total kg/h

South: Locust Street							
3	L2	0.12	0.0	0.1	0.00	0.000	0.000
18	R2	0.47	0.0	0.3	0.00	0.000	0.000
		0.59	0.0	0.4	0.00	0.000	0.001

East: Main Street							
1	L2	0.09	0.0	0.1	0.00	0.000	0.000
6	T1	34.49	2.5	22.8	0.02	0.002	0.029
		34.59	2.6	22.8	0.02	0.002	0.029

NorthEast: Market Street							
1bx	L3	0.11	0.0	0.1	0.00	0.000	0.000
1ax	L1	0.11	0.0	0.1	0.00	0.000	0.000
16ax	R1	2.91	0.2	1.9	0.00	0.000	0.003
		3.13	0.2	2.1	0.00	0.000	0.003

SouthWest: Market Street							
5bx	L3	1.34	0.1	0.9	0.00	0.000	0.001
12ax	R1	38.91	3.3	29.2	0.02	0.002	0.035
12bx	R3	0.25	0.0	0.2	0.00	0.000	0.000
		40.50	3.4	30.3	0.02	0.002	0.036
INTERSECTION:							
		78.80	6.2	55.7	0.04	0.004	0.069

FUEL CONSUMPTION, EMISSIONS AND COST (RATE)

Mov ID	Turn	Cost Rate \$/mi	Fuel Eff. mpg	CO2 Rate g/km	CO Rate g/km	HC Rate g/km	NOX Rate g/km
South: Locust Street							
3	L2	0.98	13.0	426.6	0.37	0.040	0.553
18	R2	0.84	14.4	385.6	0.33	0.035	0.489
		0.87	14.1	392.8	0.34	0.036	0.500
East: Main Street							
1	L2	0.64	22.8	243.5	0.18	0.019	0.321
6	T1	0.57	23.9	232.0	0.17	0.018	0.297
		0.57	23.9	232.0	0.17	0.018	0.297
NorthEast: Market Street							
1bx	L3	0.63	20.1	276.2	0.22	0.023	0.364
1ax	L1	0.81	17.6	315.6	0.26	0.028	0.440
16ax	R1	0.71	18.9	293.3	0.24	0.025	0.397
		0.71	18.9	293.3	0.24	0.025	0.397
SouthWest: Market Street							
5bx	L3	0.59	21.5	257.8	0.20	0.021	0.314
12ax	R1	0.52	22.8	244.1	0.19	0.019	0.289
12bx	R3	0.68	20.1	276.2	0.22	0.023	0.346
		0.53	22.7	244.7	0.19	0.019	0.290
INTERSECTION:		0.55	23.0	241.5	0.18	0.019	0.297

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Lanes

Lane Performance and Capacity Information
Site: Main St._Market St._PM

Site ID: 101
Roundabout

LANE PERFORMANCE

Lane No.	Flow veh/h	Cap veh/h	Deg. Satn x	Aver. Delay sec	Eff. Stop Rate	Q u e u e		Lane Length ft
						95% Back		
						veh	ft	
South: Locust Street								
1	5	882	0.006	5.9	0.52	0.0	0.8	200.0
East: Main Street								
1	396	1311	0.302	1.8	0.22	1.8	46.7	400.0
NorthEast: Market Street								
1	32	946	0.033	4.0	0.46	0.2	4.2	350.0
SouthWest: Market Street								
1	517	1331	0.389	2.1	0.27	2.9	74.6	300.0

LANE FLOW AND CAPACITY INFORMATION

Lane No.	Total Arv Flow veh/h	Min Cap veh/h	Tot Cap veh/h	Deg. Satn x	Lane Util %
South: Locust Street					
1	5	5	882	0.006	100
East: Main Street					
1	396	150	1311	0.302	100
NorthEast: Market Street					
1	32	32	946	0.033	100
SouthWest: Market Street					
1	517	150	1331	0.389	100

The capacity values of Continuous Lanes are obtained by adjusting the basic saturation flow for lane width, grade, movement class and turning vehicle effects. Saturation flow scale applies if specified.

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Lane, Approach and Intersection Performance
Site: Main St._Market St._PM

Site ID: 101
Roundabout

Lane No.	Arrival Flow (veh/h)	%HV	Adj. Basic Satf.	Deg Sat x	Aver. Delay sec	Longest Queue ft	Lane Length ft
South: Locust Street							
1	5	2		0.006	5.9	1	200
	5	2		0.006	5.9	1	
East: Main Street							
1	396	2		0.302	1.8	47	400
	396	2		0.302	1.8	47	
NorthEast: Market Street							
1	32	2		0.033	4.0	4	350
	32	2		0.033	4.0	4	
SouthWest: Market Street							
1	517	2		0.389	2.1	75	300
	517	2		0.389	2.1	75	
ALL VEHICLES							
	Total Flow	% HV		Max X	Aver. Delay	Max Queue	
	950	2		0.389	2.0	75	

Peak flow period = 15 minutes.

Queue values in this table are 95% queue (feet)
Note: Basic Saturation Flows at roundabouts or sign-controlled intersections apply only to continuous lanes.

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Driver Characteristics
Site: Main St._Market St._PM

Site ID: 101
Roundabout

Lane No.	Satn Speed mph	Satn Flow veh/h	Satn Hdwy sec	Satn Spacing ft	Average Queue Space ft	Driver Response Time sec
South: Locust Street						
1	17.5	1443	2.50	64.19	25.40	1.51
East: Main Street						
1	23.9	1339	2.69	94.15	25.40	1.96
NorthEast: Market Street						
1	23.2	1420	2.53	86.28	25.40	1.79
SouthWest: Market Street						
1	22.2	1336	2.69	87.65	25.40	1.91

Saturation Flow and Saturation Headway are derived from follow-up headway.

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Lane Delays

Site: Main St._Market St._PM

Site ID: 101
Roundabout

LANE DELAYS

Delay (seconds/veh)													
Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Min Del dm	Stop-line 1st d1	Delay 2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
South: Locust Street													
1	0.006	NA	NA	2.4	2.6	0.0	2.6	2.1	0.5	0.0	0.5	3.3	5.9
East: Main Street													
1	0.302	NA	NA	0.1	0.1	0.0	0.1	0.7	0.0	0.0	0.0	1.7	1.8
NorthEast: Market Street													
1	0.033	NA	NA	1.8	2.1	0.0	2.1	2.5	0.1	0.0	0.1	1.9	4.0
SouthWest: Market Street													
1	0.389	NA	NA	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	2.1	2.1

SIDRA Standard Delay Model is used. Control Delay is the sum of Stop-line Delay and Geometric Delay.
dm: Minimum delay for gap acceptance cases
dSL: Stop-line delay (=d1+d2)
dn: Average stop-start delay for all vehicles queued and unqueued
dq: Queuing delay (the part of the stop-line delay that includes stopped delay and queue move-up delay)
dqm: Queue move-up delay
di: Stopped delay (stopped (idling) time at near-zero speed)
dig: Geometric delay
dic: Control delay

Geometric delay is less than 2 seconds for some movements. The negotiation speed may be too high or the approach and exit speeds may be too low for given geometric design (e.g. for a large roundabout).
Check Detailed Output for geometric delay data including negotiation speeds.
If necessary, specify appropriate values of approach and exit speeds, negotiation radius or negotiation speed data in the Path Data dialog.

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Lane Queues

Site: Main St._Market St._PM

Site ID: 101
Roundabout

BACK OF QUEUE (VEHICLES)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (veh)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
	x				Nb1	Nb2	Nb	95%	Av.	95%		
South: Locust Street												
1	0.006	NA	NA	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA
East: Main Street												
1	0.302	NA	NA	0.0	0.7	0.0	0.7	1.8	0.05	0.12	0.0	NA
NorthEast: Market Street												
1	0.033	NA	NA	0.0	0.1	0.0	0.1	0.2	0.00	0.01	0.0	NA
SouthWest: Market Street												
1	0.389	NA	NA	0.0	1.2	0.0	1.2	2.9	0.10	0.25	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

BACK OF QUEUE (DISTANCE)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (ft)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
	x				Nb1	Nb2	Nb	95%	Av.	95%		
South: Locust Street												
1	0.006	NA	NA	0.0	0.3	0.0	0.3	0.8	0.00	0.00	0.0	NA
East: Main Street												
1	0.302	NA	NA	0.0	18.8	0.0	18.8	46.7	0.05	0.12	0.0	NA
NorthEast: Market Street												
1	0.033	NA	NA	0.0	1.7	0.0	1.7	4.2	0.00	0.01	0.0	NA
SouthWest: Market Street												
1	0.389	NA	NA	0.0	30.0	0.0	30.0	74.6	0.10	0.25	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

OTHER QUEUE RESULTS (VEHICLES)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
	x				Nc	95%
South: Locust Street						
1	0.006	NA	NA	0.0	0.0	0.0
East: Main Street						
1	0.302	NA	NA	0.0	0.0	0.0
NorthEast: Market Street						
1	0.033	NA	NA	0.0	0.0	0.0
SouthWest: Market Street						
1	0.389	NA	NA	0.0	0.0	0.0

OTHER QUEUE RESULTS (DISTANCE)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
	x				Nc	95%
South: Locust Street						
1	0.006	NA	NA	0.0	0.1	0.2
East: Main Street						
1	0.302	NA	NA	0.0	0.4	0.7
NorthEast: Market Street						
1	0.033	NA	NA	0.0	0.5	0.9

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SouthWest: Market Street
1      0.389      NA      NA      0.0      0.1      0.2
-----

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Lane Queue Percentiles

Site: Main St._Market St._PM

Site ID: 101
Roundabout

LANE QUEUE PERCENTILES (VEHICLES)

Lane No.	Deg. Satn	Percentile Back of Queue (veh)						
	x	50%	70%	85%	90%	95%	98%	100%
South: Locust Street								
1	0.006	0.0	0.0	0.0	0.0	0.0	0.0	0.0
East: Main Street								
1	0.302	0.7	1.0	1.4	1.6	1.8	2.0	2.2
NorthEast: Market Street								
1	0.033	0.1	0.1	0.1	0.1	0.2	0.2	0.2
SouthWest: Market Street								
1	0.389	1.2	1.5	2.2	2.5	2.9	3.3	3.5

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

LANE QUEUE PERCENTILES (DISTANCE)

Lane No.	Deg. Satn	Percentile Back of Queue (feet)						
	x	50%	70%	85%	90%	95%	98%	100%
South: Locust Street								
1	0.006	0.3	0.4	0.6	0.7	0.8	0.9	0.9
East: Main Street								
1	0.302	18.8	24.4	34.3	39.7	46.7	51.9	55.8
NorthEast: Market Street								
1	0.033	1.7	2.2	3.1	3.6	4.2	4.7	5.0
SouthWest: Market Street								
1	0.389	30.0	38.9	54.8	63.4	74.6	82.8	89.0

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

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Lane Stops

Site: Main St._Market St._PM

Site ID: 101
Roundabout

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	-- Effective		Stop Geom.	Rate -- Overall	Total Stops H	Queue Move-up Rate	Total Queue Move-ups	Prop. Queued	Aver. Num. of Cycles to Depart
	x			he1	he2	hig	h		hqm	Hqm	pq	
	South: Locust Street											
1	0.006	NA	NA	0.32	0.00	0.20	0.52	2.8	0.00	0.0	0.54	0.54

East: Main Street												
1	0.302	NA	NA	0.03	0.00	0.19	0.22	89.0	0.00	0.0	0.12	0.12

NorthEast: Market Street												
1	0.033	NA	NA	0.33	0.00	0.13	0.46	14.4	0.00	0.0	0.50	0.50

SouthWest: Market Street												
1	0.389	NA	NA	0.01	0.00	0.27	0.27	141.2	0.00	0.0	0.05	0.05

hig is the average value for all movements in a shared lane												
hqm is average queue move-up rate for all vehicles queued and unqueued												

[Go to Table Links \(Top\)](#)

Flow Rates

Origin-Destination Flow Rates (Total)
Site: Main St._Market St._PM

Site ID: 101
Roundabout

TOTAL FLOW RATES for All Movement Classes (veh/h)

From SOUTH To:	W	E		
Turn:	L2	R2	TOT	
Flow Rate	1.1	4.3	5.4	
%HV (all designations)	2.0	2.0	2.0	

From EAST To:	S	W		
Turn:	L2	T1	TOT	
Flow Rate	1.1	394.6	395.7	
%HV (all designations)	2.0	2.0	2.0	

From NORTHEAST To:	E	S	W	
Turn:	L3	L1	R1	TOT
Flow Rate	1.1	1.1	29.3	31.5
%HV (all designations)	2.0	2.0	2.0	2.0

From SOUTHWEST To:	W	E	S	
Turn:	L3	R1	R3	TOT
Flow Rate	17.4	496.7	3.3	517.4
%HV (all designations)	2.0	2.0	2.0	2.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:
Unit Time for Volumes = 60 minutes
Peak Flow Period = 15 minutes
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Origin-Destination Flow Rates by Movement Class
Site: Main St._Market St._PM

Site ID: 101
Roundabout

FLOW RATES for Light Vehicles (veh/h)

From SOUTH To:	W	E	
Turn:	L2	R2	TOT

Flow Rate	1.1	4.3	5.3
Mov Class %	98.0	98.0	98.0
Flow Scale	1.00	1.00	-
Peak Flow Factor	0.92	0.92	-
Residual Demand	0.0	0.0	0.0

From EAST To:	S	W	
Turn:	L2	T1	TOT

Flow Rate	1.1	386.7	387.7	
Mov Class %	98.0	98.0	98.0	
Flow Scale	1.00	1.00	-	
Peak Flow Factor	0.92	0.92	-	
Residual Demand	0.0	0.0	0.0	

From NORTHEAST To:	E	S	W	
Turn:	L3	L1	R1	TOT

Flow Rate	1.1	1.1	28.8	30.9
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From SOUTHWEST To:	W	E	S	
Turn:	L3	R1	R3	TOT

Flow Rate	17.0	486.8	3.2	507.0
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

FLOW RATES for Heavy Vehicles (veh/h)

From SOUTH To:	W	E		
Turn:	L2	R2	TOT	

Flow Rate	0.0	0.1	0.1	
Mov Class %	2.0	2.0	2.0	
Flow Scale	1.00	1.00	-	
Peak Flow Factor	0.92	0.92	-	
Residual Demand	0.0	0.0	0.0	

From EAST To:	S	W		
Turn:	L2	T1	TOT	

Flow Rate	0.0	7.9	7.9	
Mov Class %	2.0	2.0	2.0	
Flow Scale	1.00	1.00	-	
Peak Flow Factor	0.92	0.92	-	
Residual Demand	0.0	0.0	0.0	

From NORTHEAST To:	E	S	W	
Turn:	L3	L1	R1	TOT

Flow Rate	0.0	0.0	0.6	0.6
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From SOUTHWEST To:	W	E	S	
Turn:	L3	R1	R3	TOT

Flow Rate	0.3	9.9	0.1	10.3
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:
Unit Time for Volumes = 60 minutes
Peak Flow Period = 15 minutes
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Lane Flow Rates

Site: Main St._Market St._PM

Site ID: 101
Roundabout

LANE FLOW RATES AT STOP LINE (veh/h)

From SOUTH To:	W	E		
Turn:	L2	R2	TOT	

Lane 1				
LV	1.1	4.3	5.3	
HV	0.0	0.1	0.1	
Total	1.1	4.3	5.4	

Approach	1.1	4.3	5.4	

From EAST To:	S	W		
Turn:	L2	T1	TOT	

Lane 1				
LV	1.1	386.7	387.7	
HV	0.0	7.9	7.9	
Total	1.1	394.6	395.7	

Approach	1.1	394.6	395.7	

From NORTHEAST To:	E	S	W	
Turn:	L3	L1	R1	TOT

Lane 1				
LV	1.1	1.1	28.8	30.9
HV	0.0	0.0	0.6	0.6
Total	1.1	1.1	29.3	31.5

Approach	1.1	1.1	29.3	31.5

From SOUTHWEST To:	W	E	S	
Turn:	L3	R1	R3	TOT

Lane 1				
LV	17.0	486.8	3.2	507.0
HV	0.3	9.9	0.1	10.3
Total	17.4	496.7	3.3	517.4

Approach	17.4	496.7	3.3	517.4

EXIT LANE FLOW RATES

Movement Class:	LV	HV	TOT

Exit: SOUTH			
Lane: 1	5.3	0.1	5.4
Total	5.3	0.1	5.4

Exit: EAST			
Lane: 1	492.1	10.0	502.2
Total	492.1	10.0	502.2

Exit: WEST			
Lane: 1	433.5	8.8	442.4
Total	433.5	8.8	442.4

DOWNSTREAM LANE FLOW RATES FOR EXIT ROADS

Movement Class:	LV	HV	TOT

Exit: SOUTH			
Lane: 1	5.3	0.1	5.4
Total	5.3	0.1	5.4

Exit: EAST			
Lane: 1	492.1	10.0	502.2
Total	492.1	10.0	502.2

Exit: WEST			
Lane: 1	433.5	8.8	442.4
Total	433.5	8.8	442.4

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:
Unit Time for Volumes = 60 minutes
Peak Flow Period = 15 minutes
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Other

Parameter Settings Summary
Site: Main St._Market St._PM

Site ID: 101
Roundabout

* Basic Parameters:
Intersection Type: Roundabout
Driving on the right-hand side of the road
Input data specified in US units
Model Defaults: US HCM (Customary)
Peak Flow Period (for performance): 15 minutes
Unit time (for volumes): 60 minutes.
SIDRA Standard Delay model used
HCM Queue Model option used
Level of Service based on: Delay and v/c (HCM 6)
Queue percentile: 95%

[Go to Table Links \(Top\)](#)

Diagnostics
Site: Main St._Market St._PM

Site ID: 101
Roundabout

Lane Flow-Capacity Iterations:

Site Model Variability Index (Iterations 3 to N): 0.6%
Number of Iterations: 3 (Maximum: 10)

Other Diagnostic Messages (if any):

Geometric delay is less than 2 seconds for some movements. The negotiation speed may be too high or the approach and exit speeds may be too low for given geometric design (e.g. for a large roundabout).
Check Detailed Output for geometric delay data including negotiation speeds.
If necessary, specify appropriate values of approach and exit speeds, negotiation radius or negotiation speed data in the Path Data dialog.

[Go to Table Links \(Top\)](#)

MOVEMENT SUMMARY

 Site: 101 [Main St._Market St._PM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Locust Street												
3	L2	1	2.0	0.006	9.6	LOS A	0.0	0.8	0.54	0.52	0.54	19.3
18	R2	4	2.0	0.006	5.0	LOS A	0.0	0.8	0.54	0.52	0.54	21.9
Approach		5	2.0	0.006	5.9	LOS A	0.0	0.8	0.54	0.52	0.54	21.3
East: Main Street												
1	L2	1	2.0	0.302	7.2	LOS A	1.8	46.7	0.12	0.22	0.12	24.3
6	T1	395	2.0	0.302	1.8	LOS A	1.8	46.7	0.12	0.22	0.12	29.9
Approach		396	2.0	0.302	1.8	LOS A	1.8	46.7	0.12	0.22	0.12	29.9
NorthEast: Market Street												
1bx	L3	1	2.0	0.033	10.0	LOS B	0.2	4.2	0.50	0.46	0.50	27.9
1ax	L1	1	2.0	0.033	8.2	LOS A	0.2	4.2	0.50	0.46	0.50	21.3
16ax	R1	29	2.0	0.033	3.6	LOS A	0.2	4.2	0.50	0.46	0.50	25.7
Approach		32	2.0	0.033	4.0	LOS A	0.2	4.2	0.50	0.46	0.50	25.6
SouthWest: Market Street												
5bx	L3	17	2.0	0.389	8.0	LOS A	2.9	74.6	0.05	0.27	0.05	23.1
12ax	R1	497	2.0	0.389	1.9	LOS A	2.9	74.6	0.05	0.27	0.05	28.8
12bx	R3	3	2.0	0.389	2.6	LOS A	2.9	74.6	0.05	0.27	0.05	25.1
Approach		517	2.0	0.389	2.1	LOS A	2.9	74.6	0.05	0.27	0.05	28.6
All Vehicles		950	2.0	0.389	2.0	LOS A	2.9	74.6	0.10	0.26	0.10	29.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).






HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

DETAILED OUTPUT

 Site: 101 [Main St._Filbert St._AM]

New Site
Site Category: (None)
Roundabout

OUTPUT TABLE LINKS

-  Roundabouts
 - Roundabout Basic Parameters
 - Roundabout Circulating / Exiting Stream Parameters
 - Roundabout Gap Acceptance Parameters
 - Roundabout Flow Rates
 - Roundabout Pedestrian Effects
-  Movements
 - Intersection Negotiation and Travel Data
 - Movement Capacity and Performance Parameters
 - Fuel Consumption, Emissions and Cost
-  Lanes
 - Lane Performance and Capacity Information
 - Lane, Approach and Intersection Performance
 - Driver Characteristics
 - Lane Delays
 - Lane Queues
 - Lane Queue Percentiles
 - Lane Stops
-  Flow Rates
 - Origin-Destination Flow Rates (Total)
 - Origin-Destination Flow Rates by Movement Class
 - Lane Flow Rates
-  Other
 - Parameter Settings Summary
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Roundabouts

Roundabout Basic Parameters
Site: Main St._Filbert St._AM

Site ID: 101											
Roundabout											
Central Island Diam	Circ Width	Insc Diam.	Entry Radius	Entry Angle	Circ Lanes	Entry Lanes	Av.Entry Lane Width	App Dist	Prop Upstr	Queued Signal	Extra Bunching
ft	ft	ft	ft	deg			ft	ft			%

South: Filbert Street											
30.0	15.0	100.0U	100.0	30.0	1	1	13.00	450		NA	0.0N

East: Main Street											
30.0	15.0	100.0U	100.0	30.0	1	1	13.00	400		NA	0.0N

North: Filbert Street											
30.0	15.0	100.0U	100.0	30.0	2	1	13.00	60		NA	0.0N

West: Main Street											
30.0	15.0	100.0U	100.0	30.0	1	1	13.00	630		NA	0.0N

Roundabout Capacity Model: SIDRA Standard											
U Inscribed diameter value was specified by the user.											
NA Not Applicable (single Site analysis or unconnected Site in Network analysis).											
N Program option resulted in zero value (single Site analysis or unconnected Site in Network analysis).											

[Go to Table Links \(Top\)](#)

Roundabout Circulating / Exiting Stream Parameters

Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

Dest	Turn	Lane No.	Lane Type	Opng Flow veh/h	HVE pcu/veh	Adj. Flow pcu/h	%Near Lane Only	%Exit Flow Incl.	Cap. Const. Effect	O-D Factor	Aver Speed mph	In-Bunch Headway sec	Prop. Bunched
South: Filbert Street													
W	L2	1	Dominant	562	1.02	573	0.0	0.0	N	0.948	17.0	2.00	0.507
N	T1	1	Dominant	562	1.02	573	0.0	0.0	N	0.948	17.0	2.00	0.507
E	R2	1	Dominant	562	1.02	573	0.0	0.0	N	0.948	17.0	2.00	0.507
East: Main Street													
S	L2	1	Dominant	126	1.02	129	0.0	0.0	N	0.988	16.9	2.00	0.145
W	T1	1	Dominant	126	1.02	129	0.0	0.0	N	0.988	16.9	2.00	0.145
N	R2	1	Dominant	126	1.02	129	0.0	0.0	N	0.988	16.9	2.00	0.145
North: Filbert Street													
E	L2	1	Dominant	408	1.02	416	0.0	0.0	N	0.945	21.1	2.00	0.398
S	T1	1	Dominant	408	1.02	416	0.0	0.0	N	0.945	21.1	2.00	0.398
W	R2	1	Dominant	408	1.02	416	0.0	0.0	N	0.945	21.1	2.00	0.398
West: Main Street													
N	L2	1	Dominant	297	1.02	303	0.0	0.0	N	0.951	14.4	2.00	0.308
E	T1	1	Dominant	297	1.02	303	0.0	0.0	N	0.951	14.4	2.00	0.308
S	R2	1	Dominant	297	1.02	303	0.0	0.0	N	0.951	14.4	2.00	0.308
Roundabout Capacity Model: SIDRA Standard													

[Go to Table Links \(Top\)](#)

Roundabout Gap Acceptance Parameters

Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

Dest	Turn	Lane No.	Lane Type	In-Bunch Headway sec	Prop. Bunched	Priority Sharing	HVE for Entry	Critical Gap		Follow-up Headway sec
								Headway sec	Dist ft	
South: Filbert Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
W	L2	1	Dominant	2.00	0.507	N	1.02	4.59	114.3	2.57
N	T1	1	Dominant	2.00	0.507	N	1.02	4.59	114.3	2.57
E	R2	1	Dominant	2.00	0.507	N	1.02	4.59	114.3	2.57
East: Main Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
S	L2	1	Dominant	2.00	0.145	N	1.02	5.27	131.1	2.74
W	T1	1	Dominant	2.00	0.145	N	1.02	5.27	131.1	2.74
N	R2	1	Dominant	2.00	0.145	N	1.02	5.27	131.1	2.74
North: Filbert Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
E	L2	1	Dominant	2.00	0.398	Y	1.02	4.65	144.0	3.00
S	T1	1	Dominant	2.00	0.398	Y	1.02	4.65	144.0	3.00
W	R2	1	Dominant	2.00	0.398	Y	1.02	4.65	144.0	3.00
West: Main Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
N	L2	1	Dominant	2.00	0.308	N	1.02	4.99	105.3	2.67
E	T1	1	Dominant	2.00	0.308	N	1.02	4.99	105.3	2.67
S	R2	1	Dominant	2.00	0.308	N	1.02	4.99	105.3	2.67
Roundabout Capacity Model: SIDRA Standard										
Priority sharing means Follow-up Headway plus Intra-bunch Headway										

is larger than the Critical Gap.

Dist (Distance): Spacing, i.e. distance between the front ends of two successive vehicles across all lanes in the circulating or exiting stream

[Go to Table Links \(Top\)](#)

Roundabout Flow Rates
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

CIRCULATING LANE FLOW RATES

Lane No.	Circulating Flow Rate		
	veh/h	pcu/h	Percent
South: Filbert Street			
1	562	573	100.0%
Total	562	573	
East: Main Street			
1	126	129	100.0%
Total	126	129	
North: Filbert Street			
1	0	0	0.0%
2	408	416	100.0%
Total	408	416	
West: Main Street			
1	297	303	100.0%
Total	297	303	

The SIDRA Standard roundabout capacity model option is in use.
This model takes into account the total circulating flow as well as the effect of flow distribution in circulating lanes on the entry capacity results.

APPROACH LANE FLOW RATES

Lane No.	Approach Flows (veh/h)		
	Out	To Downst	Total
South: Filbert Street			
1	5	67	72
Total	5	67	72
East: Main Street			
1	272	394	666
Total	272	394	666
North: Filbert Street			
1	59	291	350
Total	59	291	350
West: Main Street			
1	4	299	303
Total	4	299	303

[Go to Table Links \(Top\)](#)

Roundabout Pedestrian Effects
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

ROUNDAABOUT ENTRY

Lane	Turn	Pedestrian		Opposing Ped.Factor	Circulating Flow Rate	Circulating Flow Rate	Adjustment Factor
		Flow Rate	Adj.Flow Rate				

[Go to Table Links \(Top\)](#)

Intersection Negotiation and Travel Data
Site: Main St. Filbert St. AM

TRAVEL SPEED, TRAVEL DISTANCE AND TRAVEL TIME

about:blank

	North	L2	21.1	21.0	797.8#	25.9#	9.0	9.0	0.4
	East	T1	25.7	25.6	1137.8#	30.3#	51.5	51.5	2.0
	South	R2	24.5	24.4	1187.8#	33.2#	1.0	1.0	0.0

ALL VEHICLES:			23.8	23.8	848.5#	24.3#	223.6	223.6	9.4

"Running Speed" is the average speed excluding stopped periods.									
Travel Time values include cruise times and intersection delays including acceleration, deceleration and idling delays.									
# Travel Distance and Travel Time values include travel on the External Exit section based on the Exit Distance or user-specified Downstream Distance value as applicable.									
INTERSECTION NEGOTIATION DATA									

From	To		Negn	Negn	Negn	App	Exit	Downstr	
Approach	Exit	Turn	Radius	Speed	Dist	Dist	Dist	Dist	
			ft	mph	ft	ft	ft	ft	

South: Filbert Street									
	West	L2	41.0	13.6	161.0	450	192	NA	
	North	T1	135.4	21.5	95.8	450	18	NA	
	East	R2	81.7	17.7	38.6	450	122	NA	

East: Main Street									
	South	L2	41.0	13.6	161.0	400	137	NA	
	West	T1	135.4	21.5	95.8	400	192	NA	
	North	R2	81.7	17.7	38.6	400	18	NA	

North: Filbert Street									
	East	L2	41.0	13.6	161.0	60	122	NA	
	South	T1	135.4	21.5	95.8	60	137	NA	
	West	R2	81.7	17.7	38.6	60	192	NA	

West: Main Street									
	North	L2	41.0	13.6	161.0	630	18	NA	
	East	T1	135.4	21.5	95.8	630	122	NA	
	South	R2	81.7	17.7	38.6	630	137	NA	

Maximum Negotiation (Design) Speed = 30.0 mph									
NA Downstream Distance does not apply if:									
- Exit is an internal leg of a network									
- "Program" option was specified									
- Distance specified was less than the Exit Negotiation Distance									
- Distance specified was greater than the exit leg length									
MOVEMENT SPEEDS AND GEOMETRIC DELAY									

Mov		App. Speeds	Exit Speeds		Queue		Geom		
ID	Turn	Cruise	Negn	Negn	Cruise	Move-up	Delay		
		mph	mph	mph	mph	Speed	sec		
		mph	mph	mph	mph	mph			

South: Filbert Street									
3	L2	25.0	13.6	13.6	25.0	21.3	5.5		
8	T1	25.0	21.5	21.5	25.0	21.3	1.0		
18	R2	25.0	17.7	17.7	25.0	21.3	1.6		

East: Main Street									
1	L2	35.0	13.6	13.6	35.0	32.0	8.2		
6	T1	35.0	21.5	21.5	35.0	32.0	3.3		
16	R2	35.0	17.7	17.7	35.0	32.0	3.4		

North: Filbert Street									
7	L2	25.0	13.6	13.6	25.0	22.1	4.4		
4	T1	25.0	21.5	21.5	25.0	22.1	0.7		
14	R2	25.0	17.7	17.7	25.0	22.1	0.9		

West: Main Street									
5	L2	30.0	13.6	13.6	30.0	26.1	7.0		
2	T1	30.0	21.5	21.5	30.0	26.1	2.2		
12	R2	30.0	17.7	17.7	30.0	26.1	2.6		

[Go to Table Links \(Top\)](#)

Movement Capacity and Performance Parameters
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

MOVEMENT CAPACITY PARAMETERS

Mov ID	Turn	Mov Cl.	Arv Flow veh/h	Opng Flow veh/h	Movement Adjust. Flow pcu/h	Total Cap. veh/h	Prac. Deg. Satn xp	Prac. Spare Cap. %	Deg. Satn x
South: Filbert Street									
3	L2	#	13	562	573	141	0.85	821	0.092
8	T1	#	53	562	573	577	0.85	821	0.092
18	R2	#	5	562	573	59	0.85	821	0.092
East: Main Street									
1	L2	#	5	126	129	9	0.85	45	0.588*
6	T1	#	389	126	129	662	0.85	45	0.588*
16	R2	#	272	126	129	462	0.85	45	0.588*
North: Filbert Street									
7	L2	#	263	408	416	590	0.85	91	0.446
4	T1	#	28	408	416	63	0.85	91	0.446
14	R2	#	59	408	416	132	0.85	91	0.446
West: Main Street									
5	L2	#	60	297	303	188	0.85	167	0.318
2	T1	#	239	297	303	751	0.85	167	0.318
12	R2	#	4	297	303	14	0.85	167	0.318

* Maximum degree of saturation
Combined Movement Capacity parameters are shown for all Movement Classes.

MOVEMENT PERFORMANCE

Mov ID	Turn	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Eff. Stop Rate	Total Stops	Perf. Index	Tot.Trav. Distance (veh-mi/h)	Tot.Trav. Time (veh-h/h)	Aver. Speed (mph)
South: Filbert Street										
3	L2	0.03	0.04	9.0	0.59	7.7	0.60	2.9	0.1	23.6
8	T1	0.07	0.08	4.5	0.59	31.6	0.90	6.2	0.4	15.0
18	R2	0.01	0.01	5.1	0.59	3.2	0.47	1.0	0.0	21.2
East: Main Street										
1	L2	0.01	0.02	9.6	0.52	2.8	4.35	1.0	0.0	27.2
6	T1	0.51	0.61	4.7	0.52	202.2	8.24	81.3	2.9	28.1
16	R2	0.36	0.44	4.8	0.52	141.2	6.22	27.4	1.4	20.3
North: Filbert Street										
7	L2	0.56	0.67	7.6	0.78	205.0	5.10	29.7	1.4	20.8
4	T1	0.03	0.04	3.9	0.78	22.0	2.50	3.5	0.2	20.2
14	R2	0.07	0.08	4.1	0.78	45.8	2.90	9.2	0.5	19.7
West: Main Street										
5	L2	0.15	0.18	9.1	0.59	35.5	2.33	9.0	0.4	21.0
2	T1	0.29	0.34	4.3	0.59	141.8	4.48	51.5	2.0	25.6
12	R2	0.01	0.01	4.7	0.59	2.6	1.74	1.0	0.0	24.4

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Fuel Consumption, Emissions and Cost
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

FUEL CONSUMPTION, EMISSIONS AND COST (TOTAL)

Mov ID	Turn	Cost Total \$/h	Fuel Total gal/h	CO2 Total kg/h	CO Total kg/h	HC Total kg/h	NOX Total kg/h
South: Filbert Street							
3	L2	1.58	0.1	1.1	0.00	0.000	0.001
8	T1	6.09	0.3	2.9	0.00	0.000	0.003
18	R2	0.64	0.0	0.4	0.00	0.000	0.000
		8.32	0.5	4.4	0.00	0.000	0.005
East: Main Street							
1	L2	0.59	0.0	0.4	0.00	0.000	0.001
6	T1	42.89	3.8	33.6	0.03	0.003	0.042
16	R2	28.50	1.9	16.6	0.02	0.002	0.024
		71.98	5.7	50.6	0.05	0.005	0.066
North: Filbert Street							
7	L2	30.27	2.2	19.9	0.01	0.002	0.023
4	T1	3.27	0.2	2.2	0.00	0.000	0.003
14	R2	6.92	0.6	5.1	0.00	0.000	0.006
		40.46	3.0	27.2	0.02	0.002	0.031
West: Main Street							
5	L2	8.14	0.5	4.2	0.00	0.000	0.005
2	T1	33.42	2.3	20.7	0.02	0.002	0.025
12	R2	0.61	0.0	0.4	0.00	0.000	0.000
		42.17	2.8	25.3	0.02	0.002	0.031
INTERSECTION:		162.93	12.0	107.5	0.09	0.009	0.133
FUEL CONSUMPTION, EMISSIONS AND COST (RATE)							
Mov ID	Turn	Cost Rate \$/mi	Fuel Eff. mpg	CO2 Rate g/km	CO Rate g/km	HC Rate g/km	NOX Rate g/km
South: Filbert Street							
3	L2	0.54	24.2	229.8	0.14	0.018	0.232
8	T1	0.98	18.8	294.9	0.21	0.026	0.329
18	R2	0.66	22.5	246.7	0.16	0.020	0.258
		0.82	20.4	271.4	0.18	0.023	0.294
East: Main Street							
1	L2	0.62	19.9	278.5	0.27	0.025	0.359
6	T1	0.53	21.6	256.8	0.25	0.023	0.320
16	R2	1.04	14.8	375.7	0.35	0.036	0.534
		0.66	19.4	286.7	0.27	0.026	0.374
North: Filbert Street							
7	L2	1.02	13.3	416.8	0.29	0.037	0.483
4	T1	0.95	14.0	396.9	0.28	0.035	0.456
14	R2	0.75	16.1	345.1	0.23	0.030	0.384
		0.96	13.9	399.6	0.28	0.035	0.459
West: Main Street							
5	L2	0.90	19.0	292.2	0.24	0.025	0.374
2	T1	0.65	22.2	249.6	0.20	0.020	0.298
12	R2	0.62	22.6	245.4	0.19	0.020	0.291
		0.69	21.7	255.8	0.20	0.021	0.309
INTERSECTION:		0.73	18.6	298.9	0.25	0.026	0.369

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Lanes

Lane Performance and Capacity Information
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

LANE PERFORMANCE

Lane No.	Flow veh/h	Cap veh/h	Deg. Satn x	Aver. Delay sec	Eff. Stop Rate	Q u e u e		Lane Length ft
						95% Back veh	ft	
South: Filbert Street								
1	72	777	0.092	5.3	0.59	0.5	12.9	450.0
East: Main Street								
1	666	1133	0.588	4.8	0.52	5.3	135.4	400.0
North: Filbert Street								
1	350	785	0.446	6.7	0.78	2.8	69.9	60.0
West: Main Street								
1	303	952	0.318	5.3	0.59	2.1	53.2	630.0

LANE FLOW AND CAPACITY INFORMATION

Lane No.	Total Arv veh/h	Min Cap veh/h	Tot Cap veh/h	Deg. Satn x	Lane Util %
South: Filbert Street					
1	72	72	777	0.092	100
East: Main Street					
1	666	150	1133	0.588	100
North: Filbert Street					
1	350	150	785	0.446	100
West: Main Street					
1	303	150	952	0.318	100

The capacity values of Continuous Lanes are obtained by adjusting the basic saturation flow for lane width, grade, movement class and turning vehicle effects. Saturation flow scale applies if specified.

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Lane, Approach and Intersection Performance
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

Lane No.	Arrival Flow (veh/h)	%HV	Adj. Basic Satf.	Deg Sat x	Aver. Delay sec	Longest Queue ft	Lane Length ft
South: Filbert Street							
1	72	2		0.092	5.3	13	450
	72	2		0.092	5.3	13	
East: Main Street							
1	666	2		0.588	4.8	135	400
	666	2		0.588	4.8	135	
North: Filbert Street							
1	350	2		0.446	6.7	70	60

	350	2	0.446	6.7	70	

West: Main Street						
1	303	2	0.318	5.3	53	630

	303	2	0.318	5.3	53	
=====						
ALL VEHICLES						
Total	%	Max	Aver.	Max		
Flow	HV	X	Delay	Queue		
1391	2	0.588	5.4	135		
=====						
Peak flow period = 15 minutes.						
Queue values in this table are 95% queue (feet)						
Note: Basic Saturation Flows at roundabouts or sign-controlled intersections apply only to continuous lanes.						

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Driver Characteristics
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

Lane No.	Satn Speed mph	Satn Flow veh/h	Satn Hdwy sec	Satn Spacing ft	Average Queue Space ft	Driver Response Time sec

South: Filbert Street						
1	19.8	1401	2.57	74.45	25.40	1.69

East: Main Street						
1	19.9	1314	2.74	79.84	25.40	1.87

North: Filbert Street						
1	15.0	1201	3.00	65.76	25.40	1.84

West: Main Street						
1	19.9	1347	2.67	77.87	25.40	1.80

Saturation Flow and Saturation Headway are derived from follow-up headway.						

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Lane Delays
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

LANE DELAYS

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Delay (seconds/veh)									Geom dig	Control dic
				Min Del dm	Stop-line 1st d1	2nd d2	Delay Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di			

South: Filbert Street	0.092	NA	NA	2.8	3.5	0.0	3.5	3.1	0.4	0.0	0.4	1.9	5.3	
1														

East: Main Street	0.588	NA	NA	0.5	1.4	0.0	1.4	2.6	0.0	0.0	0.0	3.4	4.8	
1														

North: Filbert Street	0.446	NA	NA	1.8	3.1	0.1	3.2	1.7	1.5	0.1	1.4	3.5	6.7	
1														

West: Main Street	0.318	NA	NA	1.3	2.1	0.0	2.1	2.9	0.1	0.0	0.1	3.2	5.3	
1														

SIDRA Standard Delay Model is used. Control Delay is the sum of Stop-line Delay and Geometric Delay.

dm: Minimum delay for gap acceptance cases
dSl: Stop-line delay (=d1+d2)
dn: Average stop-start delay for all vehicles queued and unqueued
dq: Queuing delay (the part of the stop-line delay that includes stopped delay and queue move-up delay)
dqm: Queue move-up delay
di: Stopped delay (stopped (idling) time at near-zero speed)
dig: Geometric delay
dic: Control delay

Geometric delay is less than 2 seconds for some movements. The negotiation speed may be too high or the approach and exit speeds may be too low for given geometric design (e.g. for a large roundabout).
Check Detailed Output for geometric delay data including negotiation speeds.
If necessary, specify appropriate values of approach and exit speeds, negotiation radius or negotiation speed data in the Path Data dialog.

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Lane Queues
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

BACK OF QUEUE (VEHICLES)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (veh)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
	x				Nb1	Nb2	Nb	95%	Av.	95%		
South: Filbert Street												
1	0.092	NA	NA	0.0	0.2	0.0	0.2	0.5	0.01	0.03	0.0	NA
East: Main Street												
1	0.588	NA	NA	0.0	2.1	0.0	2.1	5.3	0.14	0.34	0.0	NA
North: Filbert Street												
1	0.446	NA	NA	0.0	1.1	0.0	1.1	2.8	0.47	1.16	9.7	NA
West: Main Street												
1	0.318	NA	NA	0.0	0.8	0.0	0.8	2.1	0.03	0.08	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

BACK OF QUEUE (DISTANCE)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (ft)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
	x				Nb1	Nb2	Nb	95%	Av.	95%		
South: Filbert Street												
1	0.092	NA	NA	0.0	5.2	0.0	5.2	12.9	0.01	0.03	0.0	NA
East: Main Street												
1	0.588	NA	NA	0.0	54.5	0.0	54.5	135.4	0.14	0.34	0.0	NA
North: Filbert Street												
1	0.446	NA	NA	0.5	27.5	0.6	28.1	69.9	0.47	1.16	9.7	NA
West: Main Street												
1	0.318	NA	NA	0.0	21.4	0.0	21.4	53.2	0.03	0.08	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

OTHER QUEUE RESULTS (VEHICLES)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%

South: Filbert Street						
1	0.092	NA	NA	0.0	0.1	0.1

East: Main Street						
1	0.588	NA	NA	0.0	0.3	0.5

North: Filbert Street						
1	0.446	NA	NA	0.0	0.3	0.6

West: Main Street						
1	0.318	NA	NA	0.0	0.2	0.3

OTHER QUEUE RESULTS (DISTANCE)						

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Nc	Queue 95%

South: Filbert Street						
1	0.092	NA	NA	0.0	1.7	3.2

East: Main Street						
1	0.588	NA	NA	0.0	6.5	11.9

North: Filbert Street						
1	0.446	NA	NA	0.5	8.0	14.5

West: Main Street						
1	0.318	NA	NA	0.0	4.5	8.1

Go to Table Links (Top)

Lane Queue Percentiles

Site: Main St._Filbert St._AM

Site ID: 101								
Roundabout								
LANE QUEUE PERCENTILES (VEHICLES)								

Lane No.	Deg. Satn x	Percentile Back of Queue (veh)						
		50%	70%	85%	90%	95%	98%	100%

South: Filbert Street								
1	0.092	0.2	0.3	0.4	0.4	0.5	0.6	0.6

East: Main Street								
1	0.588	2.1	2.8	3.9	4.5	5.3	5.9	6.4

North: Filbert Street								
1	0.446	1.1	1.4	2.0	2.3	2.8	3.1	3.3

West: Main Street								
1	0.318	0.8	1.1	1.5	1.8	2.1	2.3	2.5

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.								
LANE QUEUE PERCENTILES (DISTANCE)								

Lane No.	Deg. Satn x	Percentile Back of Queue (feet)						
		50%	70%	85%	90%	95%	98%	100%

South: Filbert Street								
1	0.092	5.2	6.7	9.5	11.0	12.9	14.3	15.4

East: Main Street								

1	0.588	54.5	70.6	99.5	115.2	135.4	150.3	161.6

North: Filbert Street								
1	0.446	28.1	36.4	51.3	59.4	69.9	77.6	83.4

West: Main Street								
1	0.318	21.4	27.7	39.0	45.2	53.2	59.0	63.4

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.								

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Lane Stops
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	-- he1	Effective he2	Stop Geom. hig	Rate Overall h	Total Stops H	Queue Move-up Rate hqm	Total Queue Move-ups Hqm	Prop. Queued pq	Aver. Num. of Cycles to Depart

South: Filbert Street												
1	0.092	NA	NA	0.50	0.00	0.10	0.59	42.5	0.00	0.0	0.63	0.63

East: Main Street												
1	0.588	NA	NA	0.33	0.00	0.19	0.52	346.2	0.00	0.0	0.53	0.53

North: Filbert Street												
1	0.446	NA	NA	0.59	0.01	0.18	0.78	272.8	0.02	5.3	0.66	0.67

West: Main Street												
1	0.318	NA	NA	0.44	0.00	0.15	0.59	179.8	0.00	0.0	0.59	0.59

hig is the average value for all movements in a shared lane												
hqm is average queue move-up rate for all vehicles queued and unqueued												

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Flow Rates

Origin-Destination Flow Rates (Total)
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

TOTAL FLOW RATES for All Movement Classes (veh/h)

From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	13.0	53.3	5.4	71.7
%HV (all designations)	2.0	2.0	2.0	2.0

From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Flow Rate	5.4	389.1	271.7	666.3
%HV (all designations)	2.0	2.0	2.0	2.0

From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Flow Rate	263.0	28.3	58.7	350.0
%HV (all designations)	2.0	2.0	2.0	2.0

From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT
Flow Rate	59.8	239.1	4.3	303.3
%HV (all designations)	2.0	2.0	2.0	2.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:

Unit Time for Volumes = 60 minutes
 Peak Flow Period = 15 minutes
 Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
 Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

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Origin-Destination Flow Rates by Movement Class

Site: Main St._Filbert St._AM

Site ID: 101
 Roundabout

FLOW RATES for Light Vehicles (veh/h)

From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	12.8	52.2	5.3	70.3
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Flow Rate	5.3	381.3	266.3	653.0
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Flow Rate	257.8	27.7	57.5	343.0
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT
Flow Rate	58.6	234.3	4.3	297.2
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

FLOW RATES for Heavy Vehicles (veh/h)

From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	0.3	1.1	0.1	1.4
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Flow Rate	0.1	7.8	5.4	13.3
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Flow Rate	5.3	0.6	1.2	7.0

Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT

Flow Rate	1.2	4.8	0.1	6.1
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:

Unit Time for Volumes = 60 minutes

Peak Flow Period = 15 minutes

Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.

Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

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Lane Flow Rates

Site: Main St._Filbert St._AM

Site ID: 101

Roundabout

LANE FLOW RATES AT STOP LINE (veh/h)

From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT

Lane 1				
LV	12.8	52.2	5.3	70.3
HV	0.3	1.1	0.1	1.4
Total	13.0	53.3	5.4	71.7

Approach	13.0	53.3	5.4	71.7
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From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT

Lane 1				
LV	5.3	381.3	266.3	653.0
HV	0.1	7.8	5.4	13.3
Total	5.4	389.1	271.7	666.3

Approach	5.4	389.1	271.7	666.3
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From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT

Lane 1				
LV	257.8	27.7	57.5	343.0
HV	5.3	0.6	1.2	7.0
Total	263.0	28.3	58.7	350.0

Approach	263.0	28.3	58.7	350.0
----------	-------	------	------	-------

From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT

Lane 1				
LV	58.6	234.3	4.3	297.2
HV	1.2	4.8	0.1	6.1
Total	59.8	239.1	4.3	303.3

Approach	59.8	239.1	4.3	303.3
----------	------	-------	-----	-------

EXIT LANE FLOW RATES

Movement Class:	LV	HV	TOT
-----------------	----	----	-----

Exit: SOUTH			
Lane: 1	37.3	0.8	38.0
Total	37.3	0.8	38.0

Exit: EAST			
Lane: 1	497.5	10.2	507.6
Total	497.5	10.2	507.6

Exit: NORTH			
Lane: 1	377.1	7.7	384.8
Total	377.1	7.7	384.8

Exit: WEST			
Lane: 1	451.7	9.2	460.9
Total	451.7	9.2	460.9

DOWNSTREAM LANE FLOW RATES FOR EXIT ROADS			

Movement Class:	LV	HV	TOT

Exit: SOUTH			
Lane: 1	37.3	0.8	38.0
Total	37.3	0.8	38.0

Exit: EAST			
Lane: 1	497.5	10.2	507.6
Total	497.5	10.2	507.6

Exit: NORTH			
Lane: 1	377.1	7.7	384.8
Total	377.1	7.7	384.8

Exit: WEST			
Lane: 1	451.7	9.2	460.9
Total	451.7	9.2	460.9

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:			
Unit Time for Volumes = 60 minutes			
Peak Flow Period = 15 minutes			
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.			
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.			

[Go to Table Links \(Top\)](#)

Other

Parameter Settings Summary
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout
* Basic Parameters:
Intersection Type: Roundabout
Driving on the right-hand side of the road
Input data specified in US units
Model Defaults: US HCM (Customary)
Peak Flow Period (for performance): 15 minutes
Unit time (for volumes): 60 minutes.
SIDRA Standard Delay model used
HCM Queue Model option used
Level of Service based on: Delay and v/c (HCM 6)
Queue percentile: 95%

[Go to Table Links \(Top\)](#)

Diagnostics
Site: Main St._Filbert St._AM

Site ID: 101

Roundabout

Lane Flow-Capacity Iterations:

Site Model Variability Index (Iterations 3 to N): 1.6%

Number of Iterations: 5 (Maximum: 10)

Largest change in Lane Degrees of Saturation for the last three Flow-Capacity Iterations:
2.6% 1.5% 0.8%

Other Diagnostic Messages (if any):

Geometric delay is less than 2 seconds for some movements. The negotiation speed may be too high or the approach and exit speeds may be too low for given geometric design (e.g. for a large roundabout).

Check Detailed Output for geometric delay data including negotiation speeds.

If necessary, specify appropriate values of approach and exit speeds, negotiation radius or negotiation speed data in the Path Data dialog.

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Tuesday, November 26, 2024 11:12:12 AM

Project: J:\JURISDICTION\Stockton\011-101 Main St Complete Streets\Analysis\Sidra\Project_v2.sip8

MOVEMENT SUMMARY

 Site: 101 [Main St._Filbert St._AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Filbert Street												
3	L2	13	2.0	0.092	9.0	LOS A	0.5	12.9	0.63	0.59	0.63	23.6
8	T1	53	2.0	0.092	4.5	LOS A	0.5	12.9	0.63	0.59	0.63	15.0
18	R2	5	2.0	0.092	5.1	LOS A	0.5	12.9	0.63	0.59	0.63	21.2
Approach		72	2.0	0.092	5.3	LOS A	0.5	12.9	0.63	0.59	0.63	17.3
East: Main Street												
1	L2	5	2.0	0.588	9.6	LOS A	5.3	135.4	0.53	0.52	0.53	27.2
6	T1	389	2.0	0.588	4.7	LOS A	5.3	135.4	0.53	0.52	0.53	28.1
16	R2	272	2.0	0.588	4.8	LOS A	5.3	135.4	0.53	0.52	0.53	20.3
Approach		666	2.0	0.588	4.8	LOS A	5.3	135.4	0.53	0.52	0.53	25.6
North: Filbert Street												
7	L2	263	2.0	0.446	7.6	LOS A	2.8	69.9	0.66	0.78	0.67	20.8
4	T1	28	2.0	0.446	3.9	LOS A	2.8	69.9	0.66	0.78	0.67	20.2
14	R2	59	2.0	0.446	4.1	LOS A	2.8	69.9	0.66	0.78	0.67	19.7
Approach		350	2.0	0.446	6.7	LOS A	2.8	69.9	0.66	0.78	0.67	20.5
West: Main Street												
5	L2	60	2.0	0.318	9.1	LOS A	2.1	53.2	0.59	0.59	0.59	21.0
2	T1	239	2.0	0.318	4.3	LOS A	2.1	53.2	0.59	0.59	0.59	25.6
12	R2	4	2.0	0.318	4.7	LOS A	2.1	53.2	0.59	0.59	0.59	24.4
Approach		303	2.0	0.318	5.3	LOS A	2.1	53.2	0.59	0.59	0.59	24.8
All Vehicles		1391	2.0	0.588	5.4	LOS A	5.3	135.4	0.58	0.60	0.59	23.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Tuesday, November 26, 2024 11:12:12 AM






Project: J:\JURISDICTION\Stockton\011-101 Main St Complete Streets\Analysis\Sidra\Project_v2.sip8

DETAILED OUTPUT

 Site: 101 [Main St._Filbert St._PM]

New Site
Site Category: (None)
Roundabout

OUTPUT TABLE LINKS

-  Roundabouts
 - Roundabout Basic Parameters
 - Roundabout Circulating / Exiting Stream Parameters
 - Roundabout Gap Acceptance Parameters
 - Roundabout Flow Rates
 - Roundabout Pedestrian Effects
-  Movements
 - Intersection Negotiation and Travel Data
 - Movement Capacity and Performance Parameters
 - Fuel Consumption, Emissions and Cost
-  Lanes
 - Lane Performance and Capacity Information
 - Lane, Approach and Intersection Performance
 - Driver Characteristics
 - Lane Delays
 - Lane Queues
 - Lane Queue Percentiles
 - Lane Stops
-  Flow Rates
 - Origin-Destination Flow Rates (Total)
 - Origin-Destination Flow Rates by Movement Class
 - Lane Flow Rates
-  Other
 - Parameter Settings Summary
 - Diagnostics

Roundabouts

Roundabout Basic Parameters
Site: Main St._Filbert St._PM

Site ID: 101											
Roundabout											
Central Island Diam	Circ Width	Insc Diam.	Entry Radius	Entry Angle	Circ Lanes	Entry Lanes	Av.Entry Lane Width	App Dist	Prop Upstr	Queued Signal	Extra Bunching
ft	ft	ft	ft	deg			ft	ft			%

South: Filbert Street											
30.0	15.0	100.0U	100.0	30.0	1	1	13.00	450		NA	0.0N

East: Main Street											
30.0	15.0	100.0U	100.0	30.0	1	1	13.00	400		NA	0.0N

North: Filbert Street											
30.0	15.0	100.0U	100.0	30.0	2	1	13.00	60		NA	0.0N

West: Main Street											
30.0	15.0	100.0U	100.0	30.0	1	1	13.00	630		NA	0.0N

Roundabout Capacity Model: SIDRA Standard											
U Inscribed diameter value was specified by the user.											
NA Not Applicable (single Site analysis or unconnected Site in Network analysis).											
N Program option resulted in zero value (single Site analysis or unconnected Site in Network analysis).											

[Go to Table Links \(Top\)](#)

Roundabout Circulating / Exiting Stream Parameters

Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

Dest	Turn	Lane No.	Lane Type	Opng Flow veh/h	HVE pcu/veh	Adj. Flow pcu/h	%Near Lane Only	%Exit Flow Incl.	Cap. Const. Effect	O-D Factor	Aver Speed mph	In-Bunch Headway sec	Prop. Bunched
South: Filbert Street													
W	L2	1	Dominant	889	1.02	907	0.0	0.0	N	0.849	17.2	2.00	0.691
N	T1	1	Dominant	889	1.02	907	0.0	0.0	N	0.849	17.2	2.00	0.691
E	R2	1	Dominant	889	1.02	907	0.0	0.0	N	0.849	17.2	2.00	0.691
East: Main Street													
S	L2	1	Dominant	132	1.02	134	0.0	0.0	N	0.983	16.8	2.00	0.151
W	T1	1	Dominant	132	1.02	134	0.0	0.0	N	0.983	16.8	2.00	0.151
N	R2	1	Dominant	132	1.02	134	0.0	0.0	N	0.983	16.8	2.00	0.151
North: Filbert Street													
E	L2	1	Dominant	351	1.02	358	0.0	0.0	N	0.956	21.0	2.00	0.353
S	T1	1	Dominant	351	1.02	358	0.0	0.0	N	0.956	21.0	2.00	0.353
W	R2	1	Dominant	351	1.02	358	0.0	0.0	N	0.956	21.0	2.00	0.353
West: Main Street													
N	L2	1	Dominant	464	1.02	473	0.0	0.0	N	0.904	14.3	2.00	0.440
E	T1	1	Dominant	464	1.02	473	0.0	0.0	N	0.904	14.3	2.00	0.440
S	R2	1	Dominant	464	1.02	473	0.0	0.0	N	0.904	14.3	2.00	0.440
Roundabout Capacity Model: SIDRA Standard													

[Go to Table Links \(Top\)](#)

Roundabout Gap Acceptance Parameters

Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

Dest	Turn	Lane No.	Lane Type	In-Bunch Headway sec	Prop. Bunched	Priority Sharing	HVE for Entry	Critical Gap		Follow-up Headway sec
								Headway sec	Dist ft	
South: Filbert Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
W	L2	1	Dominant	2.00	0.691	Y	1.02	4.18	105.4	2.44
N	T1	1	Dominant	2.00	0.691	Y	1.02	4.18	105.4	2.44
E	R2	1	Dominant	2.00	0.691	Y	1.02	4.18	105.4	2.44
East: Main Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
S	L2	1	Dominant	2.00	0.151	N	1.02	5.26	129.8	2.74
W	T1	1	Dominant	2.00	0.151	N	1.02	5.26	129.8	2.74
N	R2	1	Dominant	2.00	0.151	N	1.02	5.26	129.8	2.74
North: Filbert Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
E	L2	1	Dominant	2.00	0.353	Y	1.02	4.74	146.0	3.02
S	T1	1	Dominant	2.00	0.353	Y	1.02	4.74	146.0	3.02
W	R2	1	Dominant	2.00	0.353	Y	1.02	4.74	146.0	3.02
West: Main Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
N	L2	1	Dominant	2.00	0.440	N	1.02	4.73	99.1	2.61
E	T1	1	Dominant	2.00	0.440	N	1.02	4.73	99.1	2.61
S	R2	1	Dominant	2.00	0.440	N	1.02	4.73	99.1	2.61
Roundabout Capacity Model: SIDRA Standard										
Priority sharing means Follow-up Headway plus Intra-bunch Headway										

is larger than the Critical Gap.

Dist (Distance): Spacing, i.e. distance between the front ends of two successive vehicles across all lanes in the circulating or exiting stream

[Go to Table Links \(Top\)](#)

Roundabout Flow Rates
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

CIRCULATING LANE FLOW RATES

Lane No.	Circulating Flow Rate		
	veh/h	pcu/h	Percent
South: Filbert Street			
1	889	907	100.0%
Total	889	907	
East: Main Street			
1	132	134	100.0%
Total	132	134	
North: Filbert Street			
1	0	0	0.0%
2	351	358	100.0%
Total	351	358	
West: Main Street			
1	464	473	100.0%
Total	464	473	

The SIDRA Standard roundabout capacity model option is in use.
This model takes into account the total circulating flow as well as the effect of flow distribution in circulating lanes on the entry capacity results.

APPROACH LANE FLOW RATES

Lane No.	Approach Flows (veh/h)		
	Out	To Downst	Total
South: Filbert Street			
1	11	72	83
Total	11	72	83
East: Main Street			
1	258	332	590
Total	258	332	590
North: Filbert Street			
1	77	462	539
Total	77	462	539
West: Main Street			
1	17	466	483
Total	17	466	483

[Go to Table Links \(Top\)](#)

Roundabout Pedestrian Effects
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

ROUNDBOUT ENTRY

Lane	Turn	Pedestrian		Opposing Ped.Factor	Circulating Flow Rate	Circulating Flow Rate	Adjustment Factor
		Flow Rate	Adj.Flow Rate				

	ped/h	ped/h		veh/h	pcu/h		

South: Filbert Street							
1	L2	8	8	1.00	889	907 1.000	
1	T1	8	8	1.00	889	907 1.000	
1	R2	8	8	1.00	889	907 1.000	

East: Main Street							
1	L2	1	1	1.00	132	134 1.000	
1	T1	1	1	1.00	132	134 1.000	
1	R2	1	1	1.00	132	134 1.000	

North: Filbert Street							
1	L2	4	4	1.00	351	358 0.999	
1	T1	4	4	1.00	351	358 0.999	
1	R2	4	4	1.00	351	358 0.999	

West: Main Street							
1	L2	5	5	1.00	464	473 0.999	
1	T1	5	5	1.00	464	473 0.999	
1	R2	5	5	1.00	464	473 0.999	

ROUNDAABOUT EXIT							

Pedestrian		Opposing	Conflict	Critical	Follow-up	Exit Lane	Exit Flow
Flow Rate	Adj.Flow Rate	Ped.Factor	Zone Length	Gap	Headway	Capacity	Total
ped/h	ped/h		ft	sec	sec	veh/h	Average

South: Filbert Street							
9	9	1.00	16.00	3.72	2.23	1602	58 58

East: Main Street							
1	1	1.00	16.00	3.72	2.23	1611	840 840

North: Filbert Street							
5	5	1.00	16.00	3.72	2.23	1606	371 371

West: Main Street							
7	7	1.00	16.00	3.72	2.23	1605	426 426

[Go to Table Links \(Top\)](#)

Movements

Intersection Negotiation and Travel Data

Site: Main St. Filbert St. PM

Site ID: 101
Roundabout

TRAVEL SPEED, TRAVEL DISTANCE AND TRAVEL TIME

From Approach	To Exit	Turn	Running Speed mph	Travel Speed mph	Travel Distance ft	Travel Time s	Total Travel Dem Flows veh-mi/h	Distance Arv Flows veh-mi/h	Tot.Trav. Time veh-h/h
South: Filbert Street									
	West	L2	23.2	21.2	1182.9#	38.1#	4.1	4.1	0.2
	North	T1	14.7	13.1	612.9#	31.8#	6.2	6.2	0.5
	East	R2	20.7	18.8	952.9#	34.6#	2.0	2.0	0.1
East: Main Street									
	South	L2	27.4	27.4	921.1#	22.9#	0.4	0.4	0.0
	West	T1	28.3	28.3	1101.1#	26.5#	68.9	68.9	2.4
	North	R2	20.4	20.4	531.1#	17.7#	25.9	25.9	1.3
North: Filbert Street									
	East	L2	21.0	18.9	598.9#	21.6#	48.1	48.1	2.5
	South	T1	20.4	18.5	648.9#	23.9#	4.7	4.7	0.3
	West	R2	19.8	18.4	828.9#	30.7#	12.1	12.1	0.7
West: Main Street									

	North	L2	19.4	19.0	791.8#	28.5#	9.0	9.0	0.5
	East	T1	23.9	23.4	1131.8#	32.9#	86.9	86.9	3.7
	South	R2	22.9	22.5	1181.8#	35.8#	3.9	3.9	0.2

ALL VEHICLES:			22.8	22.1	847.9#	26.1#	272.1	272.1	12.3

"Running Speed" is the average speed excluding stopped periods.									
Travel Time values include cruise times and intersection delays including acceleration, deceleration and idling delays.									
# Travel Distance and Travel Time values include travel on the External Exit section based on the Exit Distance or user-specified Downstream Distance value as applicable.									
INTERSECTION NEGOTIATION DATA									

From	To		Negn	Negn	Negn	App	Exit	Downstr	
Approach	Exit	Turn	Radius	Speed	Dist	Dist	Dist	Dist	
			ft	mph	ft	ft	ft	ft	

South: Filbert Street									
	West	L2	41.0	13.6	161.0	450	192	NA	
	North	T1	135.4	21.5	95.8	450	18	NA	
	East	R2	81.7	17.7	38.6	450	122	NA	

East: Main Street									
	South	L2	41.0	13.6	161.0	400	137	NA	
	West	T1	135.4	21.5	95.8	400	192	NA	
	North	R2	81.7	17.7	38.6	400	18	NA	

North: Filbert Street									
	East	L2	41.0	13.6	161.0	60	122	NA	
	South	T1	135.4	21.5	95.8	60	137	NA	
	West	R2	81.7	17.7	38.6	60	192	NA	

West: Main Street									
	North	L2	41.0	13.6	161.0	630	18	NA	
	East	T1	135.4	21.5	95.8	630	122	NA	
	South	R2	81.7	17.7	38.6	630	137	NA	

Maximum Negotiation (Design) Speed = 30.0 mph									
NA Downstream Distance does not apply if:									
- Exit is an internal leg of a network									
- "Program" option was specified									
- Distance specified was less than the Exit Negotiation Distance									
- Distance specified was greater than the exit leg length									
MOVEMENT SPEEDS AND GEOMETRIC DELAY									

		App. Speeds		Exit Speeds		Queue			
		-----		-----		Move-up			
Mov	Turn	Cruise	Negn	Negn	Cruise	Speed	Geom		
ID		mph	mph	mph	mph	mph	Delay		
							sec		

South: Filbert Street									
3	L2	25.0	13.6	13.6	25.0	19.0	5.5		
8	T1	25.0	21.5	21.5	25.0	19.0	1.0		
18	R2	25.0	17.7	17.7	25.0	19.0	1.6		

East: Main Street									
1	L2	35.0	13.6	13.6	35.0	31.9	8.2		
6	T1	35.0	21.5	21.5	35.0	31.9	3.3		
16	R2	35.0	17.7	17.7	35.0	31.9	3.4		

North: Filbert Street									
7	L2	25.0	13.6	13.6	25.0	23.2	4.4		
4	T1	25.0	21.5	21.5	25.0	23.2	0.7		
14	R2	25.0	17.7	17.7	25.0	23.2	0.9		

West: Main Street									
5	L2	30.0	13.6	13.6	30.0	22.5	7.0		
2	T1	30.0	21.5	21.5	30.0	22.5	2.2		
12	R2	30.0	17.7	17.7	30.0	22.5	2.6		

[Go to Table Links \(Top\)](#)

Movement Capacity and Performance Parameters
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

MOVEMENT CAPACITY PARAMETERS

Mov ID	Turn	Mov Cl.	Arv Flow veh/h	Opng Flow veh/h	Movement Adjust. Flow pcu/h	Total Cap. veh/h	Prac. Deg. Satn xp	Prac. Spare Cap. %	Deg. Satn x
South: Filbert Street									
3	L2	#	18	889	907	118	0.85	444	0.156
8	T1	#	53	889	907	341	0.85	444	0.156
18	R2	#	11	889	907	70	0.85	444	0.156
East: Main Street									
1	L2	#	2	132	134	4	0.85	61	0.527
6	T1	#	330	132	134	627	0.85	61	0.527
16	R2	#	258	132	134	489	0.85	61	0.527
North: Filbert Street									
7	L2	#	424	351	358	647	0.85	30	0.655*
4	T1	#	38	351	358	58	0.85	30	0.655*
14	R2	#	77	351	358	118	0.85	30	0.655*
West: Main Street									
5	L2	#	60	464	473	98	0.85	40	0.608
2	T1	#	405	464	473	667	0.85	40	0.608
12	R2	#	17	464	473	29	0.85	40	0.608

* Maximum degree of saturation
Combined Movement Capacity parameters are shown for all Movement Classes.

MOVEMENT PERFORMANCE

Mov ID	Turn	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Eff. Stop Rate	Total Stops	Perf. Index	Tot.Trav. Distance (veh-mi/h)	Tot.Trav. Time (veh-h/h)	Aver. Speed (mph)
South: Filbert Street										
3	L2	0.07	0.08	12.7	0.80	14.8	1.11	4.1	0.2	21.2
8	T1	0.12	0.15	8.2	0.80	42.7	1.40	6.2	0.5	13.1
18	R2	0.03	0.03	8.8	0.80	8.7	0.95	2.0	0.1	18.8
East: Main Street										
1	L2	0.01	0.01	9.5	0.52	1.1	3.59	0.4	0.0	27.4
6	T1	0.42	0.51	4.6	0.52	170.5	6.91	68.9	2.4	28.3
16	R2	0.34	0.41	4.7	0.52	133.0	5.39	25.9	1.3	20.4
North: Filbert Street										
7	L2	1.12	1.34	9.5	0.90	381.4	9.99	48.1	2.5	18.9
4	T1	0.06	0.07	5.7	0.90	34.2	5.26	4.7	0.3	18.5
14	R2	0.13	0.15	6.0	0.90	69.4	5.83	12.1	0.7	18.4
West: Main Street										
5	L2	0.22	0.26	13.1	0.92	55.1	5.61	9.0	0.5	19.0
2	T1	0.94	1.12	8.3	0.92	373.6	10.70	86.9	3.7	23.4
12	R2	0.04	0.05	8.7	0.92	16.0	5.05	3.9	0.2	22.5

[Go to Table Links \(Top\)](#)

Fuel Consumption, Emissions and Cost
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

FUEL CONSUMPTION, EMISSIONS AND COST (TOTAL)

Mov ID	Turn	Cost Total \$/h	Fuel Total gal/h	CO2 Total kg/h	CO Total kg/h	HC Total kg/h	NOX Total kg/h
South: Filbert Street							
3	L2	2.63	0.2	1.7	0.00	0.000	0.002
8	T1	7.21	0.4	3.3	0.00	0.000	0.004
18	R2	1.52	0.1	0.9	0.00	0.000	0.001
		11.35	0.7	5.8	0.00	0.001	0.006
East: Main Street							
1	L2	0.23	0.0	0.2	0.00	0.000	0.000
6	T1	35.75	3.1	28.0	0.03	0.002	0.035
16	R2	26.49	1.7	15.3	0.01	0.001	0.022
		62.47	4.9	43.5	0.04	0.004	0.056
North: Filbert Street							
7	L2	54.80	3.9	34.7	0.02	0.003	0.040
4	T1	4.94	0.4	3.2	0.00	0.000	0.004
14	R2	10.20	0.8	7.2	0.00	0.001	0.008
		69.94	5.0	45.1	0.03	0.004	0.052
West: Main Street							
5	L2	9.11	0.5	4.8	0.00	0.000	0.007
2	T1	63.25	4.3	38.8	0.03	0.003	0.049
12	R2	2.72	0.2	1.7	0.00	0.000	0.002
		75.08	5.1	45.2	0.04	0.004	0.058
INTERSECTION:		218.84	15.6	139.6	0.11	0.012	0.173
FUEL CONSUMPTION, EMISSIONS AND COST (RATE)							
Mov ID	Turn	Cost Rate \$/mi	Fuel Eff. mpg	CO2 Rate g/km	CO Rate g/km	HC Rate g/km	NOX Rate g/km
South: Filbert Street							
3	L2	0.64	22.3	249.7	0.16	0.021	0.254
8	T1	1.17	16.6	333.4	0.24	0.031	0.370
18	R2	0.77	20.5	271.4	0.18	0.023	0.284
		0.92	18.8	295.3	0.20	0.026	0.317
East: Main Street							
1	L2	0.61	20.3	273.3	0.26	0.025	0.349
6	T1	0.52	22.0	252.4	0.24	0.022	0.312
16	R2	1.02	15.1	367.1	0.34	0.036	0.518
		0.66	19.6	283.7	0.27	0.026	0.368
North: Filbert Street							
7	L2	1.14	12.4	448.4	0.32	0.041	0.521
4	T1	1.06	13.0	426.2	0.30	0.039	0.490
14	R2	0.84	15.1	368.3	0.25	0.032	0.412
		1.08	12.9	431.8	0.31	0.039	0.498
West: Main Street							
5	L2	1.02	16.7	331.9	0.28	0.030	0.451
2	T1	0.73	20.0	277.1	0.22	0.024	0.352
12	R2	0.70	20.4	271.7	0.22	0.023	0.343
		0.75	19.7	281.8	0.23	0.024	0.361
INTERSECTION:		0.80	17.4	318.8	0.26	0.028	0.394

[Go to Table Links \(Top\)](#)

Lanes

Lane Performance and Capacity Information
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

LANE PERFORMANCE

Lane No.	Flow veh/h	Cap veh/h	Deg. Satn x	Aver. Delay sec	Eff. Stop Rate	Q u e u e		Lane Length ft
						95% Back		
						veh	ft	
South: Filbert Street								
1	83	529	0.156	9.3	0.80	1.0	25.1	450.0
East: Main Street								
1	590	1121	0.527	4.7	0.52	4.4	112.7	400.0
North: Filbert Street								
1	539	823	0.655	8.7	0.90	6.0	152.4	60.0
West: Main Street								
1	483	794	0.608	8.9	0.92	5.9	151.1	630.0

LANE FLOW AND CAPACITY INFORMATION

Lane No.	Total Arv Flow veh/h	Min Cap veh/h	Tot Cap veh/h	Deg. Satn x	Lane Util %
South: Filbert Street					
1	83	83	529	0.156	100
East: Main Street					
1	590	150	1121	0.527	100
North: Filbert Street					
1	539	150	823	0.655	100
West: Main Street					
1	483	150	794	0.608	100

The capacity values of Continuous Lanes are obtained by adjusting the basic saturation flow for lane width, grade, movement class and turning vehicle effects. Saturation flow scale applies if specified.

[Go to Table Links \(Top\)](#)

Lane, Approach and Intersection Performance
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

Lane No.	Arrival Flow (veh/h)	%HV	Adj. Basic Satf.	Deg Sat x	Aver. Delay sec	Longest Queue ft	Lane Length ft
South: Filbert Street							
1	83	2		0.156	9.3	25	450
	83	2		0.156	9.3	25	
East: Main Street							
1	590	2		0.527	4.7	113	400
	590	2		0.527	4.7	113	
North: Filbert Street							
1	539	2		0.655	8.7	152	60

	539	2	0.655	8.7	152	

West: Main Street						
1	483	2	0.608	8.9	151	630

	483	2	0.608	8.9	151	
=====						
ALL VEHICLES						
	Total	%	Max	Aver.	Max	
	Flow	HV	X	Delay	Queue	
	1695	2	0.655	7.4	152	
=====						
Peak flow period = 15 minutes.						
Queue values in this table are 95% queue (feet)						
Note: Basic Saturation Flows at roundabouts or sign-controlled intersections apply only to continuous lanes.						

[Go to Table Links \(Top\)](#)

Driver Characteristics
Site: Main St._Filbert St._PM

Site ID: 101 Roundabout						

Lane No.	Satn Speed mph	Satn Flow veh/h	Satn Hdwy sec	Satn Spacing ft	Average Queue Space ft	Driver Response Time sec

South: Filbert Street						
1	19.2	1474	2.44	68.84	25.40	1.54

East: Main Street						
1	19.8	1315	2.74	79.49	25.40	1.86

North: Filbert Street						
1	14.8	1192	3.02	65.44	25.40	1.85

West: Main Street						
1	20.4	1381	2.61	77.85	25.40	1.76

Saturation Flow and Saturation Headway are derived from follow-up headway.						

[Go to Table Links \(Top\)](#)

Lane Delays
Site: Main St._Filbert St._PM

Site ID: 101 Roundabout													
LANE DELAYS													

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Delay (seconds/veh)									
				Min Del dm	Stop-line 1st d1	2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic

South: Filbert Street													
1	0.156	NA	NA	5.8	7.2	0.0	7.2	3.9	3.3	0.0	3.3	2.1	9.3

East: Main Street													
1	0.527	NA	NA	0.6	1.3	0.0	1.3	2.5	0.0	0.0	0.0	3.4	4.7

North: Filbert Street													
1	0.655	NA	NA	1.5	3.4	1.6	5.1	2.0	3.1	0.9	2.2	3.6	8.7

West: Main Street													
1	0.608	NA	NA	2.2	4.2	1.9	6.1	4.4	1.7	1.1	0.6	2.8	8.9

SIDRA Standard Delay Model is used. Control Delay is the sum of Stop-line Delay and Geometric Delay.													

dm: Minimum delay for gap acceptance cases
dSl: Stop-line delay (=d1+d2)
dn: Average stop-start delay for all vehicles queued and unqueued
dq: Queuing delay (the part of the stop-line delay that includes
stopped delay and queue move-up delay)
dqm: Queue move-up delay
di: Stopped delay (stopped (idling) time at near-zero speed)
dig: Geometric delay
dic: Control delay

[Go to Table Links \(Top\)](#)

Lane Queues
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

BACK OF QUEUE (VEHICLES)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (veh)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %		
	x						Nb1	Nb2	Nb	95%			Av.	95%
South: Filbert Street														
1	0.156	NA	NA	0.0	0.4	0.0	0.4	1.0	0.02	0.06	0.0	NA		
East: Main Street														
1	0.527	NA	NA	0.0	1.8	0.0	1.8	4.4	0.11	0.28	0.0	NA		
North: Filbert Street														
1	0.655	NA	NA	0.3	1.9	0.5	2.4	6.0	1.02	2.54	52.6	NA		
West: Main Street														
1	0.608	NA	NA	0.3	2.0	0.4	2.4	5.9	0.10	0.24	0.0	NA		

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

BACK OF QUEUE (DISTANCE)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (ft)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
	x				Nb1	Nb2	Nb	95%	Av.	95%		
South: Filbert Street												
1	0.156	NA	NA	0.0	10.1	0.0	10.1	25.1	0.02	0.06	0.0	NA
East: Main Street												
1	0.527	NA	NA	0.0	45.3	0.0	45.3	112.7	0.11	0.28	0.0	NA
North: Filbert Street												
1	0.655	NA	NA	7.7	49.5	11.8	61.3	152.4	1.02	2.54	52.6	NA
West: Main Street												
1	0.608	NA	NA	7.7	50.3	10.4	60.8	151.1	0.10	0.24	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

OTHER QUEUE RESULTS (VEHICLES)

	Deg.	% Arv	Prog.	Ovrfl.	Cyc-Av.	Queue
Lane	Satn	During	Factor	Queue		
No.	x	Green		No	Nc	95%
South: Filbert Street						
1	0.156	NA	NA	0.0	0.2	0.3
East: Main Street						
1	0.527	NA	NA	0.0	0.2	0.4
North: Filbert Street						

1	0.655	NA	NA	0.3	0.8	1.4

West: Main Street						
1	0.608	NA	NA	0.3	0.8	1.5

OTHER QUEUE RESULTS (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Nc	Queue 95%

South: Filbert Street						
1	0.156	NA	NA	0.0	4.2	7.6

East: Main Street						
1	0.527	NA	NA	0.0	5.4	9.8

North: Filbert Street						
1	0.655	NA	NA	7.7	19.4	35.1

West: Main Street						
1	0.608	NA	NA	7.7	20.7	37.6

[Go to Table Links \(Top\)](#)

Lane Queue Percentiles
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

LANE QUEUE PERCENTILES (VEHICLES)

Lane No.	Deg. Satn x	Percentile Back of Queue (veh)						
		50%	70%	85%	90%	95%	98%	100%

South: Filbert Street								
1	0.156	0.4	0.5	0.7	0.8	1.0	1.1	1.2

East: Main Street								
1	0.527	1.8	2.3	3.3	3.8	4.4	4.9	5.3

North: Filbert Street								
1	0.655	2.4	3.1	4.4	5.1	6.0	6.7	7.2

West: Main Street								
1	0.608	2.4	3.1	4.4	5.1	5.9	6.6	7.1

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

LANE QUEUE PERCENTILES (DISTANCE)

Lane No.	Deg. Satn x	Percentile Back of Queue (feet)						
		50%	70%	85%	90%	95%	98%	100%

South: Filbert Street								
1	0.156	10.1	13.1	18.4	21.3	25.1	27.8	29.9

East: Main Street								
1	0.527	45.3	58.7	82.8	95.8	112.7	125.1	134.4

North: Filbert Street								
1	0.655	61.3	79.4	111.9	129.6	152.4	169.1	181.8

West: Main Street								
1	0.608	60.8	78.7	110.9	128.5	151.1	167.7	180.2

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

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Lane Stops
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	-- Effective		Stop Geom.	Rate -- Overall	Total Stops	Queue Move-up Rate	Total Queue Move-ups	Prop. Queued	Aver. Num. of Cycles to Depart
	x			he1	he2	hig	h	H	hqm	Hqm	pq	
South: Filbert Street												
1	0.156	NA	NA	0.75	0.00	0.05	0.80	66.3	0.00	0.0	0.83	0.83
East: Main Street												
1	0.527	NA	NA	0.31	0.00	0.20	0.52	304.6	0.00	0.0	0.51	0.51
North: Filbert Street												
1	0.655	NA	NA	0.68	0.09	0.13	0.90	485.0	0.14	77.4	0.76	0.90
West: Main Street												
1	0.608	NA	NA	0.79	0.09	0.05	0.92	444.7	0.16	79.2	0.87	1.03
hig is the average value for all movements in a shared lane												
hqm is average queue move-up rate for all vehicles queued and unqueued												

[Go to Table Links \(Top\)](#)

Flow Rates

Origin-Destination Flow Rates (Total)
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

TOTAL FLOW RATES for All Movement Classes (veh/h)

From SOUTH To:		W	N	E	
Turn:		L2	T1	R2	TOT
Flow Rate		18.5	53.3	10.9	82.6
%HV (all designations)		2.0	2.0	2.0	2.0
From EAST To:		S	W	N	
Turn:		L2	T1	R2	TOT
Flow Rate		2.2	330.4	257.6	590.2
%HV (all designations)		2.0	2.0	2.0	2.0
From NORTH To:		E	S	W	
Turn:		L2	T1	R2	TOT
Flow Rate		423.9	38.0	77.2	539.1
%HV (all designations)		2.0	2.0	2.0	2.0
From WEST To:		N	E	S	
Turn:		L2	T1	R2	TOT
Flow Rate		59.8	405.4	17.4	482.6
%HV (all designations)		2.0	2.0	2.0	2.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:
Unit Time for Volumes = 60 minutes
Peak Flow Period = 15 minutes
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Origin-Destination Flow Rates by Movement Class
 Site: Main St._Filbert St._PM

Site ID: 101
 Roundabout

FLOW RATES for Light Vehicles (veh/h)

From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	18.1	52.2	10.7	81.0
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Flow Rate	2.1	323.8	252.5	578.4
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Flow Rate	415.4	37.3	75.6	528.3
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT
Flow Rate	58.6	397.3	17.0	473.0
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

FLOW RATES for Heavy Vehicles (veh/h)

From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	0.4	1.1	0.2	1.7
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Flow Rate	0.0	6.6	5.2	11.8
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Flow Rate	8.5	0.8	1.5	10.8
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT

Flow Rate	1.2	8.1	0.3	9.7
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:
Unit Time for Volumes = 60 minutes
Peak Flow Period = 15 minutes
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

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Lane Flow Rates
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

LANE FLOW RATES AT STOP LINE (veh/h)

From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Lane 1				
LV	18.1	52.2	10.7	81.0
HV	0.4	1.1	0.2	1.7
Total	18.5	53.3	10.9	82.6
Approach	18.5	53.3	10.9	82.6
From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Lane 1				
LV	2.1	323.8	252.5	578.4
HV	0.0	6.6	5.2	11.8
Total	2.2	330.4	257.6	590.2
Approach	2.2	330.4	257.6	590.2
From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Lane 1				
LV	415.4	37.3	75.6	528.3
HV	8.5	0.8	1.5	10.8
Total	423.9	38.0	77.2	539.1
Approach	423.9	38.0	77.2	539.1
From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT
Lane 1				
LV	58.6	397.3	17.0	473.0
HV	1.2	8.1	0.3	9.7
Total	59.8	405.4	17.4	482.6
Approach	59.8	405.4	17.4	482.6

EXIT LANE FLOW RATES

Movement Class:	LV	HV	TOT
Exit: SOUTH			
Lane: 1	56.5	1.2	57.6
Total	56.5	1.2	57.6
Exit: EAST			
Lane: 1	823.4	16.8	840.2

Total	823.4	16.8	840.2

Exit: NORTH			
Lane: 1	363.2	7.4	370.7
Total	363.2	7.4	370.7

Exit: WEST			
Lane: 1	417.6	8.5	426.1
Total	417.6	8.5	426.1

DOWNSTREAM LANE FLOW RATES FOR EXIT ROADS

Movement Class:	LV	HV	TOT

Exit: SOUTH			
Lane: 1	56.5	1.2	57.6
Total	56.5	1.2	57.6

Exit: EAST			
Lane: 1	823.4	16.8	840.2
Total	823.4	16.8	840.2

Exit: NORTH			
Lane: 1	363.2	7.4	370.7
Total	363.2	7.4	370.7

Exit: WEST			
Lane: 1	417.6	8.5	426.1
Total	417.6	8.5	426.1

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:
Unit Time for Volumes = 60 minutes
Peak Flow Period = 15 minutes
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Other

Parameter Settings Summary
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

* Basic Parameters:
Intersection Type: Roundabout
Driving on the right-hand side of the road
Input data specified in US units
Model Defaults: US HCM (Customary)
Peak Flow Period (for performance): 15 minutes
Unit time (for volumes): 60 minutes.
SIDRA Standard Delay model used
HCM Queue Model option used
Level of Service based on: Delay and v/c (HCM 6)
Queue percentile: 95%

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Diagnostics
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

Lane Flow-Capacity Iterations:

Site Model Variability Index (Iterations 3 to N): 3.1%
Number of Iterations: 7 (Maximum: 10)

Largest change in Lane Degrees of Saturation for the last three Flow-Capacity Iterations:
2.5% 1.3% 0.6%

Other Diagnostic Messages (if any):

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Tuesday, November 26, 2024 11:12:12 AM

Project: J:\JURISDICTION\S\Stockton\011-101 Main St Complete Streets\Analysis\Sidra\Project_v2.sip8

MOVEMENT SUMMARY

 Site: 101 [Main St._Filbert St._PM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Filbert Street												
3	L2	18	2.0	0.156	12.7	LOS B	1.0	25.1	0.83	0.80	0.83	21.2
8	T1	53	2.0	0.156	8.2	LOS A	1.0	25.1	0.83	0.80	0.83	13.1
18	R2	11	2.0	0.156	8.8	LOS A	1.0	25.1	0.83	0.80	0.83	18.8
Approach		83	2.0	0.156	9.3	LOS A	1.0	25.1	0.83	0.80	0.83	15.9
East: Main Street												
1	L2	2	2.0	0.527	9.5	LOS A	4.4	112.7	0.51	0.52	0.51	27.4
6	T1	330	2.0	0.527	4.6	LOS A	4.4	112.7	0.51	0.52	0.51	28.3
16	R2	258	2.0	0.527	4.7	LOS A	4.4	112.7	0.51	0.52	0.51	20.4
Approach		590	2.0	0.527	4.7	LOS A	4.4	112.7	0.51	0.52	0.51	25.6
North: Filbert Street												
7	L2	424	2.0	0.655	9.5	LOS A	6.0	152.4	0.76	0.90	0.90	18.9
4	T1	38	2.0	0.655	5.7	LOS A	6.0	152.4	0.76	0.90	0.90	18.5
14	R2	77	2.0	0.655	6.0	LOS A	6.0	152.4	0.76	0.90	0.90	18.4
Approach		539	2.0	0.655	8.7	LOS A	6.0	152.4	0.76	0.90	0.90	18.8
West: Main Street												
5	L2	60	2.0	0.608	13.1	LOS B	5.9	151.1	0.87	0.92	1.03	19.0
2	T1	405	2.0	0.608	8.3	LOS A	5.9	151.1	0.87	0.92	1.03	23.4
12	R2	17	2.0	0.608	8.7	LOS A	5.9	151.1	0.87	0.92	1.03	22.5
Approach		483	2.0	0.608	8.9	LOS A	5.9	151.1	0.87	0.92	1.03	22.9
All Vehicles		1695	2.0	0.655	7.4	LOS A	6.0	152.4	0.71	0.77	0.80	22.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Tuesday, November 26, 2024 11:12:12 AM

Project: J:\JURISDICTION\Stockton\011-101 Main St Complete Streets\Analysis\Sidra\Project_v2.sip8

HCM Signalized Intersection Capacity Analysis

2: S San Joaquin Street/N San Joaquin Street & Main Street

Background Conditions
Timing Plan: AM Peak Hour
















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	13	48	28	55	175	0	0	119	117
Future Volume (vph)	0	0	0	13	48	28	55	175	0	0	119	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			0.95			0.95	
Frpb, ped/bikes					0.95			1.00			0.98	
Flpb, ped/bikes					0.97			0.99			1.00	
Frt					0.95			1.00			0.92	
Flt Protected					0.99			0.98			1.00	
Satd. Flow (prot)					3115			3481			3211	
Flt Permitted					0.99			0.83			1.00	
Satd. Flow (perm)					3115			2927			3211	
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)	0	0	0	14	52	30	60	190	0	0	129	127
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	96	0	0	250	0	0	256	0
Confl. Peds. (#/hr)				45		31	39					39
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					5.0			29.0			29.0	
Effective Green, g (s)					5.0			29.0			29.0	
Actuated g/C Ratio					0.07			0.41			0.41	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					222			1212			1330	
v/s Ratio Prot											0.08	
v/s Ratio Perm					0.03			c0.09				
v/c Ratio					0.43			0.20			0.19	
Uniform Delay, d1					31.1			13.1			13.0	
Progression Factor					1.14			0.81			1.00	
Incremental Delay, d2					0.4			0.3			0.3	
Delay (s)					36.0			11.1			13.3	
Level of Service					D			B			B	
Approach Delay (s/veh)		0.0			36.0			11.1			13.3	
Approach LOS		A			D			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			16.1									
HCM 2000 Volume to Capacity ratio			0.14									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			31.1%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: S Sutter Street/N Sutter Street & Main Street

Background Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	9	53	6	20	64	0	0	94	24
Future Volume (vph)	0	0	0	9	53	6	20	64	0	0	94	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			1.00			0.95	
Frpb, ped/bikes					0.99			1.00			0.98	
Flpb, ped/bikes					0.99			0.98			1.00	
Frt					0.98			1.00			0.96	
Flt Protected					0.99			0.98			1.00	
Satd. Flow (prot)					3434			1814			3372	
Flt Permitted					0.99			0.91			1.00	
Satd. Flow (perm)					3434			1679			3372	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	11	65	7	24	78	0	0	115	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	83	0	0	102	0	0	144	0
Confl. Peds. (#/hr)				36		13	69					69
Confl. Bikes (#/hr)												1
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			4			4	
Permitted Phases				2			4					
Actuated Green, G (s)					15.0			19.0			19.0	
Effective Green, g (s)					15.0			19.0			19.0	
Actuated g/C Ratio					0.21			0.27			0.27	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					735			455			915	
v/s Ratio Prot											0.04	
v/s Ratio Perm					0.02			c0.06				
v/c Ratio					0.11			0.22			0.15	
Uniform Delay, d1					22.1			19.7			19.4	
Progression Factor					0.54			0.70			1.00	
Incremental Delay, d2					0.3			1.1			0.3	
Delay (s)					12.3			15.0			19.7	
Level of Service					B			B			B	
Approach Delay (s/veh)		0.0			12.3			15.0			19.7	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			16.4		HCM 2000 Level of Service					B		
HCM 2000 Volume to Capacity ratio			0.10									
Actuated Cycle Length (s)			70.0		Sum of lost time (s)					13.0		
Intersection Capacity Utilization			22.8%		ICU Level of Service					A		
Analysis Period (min)			15									
c Critical Lane Group												

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

4: California Street & Main Street

Background Conditions

Timing Plan: AM Peak Hour


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔↔↔			↔↔↔			↔↔↔	
Traffic Volume (vph)	0	0	0	63	49	34	13	251	0	0	208	11
Future Volume (vph)	0	0	0	63	49	34	13	251	0	0	208	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			0.95			0.95	
Frpb, ped/bikes					0.99			1.00			0.99	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.96			1.00			0.99	
Flt Protected					0.97			0.99			1.00	
Satd. Flow (prot)					3315			3530			3509	
Flt Permitted					0.97			0.93			1.00	
Satd. Flow (perm)					3315			3303			3509	
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)	0	0	0	73	57	40	15	292	0	0	242	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	170	0	0	307	0	0	255	0
Confl. Peds. (#/hr)				7		4	5					5
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					15.0			19.0			19.0	
Effective Green, g (s)					15.0			19.0			19.0	
Actuated g/C Ratio					0.21			0.27			0.27	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					710			896			952	
v/s Ratio Prot											0.07	
v/s Ratio Perm					0.05			0.09				
v/c Ratio					0.23			0.34			0.26	
Uniform Delay, d1					22.7			20.4			20.0	
Progression Factor					1.56			0.77			1.00	
Incremental Delay, d2					0.6			1.0			0.6	
Delay (s)					36.3			16.8			20.7	
Level of Service					D			B			C	
Approach Delay (s/veh)		0.0			36.3			16.8			20.7	
Approach LOS		A			D			B			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			22.7									
HCM 2000 Volume to Capacity ratio			0.18									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			29.3%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: S American Street/N American Street & Main Street

Background Conditions

Timing Plan: AM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔↔↔			↔			↔	↔
Traffic Volume (vph)	0	0	0	82	110	24	16	18	0	0	31	20
Future Volume (vph)	0	0	0	82	110	24	16	18	0	0	31	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	5.0
Lane Util. Factor					0.95			1.00			1.00	1.00
Frpb, ped/bikes					0.99			1.00			1.00	0.97
Flpb, ped/bikes					0.88			0.99			1.00	1.00
Frt					0.98			1.00			1.00	0.85
Flt Protected					0.98			0.97			1.00	1.00
Satd. Flow (prot)					3013			1812			1863	1549
Flt Permitted					0.98			0.88			1.00	1.00
Satd. Flow (perm)					3013			1643			1863	1549
Peak-hour factor, PHF	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
Adj. Flow (vph)	0	0	0	139	186	41	27	31	0	0	53	34
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	366	0	0	58	0	0	53	34
Confl. Peds. (#/hr)				96		2	11					11
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			4			4	
Permitted Phases				2			4					4
Actuated Green, G (s)					11.0			23.0			23.0	23.0
Effective Green, g (s)					11.0			23.0			23.0	23.0
Actuated g/C Ratio					0.16			0.33			0.33	0.33
Clearance Time (s)					5.0			5.0			5.0	5.0
Vehicle Extension (s)					0.2			0.2			0.2	0.2
Lane Grp Cap (vph)					473			539			612	508
v/s Ratio Prot											0.03	
v/s Ratio Perm					0.12			0.04				0.02
v/c Ratio					0.77			0.10			0.08	0.06
Uniform Delay, d1					28.3			16.3			16.2	16.1
Progression Factor					1.00			0.51			1.00	1.00
Incremental Delay, d2					11.5			0.3			0.2	0.2
Delay (s)					39.8			8.8			16.5	16.3
Level of Service					D			A			B	B
Approach Delay (s/veh)		0.0			39.8			8.8			16.4	
Approach LOS		A			D			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			32.4									
HCM 2000 Volume to Capacity ratio			0.19									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			25.4%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: S Stanislaus Street/N Stanislaus Street & Main Street

Background Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕↕			↕↕			↕↕	
Traffic Volume (vph)	0	0	0	46	101	5	86	427	0	0	209	15
Future Volume (vph)	0	0	0	46	101	5	86	427	0	0	209	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			0.95			0.95	
Frpb, ped/bikes					0.99			1.00			0.99	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.99			1.00			0.98	
Flt Protected					0.98			0.99			1.00	
Satd. Flow (prot)					3461			3506			3498	
Flt Permitted					0.98			0.82			1.00	
Satd. Flow (perm)					3461			2908			3498	
Peak-hour factor, PHF	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Adj. Flow (vph)	0	0	0	64	140	7	119	593	0	0	290	21
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	0	0	0	208	0	0	712	0	0	304	0
Confl. Peds. (#/hr)				5		2	7					7
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					1			2			2	
Permitted Phases				1			2					
Actuated Green, G (s)					25.0			35.0			35.0	
Effective Green, g (s)					25.0			35.0			35.0	
Actuated g/C Ratio					0.36			0.50			0.50	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					1236			1454			1749	
v/s Ratio Prot											0.09	
v/s Ratio Perm					0.06			c0.24				
v/c Ratio					0.16			0.48			0.17	
Uniform Delay, d1					15.3			11.5			9.5	
Progression Factor					1.00			0.76			1.00	
Incremental Delay, d2					0.2			1.0			0.2	
Delay (s)					15.6			9.9			9.7	
Level of Service					B			A			A	
Approach Delay (s/veh)		0.0			15.6			9.9			9.7	
Approach LOS		A			B			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			10.9									
HCM 2000 Volume to Capacity ratio			0.36									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			55.1%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
7: S Grant Street/N Grant Street & Main Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					AP			A			P	
Traffic Vol, veh/h	0	0	0	6	130	7	9	43	0	0	16	16
Future Vol, veh/h	0	0	0	6	130	7	9	43	0	0	16	16
Conflicting Peds, #/hr	0	0	0	2	0	5	4	0	0	0	0	4
Sign Control	Stop	Stop	Stop	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	65	65	65	65	65	65	65	65	65	65	65	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	9	200	11	14	66	0	0	25	25

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	2	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1619	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1616	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	0.3	11.1	10
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	672	1616	-	-	765
HCM Lane V/C Ratio	0.119	0.006	-	-	0.064
HCM Control Delay (s/veh)	11.1	7.2	0	-	10
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.4	0	-	-	0.2

HCM 6th TWSC
8: S Aurora Street/N Aurora Street & Main Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	6.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					EB			E			B	
Traffic Vol, veh/h	0	0	0	9	126	4	24	103	0	0	34	6
Future Vol, veh/h	0	0	0	9	126	4	24	103	0	0	34	6
Conflicting Peds, #/hr	0	0	0	1	0	4	2	0	0	0	0	2
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	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	12	173	5	33	141	0	0	47	8

Major/Minor	Major2		Minor1		Minor2	
Conflicting Flow All	1	0	0	137	207	-
Stage 1	-	-	-	1	1	-
Stage 2	-	-	-	136	206	-
Critical Hdwy	4.14	-	-	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-
Pot Cap-1 Maneuver	1620	-	-	820	689	0
Stage 1	-	-	-	-	-	0
Stage 2	-	-	-	853	730	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1618	-	-	765	680	-
Mov Cap-2 Maneuver	-	-	-	765	680	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	785	721	-




Approach	WB	NB	SB
HCM Control Delay, s/v	0.5	11.9	10.5
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	695	1618	-	-	710
HCM Lane V/C Ratio	0.25	0.008	-	-	0.077
HCM Control Delay (s/veh)	11.9	7.2	0	-	10.5
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	1	0	-	-	0.3

HCM 6th AWSC
9: Union Street & Main Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Intersection Delay, s/veh	8.2											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	12	119	14	9	90	0	0	66	9
Future Vol, veh/h	0	0	0	12	119	14	9	90	0	0	66	9
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	14	138	16	10	105	0	0	77	10
Number of Lanes	0	0	0	0	2	0	0	1	0	0	1	0

Approach	WB			NB			SB		
Opposing Approach				SB			NB		
Opposing Lanes	0			1			1		
Conflicting Approach Left	NB						WB		
Conflicting Lanes Left	1			0			2		
Conflicting Approach Right	SB			WB					
Conflicting Lanes Right	1			2			0		
HCM Control Delay, s/veh	8.3			8.2			8		
HCM LOS	A			A			A		

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	9%	17%	0%	0%
Vol Thru, %	91%	83%	81%	88%
Vol Right, %	0%	0%	19%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	99	72	74	75
LT Vol	9	12	0	0
Through Vol	90	60	60	66
RT Vol	0	0	14	9
Lane Flow Rate	115	83	85	87
Geometry Grp	2	5	5	2
Degree of Util (X)	0.143	0.117	0.115	0.107
Departure Headway (Hd)	4.467	5.082	4.864	4.409
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	806	708	739	815
Service Time	2.478	2.799	2.58	2.421
HCM Lane V/C Ratio	0.143	0.117	0.115	0.107
HCM Control Delay, s/veh	8.2	8.5	8.2	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.4	0.4	0.4

HCM 6th TWSC
10: Pilgrim Street & Main Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					EB			E			B	
Traffic Vol, veh/h	0	0	0	9	145	5	3	7	0	0	11	0
Future Vol, veh/h	0	0	0	9	145	5	3	7	0	0	11	0
Conflicting Peds, #/hr	0	0	0	4	0	4	3	0	0	0	0	3
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	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	13	207	7	4	10	0	0	16	0

Major/Minor	Major2		Minor1		Minor2	
Conflicting Flow All	4	0	0	145	248	-
Stage 1	-	-	-	4	4	-
Stage 2	-	-	-	141	244	-
Critical Hdwy	4.14	-	-	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-
Pot Cap-1 Maneuver	1616	-	-	810	653	0
Stage 1	-	-	-	-	-	0
Stage 2	-	-	-	847	703	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1610	-	-	787	642	-
Mov Cap-2 Maneuver	-	-	-	787	642	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	820	694	-

Approach	WB	NB	SB
HCM Control Delay, s/v	0.4	10.4	10.7
HCM LOS		B	B















Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	680	1610	-	-	645
HCM Lane V/C Ratio	0.021	0.008	-	-	0.024
HCM Control Delay (s/veh)	10.4	7.3	0	-	10.7
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1

HCM 6th Signalized Intersection Summary

11: Airport Way & Main Street

Background Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	35	126	64	18	788	0	0	662	15
Future Volume (veh/h)	0	0	0	35	126	64	18	788	0	0	662	15
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.98	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
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				38	135	69	19	847	0	0	712	16
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				61	219	115	69	2637	0	0	2759	62
Arrive On Green				0.04	0.04	0.04	1.00	1.00	0.00	0.00	0.78	0.78
Sat Flow, veh/h				541	1946	1020	36	3481	0	0	3646	80
Grp Volume(v), veh/h				129	0	113	458	408	0	0	356	372
Grp Sat Flow(s),veh/h/ln				1843	0	1664	1814	1617	0	0	1777	1856
Q Serve(g_s), s				6.2	0.0	6.0	0.0	0.0	0.0	0.0	5.0	5.0
Cycle Q Clear(g_c), s				6.2	0.0	6.0	0.0	0.0	0.0	0.0	5.0	5.0
Prop In Lane				0.29		0.61	0.04		0.00	0.00		0.04
Lane Grp Cap(c), veh/h				207	0	187	1451	1256	0	0	1380	1441
V/C Ratio(X)				0.63	0.00	0.60	0.32	0.32	0.00	0.00	0.26	0.26
Avail Cap(c_a), veh/h				451	0	407	1451	1256	0	0	1380	1441
HCM Platoon Ratio				0.33	0.33	0.33	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.95	0.95	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				41.5	0.0	41.4	0.0	0.0	0.0	0.0	2.8	2.8
Incr Delay (d2), s/veh				1.2	0.0	1.2	0.5	0.7	0.0	0.0	0.5	0.4
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.0	0.0	2.6	0.2	0.2	0.0	0.0	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				42.6	0.0	42.5	0.5	0.7	0.0	0.0	3.3	3.2
LnGrp LOS				D		D	A	A			A	A
Approach Vol, veh/h					242			866			728	
Approach Delay, s/veh					42.6			0.6			3.3	
Approach LOS					D			A			A	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	74.9			15.1			74.9					
Change Period (Y+Rc), s	5.0			5.0			5.0					
Max Green Setting (Gmax), s	58.0			22.0			58.0					
Max Q Clear Time (g_c+I1), s	2.0			8.2			7.0					
Green Ext Time (p_c), s	0.8			0.8			0.7					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				7.2								
HCM 6th LOS				A								


















HCM 6th TWSC
12: Sierra Nevada Street & Main Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔↔			↔			↔	
Traffic Vol, veh/h	0	0	0	9	195	12	17	17	0	0	33	11
Future Vol, veh/h	0	0	0	9	195	12	17	17	0	0	33	11
Conflicting Peds, #/hr	0	0	0	13	0	6	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	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	10	224	14	20	20	0	0	38	13
Major/Minor				Major2		Minor1		Minor2				
Conflicting Flow All				13	0	0	164	277	-	-	270	125
Stage 1				-	-	-	13	13	-	-	257	-
Stage 2				-	-	-	151	264	-	-	13	-
Critical Hdwy				4.14	-	-	7.54	6.54	-	-	6.54	6.94
Critical Hdwy Stg 1				-	-	-	-	-	-	-	5.54	-
Critical Hdwy Stg 2				-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy				2.22	-	-	3.52	4.02	-	-	4.02	3.32
Pot Cap-1 Maneuver				1604	-	-	785	629	0	0	635	902
Stage 1				-	-	-	-	-	0	0	694	-
Stage 2				-	-	-	836	689	0	0	-	-
Platoon blocked, %					-	-						
Mov Cap-1 Maneuver				1584	-	-	725	613	-	-	619	897
Mov Cap-2 Maneuver				-	-	-	725	613	-	-	619	-
Stage 1				-	-	-	-	-	-	-	685	-
Stage 2				-	-	-	773	680	-	-	-	-
Approach				WB		NB		SB				
HCM Control Delay, s/v				0.3		10.8		10.8				
HCM LOS						B		B				
Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1							
Capacity (veh/h)	664	1584	-	-	671							
HCM Lane V/C Ratio	0.059	0.007	-	-	0.075							
HCM Control Delay (s/veh)	10.8	7.3	0	-	10.8							
HCM Lane LOS	B	A	A	-	B							
HCM 95th %tile Q (veh)	0.2	0	-	-	0.2							

HCM 6th Signalized Intersection Summary 13: S Wilson Way & Main Street

Background Conditions
Timing Plan: AM Peak Hour
















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	115	145	209	32	730	0	0	648	20
Future Volume (veh/h)	0	0	0	115	145	209	32	730	0	0	648	20
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	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
Work Zone On Approach				No			No				No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				119	149	215	33	753	0	0	668	21
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				261	357	271	569	2544	0	0	2518	79
Arrive On Green				0.17	0.17	0.17	1.00	1.00	0.00	0.00	0.72	0.72
Sat Flow, veh/h				1508	2064	1566	754	3647	0	0	3610	111
Grp Volume(v), veh/h				142	126	215	33	753	0	0	337	352
Grp Sat Flow(s),veh/h/ln				1795	1777	1566	754	1777	0	0	1777	1850
Q Serve(g_s), s				6.4	5.7	11.8	0.4	0.0	0.0	0.0	6.0	6.0
Cycle Q Clear(g_c), s				6.4	5.7	11.8	6.4	0.0	0.0	0.0	6.0	6.0
Prop In Lane				0.84		1.00	1.00		0.00	0.00		0.06
Lane Grp Cap(c), veh/h				310	307	271	569	2544	0	0	1272	1325
V/C Ratio(X)				0.46	0.41	0.79	0.06	0.30	0.00	0.00	0.27	0.27
Avail Cap(c_a), veh/h				459	454	400	569	2544	0	0	1272	1325
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.93	0.93	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.4	33.1	35.7	0.3	0.0	0.0	0.0	4.5	4.5
Incr Delay (d2), s/veh				0.4	0.3	3.7	0.2	0.3	0.0	0.0	0.5	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
%ile BackOfQ(50%),veh/ln				2.8	2.4	4.7	0.0	0.1	0.0	0.0	2.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				33.8	33.5	39.4	0.5	0.3	0.0	0.0	5.0	5.0
LnGrp LOS				C	C	D	A	A			A	A
Approach Vol, veh/h					483			786			689	
Approach Delay, s/veh					36.2			0.3			5.0	
Approach LOS					D			A			A	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	69.4			20.6			69.4					
Change Period (Y+Rc), s	5.0			5.0			5.0					
Max Green Setting (Gmax), s	57.0			23.0			57.0					
Max Q Clear Time (g_c+I1), s	8.4			13.8			8.0					
Green Ext Time (p_c), s	2.5			1.0			1.7					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				10.8								
HCM 6th LOS				B								

HCM Signalized Intersection Capacity Analysis

14: Market Street/E Market Street & Main St/Main Street

Background Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	463	0	8	8	0	0	0	34
Future Volume (vph)	0	0	0	0	463	0	8	8	0	0	0	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0				5.0
Lane Util. Factor					0.95			1.00				1.00
Frpb, ped/bikes					1.00			1.00				0.98
Flpb, ped/bikes					1.00			0.99				1.00
Frt					1.00			1.00				0.86
Flt Protected					1.00			0.97				1.00
Satd. Flow (prot)					3539			1813				1584
Flt Permitted					1.00			0.97				1.00
Satd. Flow (perm)					3539			1813				1584
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)	0	0	0	0	503	0	9	9	0	0	0	37
RTOR Reduction (vph)	0	0	0	0	0	0	0	17	0	0	0	35
Lane Group Flow (vph)	0	0	0	0	503	0	0	1	0	0	0	2
Confl. Peds. (#/hr)						5	1					1
Turn Type					NA		Perm	NA				Perm
Protected Phases					6 4			5				
Permitted Phases							5					5
Actuated Green, G (s)					26.7			2.3				2.3
Effective Green, g (s)					26.7			2.3				2.3
Actuated g/C Ratio					0.68			0.06				0.06
Clearance Time (s)								5.0				5.0
Vehicle Extension (s)								2.0				2.0
Lane Grp Cap (vph)					2422			106				93
v/s Ratio Prot					c0.14							
v/s Ratio Perm								0.00				c0.00
v/c Ratio					0.20			0.01				0.02
Uniform Delay, d1					2.2			17.2				17.2
Progression Factor					1.00			1.00				1.00
Incremental Delay, d2					0.1			0.0				0.0
Delay (s)					2.3			17.2				17.3
Level of Service					A			B				B
Approach Delay (s/veh)		0.0			2.3			17.2			17.3	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			3.9									
HCM 2000 Volume to Capacity ratio			0.29									
Actuated Cycle Length (s)			39.0									
Intersection Capacity Utilization			32.9%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
15: B Street/E Washington Street & Main Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EB			EB			EB			EB	
Traffic Vol, veh/h	3	247	18	16	429	2	23	0	30	0	0	9
Future Vol, veh/h	3	247	18	16	429	2	23	0	30	0	0	9
Conflicting Peds, #/hr	4	0	2	2	0	4	4	0	1	1	0	4
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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	266	19	17	461	2	25	0	32	0	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	467	0	0	287	0	0	553	785	146	640	793	240
Stage 1	-	-	-	-	-	-	284	284	-	500	500	-
Stage 2	-	-	-	-	-	-	269	501	-	140	293	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1091	-	-	1272	-	-	416	323	875	360	320	761
Stage 1	-	-	-	-	-	-	699	675	-	521	541	-
Stage 2	-	-	-	-	-	-	713	541	-	849	669	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1087	-	-	1270	-	-	402	314	873	339	311	755
Mov Cap-2 Maneuver	-	-	-	-	-	-	402	314	-	339	311	-
Stage 1	-	-	-	-	-	-	696	672	-	517	529	-
Stage 2	-	-	-	-	-	-	689	529	-	814	666	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.1			0.4			11.9			9.8		
HCM LOS							B			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	579	1087	-	-	1270	-	-	755
HCM Lane V/C Ratio	0.098	0.003	-	-	0.014	-	-	0.013
HCM Control Delay (s/veh)	11.9	8.3	0	-	7.9	0.1	-	9.8
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q (veh)	0.3	0	-	-	0	-	-	0

HCM 6th TWSC
16: E Lafayette Street & Main Street

Background Conditions
Timing Plan: AM Peak Hour

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	36	232	4	18	393	0	13	10	17	0	4	42
Future Vol, veh/h	36	232	4	18	393	0	13	10	17	0	4	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	255	4	20	432	0	14	11	19	0	4	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	432	0	0	259	0	0	595	809	130	685	811	216
Stage 1	-	-	-	-	-	-	337	337	-	472	472	-
Stage 2	-	-	-	-	-	-	258	472	-	213	339	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1124	-	-	1303	-	-	388	313	896	334	312	789
Stage 1	-	-	-	-	-	-	651	640	-	542	557	-
Stage 2	-	-	-	-	-	-	724	557	-	769	638	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1124	-	-	1303	-	-	344	294	896	303	293	789
Mov Cap-2 Maneuver	-	-	-	-	-	-	344	294	-	303	293	-
Stage 1	-	-	-	-	-	-	624	613	-	519	546	-
Stage 2	-	-	-	-	-	-	663	546	-	708	611	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	1.2			0.4			14.1			10.6		
HCM LOS							B			B		

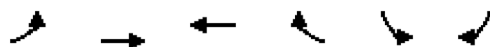
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	441	1124	-	-	1303	-	-	688
HCM Lane V/C Ratio	0.1	0.035	-	-	0.015	-	-	0.073
HCM Control Delay (s/veh)	14.1	8.3	0.1	-	7.8	0.1	-	10.6
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q (veh)	0.3	0.1	-	-	0	-	-	0.2

HCM Signalized Intersection Capacity Analysis

17: Main Street & D Street

Background Conditions

Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑↑	
Traffic Volume (vph)	3	270	425	5	6	7
Future Volume (vph)	3	270	425	5	6	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	
Lane Util. Factor		0.95	0.95		1.00	
Frt		1.00	0.99		0.92	
Flt Protected		0.99	1.00		0.97	
Satd. Flow (prot)		3537	3534		1689	
Flt Permitted		0.94	1.00		0.97	
Satd. Flow (perm)		3356	3534		1689	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	3	297	467	5	7	8
RTOR Reduction (vph)	0	0	2	0	8	0
Lane Group Flow (vph)	0	300	470	0	7	0
Turn Type	Perm	NA	NA		Perm	
Protected Phases		2	6			
Permitted Phases	2				4	
Actuated Green, G (s)		9.7	9.7		0.6	
Effective Green, g (s)		9.7	9.7		0.6	
Actuated g/C Ratio		0.48	0.48		0.03	
Clearance Time (s)		5.0	5.0		5.0	
Vehicle Extension (s)		6.0	6.0		2.0	
Lane Grp Cap (vph)		1603	1688		49	
v/s Ratio Prot			c0.13			
v/s Ratio Perm		0.09			c0.00	
v/c Ratio		0.18	0.27		0.14	
Uniform Delay, d1		3.0	3.1		9.6	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		0.1	0.2		0.5	
Delay (s)		3.1	3.4		10.1	
Level of Service		A	A		B	
Approach Delay (s/veh)		3.1	3.4		10.1	
Approach LOS		A	A		B	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			3.5		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.27			
Actuated Cycle Length (s)			20.3		Sum of lost time (s)	10.0
Intersection Capacity Utilization			23.6%		ICU Level of Service	A
Analysis Period (min)			15			

c Critical Lane Group

HCM 6th TWSC
18: Marsh Street/E Street & Main Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	16	239	1	12	395	42	0	0	10	28	3	10
Future Vol, veh/h	16	239	1	12	395	42	0	0	10	28	3	10
Conflicting Peds, #/hr	2	0	1	1	0	2	0	0	0	0	0	1
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	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	285	1	14	470	50	0	0	12	33	4	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	522	0	0	287	0	0	591	875	144	706	850	263
Stage 1	-	-	-	-	-	-	325	325	-	525	525	-
Stage 2	-	-	-	-	-	-	266	550	-	181	325	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1041	-	-	1272	-	-	391	286	877	323	296	735
Stage 1	-	-	-	-	-	-	661	648	-	504	528	-
Stage 2	-	-	-	-	-	-	716	514	-	803	648	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1039	-	-	1271	-	-	369	274	876	309	284	733
Mov Cap-2 Maneuver	-	-	-	-	-	-	369	274	-	309	284	-
Stage 1	-	-	-	-	-	-	646	633	-	492	518	-
Stage 2	-	-	-	-	-	-	688	505	-	775	633	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.6			0.3			9.2			16.7		
HCM LOS							A			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	876	1039	-	-	1271	-	-	357
HCM Lane V/C Ratio	0.014	0.018	-	-	0.011	-	-	0.137
HCM Control Delay (s/veh)	9.2	8.5	0.1	-	7.9	0.1	-	16.7
HCM Lane LOS	A	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0	0.1	-	-	0	-	-	0.5

HCM 6th TWSC
19: Alma Street/F Street & Main Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	13	270	0	18	409	10	0	2	13	5	4	3
Future Vol, veh/h	13	270	0	18	409	10	0	2	13	5	4	3
Conflicting Peds, #/hr	4	0	5	5	0	4	0	0	5	5	0	2
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	293	0	20	445	11	0	2	14	5	4	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	460	0	0	298	0	0	593	826	157	676	821	234
Stage 1	-	-	-	-	-	-	326	326	-	495	495	-
Stage 2	-	-	-	-	-	-	267	500	-	181	326	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1097	-	-	1260	-	-	389	306	861	339	308	768
Stage 1	-	-	-	-	-	-	661	647	-	525	544	-
Stage 2	-	-	-	-	-	-	715	541	-	803	647	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1093	-	-	1254	-	-	370	293	853	320	294	764
Mov Cap-2 Maneuver	-	-	-	-	-	-	370	293	-	320	294	-
Stage 1	-	-	-	-	-	-	648	634	-	515	530	-
Stage 2	-	-	-	-	-	-	690	527	-	771	634	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.5			0.4			10.4			15.3		
HCM LOS							B			C		


















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	680	1093	-	-	1254	-	-	362
HCM Lane V/C Ratio	0.024	0.013	-	-	0.016	-	-	0.036
HCM Control Delay (s/veh)	10.4	8.3	0.1	-	7.9	0.1	-	15.3
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.1	0	-	-	0	-	-	0.1

HCM Signalized Intersection Capacity Analysis

20: S Filbert Street & Main Street

Background Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	228	4	5	381	250	12	49	5	242	26	54
Future Volume (vph)	55	228	4	5	381	250	12	49	5	242	26	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.98			0.99		1.00	0.98	
Flpb, ped/bikes		0.99			0.99			1.00		1.00	1.00	
Frt		0.99			0.94			0.98		1.00	0.89	
Flt Protected		0.99			0.99			0.99		0.95	1.00	
Satd. Flow (prot)		3496			3294			1825		1770	1656	
Flt Permitted		0.76			0.95			0.99		0.95	1.00	
Satd. Flow (perm)		2704			3138			1825		1770	1656	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	56	233	4	5	389	255	12	50	5	247	27	55
RTOR Reduction (vph)	0	1	0	0	92	0	0	3	0	0	42	0
Lane Group Flow (vph)	0	292	0	0	557	0	0	64	0	247	40	0
Confl. Peds. (#/hr)	7		2	2		7	7		13	13		7
Confl. Bikes (#/hr)			1									
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		2			6		4	4		3	3	
Permitted Phases	2			6								
Actuated Green, G (s)		21.9			21.9			5.4		13.7	13.7	
Effective Green, g (s)		21.9			21.9			5.4		13.7	13.7	
Actuated g/C Ratio		0.38			0.38			0.09		0.24	0.24	
Clearance Time (s)		6.0			6.0			5.0		5.0	5.0	
Vehicle Extension (s)		6.0			6.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1038			1205			172		425	398	
v/s Ratio Prot								c0.04		c0.14	0.02	
v/s Ratio Perm		0.11			c0.18							
v/c Ratio		0.28			0.46			0.37		0.58	0.10	
Uniform Delay, d1		12.1			13.1			24.2		19.1	16.8	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.4			0.7			0.4		1.3	0.0	
Delay (s)		12.5			13.9			24.7		20.4	16.8	
Level of Service		B			B			C		C	B	
Approach Delay (s/veh)		12.5			13.9			24.7			19.5	
Approach LOS		B			B			C			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		15.5			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.49										
Actuated Cycle Length (s)		57.0			Sum of lost time (s)			16.0				
Intersection Capacity Utilization		62.8%			ICU Level of Service			B				
Analysis Period (min)		15										

c Critical Lane Group

HCM 6th TWSC
21: Burkett Avenue & Main Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	19	428	14	13	604	12	9	2	6	5	2	13
Future Vol, veh/h	19	428	14	13	604	12	9	2	6	5	2	13
Conflicting Peds, #/hr	7	0	0	0	0	7	2	0	1	1	0	2
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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	451	15	14	636	13	9	2	6	5	2	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	656	0	0	466	0	0	848	1183	234	946	1184	334
Stage 1	-	-	-	-	-	-	499	499	-	678	678	-
Stage 2	-	-	-	-	-	-	349	684	-	268	506	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	927	-	-	1092	-	-	255	188	768	216	188	662
Stage 1	-	-	-	-	-	-	522	542	-	408	450	-
Stage 2	-	-	-	-	-	-	640	447	-	714	538	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	921	-	-	1092	-	-	238	178	767	203	178	656
Mov Cap-2 Maneuver	-	-	-	-	-	-	238	178	-	203	178	-
Stage 1	-	-	-	-	-	-	507	526	-	394	438	-
Stage 2	-	-	-	-	-	-	610	435	-	684	522	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.5			0.3			17.8			15.7		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	299	921	-	-	1092	-	-	359
HCM Lane V/C Ratio	0.06	0.022	-	-	0.013	-	-	0.059
HCM Control Delay (s/veh)	17.8	9	0.1	-	8.3	0.1	-	15.7
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.2	0.1	-	-	0	-	-	0.2

HCM 6th TWSC
22: Shasta Avenue & Main Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		TT			TT			T			T	
Traffic Vol, veh/h	2	434	5	4	620	5	9	1	5	2	0	2
Future Vol, veh/h	2	434	5	4	620	5	9	1	5	2	0	2
Conflicting Peds, #/hr	7	0	2	2	0	7	1	0	3	3	0	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	477	5	4	681	5	10	1	5	2	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	693	0	0	484	0	0	836	1187	246	945	1187	351
Stage 1	-	-	-	-	-	-	486	486	-	699	699	-
Stage 2	-	-	-	-	-	-	350	701	-	246	488	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	898	-	-	1075	-	-	260	187	754	217	187	645
Stage 1	-	-	-	-	-	-	531	549	-	397	440	-
Stage 2	-	-	-	-	-	-	639	439	-	736	548	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	892	-	-	1073	-	-	257	184	750	211	184	640
Mov Cap-2 Maneuver	-	-	-	-	-	-	257	184	-	211	184	-
Stage 1	-	-	-	-	-	-	528	546	-	393	434	-
Stage 2	-	-	-	-	-	-	632	433	-	725	545	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.1	16.9	16.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	318	892	-	-	1073	-	-	317
HCM Lane V/C Ratio	0.052	0.002	-	-	0.004	-	-	0.014
HCM Control Delay (s/veh)	16.9	9	0	-	8.4	0	-	16.5
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0

HCM 6th TWSC
23: David Avenue & Main Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	1	440	6	3	610	5	10	1	4	3	0	9
Future Vol, veh/h	1	440	6	3	610	5	10	1	4	3	0	9
Conflicting Peds, #/hr	3	0	3	3	0	3	3	0	1	1	0	3
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	478	7	3	663	5	11	1	4	3	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	671	0	0	488	0	0	828	1164	247	918	1165	340
Stage 1	-	-	-	-	-	-	487	487	-	675	675	-
Stage 2	-	-	-	-	-	-	341	677	-	243	490	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	915	-	-	1071	-	-	263	193	753	227	193	656
Stage 1	-	-	-	-	-	-	531	549	-	410	451	-
Stage 2	-	-	-	-	-	-	647	450	-	739	547	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	912	-	-	1068	-	-	256	191	750	223	191	652
Mov Cap-2 Maneuver	-	-	-	-	-	-	256	191	-	223	191	-
Stage 1	-	-	-	-	-	-	528	546	-	408	448	-
Stage 2	-	-	-	-	-	-	633	447	-	731	544	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0	17.6	13.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	302	912	-	-	1068	-	-	440
HCM Lane V/C Ratio	0.054	0.001	-	-	0.003	-	-	0.03
HCM Control Delay (s/veh)	17.6	9	0	-	8.4	0	-	13.4
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0.1

HCM 6th TWSC
24: Rendon Avenue & Main Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	11	419	12	8	595	9	11	3	3	13	1	18
Future Vol, veh/h	11	419	12	8	595	9	11	3	3	13	1	18
Conflicting Peds, #/hr	5	0	1	1	0	5	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	455	13	9	647	10	12	3	3	14	1	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	662	0	0	469	0	0	829	1167	235	928	1168	334
Stage 1	-	-	-	-	-	-	487	487	-	675	675	-
Stage 2	-	-	-	-	-	-	342	680	-	253	493	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	922	-	-	1089	-	-	263	192	767	223	192	662
Stage 1	-	-	-	-	-	-	531	549	-	410	451	-
Stage 2	-	-	-	-	-	-	646	449	-	729	545	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	918	-	-	1088	-	-	248	185	766	213	185	659
Mov Cap-2 Maneuver	-	-	-	-	-	-	248	185	-	213	185	-
Stage 1	-	-	-	-	-	-	521	539	-	401	443	-
Stage 2	-	-	-	-	-	-	617	441	-	709	535	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.3			0.2			19.7			16.8		
HCM LOS							C			C		



















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	264	918	-	-	1088	-	-	341
HCM Lane V/C Ratio	0.07	0.013	-	-	0.008	-	-	0.102
HCM Control Delay (s/veh)	19.7	9	0.1	-	8.3	0.1	-	16.8
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0.3

HCM 6th Signalized Intersection Summary

25: Golden Gate Avenue & Main Street

Background Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	345	92	87	514	5	74	17	44	12	32	7
Future Volume (veh/h)	3	345	92	87	514	5	74	17	44	12	32	7
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		0.97	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	363	97	92	541	5	78	18	46	13	34	7
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	1031	272	119	1567	14	264	39	71	161	182	32
Arrive On Green	0.00	0.37	0.37	0.07	0.43	0.43	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	2780	734	1781	3607	33	761	278	498	253	1286	229
Grp Volume(v), veh/h	3	230	230	92	266	280	142	0	0	54	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1737	1781	1777	1863	1537	0	0	1768	0	0
Q Serve(g_s), s	0.1	3.3	3.4	1.8	3.6	3.6	2.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	3.3	3.4	1.8	3.6	3.6	3.0	0.0	0.0	0.9	0.0	0.0
Prop In Lane	1.00		0.42	1.00		0.02	0.55		0.32	0.24		0.13
Lane Grp Cap(c), veh/h	6	659	644	119	772	809	374	0	0	376	0	0
V/C Ratio(X)	0.51	0.35	0.36	0.77	0.35	0.35	0.38	0.00	0.00	0.14	0.00	0.00
Avail Cap(c_a), veh/h	999	2391	2338	999	2391	2507	1823	0	0	1543	0	0
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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.7	8.1	8.1	16.4	6.7	6.7	14.4	0.0	0.0	13.5	0.0	0.0
Incr Delay (d2), s/veh	23.5	1.2	1.2	3.9	1.0	0.9	0.2	0.0	0.0	0.1	0.0	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	0.1	1.0	1.0	0.7	1.0	1.0	0.9	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.2	9.3	9.4	20.3	7.7	7.6	14.6	0.0	0.0	13.6	0.0	0.0
LnGrp LOS	D	A	A	C	A	A	B			B		
Approach Vol, veh/h		463			638			142			54	
Approach Delay, s/veh		9.5			9.5			14.6			13.6	
Approach LOS		A			A			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	18.2		10.1	5.1	20.5		10.1				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	20.0	48.0		40.0	20.0	48.0		30.0				
Max Q Clear Time (g_c+I1), s	3.8	5.4		5.0	2.1	5.6		2.9				
Green Ext Time (p_c), s	0.1	7.9		0.6	0.0	9.5		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				10.2								
HCM 6th LOS				B								

HCM 6th TWSC
26: Windsor Avenue & Main Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	2	376	15	13	597	3	8	1	5	6	3	13
Future Vol, veh/h	2	376	15	13	597	3	8	1	5	6	3	13
Conflicting Peds, #/hr	9	0	3	3	0	9	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	396	16	14	628	3	8	1	5	6	3	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	640	0	0	415	0	0	755	1079	209	870	1086	325
Stage 1	-	-	-	-	-	-	411	411	-	667	667	-
Stage 2	-	-	-	-	-	-	344	668	-	203	419	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	940	-	-	1140	-	-	298	217	797	246	215	671
Stage 1	-	-	-	-	-	-	589	593	-	414	455	-
Stage 2	-	-	-	-	-	-	645	455	-	780	588	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	932	-	-	1137	-	-	283	210	795	237	208	665
Mov Cap-2 Maneuver	-	-	-	-	-	-	283	210	-	237	208	-
Stage 1	-	-	-	-	-	-	585	589	-	409	442	-
Stage 2	-	-	-	-	-	-	615	442	-	771	584	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			0.3			15.5			15.3		
HCM LOS							C			C		



















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	356	932	-	-	1137	-	-	371
HCM Lane V/C Ratio	0.041	0.002	-	-	0.012	-	-	0.062
HCM Control Delay (s/veh)	15.5	8.9	0	-	8.2	0.1	-	15.3
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.1	0	-	-	0	-	-	0.2

HCM Signalized Intersection Capacity Analysis

27: Netherton Avenue & Main Street

Background Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	358	4	29	548	3	11	7	52	19	18	61
Future Volume (vph)	4	358	4	29	548	3	11	7	52	19	18	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99			0.98			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Frt	1.00	0.99		1.00	0.99			0.90			0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3533		1770	3536			1643			1676	
Flt Permitted	0.95	1.00		0.95	1.00			0.92			0.91	
Satd. Flow (perm)	1770	3533		1770	3536			1530			1544	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	4	393	4	32	602	3	12	8	57	21	20	67
RTOR Reduction (vph)	0	1	0	0	0	0	0	48	0	0	56	0
Lane Group Flow (vph)	4	396	0	32	605	0	0	29	0	0	52	0
Confl. Peds. (#/hr)			2			10	1		11	11		1
Confl. Bikes (#/hr)						2						
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	0.5	18.0		0.8	18.3			6.6			6.6	
Effective Green, g (s)	0.5	18.0		0.8	18.3			6.6			6.6	
Actuated g/C Ratio	0.01	0.45		0.02	0.45			0.16			0.16	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	2.0	6.0		2.0	6.0			2.0			2.0	
Lane Grp Cap (vph)	21	1574		35	1601			249			252	
v/s Ratio Prot	0.00	0.11		c0.02	c0.17							
v/s Ratio Perm								0.02			c0.03	
v/c Ratio	0.19	0.25		0.91	0.37			0.11			0.20	
Uniform Delay, d1	19.7	6.9		19.7	7.2			14.4			14.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.6	0.2		115.2	0.4			0.0			0.1	
Delay (s)	21.3	7.2		135.0	7.7			14.4			14.7	
Level of Service	C	A		F	A			B			B	
Approach Delay (s/veh)		7.3			14.1			14.4			14.7	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			12.0			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.35									
Actuated Cycle Length (s)			40.4			Sum of lost time (s)			15.0			
Intersection Capacity Utilization			42.2%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th TWSC
28: Broadway Avenue & Main Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↗	↕↔			↔			↕↔	
Traffic Vol, veh/h	105	313	5	12	514	51	3	3	6	24	5	49
Future Vol, veh/h	105	313	5	12	514	51	3	3	6	24	5	49
Conflicting Peds, #/hr	13	0	4	4	0	13	0	0	13	13	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	119	356	6	14	584	58	3	3	7	27	6	56

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	655	0	0	366	0	0	924	1284	198	1085	1258	334
Stage 1	-	-	-	-	-	-	601	601	-	654	654	-
Stage 2	-	-	-	-	-	-	323	683	-	431	604	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	928	-	-	1189	-	-	224	164	810	171	170	662
Stage 1	-	-	-	-	-	-	454	488	-	422	461	-
Stage 2	-	-	-	-	-	-	663	447	-	573	486	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	917	-	-	1184	-	-	172	134	797	141	139	654
Mov Cap-2 Maneuver	-	-	-	-	-	-	172	134	-	141	139	-
Stage 1	-	-	-	-	-	-	379	407	-	349	450	-
Stage 2	-	-	-	-	-	-	592	436	-	466	406	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	2.7			0.2			20			24		
HCM LOS							C			C		


Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	253	917	-	-	1184	-	-	277
HCM Lane V/C Ratio	0.054	0.13	-	-	0.012	-	-	0.32
HCM Control Delay (s/veh)	20	9.5	0.5	-	8.1	-	-	24
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q (veh)	0.2	0.4	-	-	0	-	-	1.3

HCM Signalized Intersection Capacity Analysis

29: S Center Street & Market Street

Background Conditions

Timing Plan: AM Peak Hour















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑									↑↑↑	
Traffic Volume (vph)	0	63	44	0	0	0	0	0	0	166	1169	0
Future Volume (vph)	0	63	44	0	0	0	0	0	0	166	1169	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0									5.0	
Lane Util. Factor		0.95									0.91	
Frpb, ped/bikes		0.99									1.00	
Flpb, ped/bikes		1.00									0.99	
Frt		0.93									1.00	
Flt Protected		1.00									0.99	
Satd. Flow (prot)		3303									5050	
Flt Permitted		1.00									0.99	
Satd. Flow (perm)		3303									5050	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	71	49	0	0	0	0	0	0	187	1313	0
RTOR Reduction (vph)	0	36	0	0	0	0	0	0	0	0	22	0
Lane Group Flow (vph)	0	84	0	0	0	0	0	0	0	0	1478	0
Confl. Peds. (#/hr)			2								6	
Turn Type		NA								Perm	NA	
Protected Phases		2									1	
Permitted Phases										1		
Actuated Green, G (s)		23.0									52.0	
Effective Green, g (s)		23.0									52.0	
Actuated g/C Ratio		0.27									0.61	
Clearance Time (s)		5.0									5.0	
Vehicle Extension (s)		0.2									0.2	
Lane Grp Cap (vph)		893									3089	
v/s Ratio Prot		0.03										
v/s Ratio Perm											0.29	
v/c Ratio		0.09									0.47	
Uniform Delay, d1		23.2									9.0	
Progression Factor		1.00									1.00	
Incremental Delay, d2		0.2									0.5	
Delay (s)		23.4									9.5	
Level of Service		C									A	
Approach Delay (s/veh)		23.4			0.0			0.0			9.5	
Approach LOS		C			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			10.6									
HCM 2000 Volume to Capacity ratio			0.36									
Actuated Cycle Length (s)			85.0							10.0		
Intersection Capacity Utilization			53.5%								A	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

30: S El Dorado Street & Market Street

Background Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	115	0	0	0	0	0	1598	100	0	0	0
Future Volume (vph)	96	115	0	0	0	0	0	1598	100	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0				
Lane Util. Factor		0.95						0.86				
Frpb, ped/bikes		1.00						0.99				
Flpb, ped/bikes		0.99						1.00				
Frt		1.00						0.99				
Flt Protected		0.97						1.00				
Satd. Flow (prot)		3444						6342				
Flt Permitted		0.97						1.00				
Satd. Flow (perm)		3444						6342				
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)	112	134	0	0	0	0	0	1858	116	0	0	0
RTOR Reduction (vph)	0	19	0	0	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	227	0	0	0	0	0	1963	0	0	0	0
Confl. Peds. (#/hr)	9								11			
Turn Type	Perm	NA						NA				
Protected Phases		2						1				
Permitted Phases	2											
Actuated Green, G (s)		22.0						53.0				
Effective Green, g (s)		22.0						53.0				
Actuated g/C Ratio		0.26						0.62				
Clearance Time (s)		5.0						5.0				
Vehicle Extension (s)		0.2						0.2				
Lane Grp Cap (vph)		891						3954				
v/s Ratio Prot								c0.31				
v/s Ratio Perm		0.07										
v/c Ratio		0.25						0.49				
Uniform Delay, d1		24.9						8.7				
Progression Factor		0.99						1.00				
Incremental Delay, d2		0.6						0.4				
Delay (s)		25.5						9.1				
Level of Service		C						A				
Approach Delay (s/veh)		25.5			0.0			9.1			0.0	
Approach LOS		C			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		11.0						HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio		0.43										
Actuated Cycle Length (s)		85.0						Sum of lost time (s)		10.0		
Intersection Capacity Utilization		39.2%						ICU Level of Service		A		
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th AWSC
31: S Hunter Street & Market Street

Background Conditions
Timing Plan: AM Peak Hour

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	0	141	66	0	0	0	0	0	29	62	84	0
Future Vol, veh/h	0	141	66	0	0	0	0	0	29	62	84	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	193	90	0	0	0	0	0	40	85	115	0
Number of Lanes	0	2	0	0	0	0	0	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay, s/veh	8.9	8.2	9.2
HCM LOS	A	A	A
















Lane	NBLn1	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	100%	0%
Vol Thru, %	0%	100%	42%	0%	100%
Vol Right, %	100%	0%	58%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	94	113	62	84
LT Vol	0	0	0	62	0
Through Vol	0	94	47	0	84
RT Vol	29	0	66	0	0
Lane Flow Rate	40	129	155	85	115
Geometry Grp	4b	5	5	5	5
Degree of Util (X)	0.054	0.185	0.204	0.136	0.168
Departure Headway (Hd)	4.857	5.162	4.752	5.759	5.257
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	735	695	755	623	682
Service Time	2.899	2.89	2.48	3.496	2.993
HCM Lane V/C Ratio	0.054	0.186	0.205	0.136	0.169
HCM Control Delay, s/veh	8.2	9.1	8.7	9.4	9.1
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.2	0.7	0.8	0.5	0.6

HCM Signalized Intersection Capacity Analysis

32: S San Joaquin Street & Market Street

Background Conditions

Timing Plan: AM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	122	36	0	0	0	0	170	39	25	99	0
Future Volume (vph)	66	122	36	0	0	0	0	170	39	25	99	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		0.95						0.95			0.95	
Frpb, ped/bikes		0.98						0.97			1.00	
Flpb, ped/bikes		0.99						1.00			0.98	
Frt		0.97						0.97			1.00	
Flt Protected		0.98						1.00			0.99	
Satd. Flow (prot)		3349						3351			3441	
Flt Permitted		0.98						1.00			0.87	
Satd. Flow (perm)		3349						3351			3042	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	82	152	45	0	0	0	0	212	49	31	124	0
RTOR Reduction (vph)	0	22	0	0	0	0	0	24	0	0	0	0
Lane Group Flow (vph)	0	259	0	0	0	0	0	238	0	0	155	0
Confl. Peds. (#/hr)	23		61						111	111		
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						1			1	
Permitted Phases	2									1		
Actuated Green, G (s)		24.0						36.0			36.0	
Effective Green, g (s)		24.0						36.0			36.0	
Actuated g/C Ratio		0.34						0.51			0.51	
Clearance Time (s)		5.0						5.0			5.0	
Vehicle Extension (s)		0.2						0.2			0.2	
Lane Grp Cap (vph)		1148						1723			1564	
v/s Ratio Prot								c0.07				
v/s Ratio Perm		0.08									0.05	
v/c Ratio		0.22						0.13			0.09	
Uniform Delay, d1		16.3						8.8			8.7	
Progression Factor		1.00						1.00			0.41	
Incremental Delay, d2		0.4						0.1			0.1	
Delay (s)		16.8						9.0			3.7	
Level of Service		B						A			A	
Approach Delay (s/veh)		16.8			0.0			9.0			3.7	
Approach LOS		B			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			11.0									HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio			0.17									
Actuated Cycle Length (s)			70.0							10.0		
Intersection Capacity Utilization			49.3%									ICU Level of Service A
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

33: S Sutter Street & Market Street

Background Conditions

Timing Plan: AM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔↔						↑	↗		↖↖	
Traffic Volume (vph)	22	89	80	0	0	0	0	102	16	4	95	0
Future Volume (vph)	22	89	80	0	0	0	0	102	16	4	95	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0	5.0		5.0	
Lane Util. Factor		0.95						1.00	1.00		0.95	
Frpb, ped/bikes		0.92						1.00	0.89		1.00	
Flpb, ped/bikes		0.99						1.00	1.00		0.99	
Frt		0.93						1.00	0.85		1.00	
Flt Protected		0.99						1.00	1.00		0.99	
Satd. Flow (prot)		3034						1863	1420		3522	
Flt Permitted		0.99						1.00	1.00		0.94	
Satd. Flow (perm)		3034						1863	1420		3346	
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)	29	119	107	0	0	0	0	136	21	5	127	0
RTOR Reduction (vph)	0	61	0	0	0	0	0	0	12	0	0	0
Lane Group Flow (vph)	0	194	0	0	0	0	0	136	9	0	132	0
Confl. Peds. (#/hr)	24		154						70	70		
Confl. Bikes (#/hr)			1						2			
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1								2	2		
Actuated Green, G (s)		30.0						30.0	30.0		30.0	
Effective Green, g (s)		30.0						30.0	30.0		30.0	
Actuated g/C Ratio		0.43						0.43	0.43		0.43	
Clearance Time (s)		5.0						5.0	5.0		5.0	
Vehicle Extension (s)		0.2						0.2	0.2		0.2	
Lane Grp Cap (vph)		1300						798	608		1434	
v/s Ratio Prot								c0.07				
v/s Ratio Perm		0.06							0.01		0.04	
v/c Ratio		0.14						0.17	0.01		0.09	
Uniform Delay, d1		12.2						12.3	11.5		11.8	
Progression Factor		1.95						1.00	1.00		0.28	
Incremental Delay, d2		0.2						0.4	0.0		0.1	
Delay (s)		24.0						12.7	11.5		3.5	
Level of Service		C						B	B		A	
Approach Delay (s/veh)		24.0			0.0			12.6			3.5	
Approach LOS		C			A			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		15.8										
HCM 2000 Volume to Capacity ratio		0.16										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		45.0%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

34: California Street & Market Street

Background Conditions

Timing Plan: AM Peak Hour
















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔						↔↔			↔↔	
Traffic Volume (veh/h)	16	78	14	0	0	0	0	268	74	34	214	0
Future Volume (veh/h)	16	78	14	0	0	0	0	268	74	34	214	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	21	103	18				0	353	97	45	282	0
Peak Hour Factor	0.76	0.76	0.76				0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	141	714	129				0	1617	438	267	1640	0
Arrive On Green	0.27	0.27	0.27				0.00	0.59	0.59	1.00	1.00	0.00
Sat Flow, veh/h	519	2629	476				0	2855	748	345	2885	0
Grp Volume(v), veh/h	75	0	67				0	225	225	167	160	0
Grp Sat Flow(s),veh/h/ln	1844	0	1779				0	1777	1733	1528	1617	0
Q Serve(g_s), s	2.2	0.0	2.0				0.0	4.2	4.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	2.0				0.0	4.2	4.3	0.0	0.0	0.0
Prop In Lane	0.28		0.27				0.00		0.43	0.27		0.00
Lane Grp Cap(c), veh/h	501	0	483				0	1041	1015	960	947	0
V/C Ratio(X)	0.15	0.00	0.14				0.00	0.22	0.22	0.17	0.17	0.00
Avail Cap(c_a), veh/h	501	0	483				0	1041	1015	960	947	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	0.99	0.00	0.99				0.00	1.00	1.00	0.97	0.97	0.00
Uniform Delay (d), s/veh	19.4	0.0	19.3				0.0	6.9	6.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.6				0.0	0.5	0.5	0.4	0.4	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
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.9				0.0	1.5	1.5	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.0	0.0	19.9				0.0	7.4	7.4	0.4	0.4	0.0
LnGrp LOS	B		B					A	A	A	A	
Approach Vol, veh/h		142						450			327	
Approach Delay, s/veh		19.9						7.4			0.4	
Approach LOS		B						A			A	
Timer - Assigned Phs		2		4				6				
Phs Duration (G+Y+Rc), s		46.0		24.0				46.0				
Change Period (Y+Rc), s		5.0		5.0				5.0				
Max Green Setting (Gmax), s		41.0		19.0				41.0				
Max Q Clear Time (g_c+I1), s		6.3		4.2				2.0				
Green Ext Time (p_c), s		0.5		0.1				0.4				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			6.8									
HCM 6th LOS			A									

HCM Signalized Intersection Capacity Analysis

35: S American Street & Market Street

Background Conditions

Timing Plan: AM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	149	0	0	0	0	0	0	0	108	0	0
Future Volume (vph)	30	149	0	0	0	0	0	0	0	108	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0									5.0	
Lane Util. Factor		0.95									1.00	
Frpb, ped/bikes		1.00									1.00	
Flpb, ped/bikes		0.99									0.99	
Frt		1.00									1.00	
Flt Protected		0.99									0.95	
Satd. Flow (prot)		3498									1765	
Flt Permitted		0.99									0.75	
Satd. Flow (perm)		3498									1407	
Peak-hour factor, PHF	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Adj. Flow (vph)	56	276	0	0	0	0	0	0	0	200	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	332	0	0	0	0	0	0	0	0	200	0
Confl. Peds. (#/hr)	10		2							2	2	
Confl. Bikes (#/hr)			1									
Turn Type	Perm	NA								Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		40.0									20.0	
Effective Green, g (s)		40.0									20.0	
Actuated g/C Ratio		0.57									0.29	
Clearance Time (s)		5.0									5.0	
Vehicle Extension (s)		0.2									0.2	
Lane Grp Cap (vph)		1998									402	
v/s Ratio Prot												
v/s Ratio Perm		0.09									c0.14	
v/c Ratio		0.16									0.49	
Uniform Delay, d1		7.1									20.8	
Progression Factor		0.86									0.64	
Incremental Delay, d2		0.1									3.6	
Delay (s)		6.3									17.0	
Level of Service		A									B	
Approach Delay (s/veh)		6.3			0.0			0.0			17.0	
Approach LOS		A			A			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		10.3										
HCM 2000 Volume to Capacity ratio		0.28										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		36.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

36: S Stanislaus Street & Market Street

Background Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔↔						↔↔↔			↔↔↔	
Traffic Volume (vph)	51	102	108	0	0	0	0	512	52	9	215	0
Future Volume (vph)	51	102	108	0	0	0	0	512	52	9	215	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		0.95						0.95			0.95	
Frpb, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		0.99						1.00			0.99	
Frt		0.93						0.98			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		3255						3486			3532	
Flt Permitted		0.99						1.00			0.92	
Satd. Flow (perm)		3255						3486			3256	
Peak-hour factor, PHF	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Adj. Flow (vph)	71	142	150	0	0	0	0	711	72	12	299	0
RTOR Reduction (vph)	0	96	0	0	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	267	0	0	0	0	0	772	0	0	312	0
Confl. Peds. (#/hr)	13		4						2	2		
Confl. Bikes (#/hr)			1									
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		25.0						35.0			35.0	
Effective Green, g (s)		25.0						35.0			35.0	
Actuated g/C Ratio		0.36						0.50			0.50	
Clearance Time (s)		5.0						5.0			5.0	
Vehicle Extension (s)		0.2						0.2			0.2	
Lane Grp Cap (vph)		1162						1743			1628	
v/s Ratio Prot								c0.22				
v/s Ratio Perm		0.08									0.10	
v/c Ratio		0.22						0.44			0.19	
Uniform Delay, d1		15.7						11.2			9.6	
Progression Factor		0.90						1.00			0.70	
Incremental Delay, d2		0.4						0.8			0.2	
Delay (s)		14.7						12.0			7.0	
Level of Service		B						B			A	
Approach Delay (s/veh)		14.7			0.0			12.0			7.0	
Approach LOS		B			A			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		11.7						HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio		0.35										
Actuated Cycle Length (s)		70.0						Sum of lost time (s)		10.0		
Intersection Capacity Utilization		39.2%						ICU Level of Service		A		
Analysis Period (min)		15										

c Critical Lane Group

HCM 6th TWSC
37: S Grant Street & Market Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		LT						RT			LT	
Traffic Vol, veh/h	52	110	0	0	0	0	0	8	0	9	5	0
Future Vol, veh/h	52	110	0	0	0	0	0	8	0	9	5	0
Conflicting Peds, #/hr	10	0	0	0	0	0	0	0	4	4	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	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	157	0	0	0	0	0	11	0	13	7	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	10	0	0	-	315	83	246	315	-
Stage 1	-	-	-	-	305	-	10	10	-
Stage 2	-	-	-	-	10	-	236	305	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1608	-	-	0	599	960	687	599	0
Stage 1	-	-	-	0	661	-	-	-	0
Stage 2	-	-	-	0	-	-	746	661	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1593	-	-	-	563	960	644	563	-
Mov Cap-2 Maneuver	-	-	-	-	563	-	644	563	-
Stage 1	-	-	-	-	627	-	-	-	-
Stage 2	-	-	-	-	-	-	695	627	-

Approach	EB	NB	SB
HCM Control Delay, s/v	2.4	11.5	11.1
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	563	1593	-	-	613
HCM Lane V/C Ratio	0.02	0.047	-	-	0.033
HCM Control Delay (s/veh)	11.5	7.4	0.1	-	11.1
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0.1	-	-	0.1

HCM 6th TWSC
38: S Aurora Street & Market Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	6.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		TT						T			T	
Traffic Vol, veh/h	9	96	15	0	0	0	0	102	9	4	36	0
Future Vol, veh/h	9	96	15	0	0	0	0	102	9	4	36	0
Conflicting Peds, #/hr	2	0	1	0	0	0	0	0	2	2	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	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	123	19	0	0	0	0	131	12	5	46	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	2	0	0	-	160	74	155	169	-
Stage 1	-	-	-	-	158	-	2	2	-
Stage 2	-	-	-	-	2	-	153	167	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1619	-	-	0	731	973	797	723	0
Stage 1	-	-	-	0	766	-	-	-	0
Stage 2	-	-	-	0	-	-	834	759	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1616	-	-	-	723	972	673	715	-
Mov Cap-2 Maneuver	-	-	-	-	723	-	673	715	-
Stage 1	-	-	-	-	759	-	-	-	-
Stage 2	-	-	-	-	-	-	677	752	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.5	11	10.5
HCM LOS	B	B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	738	1616	-	-	711
HCM Lane V/C Ratio	0.193	0.007	-	-	0.072
HCM Control Delay (s/veh)	11	7.2	0	-	10.5
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.7	0	-	-	0.2

HCM 6th TWSC
39: Union Street & Market Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	6.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		LT						RT			LT	
Traffic Vol, veh/h	8	88	5	0	0	0	0	90	8	15	39	0
Future Vol, veh/h	8	88	5	0	0	0	0	90	8	15	39	0
Conflicting Peds, #/hr	1	0	1	0	0	0	0	0	1	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	97	5	0	0	0	0	99	9	16	43	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	1	0	0	-	120	53	118	122	-
Stage 1	-	-	-	-	119	-	1	1	-
Stage 2	-	-	-	-	1	-	117	121	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1620	-	-	0	769	1003	846	767	0
Stage 1	-	-	-	0	796	-	-	-	0
Stage 2	-	-	-	0	-	-	875	795	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1618	-	-	-	763	1002	751	761	-
Mov Cap-2 Maneuver	-	-	-	-	763	-	751	761	-
Stage 1	-	-	-	-	790	-	-	-	-
Stage 2	-	-	-	-	-	-	754	789	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.6	10.4	10.2
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	778	1618	-	-	758
HCM Lane V/C Ratio	0.138	0.005	-	-	0.078
HCM Control Delay (s/veh)	10.4	7.2	0	-	10.2
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.5	0	-	-	0.3

HCM 6th TWSC
40: Pilgrim Street & Market Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EB						EB			EB	
Traffic Vol, veh/h	6	108	2	0	0	0	0	8	9	13	4	0
Future Vol, veh/h	6	108	2	0	0	0	0	8	9	13	4	0
Conflicting Peds, #/hr	3	0	1	0	0	0	0	0	9	9	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	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	161	3	0	0	0	0	12	13	19	6	0


Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	3	0	0	-	185	92	117	186	-
Stage 1	-	-	-	-	182	-	3	3	-
Stage 2	-	-	-	-	3	-	114	183	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1618	-	-	0	708	947	847	707	0
Stage 1	-	-	-	0	748	-	-	-	0
Stage 2	-	-	-	0	-	-	879	747	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1613	-	-	-	701	946	818	700	-
Mov Cap-2 Maneuver	-	-	-	-	701	-	818	700	-
Stage 1	-	-	-	-	743	-	-	-	-
Stage 2	-	-	-	-	-	-	847	742	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.4	9.6	9.7
HCM LOS		A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	812	1613	-	-	787
HCM Lane V/C Ratio	0.031	0.006	-	-	0.032
HCM Control Delay (s/veh)	9.6	7.2	0	-	9.7
HCM Lane LOS	A	A	A	-	A
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1

HCM 6th Signalized Intersection Summary 41: Airport Way & Market Street

Background Conditions
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔						↔↔			↔↔	
Traffic Volume (veh/h)	26	84	19	0	0	0	0	815	39	77	591	0
Future Volume (veh/h)	26	84	19	0	0	0	0	815	39	77	591	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	29	93	21				0	906	43	86	657	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	56	185	43				0	2796	133	282	2081	0
Arrive On Green	0.08	0.08	0.08				0.00	0.81	0.81	1.00	1.00	0.00
Sat Flow, veh/h	706	2331	541				0	3547	164	286	2656	0
Grp Volume(v), veh/h	75	0	68				0	466	483	329	414	0
Grp Sat Flow(s),veh/h/ln	1835	0	1743				0	1777	1840	1240	1617	0
Q Serve(g_s), s	3.6	0.0	3.3				0.0	6.1	6.1	0.2	0.0	0.0
Cycle Q Clear(g_c), s	3.6	0.0	3.3				0.0	6.1	6.1	6.3	0.0	0.0
Prop In Lane	0.38		0.31				0.00		0.09	0.26		0.00
Lane Grp Cap(c), veh/h	145	0	138				0	1439	1490	1054	1309	0
V/C Ratio(X)	0.52	0.00	0.49				0.00	0.32	0.32	0.31	0.32	0.00
Avail Cap(c_a), veh/h	449	0	426				0	1439	1490	1054	1309	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.96	0.96	0.00
Uniform Delay (d), s/veh	39.8	0.0	39.7				0.0	2.2	2.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.0				0.0	0.6	0.6	0.7	0.6	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
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.5				0.0	1.3	1.3	0.2	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.9	0.0	40.7				0.0	2.8	2.8	0.7	0.6	0.0
LnGrp LOS	D		D					A	A	A	A	
Approach Vol, veh/h		143						949			743	
Approach Delay, s/veh		40.8						2.8			0.7	
Approach LOS		D						A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		77.9				77.9		12.1				
Change Period (Y+Rc), s		5.0				5.0		5.0				
Max Green Setting (Gmax), s		58.0				58.0		22.0				
Max Q Clear Time (g_c+I1), s		8.3				8.1		5.6				
Green Ext Time (p_c), s		1.0				0.9		0.1				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			4.9									
HCM 6th LOS			A									

HCM 6th TWSC
42: Sierra Nevada Street & Market Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		TT						T			T	
Traffic Vol, veh/h	14	186	2	0	0	0	0	15	15	24	7	0
Future Vol, veh/h	14	186	2	0	0	0	0	15	15	24	7	0
Conflicting Peds, #/hr	2	0	2	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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	209	2	0	0	0	0	17	17	27	8	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	2	0	0	-	246	108	147	247	-
Stage 1	-	-	-	-	244	-	2	2	-
Stage 2	-	-	-	-	2	-	145	245	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1619	-	-	0	655	925	807	654	0
Stage 1	-	-	-	0	703	-	-	-	0
Stage 2	-	-	-	0	-	-	843	702	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1616	-	-	-	645	923	768	644	-
Mov Cap-2 Maneuver	-	-	-	-	645	-	768	644	-
Stage 1	-	-	-	-	694	-	-	-	-
Stage 2	-	-	-	-	-	-	799	693	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.5	10	10.1
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	759	1616	-	-	736
HCM Lane V/C Ratio	0.044	0.01	-	-	0.047
HCM Control Delay (s/veh)	10	7.3	0	-	10.1
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1

HCM 6th Signalized Intersection Summary 43: S Wilson Way & Market Street

Background Conditions
Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔						↔↔		↔	↔↔	
Traffic Volume (veh/h)	15	148	50	0	0	0	0	686	63	118	623	0
Future Volume (veh/h)	15	148	50	0	0	0	0	686	63	118	623	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	16	157	53				0	730	67	126	663	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	24	239	83				0	2133	196	157	2813	0
Arrive On Green	0.03	0.03	0.03				0.00	0.65	0.65	0.12	1.00	0.00
Sat Flow, veh/h	247	2463	857				0	3384	302	1781	3647	0
Grp Volume(v), veh/h	120	0	106				0	394	403	126	663	0
Grp Sat Flow(s),veh/h/ln	1858	0	1710				0	1777	1815	1781	1777	0
Q Serve(g_s), s	5.8	0.0	5.5				0.0	9.0	9.0	6.2	0.0	0.0
Cycle Q Clear(g_c), s	5.8	0.0	5.5				0.0	9.0	9.0	6.2	0.0	0.0
Prop In Lane	0.13		0.50				0.00		0.17	1.00		0.00
Lane Grp Cap(c), veh/h	181	0	166				0	1152	1177	157	2813	0
V/C Ratio(X)	0.67	0.00	0.64				0.00	0.34	0.34	0.80	0.24	0.00
Avail Cap(c_a), veh/h	434	0	399				0	1152	1177	257	2813	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.97	0.97	0.00
Uniform Delay (d), s/veh	42.1	0.0	42.0				0.0	7.2	7.2	39.0	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	1.5				0.0	0.8	0.8	3.5	0.2	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
%ile BackOfQ(50%),veh/ln	2.8	0.0	2.5				0.0	3.4	3.4	2.8	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.7	0.0	43.5				0.0	8.0	8.0	42.5	0.2	0.0
LnGrp LOS	D		D					A	A	D	A	
Approach Vol, veh/h		226						797			789	
Approach Delay, s/veh		43.6						8.0			7.0	
Approach LOS		D						A			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	12.9	63.3				76.3		13.7				
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0				
Max Green Setting (Gmax), s	13.0	41.0				59.0		21.0				
Max Q Clear Time (g_c+I1), s	8.2	11.0				2.0		7.8				
Green Ext Time (p_c), s	0.1	14.0				15.0		0.7				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			12.0									
HCM 6th LOS			B									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 6th TWSC
44: S Eugenia Street & Market Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Traffic Vol, veh/h	312	16	0	0	0	37
Future Vol, veh/h	312	16	0	0	0	37
Conflicting Peds, #/hr	0	2	0	0	0	1
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, %	2	2	2	2	2	2
Mvmt Flow	339	17	0	0	0	40

Major/Minor	Major1		Minor1	
Conflicting Flow All	0	0	-	181
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	831
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-		
Mov Cap-1 Maneuver	-	-	-	829
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s/v	0	9.6
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	829	-	-
HCM Lane V/C Ratio	0.049	-	-
HCM Control Delay (s/veh)	9.6	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q (veh)	0.2	-	-

HCM 6th TWSC
45: Della Street & Market Street

Background Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EB						EB			EB	
Traffic Vol, veh/h	54	264	12	0	0	0	0	3	2	5	54	0
Future Vol, veh/h	54	264	12	0	0	0	0	3	2	5	54	0
Conflicting Peds, #/hr	0	0	4	0	0	0	0	0	2	2	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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	297	13	0	0	0	0	3	2	6	61	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	0	-	430	161	274	436	-
Stage 1	-	-	-	-	430	-	0	0	-
Stage 2	-	-	-	-	0	-	274	436	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	-	-	-	0	516	855	657	512	0
Stage 1	-	-	-	0	582	-	-	-	0
Stage 2	-	-	-	0	-	-	709	578	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	514	852	652	510	-
Mov Cap-2 Maneuver	-	-	-	-	514	-	652	510	-
Stage 1	-	-	-	-	580	-	-	-	-
Stage 2	-	-	-	-	-	-	703	576	-
















Approach	EB	NB	SB
HCM Control Delay, s/v		10.9	12.9
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	611	-	-	-	520
HCM Lane V/C Ratio	0.009	-	-	-	0.127
HCM Control Delay (s/veh)	10.9	-	-	-	12.9
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q (veh)	0	-	-	-	0.4

HCM Signalized Intersection Capacity Analysis

2: S San Joaquin Street/N San Joaquin Street & Main Street

Background Conditions
Timing Plan: PM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	23	28	38	7	121	0	0	128	18
Future Volume (vph)	0	0	0	23	28	38	7	121	0	0	128	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			0.95			0.95	
Frpb, ped/bikes					0.97			1.00			0.99	
Flpb, ped/bikes					0.98			0.99			1.00	
Frt					0.93			1.00			0.98	
Flt Protected					0.98			0.99			1.00	
Satd. Flow (prot)					3140			3526			3461	
Flt Permitted					0.98			0.94			1.00	
Satd. Flow (perm)					3140			3332			3461	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	0	0	26	32	43	8	138	0	0	145	20
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	101	0	0	146	0	0	165	0
Confl. Peds. (#/hr)				16		10	28					28
Confl. Bikes (#/hr)						1						1
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					5.1			28.9			28.9	
Effective Green, g (s)					5.1			28.9			28.9	
Actuated g/C Ratio					0.07			0.41			0.41	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					228			1375			1428	
v/s Ratio Prot											c0.05	
v/s Ratio Perm					0.03			0.04				
v/c Ratio					0.44			0.10			0.11	
Uniform Delay, d1					31.0			12.6			12.6	
Progression Factor					1.13			0.72			1.00	
Incremental Delay, d2					0.4			0.1			0.1	
Delay (s)					35.8			9.3			12.8	
Level of Service					D			A			B	
Approach Delay (s/veh)		0.0			35.8			9.3			12.8	
Approach LOS		A			D			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			17.2									B
HCM 2000 Volume to Capacity ratio			0.10									
Actuated Cycle Length (s)			70.0								13.0	
Intersection Capacity Utilization			20.2%								A	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: S Sutter Street/N Sutter Street & Main Street

Background Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔↔↔			↔			↔↔	
Traffic Volume (vph)	0	0	0	23	43	12	13	134	0	0	85	23
Future Volume (vph)	0	0	0	23	43	12	13	134	0	0	85	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			1.00			0.95	
Frpb, ped/bikes					0.99			1.00			0.98	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.97			1.00			0.96	
Flt Protected					0.98			0.99			1.00	
Satd. Flow (prot)					3347			1847			3377	
Flt Permitted					0.98			0.97			1.00	
Satd. Flow (perm)					3347			1800			3377	
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	0	0	0	29	54	15	16	170	0	0	108	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	98	0	0	186	0	0	137	0
Confl. Peds. (#/hr)				24		14	52					52
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			4			4	
Permitted Phases				2			4					
Actuated Green, G (s)					15.0			19.0			19.0	
Effective Green, g (s)					15.0			19.0			19.0	
Actuated g/C Ratio					0.21			0.27			0.27	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					717			488			916	
v/s Ratio Prot											0.04	
v/s Ratio Perm					0.03			0.10				
v/c Ratio					0.13			0.38			0.14	
Uniform Delay, d1					22.2			20.7			19.3	
Progression Factor					0.67			0.68			1.00	
Incremental Delay, d2					0.3			2.2			0.3	
Delay (s)					15.4			16.4			19.7	
Level of Service					B			B			B	
Approach Delay (s/veh)		0.0			15.4			16.4			19.7	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			17.3									
HCM 2000 Volume to Capacity ratio			0.16									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			26.1%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: California Street & Main Street

Background Conditions

Timing Plan: PM Peak Hour


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔↔			↔↔			↔↔	
Traffic Volume (vph)	0	0	0	27	57	24	9	216	0	0	249	8
Future Volume (vph)	0	0	0	27	57	24	9	216	0	0	249	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			0.95			0.95	
Frpb, ped/bikes					0.99			1.00			0.99	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.96			1.00			0.99	
Flt Protected					0.98			0.99			1.00	
Satd. Flow (prot)					3358			3531			3521	
Flt Permitted					0.98			0.93			1.00	
Satd. Flow (perm)					3358			3321			3521	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	31	66	28	10	248	0	0	286	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	125	0	0	258	0	0	295	0
Confl. Peds. (#/hr)				2		9	9					9
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					15.0			19.0			19.0	
Effective Green, g (s)					15.0			19.0			19.0	
Actuated g/C Ratio					0.21			0.27			0.27	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					719			901			955	
v/s Ratio Prot											c0.08	
v/s Ratio Perm					0.04			0.08				
v/c Ratio					0.17			0.28			0.30	
Uniform Delay, d1					22.4			20.1			20.2	
Progression Factor					1.79			0.83			1.00	
Incremental Delay, d2					0.5			0.7			0.8	
Delay (s)					40.7			17.5			21.1	
Level of Service					D			B			C	
Approach Delay (s/veh)		0.0			40.7			17.5			21.1	
Approach LOS		A			D			B			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			23.4									
HCM 2000 Volume to Capacity ratio			0.15									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			24.2%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: S American Street/N American Street & Main Street

Background Conditions

Timing Plan: PM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕↕↕			↕			↕	↕
Traffic Volume (vph)	0	0	0	22	88	19	3	24	0	0	12	15
Future Volume (vph)	0	0	0	22	88	19	3	24	0	0	12	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	5.0
Lane Util. Factor					0.95			1.00			1.00	1.00
Frpb, ped/bikes					0.99			1.00			1.00	0.98
Flpb, ped/bikes					0.99			0.99			1.00	1.00
Frt					0.97			1.00			1.00	0.85
Flt Protected					0.99			0.99			1.00	1.00
Satd. Flow (prot)					3394			1851			1863	1561
Flt Permitted					0.99			0.98			1.00	1.00
Satd. Flow (perm)					3394			1829			1863	1561
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	0	0	26	104	22	4	28	0	0	14	18
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	152	0	0	32	0	0	14	18
Confl. Peds. (#/hr)				15		5	2					2
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			4			4	
Permitted Phases				2			4					4
Actuated Green, G (s)					11.0			23.0			23.0	23.0
Effective Green, g (s)					11.0			23.0			23.0	23.0
Actuated g/C Ratio					0.16			0.33			0.33	0.33
Clearance Time (s)					5.0			5.0			5.0	5.0
Vehicle Extension (s)					0.2			0.2			0.2	0.2
Lane Grp Cap (vph)					533			600			612	512
v/s Ratio Prot											0.01	
v/s Ratio Perm					0.04			c0.02				0.01
v/c Ratio					0.28			0.05			0.02	0.03
Uniform Delay, d1					26.0			16.0			15.8	15.9
Progression Factor					0.89			0.57			1.00	1.00
Incremental Delay, d2					1.3			0.1			0.0	0.1
Delay (s)					24.5			9.4			15.9	16.0
Level of Service					C			A			B	B
Approach Delay (s/veh)		0.0			24.5			9.4			16.0	
Approach LOS		A			C			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			21.1									
HCM 2000 Volume to Capacity ratio			0.08									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			22.9%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: S Stanislaus Street/N Stanislaus Street & Main Street

Background Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕↕			↕↕			↕↕	
Traffic Volume (vph)	0	0	0	66	68	12	39	249	0	0	295	8
Future Volume (vph)	0	0	0	66	68	12	39	249	0	0	295	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			0.95			0.95	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.98			1.00			0.99	
Flt Protected					0.97			0.99			1.00	
Satd. Flow (prot)					3411			3514			3523	
Flt Permitted					0.97			0.87			1.00	
Satd. Flow (perm)					3411			3104			3523	
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)	0	0	0	72	74	13	42	271	0	0	321	9
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	151	0	0	313	0	0	327	0
Confl. Peds. (#/hr)				4			5					5
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					1			2			2	
Permitted Phases				1			2					
Actuated Green, G (s)					25.0			35.0			35.0	
Effective Green, g (s)					25.0			35.0			35.0	
Actuated g/C Ratio					0.36			0.50			0.50	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					1218			1552			1761	
v/s Ratio Prot											0.09	
v/s Ratio Perm					0.04			c0.10				
v/c Ratio					0.12			0.20			0.18	
Uniform Delay, d1					15.1			9.7			9.6	
Progression Factor					1.00			0.80			1.00	
Incremental Delay, d2					0.2			0.2			0.2	
Delay (s)					15.3			8.0			9.8	
Level of Service					B			A			A	
Approach Delay (s/veh)		0.0			15.3			8.0			9.8	
Approach LOS		A			B			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			10.3									
HCM 2000 Volume to Capacity ratio			0.17									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			38.0%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
7: S Grant Street/N Grant Street & Main Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					EB			E			B	
Traffic Vol, veh/h	0	0	0	7	124	11	10	21	0	0	31	25
Future Vol, veh/h	0	0	0	7	124	11	10	21	0	0	31	25
Conflicting Peds, #/hr	0	0	0	1	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	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	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	10	177	16	14	30	0	0	44	36

Major/Minor	Major2		Minor1		Minor2	
Conflicting Flow All	1	0	0	132	215	- - 207 98
Stage 1	-	-	-	1	1	- - 206 -
Stage 2	-	-	-	131	214	- - 1 -
Critical Hdwy	4.14	-	-	7.54	6.54	- - 6.54 6.94
Critical Hdwy Stg 1	-	-	-	-	-	- - 5.54 -
Critical Hdwy Stg 2	-	-	-	6.54	5.54	- - - -
Follow-up Hdwy	2.22	-	-	3.52	4.02	- - 4.02 3.32
Pot Cap-1 Maneuver	1620	-	-	827	682	0 0 689 939
Stage 1	-	-	-	-	-	0 0 730 -
Stage 2	-	-	-	859	724	0 0 - -
Platoon blocked, %	-	-	-	-	-	- - - -
Mov Cap-1 Maneuver	1618	-	-	752	676	- - 683 938
Mov Cap-2 Maneuver	-	-	-	752	676	- - 683 -
Stage 1	-	-	-	-	-	- - 724 -
Stage 2	-	-	-	770	718	- - - -

Approach	WB	NB	SB
HCM Control Delay, s/v	0.4	10.5	10.2
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	699	1618	-	-	777
HCM Lane V/C Ratio	0.063	0.006	-	-	0.103
HCM Control Delay (s/veh)	10.5	7.2	0	-	10.2
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.2	0	-	-	0.3

HCM 6th TWSC
8: S Aurora Street/N Aurora Street & Main Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	7.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					EB			E			B	
Traffic Vol, veh/h	0	0	0	15	75	1	12	96	0	0	38	5
Future Vol, veh/h	0	0	0	15	75	1	12	96	0	0	38	5
Conflicting Peds, #/hr	0	0	0	8	0	1	1	0	0	0	0	1
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	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	18	90	1	14	116	0	0	46	6

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	8	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1611	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1599	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	1.2	10.9	10.1
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	744	1599	-	-	762
HCM Lane V/C Ratio	0.175	0.011	-	-	0.068
HCM Control Delay (s/veh)	10.9	7.3	0	-	10.1
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.6	0	-	-	0.2

HCM 6th AWSC
9: Union Street & Main Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					←↑↑			↱			↑	
Traffic Vol, veh/h	0	0	0	13	78	15	13	108	0	0	76	7
Future Vol, veh/h	0	0	0	13	78	15	13	108	0	0	76	7
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	14	82	16	14	114	0	0	80	7
Number of Lanes	0	0	0	0	2	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay, s/veh	8.1	8.1	7.8
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	11%	25%	0%	0%
Vol Thru, %	89%	75%	72%	92%
Vol Right, %	0%	0%	28%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	121	52	54	83
LT Vol	13	13	0	0
Through Vol	108	39	39	76
RT Vol	0	0	15	7
Lane Flow Rate	127	55	57	87
Geometry Grp	2	5	5	2
Degree of Util (X)	0.153	0.078	0.076	0.104
Departure Headway (Hd)	4.328	5.14	4.819	4.298
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	832	700	746	837
Service Time	2.338	2.853	2.532	2.309
HCM Lane V/C Ratio	0.153	0.079	0.076	0.104
HCM Control Delay, s/veh	8.1	8.3	7.9	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.3	0.2	0.3

HCM 6th TWSC
10: Pilgrim Street & Main Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					EB			E			B	
Traffic Vol, veh/h	0	0	0	18	97	15	8	16	0	0	20	5
Future Vol, veh/h	0	0	0	18	97	15	8	16	0	0	20	5
Conflicting Peds, #/hr	0	0	0	4	0	1	3	0	0	0	0	3
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	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	23	123	19	10	20	0	0	25	6

Major/Minor	Major2		Minor1		Minor2	
Conflicting Flow All	4	0	0	127	193	-
Stage 1	-	-	-	4	4	-
Stage 2	-	-	-	123	189	-
Critical Hdwy	4.14	-	-	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-
Pot Cap-1 Maneuver	1616	-	-	834	701	0
Stage 1	-	-	-	-	-	0
Stage 2	-	-	-	868	743	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1610	-	-	792	686	-
Mov Cap-2 Maneuver	-	-	-	792	686	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	819	730	-

Approach	WB	NB	SB
HCM Control Delay, s/v	1	10.2	10.1
HCM LOS		B	B
















Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	718	1610	-	-	736
HCM Lane V/C Ratio	0.042	0.014	-	-	0.043
HCM Control Delay (s/veh)	10.2	7.3	0	-	10.1
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1

HCM 6th Signalized Intersection Summary

11: Airport Way & Main Street

Background Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	41	93	61	10	869	0	0	749	17
Future Volume (veh/h)	0	0	0	41	93	61	10	869	0	0	749	17
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.96	1.00		1.00	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
Work Zone On Approach				No			No				No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				43	98	64	11	915	0	0	788	18
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				74	170	113	51	2711	0	0	2789	64
Arrive On Green				0.10	0.10	0.10	1.00	1.00	0.00	0.00	0.79	0.79
Sat Flow, veh/h				718	1646	1089	13	3536	0	0	3644	81
Grp Volume(v), veh/h				110	0	95	494	432	0	0	394	412
Grp Sat Flow(s),veh/h/ln				1834	0	1618	1847	1617	0	0	1777	1855
Q Serve(g_s), s				5.1	0.0	5.0	0.0	0.0	0.0	0.0	5.5	5.5
Cycle Q Clear(g_c), s				5.1	0.0	5.0	0.0	0.0	0.0	0.0	5.5	5.5
Prop In Lane				0.39		0.67	0.02		0.00	0.00		0.04
Lane Grp Cap(c), veh/h				190	0	167	1492	1270	0	0	1396	1457
V/C Ratio(X)				0.58	0.00	0.57	0.33	0.34	0.00	0.00	0.28	0.28
Avail Cap(c_a), veh/h				448	0	396	1492	1270	0	0	1396	1457
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.94	0.94	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				38.5	0.0	38.4	0.0	0.0	0.0	0.0	2.7	2.7
Incr Delay (d2), s/veh				1.0	0.0	1.1	0.6	0.7	0.0	0.0	0.5	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
%ile BackOfQ(50%),veh/ln				2.4	0.0	2.0	0.2	0.2	0.0	0.0	1.3	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				39.5	0.0	39.6	0.6	0.7	0.0	0.0	3.2	3.1
LnGrp LOS				D		D	A	A			A	A
Approach Vol, veh/h					205			926			806	
Approach Delay, s/veh					39.5			0.6			3.2	
Approach LOS					D			A			A	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	75.7			14.3			75.7					
Change Period (Y+Rc), s	5.0			5.0			5.0					
Max Green Setting (Gmax), s	58.0			22.0			58.0					
Max Q Clear Time (g_c+I1), s	2.0			7.1			7.5					
Green Ext Time (p_c), s	0.9			0.7			0.7					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				5.8								
HCM 6th LOS				A								

HCM 6th TWSC
12: Sierra Nevada Street & Main Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					RT			LT			RT	
Traffic Vol, veh/h	0	0	0	30	154	40	9	37	0	0	49	32
Future Vol, veh/h	0	0	0	30	154	40	9	37	0	0	49	32
Conflicting Peds, #/hr	0	0	0	6	0	3	9	0	0	0	0	9
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	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	32	164	43	10	39	0	0	52	34

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	6	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1613	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1604	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-



















Approach	WB	NB	SB
HCM Control Delay, s/v	1	11.3	10.8
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	618	1604	-	-	712
HCM Lane V/C Ratio	0.079	0.02	-	-	0.121
HCM Control Delay (s/veh)	11.3	7.3	0.1	-	10.8
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.3	0.1	-	-	0.4

HCM 6th Signalized Intersection Summary 13: S Wilson Way & Main Street

Background Conditions
















Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	107	126	183	27	936	0	0	933	29
Future Volume (veh/h)	0	0	0	107	126	183	27	936	0	0	933	29
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	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
Work Zone On Approach				No				No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				110	130	189	28	965	0	0	962	30
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				232	301	237	444	2628	0	0	2600	81
Arrive On Green				0.15	0.15	0.15	1.00	1.00	0.00	0.00	0.74	0.74
Sat Flow, veh/h				1553	2016	1582	567	3647	0	0	3611	110
Grp Volume(v), veh/h				127	113	189	28	965	0	0	486	506
Grp Sat Flow(s),veh/h/ln				1793	1777	1582	567	1777	0	0	1777	1850
Q Serve(g_s), s				5.8	5.2	10.4	0.6	0.0	0.0	0.0	8.8	8.8
Cycle Q Clear(g_c), s				5.8	5.2	10.4	9.5	0.0	0.0	0.0	8.8	8.8
Prop In Lane				0.87		1.00	1.00		0.00	0.00		0.06
Lane Grp Cap(c), veh/h				268	266	237	444	2628	0	0	1314	1368
V/C Ratio(X)				0.47	0.43	0.80	0.06	0.37	0.00	0.00	0.37	0.37
Avail Cap(c_a), veh/h				458	454	404	444	2628	0	0	1314	1368
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.81	0.81	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				35.0	34.8	37.0	0.6	0.0	0.0	0.0	4.2	4.2
Incr Delay (d2), s/veh				0.5	0.4	2.4	0.2	0.3	0.0	0.0	0.8	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
%ile BackOfQ(50%),veh/ln				2.5	2.2	4.1	0.0	0.1	0.0	0.0	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				35.5	35.2	39.3	0.8	0.3	0.0	0.0	5.0	5.0
LnGrp LOS				D	D	D	A	A			A	A
Approach Vol, veh/h					429			993			992	
Approach Delay, s/veh					37.1			0.3			5.0	
Approach LOS					D			A			A	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	71.5			18.5			71.5					
Change Period (Y+Rc), s	5.0			5.0			5.0					
Max Green Setting (Gmax), s	57.0			23.0			57.0					
Max Q Clear Time (g_c+I1), s	11.5			12.4			10.8					
Green Ext Time (p_c), s	3.4			0.9			2.6					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				8.8								
HCM 6th LOS				A								

HCM Signalized Intersection Capacity Analysis

14: Market Street/E Market Street & Main St/Main Street

Background Conditions
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	378	1	9	7	0	0	0	27
Future Volume (vph)	0	0	0	0	378	1	9	7	0	0	0	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0				5.0
Lane Util. Factor					0.95			1.00				1.00
Frpb, ped/bikes					0.99			1.00				0.94
Flpb, ped/bikes					1.00			0.98				1.00
Frt					0.99			1.00				0.86
Flt Protected					1.00			0.97				1.00
Satd. Flow (prot)					3538			1774				1530
Flt Permitted					1.00			0.97				1.00
Satd. Flow (perm)					3538			1774				1530
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)	0	0	0	0	402	1	10	7	0	0	0	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	16	0	0	0	28
Lane Group Flow (vph)	0	0	0	0	403	0	0	1	0	0	0	1
Confl. Peds. (#/hr)						1	4					4
Confl. Bikes (#/hr)						2						1
Turn Type					NA		Perm	NA				Perm
Protected Phases					6 4			5				
Permitted Phases							5					5
Actuated Green, G (s)					27.6			1.4				1.4
Effective Green, g (s)					27.6			1.4				1.4
Actuated g/C Ratio					0.71			0.04				0.04
Clearance Time (s)								5.0				5.0
Vehicle Extension (s)								2.0				2.0
Lane Grp Cap (vph)					2503			63				54
v/s Ratio Prot					c0.11							
v/s Ratio Perm								0.00				c0.00
v/c Ratio					0.16			0.00				0.01
Uniform Delay, d1					1.8			18.1				18.1
Progression Factor					1.00			1.00				1.00
Incremental Delay, d2					0.0			0.0				0.0
Delay (s)					1.9			18.1				18.1
Level of Service					A			B				B
Approach Delay (s/veh)		0.0			1.9			18.1			18.1	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			3.6									
HCM 2000 Volume to Capacity ratio			0.24									
Actuated Cycle Length (s)			39.0									
Intersection Capacity Utilization			29.9%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
15: B Street/E Washington Street & Main Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	5	416	32	15	326	1	28	2	38	1	2	14
Future Vol, veh/h	5	416	32	15	326	1	28	2	38	1	2	14
Conflicting Peds, #/hr	1	0	1	1	0	1	3	0	0	0	0	3
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	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	443	34	16	347	1	30	2	40	1	2	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	349	0	0	478	0	0	681	852	240	614	869	178
Stage 1	-	-	-	-	-	-	471	471	-	381	381	-
Stage 2	-	-	-	-	-	-	210	381	-	233	488	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1207	-	-	1081	-	-	336	295	761	376	289	834
Stage 1	-	-	-	-	-	-	542	558	-	613	612	-
Stage 2	-	-	-	-	-	-	773	612	-	749	548	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1206	-	-	1080	-	-	321	287	760	347	281	831
Mov Cap-2 Maneuver	-	-	-	-	-	-	321	287	-	347	281	-
Stage 1	-	-	-	-	-	-	538	554	-	609	600	-
Stage 2	-	-	-	-	-	-	741	600	-	702	544	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.1			0.5			14			10.9		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	472	1206	-	-	1080	-	-	633
HCM Lane V/C Ratio	0.153	0.004	-	-	0.015	-	-	0.029
HCM Control Delay (s/veh)	14	8	0	-	8.4	0.1	-	10.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q (veh)	0.5	0	-	-	0	-	-	0.1

HCM 6th TWSC
16: E Lafayette Street & Main Street

Background Conditions
Timing Plan: PM Peak Hour

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	40	394	9	25	333	12	11	4	31	0	3	15
Future Vol, veh/h	40	394	9	25	333	12	11	4	31	0	3	15
Conflicting Peds, #/hr	1	0	0	0	0	1	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	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	402	9	26	340	12	11	4	32	0	3	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	353	0	0	411	0	0	713	894	206	684	892	177
Stage 1	-	-	-	-	-	-	489	489	-	399	399	-
Stage 2	-	-	-	-	-	-	224	405	-	285	493	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1202	-	-	1144	-	-	319	279	800	335	280	835
Stage 1	-	-	-	-	-	-	529	548	-	598	601	-
Stage 2	-	-	-	-	-	-	758	597	-	698	545	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1201	-	-	1144	-	-	293	259	800	300	260	834
Mov Cap-2 Maneuver	-	-	-	-	-	-	293	259	-	300	260	-
Stage 1	-	-	-	-	-	-	506	524	-	571	584	-
Stage 2	-	-	-	-	-	-	719	580	-	636	521	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.8			0.6			12.9			11.1		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	501	1201	-	-	1144	-	-	610
HCM Lane V/C Ratio	0.094	0.034	-	-	0.022	-	-	0.03
HCM Control Delay (s/veh)	12.9	8.1	0.1	-	8.2	0.1	-	11.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q (veh)	0.3	0.1	-	-	0.1	-	-	0.1

HCM Signalized Intersection Capacity Analysis

17: Main Street & D Street

Background Conditions

Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑↑	
Traffic Volume (vph)	9	450	370	15	8	8
Future Volume (vph)	9	450	370	15	8	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.99		1.00	
Flpb, ped/bikes		0.99	1.00		1.00	
Frt		1.00	0.99		0.93	
Flt Protected		0.99	1.00		0.97	
Satd. Flow (prot)		3536	3516		1695	
Flt Permitted		0.94	1.00		0.97	
Satd. Flow (perm)		3333	3516		1695	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	479	394	16	9	9
RTOR Reduction (vph)	0	0	5	0	9	0
Lane Group Flow (vph)	0	489	405	0	9	0
Confl. Peds. (#/hr)	1			1		
Turn Type	Perm	NA	NA		Perm	
Protected Phases		2	6			
Permitted Phases	2				4	
Actuated Green, G (s)		9.9	9.9		0.6	
Effective Green, g (s)		9.9	9.9		0.6	
Actuated g/C Ratio		0.48	0.48		0.03	
Clearance Time (s)		5.0	5.0		5.0	
Vehicle Extension (s)		6.0	6.0		2.0	
Lane Grp Cap (vph)		1609	1697		49	
v/s Ratio Prot			0.12			
v/s Ratio Perm		c0.15			c0.01	
v/c Ratio		0.30	0.23		0.18	
Uniform Delay, d1		3.2	3.0		9.7	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		0.3	0.2		0.6	
Delay (s)		3.5	3.3		10.3	
Level of Service		A	A		B	
Approach Delay (s/veh)		3.5	3.3		10.3	
Approach LOS		A	A		B	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			3.6		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.30			
Actuated Cycle Length (s)			20.5		Sum of lost time (s)	10.0
Intersection Capacity Utilization			30.5%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th TWSC
18: Marsh Street/E Street & Main Street

Background Conditions
Timing Plan: PM Peak Hour

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	6	428	0	18	332	37	4	3	18	51	8	25
Future Vol, veh/h	6	428	0	18	332	37	4	3	18	51	8	25
Conflicting Peds, #/hr	1	0	5	5	0	1	1	0	0	0	0	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	465	0	20	361	40	4	3	20	55	9	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	402	0	0	470	0	0	710	926	238	670	906	203
Stage 1	-	-	-	-	-	-	484	484	-	422	422	-
Stage 2	-	-	-	-	-	-	226	442	-	248	484	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1153	-	-	1088	-	-	321	267	763	343	275	804
Stage 1	-	-	-	-	-	-	533	550	-	580	587	-
Stage 2	-	-	-	-	-	-	756	575	-	734	550	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1152	-	-	1083	-	-	293	257	759	323	265	802
Mov Cap-2 Maneuver	-	-	-	-	-	-	293	257	-	323	265	-
Stage 1	-	-	-	-	-	-	526	543	-	575	572	-
Stage 2	-	-	-	-	-	-	701	561	-	705	543	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.1			0.5			12.5			17.3		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	510	1152	-	-	1083	-	-	383
HCM Lane V/C Ratio	0.053	0.006	-	-	0.018	-	-	0.238
HCM Control Delay (s/veh)	12.5	8.1	0	-	8.4	0.1	-	17.3
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.2	0	-	-	0.1	-	-	0.9

HCM 6th TWSC
19: Alma Street/F Street & Main Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	13	458	1	31	331	12	2	0	17	17	2	3
Future Vol, veh/h	13	458	1	31	331	12	2	0	17	17	2	3
Conflicting Peds, #/hr	0	0	5	5	0	0	0	0	1	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	503	1	34	364	13	2	0	19	19	2	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	377	0	0	509	0	0	788	982	258	720	976	189
Stage 1	-	-	-	-	-	-	537	537	-	439	439	-
Stage 2	-	-	-	-	-	-	251	445	-	281	537	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1178	-	-	1052	-	-	282	248	741	315	250	821
Stage 1	-	-	-	-	-	-	496	521	-	567	576	-
Stage 2	-	-	-	-	-	-	731	573	-	702	521	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1178	-	-	1047	-	-	265	233	737	293	235	821
Mov Cap-2 Maneuver	-	-	-	-	-	-	265	233	-	293	235	-
Stage 1	-	-	-	-	-	-	485	510	-	557	552	-
Stage 2	-	-	-	-	-	-	695	550	-	672	510	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.3			0.8			11			17.5		
HCM LOS							B			C		


















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	621	1178	-	-	1047	-	-	313
HCM Lane V/C Ratio	0.034	0.012	-	-	0.033	-	-	0.077
HCM Control Delay (s/veh)	11	8.1	0.1	-	8.6	0.1	-	17.5
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1	-	-	0.2

HCM Signalized Intersection Capacity Analysis

20: S Filbert Street & Main Street

Background Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	397	16	2	319	237	17	49	10	390	35	71
Future Volume (vph)	55	397	16	2	319	237	17	49	10	390	35	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0		5.0	5.0	
Lane Util. Factor		0.95			0.95			1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.98			1.00		1.00	0.99	
Flpb, ped/bikes		0.99			0.99			1.00		1.00	1.00	
Frt		0.99			0.93			0.98		1.00	0.89	
Flt Protected		0.99			0.99			0.98		0.95	1.00	
Satd. Flow (prot)		3496			3279			1809		1770	1661	
Flt Permitted		0.81			0.95			0.98		0.95	1.00	
Satd. Flow (perm)		2866			3127			1809		1770	1661	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	58	418	17	2	336	249	18	52	11	411	37	75
RTOR Reduction (vph)	0	3	0	0	124	0	0	5	0	0	51	0
Lane Group Flow (vph)	0	490	0	0	463	0	0	76	0	411	61	0
Confl. Peds. (#/hr)	4		5	5		4	1					1
Confl. Bikes (#/hr)			2									
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		2			6		4	4		3	3	
Permitted Phases	2			6								
Actuated Green, G (s)		22.1			22.1			6.2		20.9	20.9	
Effective Green, g (s)		22.1			22.1			6.2		20.9	20.9	
Actuated g/C Ratio		0.34			0.34			0.10		0.32	0.32	
Clearance Time (s)		6.0			6.0			5.0		5.0	5.0	
Vehicle Extension (s)		6.0			6.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		971			1059			172		567	532	
v/s Ratio Prot								c0.04		c0.23	0.04	
v/s Ratio Perm		c0.17			0.15							
v/c Ratio		0.50			0.43			0.43		0.72	0.11	
Uniform Delay, d1		17.1			16.7			27.8		19.6	15.6	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		1.1			0.8			0.6		3.8	0.0	
Delay (s)		18.3			17.5			28.5		23.4	15.6	
Level of Service		B			B			C		C	B	
Approach Delay (s/veh)		18.3			17.5			28.5			21.8	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		19.6			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.59										
Actuated Cycle Length (s)		65.2			Sum of lost time (s)			16.0				
Intersection Capacity Utilization		73.7%			ICU Level of Service			D				
Analysis Period (min)		15										

c Critical Lane Group

HCM 6th TWSC
21: Burkett Avenue & Main Street

Background Conditions
Timing Plan: PM Peak Hour

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	17	723	30	11	543	11	8	2	16	5	0	7
Future Vol, veh/h	17	723	30	11	543	11	8	2	16	5	0	7
Conflicting Peds, #/hr	3	0	3	3	0	3	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	777	32	12	584	12	9	2	17	5	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	599	0	0	812	0	0	1148	1455	408	1043	1465	301
Stage 1	-	-	-	-	-	-	832	832	-	617	617	-
Stage 2	-	-	-	-	-	-	316	623	-	426	848	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	974	-	-	810	-	-	154	129	593	184	127	695
Stage 1	-	-	-	-	-	-	330	382	-	444	479	-
Stage 2	-	-	-	-	-	-	670	476	-	577	376	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	971	-	-	808	-	-	146	121	591	168	119	693
Mov Cap-2 Maneuver	-	-	-	-	-	-	146	121	-	168	119	-
Stage 1	-	-	-	-	-	-	318	368	-	428	467	-
Stage 2	-	-	-	-	-	-	648	464	-	538	362	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.3			0.3			20.2			17.5		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	264	971	-	-	808	-	-	301
HCM Lane V/C Ratio	0.106	0.019	-	-	0.015	-	-	0.043
HCM Control Delay (s/veh)	20.2	8.8	0.1	-	9.5	0.1	-	17.5
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.4	0.1	-	-	0	-	-	0.1

HCM 6th TWSC
22: Shasta Avenue & Main Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	8	720	15	5	556	10	5	0	12	3	1	5
Future Vol, veh/h	8	720	15	5	556	10	5	0	12	3	1	5
Conflicting Peds, #/hr	3	0	4	4	0	3	1	0	0	0	0	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	783	16	5	604	11	5	0	13	3	1	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	618	0	0	803	0	0	1127	1441	404	1033	1444	312
Stage 1	-	-	-	-	-	-	813	813	-	623	623	-
Stage 2	-	-	-	-	-	-	314	628	-	410	821	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	958	-	-	817	-	-	159	131	596	187	131	684
Stage 1	-	-	-	-	-	-	339	390	-	440	476	-
Stage 2	-	-	-	-	-	-	671	474	-	589	387	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	955	-	-	814	-	-	153	127	594	179	127	681
Mov Cap-2 Maneuver	-	-	-	-	-	-	153	127	-	179	127	-
Stage 1	-	-	-	-	-	-	332	382	-	431	470	-
Stage 2	-	-	-	-	-	-	658	468	-	566	379	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.2			0.1			16.9			18.3		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	321	955	-	-	814	-	-	281
HCM Lane V/C Ratio	0.058	0.009	-	-	0.007	-	-	0.035
HCM Control Delay (s/veh)	16.9	8.8	0.1	-	9.5	0	-	18.3
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0.1

HCM 6th TWSC
23: David Avenue & Main Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		TT			TT			T			T	
Traffic Vol, veh/h	8	715	10	4	556	8	11	1	1	2	1	5
Future Vol, veh/h	8	715	10	4	556	8	11	1	1	2	1	5
Conflicting Peds, #/hr	1	0	4	4	0	1	0	0	2	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	777	11	4	604	9	12	1	1	2	1	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	614	0	0	792	0	0	1116	1427	400	1027	1428	308
Stage 1	-	-	-	-	-	-	805	805	-	618	618	-
Stage 2	-	-	-	-	-	-	311	622	-	409	810	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	961	-	-	824	-	-	162	134	600	189	134	688
Stage 1	-	-	-	-	-	-	342	393	-	443	479	-
Stage 2	-	-	-	-	-	-	674	477	-	590	391	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	960	-	-	821	-	-	156	130	597	184	130	687
Mov Cap-2 Maneuver	-	-	-	-	-	-	156	130	-	184	130	-
Stage 1	-	-	-	-	-	-	335	385	-	435	475	-
Stage 2	-	-	-	-	-	-	662	473	-	576	383	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.2			0.1			29.2			16.9		
HCM LOS							D			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	163	960	-	-	821	-	-	310
HCM Lane V/C Ratio	0.087	0.009	-	-	0.005	-	-	0.028
HCM Control Delay (s/veh)	29.2	8.8	0.1	-	9.4	0	-	16.9
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.3	0	-	-	0	-	-	0.1

HCM 6th TWSC
24: Rendon Avenue & Main Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	10	679	34	18	533	12	16	4	11	6	3	12
Future Vol, veh/h	10	679	34	18	533	12	16	4	11	6	3	12
Conflicting Peds, #/hr	4	0	7	7	0	4	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	730	37	19	573	13	17	4	12	6	3	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	590	0	0	774	0	0	1104	1406	394	1014	1418	297
Stage 1	-	-	-	-	-	-	778	778	-	622	622	-
Stage 2	-	-	-	-	-	-	326	628	-	392	796	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	982	-	-	837	-	-	166	138	605	193	136	699
Stage 1	-	-	-	-	-	-	355	405	-	441	477	-
Stage 2	-	-	-	-	-	-	661	474	-	604	397	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	978	-	-	831	-	-	152	129	599	176	127	696
Mov Cap-2 Maneuver	-	-	-	-	-	-	152	129	-	176	127	-
Stage 1	-	-	-	-	-	-	345	394	-	430	459	-
Stage 2	-	-	-	-	-	-	622	456	-	572	386	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.2			0.5			26.6			19		
HCM LOS							D			C		



















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	200	978	-	-	831	-	-	280
HCM Lane V/C Ratio	0.167	0.011	-	-	0.023	-	-	0.081
HCM Control Delay (s/veh)	26.6	8.7	0.1	-	9.4	0.2	-	19
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.6	0	-	-	0.1	-	-	0.3

HCM 6th Signalized Intersection Summary

25: Golden Gate Avenue & Main Street

Background Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	510	190	62	414	9	128	23	81	13	30	8
Future Volume (veh/h)	8	510	190	62	414	9	128	23	81	13	30	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	0.99		0.99	0.99		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	543	202	66	440	10	136	24	86	14	32	9
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	17	1129	418	84	1726	39	269	54	118	143	272	65
Arrive On Green	0.01	0.45	0.45	0.05	0.49	0.49	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	2518	933	1781	3552	81	735	239	523	262	1210	288
Grp Volume(v), veh/h	9	383	362	66	220	230	246	0	0	55	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1674	1781	1777	1855	1497	0	0	1760	0	0
Q Serve(g_s), s	0.3	8.1	8.2	2.0	3.9	3.9	6.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	8.1	8.2	2.0	3.9	3.9	8.1	0.0	0.0	1.3	0.0	0.0
Prop In Lane	1.00		0.56	1.00		0.04	0.55		0.35	0.25		0.16
Lane Grp Cap(c), veh/h	17	797	750	84	863	901	441	0	0	480	0	0
V/C Ratio(X)	0.54	0.48	0.48	0.79	0.25	0.26	0.56	0.00	0.00	0.11	0.00	0.00
Avail Cap(c_a), veh/h	665	1592	1500	665	1592	1663	1205	0	0	1026	0	0
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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.4	10.4	10.4	25.3	8.1	8.1	19.1	0.0	0.0	16.6	0.0	0.0
Incr Delay (d2), s/veh	9.7	1.6	1.7	6.1	0.6	0.5	0.4	0.0	0.0	0.0	0.0	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	0.2	2.8	2.7	0.9	1.3	1.3	2.7	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.1	12.0	12.2	31.4	8.6	8.6	19.5	0.0	0.0	16.6	0.0	0.0
LnGrp LOS	D	B	B	C	A	A	B			B		
Approach Vol, veh/h		754			516			246			55	
Approach Delay, s/veh		12.4			11.5			19.5			16.6	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	29.0		17.0	5.5	31.0		17.0				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	20.0	48.0		40.0	20.0	48.0		30.0				
Max Q Clear Time (g_c+I1), s	4.0	10.2		10.1	2.3	5.9		3.3				
Green Ext Time (p_c), s	0.1	13.8		1.1	0.0	7.6		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				13.4								
HCM 6th LOS				B								

HCM 6th TWSC
26: Windsor Avenue & Main Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	7	581	26	4	471	4	11	0	5	4	2	7
Future Vol, veh/h	7	581	26	4	471	4	11	0	5	4	2	7
Conflicting Peds, #/hr	6	0	6	6	0	6	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	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	599	27	4	486	4	11	0	5	4	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	496	0	0	632	0	0	885	1137	319	816	1148	251
Stage 1	-	-	-	-	-	-	633	633	-	502	502	-
Stage 2	-	-	-	-	-	-	252	504	-	314	646	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1064	-	-	947	-	-	239	200	677	269	197	749
Stage 1	-	-	-	-	-	-	434	472	-	520	540	-
Stage 2	-	-	-	-	-	-	730	539	-	671	465	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1058	-	-	942	-	-	231	194	673	262	191	745
Mov Cap-2 Maneuver	-	-	-	-	-	-	231	194	-	262	191	-
Stage 1	-	-	-	-	-	-	427	464	-	512	534	-
Stage 2	-	-	-	-	-	-	716	533	-	659	458	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.1			0.1			18.1			15.1		
HCM LOS							C			C		



















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	291	1058	-	-	942	-	-	370
HCM Lane V/C Ratio	0.057	0.007	-	-	0.004	-	-	0.036
HCM Control Delay (s/veh)	18.1	8.4	0	-	8.8	0	-	15.1
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0.1

HCM Signalized Intersection Capacity Analysis

27: Netherton Avenue & Main Street

Background Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	529	27	38	441	5	21	6	67	27	12	48
Future Volume (vph)	11	529	27	38	441	5	21	6	67	27	12	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99			0.98			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Frt	1.00	0.99		1.00	0.99			0.90			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	3509		1770	3532			1647			1684	
Flt Permitted	0.95	1.00		0.95	1.00			0.89			0.86	
Satd. Flow (perm)	1770	3509		1770	3532			1497			1472	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	11	534	27	38	445	5	21	6	68	27	12	48
RTOR Reduction (vph)	0	3	0	0	1	0	0	56	0	0	40	0
Lane Group Flow (vph)	11	558	0	38	449	0	0	39	0	0	47	0
Confl. Peds. (#/hr)			4			1	2		6	6		2
Confl. Bikes (#/hr)			1									
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	0.6	15.4		0.8	15.6			6.5			6.5	
Effective Green, g (s)	0.6	15.4		0.8	15.6			6.5			6.5	
Actuated g/C Ratio	0.02	0.41		0.02	0.41			0.17			0.17	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	2.0	6.0		2.0	6.0			2.0			2.0	
Lane Grp Cap (vph)	28	1433		37	1461			258			253	
v/s Ratio Prot	0.01	c0.16		c0.02	0.13							
v/s Ratio Perm								0.03			c0.03	
v/c Ratio	0.39	0.38		1.02	0.30			0.15			0.18	
Uniform Delay, d1	18.3	7.8		18.4	7.4			13.2			13.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	3.2	0.4		156.1	0.3			0.0			0.1	
Delay (s)	21.6	8.3		174.5	7.7			13.3			13.4	
Level of Service	C	A		F	A			B			B	
Approach Delay (s/veh)		8.5			20.7			13.3			13.4	
Approach LOS		A			C			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			14.1			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.35									
Actuated Cycle Length (s)			37.7			Sum of lost time (s)			15.0			
Intersection Capacity Utilization			41.3%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
28: Broadway Avenue & Main Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↗	↗↗			↔			↔	
Traffic Vol, veh/h	26	559	6	10	446	16	12	2	11	13	5	14
Future Vol, veh/h	26	559	6	10	446	16	12	2	11	13	5	14
Conflicting Peds, #/hr	8	0	14	14	0	8	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	576	6	10	460	16	12	2	11	13	5	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	484	0	0	596	0	0	900	1151	308	842	1146	246
Stage 1	-	-	-	-	-	-	647	647	-	496	496	-
Stage 2	-	-	-	-	-	-	253	504	-	346	650	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1075	-	-	976	-	-	233	197	688	257	198	754
Stage 1	-	-	-	-	-	-	426	465	-	524	544	-
Stage 2	-	-	-	-	-	-	729	539	-	643	463	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1067	-	-	963	-	-	213	184	677	239	185	748
Mov Cap-2 Maneuver	-	-	-	-	-	-	213	184	-	239	185	-
Stage 1	-	-	-	-	-	-	405	442	-	501	534	-
Stage 2	-	-	-	-	-	-	701	529	-	604	440	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.5			0.2			18.1			17.5		
HCM LOS							C			C		


Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	300	1067	-	-	963	-	-	320
HCM Lane V/C Ratio	0.086	0.025	-	-	0.011	-	-	0.103
HCM Control Delay (s/veh)	18.1	8.5	0.1	-	8.8	-	-	17.5
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q (veh)	0.3	0.1	-	-	0	-	-	0.3

HCM Signalized Intersection Capacity Analysis

29: S Center Street & Market Street

Background Conditions

Timing Plan: PM Peak Hour















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑									↑↑↑	
Traffic Volume (vph)	0	63	58	0	0	0	0	0	0	56	1771	0
Future Volume (vph)	0	63	58	0	0	0	0	0	0	56	1771	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0									5.0	
Lane Util. Factor		0.95									0.91	
Frpb, ped/bikes		0.98									1.00	
Flpb, ped/bikes		1.00									0.99	
Frt		0.92									1.00	
Flt Protected		1.00									0.99	
Satd. Flow (prot)		3246									5076	
Flt Permitted		1.00									0.99	
Satd. Flow (perm)		3246									5076	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	69	64	0	0	0	0	0	0	62	1946	0
RTOR Reduction (vph)	0	9	0	0	0	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	124	0	0	0	0	0	0	0	0	1998	0
Confl. Peds. (#/hr)	5		11							11		
Turn Type		NA								Perm	NA	
Protected Phases		2									1	
Permitted Phases										1		
Actuated Green, G (s)		24.0									51.0	
Effective Green, g (s)		24.0									51.0	
Actuated g/C Ratio		0.28									0.60	
Clearance Time (s)		5.0									5.0	
Vehicle Extension (s)		0.2									0.2	
Lane Grp Cap (vph)		916									3045	
v/s Ratio Prot		0.04										
v/s Ratio Perm											0.39	
v/c Ratio		0.13									0.65	
Uniform Delay, d1		22.7									11.2	
Progression Factor		1.00									1.00	
Incremental Delay, d2		0.3									1.1	
Delay (s)		23.0									12.3	
Level of Service		C									B	
Approach Delay (s/veh)		23.0			0.0			0.0			12.3	
Approach LOS		C			A			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			13.0									
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			85.0							10.0		
Intersection Capacity Utilization			62.9%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

30: S El Dorado Street & Market Street

Background Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	81	0	0	0	0	0	1446	39	0	0	0
Future Volume (vph)	67	81	0	0	0	0	0	1446	39	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0				
Lane Util. Factor		0.95						0.86				
Frpb, ped/bikes		1.00						0.99				
Flpb, ped/bikes		0.99						1.00				
Frt		1.00						0.99				
Flt Protected		0.97						1.00				
Satd. Flow (prot)		3455						6378				
Flt Permitted		0.97						1.00				
Satd. Flow (perm)		3455						6378				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	70	84	0	0	0	0	0	1506	41	0	0	0
RTOR Reduction (vph)	0	24	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	130	0	0	0	0	0	1543	0	0	0	0
Confl. Peds. (#/hr)	3								10			
Confl. Bikes (#/hr)			2						3			
Turn Type	Perm	NA						NA				
Protected Phases		2						1				
Permitted Phases	2											
Actuated Green, G (s)		25.0						50.0				
Effective Green, g (s)		25.0						50.0				
Actuated g/C Ratio		0.29						0.59				
Clearance Time (s)		5.0						5.0				
Vehicle Extension (s)		0.2						0.2				
Lane Grp Cap (vph)		1016						3751				
v/s Ratio Prot								c0.24				
v/s Ratio Perm		0.04										
v/c Ratio		0.12						0.41				
Uniform Delay, d1		22.0						9.5				
Progression Factor		0.79						1.00				
Incremental Delay, d2		0.2						0.3				
Delay (s)		17.7						9.8				
Level of Service		B						A				
Approach Delay (s/veh)		17.7			0.0			9.8			0.0	
Approach LOS		B			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		10.6						HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio		0.32										
Actuated Cycle Length (s)		85.0						Sum of lost time (s)		10.0		
Intersection Capacity Utilization		34.2%						ICU Level of Service		A		
Analysis Period (min)		15										

c Critical Lane Group

HCM 6th AWSC
31: S Hunter Street & Market Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection

Intersection Delay, s/veh 7.9

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑							↑↑	↑	↑	
Traffic Vol, veh/h	0	106	13	0	0	0	0	0	24	32	36	0
Future Vol, veh/h	0	106	13	0	0	0	0	0	24	32	36	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	125	15	0	0	0	0	0	28	38	42	0
Number of Lanes	0	2	0	0	0	0	0	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay, s/veh	7.9	7.5	8.1
HCM LOS	A	A	A


Lane	NBLn1	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	100%	0%
Vol Thru, %	0%	100%	73%	0%	100%
Vol Right, %	100%	0%	27%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	71	48	32	36
LT Vol	0	0	0	32	0
Through Vol	0	71	35	0	36
RT Vol	24	0	13	0	0
Lane Flow Rate	28	83	57	38	42
Geometry Grp	4b	5	5	5	5
Degree of Util (X)	0.034	0.109	0.072	0.056	0.058
Departure Headway (Hd)	4.371	4.717	4.529	5.402	4.901
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	824	749	779	667	735
Service Time	2.373	2.514	2.326	3.103	2.601
HCM Lane V/C Ratio	0.034	0.111	0.073	0.057	0.057
HCM Control Delay, s/veh	7.5	8.1	7.7	8.4	7.9
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	0.4	0.2	0.2	0.2

HCM Signalized Intersection Capacity Analysis

32: S San Joaquin Street & Market Street

Background Conditions

Timing Plan: PM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔						↔↔			↔↔	
Traffic Volume (vph)	21	105	36	0	0	0	0	118	48	15	129	0
Future Volume (vph)	21	105	36	0	0	0	0	118	48	15	129	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		0.95						0.95			0.95	
Frpb, ped/bikes		0.98						0.97			1.00	
Flpb, ped/bikes		0.99						1.00			0.99	
Frt		0.96						0.95			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		3351						3284			3495	
Flt Permitted		0.99						1.00			0.92	
Satd. Flow (perm)		3351						3284			3248	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	24	119	41	0	0	0	0	134	55	17	147	0
RTOR Reduction (vph)	0	27	0	0	0	0	0	27	0	0	0	0
Lane Group Flow (vph)	0	157	0	0	0	0	0	162	0	0	164	0
Confl. Peds. (#/hr)	19		49						78	78		
Confl. Bikes (#/hr)									4			
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						1			1	
Permitted Phases	2									1		
Actuated Green, G (s)		24.0						36.0			36.0	
Effective Green, g (s)		24.0						36.0			36.0	
Actuated g/C Ratio		0.34						0.51			0.51	
Clearance Time (s)		5.0						5.0			5.0	
Vehicle Extension (s)		0.2						0.2			0.2	
Lane Grp Cap (vph)		1148						1688			1670	
v/s Ratio Prot								0.05				
v/s Ratio Perm		0.05									c0.05	
v/c Ratio		0.13						0.09			0.09	
Uniform Delay, d1		15.8						8.6			8.6	
Progression Factor		1.00						1.00			0.35	
Incremental Delay, d2		0.2						0.1			0.1	
Delay (s)		16.1						8.8			3.1	
Level of Service		B						A			A	
Approach Delay (s/veh)		16.1			0.0			8.8			3.1	
Approach LOS		B			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		9.6										
HCM 2000 Volume to Capacity ratio		0.11										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		43.6%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

33: S Sutter Street & Market Street

Background Conditions

Timing Plan: PM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔↔						↑	↗		↖↖	
Traffic Volume (vph)	18	121	30	0	0	0	0	112	41	18	124	0
Future Volume (vph)	18	121	30	0	0	0	0	112	41	18	124	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0	5.0		5.0	
Lane Util. Factor		0.95						1.00	1.00		0.95	
Frpb, ped/bikes		0.97						1.00	0.88		1.00	
Flpb, ped/bikes		0.99						1.00	1.00		0.98	
Frt		0.97						1.00	0.85		1.00	
Flt Protected		0.99						1.00	1.00		0.99	
Satd. Flow (prot)		3317						1863	1399		3478	
Flt Permitted		0.99						1.00	1.00		0.91	
Satd. Flow (perm)		3317						1863	1399		3204	
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	24	159	39	0	0	0	0	147	54	24	163	0
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	31	0	0	0
Lane Group Flow (vph)	0	200	0	0	0	0	0	147	23	0	187	0
Confl. Peds. (#/hr)	35		123						81	81		
Confl. Bikes (#/hr)									1			
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1								2	2		
Actuated Green, G (s)		30.0						30.0	30.0		30.0	
Effective Green, g (s)		30.0						30.0	30.0		30.0	
Actuated g/C Ratio		0.43						0.43	0.43		0.43	
Clearance Time (s)		5.0						5.0	5.0		5.0	
Vehicle Extension (s)		0.2						0.2	0.2		0.2	
Lane Grp Cap (vph)		1421						798	599		1373	
v/s Ratio Prot								c0.08				
v/s Ratio Perm		0.06							0.02		0.06	
v/c Ratio		0.14						0.18	0.03		0.13	
Uniform Delay, d1		12.1						12.4	11.6		12.1	
Progression Factor		1.48						1.00	1.00		0.71	
Incremental Delay, d2		0.2						0.5	0.1		0.2	
Delay (s)		18.2						12.9	11.7		8.9	
Level of Service		B						B	B		A	
Approach Delay (s/veh)		18.2			0.0			12.6			8.9	
Approach LOS		B			A			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		13.5										
HCM 2000 Volume to Capacity ratio		0.16										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		45.6%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

34: California Street & Market Street

Background Conditions

Timing Plan: PM Peak Hour
















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔						↔↔			↔↔	
Traffic Volume (veh/h)	27	131	18	0	0	0	0	190	32	31	247	0
Future Volume (veh/h)	27	131	18	0	0	0	0	190	32	31	247	0
Initial Q (Qb), veh	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
Parking Bus, Adj	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	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	30	146	20				0	211	36	34	274	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	146	738	105				0	1782	299	228	1769	0
Arrive On Green	0.27	0.27	0.27				0.00	0.59	0.59	1.00	1.00	0.00
Sat Flow, veh/h	537	2718	387				0	3136	511	283	3105	0
Grp Volume(v), veh/h	103	0	93				0	122	125	162	146	0
Grp Sat Flow(s),veh/h/ln	1844	0	1799				0	1777	1777	1685	1617	0
Q Serve(g_s), s	3.0	0.0	2.8				0.0	2.1	2.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.0	0.0	2.8				0.0	2.1	2.2	0.0	0.0	0.0
Prop In Lane	0.29		0.22				0.00		0.29	0.21		0.00
Lane Grp Cap(c), veh/h	500	0	488				0	1041	1041	1049	947	0
V/C Ratio(X)	0.21	0.00	0.19				0.00	0.12	0.12	0.15	0.15	0.00
Avail Cap(c_a), veh/h	500	0	488				0	1041	1041	1049	947	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.96	0.96	0.00
Uniform Delay (d), s/veh	19.7	0.0	19.6				0.0	6.4	6.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.9				0.0	0.2	0.2	0.3	0.3	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
%ile BackOfQ(50%),veh/ln	1.4	0.0	1.2				0.0	0.7	0.8	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.6	0.0	20.5				0.0	6.7	6.7	0.3	0.3	0.0
LnGrp LOS	C		C					A	A	A	A	
Approach Vol, veh/h		196						247			308	
Approach Delay, s/veh		20.5						6.7			0.3	
Approach LOS		C						A			A	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		46.0		24.0		46.0						
Change Period (Y+Rc), s		5.0		5.0		5.0						
Max Green Setting (Gmax), s		41.0		19.0		41.0						
Max Q Clear Time (g_c+I1), s		4.2		5.0		2.0						
Green Ext Time (p_c), s		0.3		0.2		0.3						
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			7.7									
HCM 6th LOS			A									

HCM Signalized Intersection Capacity Analysis

35: S American Street & Market Street

Background Conditions

Timing Plan: PM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	178	0	0	0	0	0	0	0	38	1	0
Future Volume (vph)	25	178	0	0	0	0	0	0	0	38	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0									5.0	
Lane Util. Factor		0.95									1.00	
Frpb, ped/bikes		1.00									1.00	
Flpb, ped/bikes		0.99									0.99	
Frt		1.00									1.00	
Flt Protected		0.99									0.95	
Satd. Flow (prot)		3513									1762	
Flt Permitted		0.99									0.77	
Satd. Flow (perm)		3513									1430	
Peak-hour factor, PHF	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Adj. Flow (vph)	36	254	0	0	0	0	0	0	0	54	1	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	290	0	0	0	0	0	0	0	0	55	0
Confl. Peds. (#/hr)	5		1							6	6	
Turn Type	Perm	NA								Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		40.0									20.0	
Effective Green, g (s)		40.0									20.0	
Actuated g/C Ratio		0.57									0.29	
Clearance Time (s)		5.0									5.0	
Vehicle Extension (s)		0.2									0.2	
Lane Grp Cap (vph)		2007									408	
v/s Ratio Prot												
v/s Ratio Perm		0.08									c0.04	
v/c Ratio		0.14									0.13	
Uniform Delay, d1		7.0									18.5	
Progression Factor		0.55									0.78	
Incremental Delay, d2		0.1									0.6	
Delay (s)		4.0									15.2	
Level of Service		A									B	
Approach Delay (s/veh)		4.0			0.0			0.0			15.2	
Approach LOS		A			A			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		5.8										
HCM 2000 Volume to Capacity ratio		0.14										
Actuated Cycle Length (s)		70.0								10.0		
Intersection Capacity Utilization		36.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

36: S Stanislaus Street & Market Street

Background Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔						↔↔			↔↔	
Traffic Volume (vph)	17	135	64	0	0	0	0	263	32	6	365	0
Future Volume (vph)	17	135	64	0	0	0	0	263	32	6	365	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		0.95						0.95			0.95	
Frpb, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		0.99						1.00			0.99	
Frt		0.95						0.98			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		3349						3475			3536	
Flt Permitted		0.99						1.00			0.94	
Satd. Flow (perm)		3349						3475			3361	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	21	165	78	0	0	0	0	321	39	7	445	0
RTOR Reduction (vph)	0	50	0	0	0	0	0	14	0	0	0	0
Lane Group Flow (vph)	0	214	0	0	0	0	0	347	0	0	452	0
Confl. Peds. (#/hr)	4		5						5	5		
Confl. Bikes (#/hr)			1						1			
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		25.0						35.0			35.0	
Effective Green, g (s)		25.0						35.0			35.0	
Actuated g/C Ratio		0.36						0.50			0.50	
Clearance Time (s)		5.0						5.0			5.0	
Vehicle Extension (s)		0.2						0.2			0.2	
Lane Grp Cap (vph)		1196						1737			1680	
v/s Ratio Prot								0.10				
v/s Ratio Perm		0.06									c0.13	
v/c Ratio		0.17						0.19			0.26	
Uniform Delay, d1		15.4						9.7			10.1	
Progression Factor		0.40						1.00			0.73	
Incremental Delay, d2		0.3						0.2			0.3	
Delay (s)		6.6						9.9			7.8	
Level of Service		A						A			A	
Approach Delay (s/veh)		6.6			0.0			9.9			7.8	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		8.3										
HCM 2000 Volume to Capacity ratio		0.23										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		37.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th TWSC
37: S Grant Street & Market Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EB						EB			EB	
Traffic Vol, veh/h	24	149	2	0	0	0	0	2	5	26	10	0
Future Vol, veh/h	24	149	2	0	0	0	0	2	5	26	10	0
Conflicting Peds, #/hr	2	0	1	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	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	177	2	0	0	0	0	2	6	31	12	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	2	0	0	-	239	91	150	240	-
Stage 1	-	-	-	-	237	-	2	2	-
Stage 2	-	-	-	-	2	-	148	238	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1619	-	-	0	661	949	803	660	0
Stage 1	-	-	-	0	708	-	-	-	0
Stage 2	-	-	-	0	-	-	840	707	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1616	-	-	-	646	948	782	645	-
Mov Cap-2 Maneuver	-	-	-	-	646	-	782	645	-
Stage 1	-	-	-	-	693	-	-	-	-
Stage 2	-	-	-	-	-	-	815	692	-

Approach	EB	NB	SB
HCM Control Delay, s/v	1.1	9.4	10.2
HCM LOS		A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	836	1616	-	-	738
HCM Lane V/C Ratio	0.01	0.018	-	-	0.058
HCM Control Delay (s/veh)	9.4	7.3	0.1	-	10.2
HCM Lane LOS	A	A	A	-	B
HCM 95th %tile Q (veh)	0	0.1	-	-	0.2

HCM 6th TWSC
38: S Aurora Street & Market Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		TT						T			T	
Traffic Vol, veh/h	26	128	21	0	0	0	0	115	28	8	53	0
Future Vol, veh/h	26	128	21	0	0	0	0	115	28	8	53	0
Conflicting Peds, #/hr	1	0	1	0	0	0	0	0	2	2	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	138	23	0	0	0	0	124	30	9	57	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	1	0	0	-	208	84	190	219	-
Stage 1	-	-	-	-	207	-	1	1	-
Stage 2	-	-	-	-	1	-	189	218	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1620	-	-	0	688	958	753	678	0
Stage 1	-	-	-	0	729	-	-	-	0
Stage 2	-	-	-	0	-	-	795	721	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1618	-	-	-	674	957	617	664	-
Mov Cap-2 Maneuver	-	-	-	-	674	-	617	664	-
Stage 1	-	-	-	-	714	-	-	-	-
Stage 2	-	-	-	-	-	-	625	707	-

Approach	EB	NB	SB
HCM Control Delay, s/v	1.1	11.4	11.1
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	715	1618	-	-	657
HCM Lane V/C Ratio	0.215	0.017	-	-	0.1
HCM Control Delay (s/veh)	11.4	7.3	0	-	11.1
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.8	0.1	-	-	0.3

HCM 6th TWSC
39: Union Street & Market Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EB						EB			EB	
Traffic Vol, veh/h	17	166	7	0	0	0	0	87	27	16	91	0
Future Vol, veh/h	17	166	7	0	0	0	0	87	27	16	91	0
Conflicting Peds, #/hr	0	0	3	0	0	0	0	0	1	1	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	178	8	0	0	0	0	94	29	17	98	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	0	-	221	97	173	225	-
Stage 1	-	-	-	-	221	-	0	0	-
Stage 2	-	-	-	-	0	-	173	225	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	-	-	-	0	676	940	774	673	0
Stage 1	-	-	-	0	719	-	-	-	0
Stage 2	-	-	-	0	-	-	812	716	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	674	937	670	671	-
Mov Cap-2 Maneuver	-	-	-	-	674	-	670	671	-
Stage 1	-	-	-	-	717	-	-	-	-
Stage 2	-	-	-	-	-	-	684	714	-

Approach	EB	NB	SB
HCM Control Delay, s/v		11	11.5
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	722	-	-	-	671
HCM Lane V/C Ratio	0.17	-	-	-	0.171
HCM Control Delay (s/veh)	11	-	-	-	11.5
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q (veh)	0.6	-	-	-	0.6

HCM 6th TWSC
40: Pilgrim Street & Market Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		LT						RT			LT	
Traffic Vol, veh/h	11	196	3	0	0	0	0	11	10	15	8	0
Future Vol, veh/h	11	196	3	0	0	0	0	11	10	15	8	0
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	8	8	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	211	3	0	0	0	0	12	11	16	9	0


Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	0	-	238	116	144	239	-
Stage 1	-	-	-	-	238	-	0	0	-
Stage 2	-	-	-	-	0	-	144	239	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	-	-	-	0	662	914	811	661	0
Stage 1	-	-	-	0	707	-	-	-	0
Stage 2	-	-	-	0	-	-	844	706	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	661	913	791	660	-
Mov Cap-2 Maneuver	-	-	-	-	661	-	791	660	-
Stage 1	-	-	-	-	706	-	-	-	-
Stage 2	-	-	-	-	-	-	820	705	-

Approach	EB	NB	SB
HCM Control Delay, s/v		9.9	10
HCM LOS		A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	761	-	-	-	740
HCM Lane V/C Ratio	0.03	-	-	-	0.033
HCM Control Delay (s/veh)	9.9	-	-	-	10
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q (veh)	0.1	-	-	-	0.1

HCM 6th Signalized Intersection Summary 41: Airport Way & Market Street

Background Conditions
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔						↔↔			↔↔	
Traffic Volume (veh/h)	23	160	22	0	0	0	0	845	53	97	688	0
Future Volume (veh/h)	23	160	22	0	0	0	0	845	53	97	688	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.98	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	25	176	24				0	929	58	107	756	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	37	273	39				0	2689	168	286	1952	0
Arrive On Green	0.10	0.10	0.10				0.00	0.79	0.79	1.00	1.00	0.00
Sat Flow, veh/h	390	2847	404				0	3485	212	295	2547	0
Grp Volume(v), veh/h	119	0	106				0	487	500	367	496	0
Grp Sat Flow(s),veh/h/ln	1851	0	1790				0	1777	1826	1140	1617	0
Q Serve(g_s), s	5.6	0.0	5.1				0.0	7.0	7.0	1.5	0.0	0.0
Cycle Q Clear(g_c), s	5.6	0.0	5.1				0.0	7.0	7.0	8.6	0.0	0.0
Prop In Lane	0.21		0.23				0.00		0.12	0.29		0.00
Lane Grp Cap(c), veh/h	178	0	172				0	1409	1448	956	1282	0
V/C Ratio(X)	0.67	0.00	0.62				0.00	0.35	0.35	0.38	0.39	0.00
Avail Cap(c_a), veh/h	452	0	438				0	1409	1448	956	1282	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.94	0.94	0.00
Uniform Delay (d), s/veh	39.3	0.0	39.1				0.0	2.7	2.7	0.1	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	1.3				0.0	0.7	0.7	1.1	0.8	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
%ile BackOfQ(50%),veh/ln	2.6	0.0	2.3				0.0	1.7	1.7	0.3	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.9	0.0	40.4				0.0	3.3	3.3	1.2	0.8	0.0
LnGrp LOS	D		D					A	A	A	A	
Approach Vol, veh/h		225						987			863	
Approach Delay, s/veh		40.7						3.3			1.0	
Approach LOS		D						A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		76.4				76.4		13.6				
Change Period (Y+Rc), s		5.0				5.0		5.0				
Max Green Setting (Gmax), s		58.0				58.0		22.0				
Max Q Clear Time (g_c+l1), s		10.6				9.0		7.6				
Green Ext Time (p_c), s		1.3				0.9		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			6.4									
HCM 6th LOS			A									

HCM 6th TWSC
42: Sierra Nevada Street & Market Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		LT						RT			LT	
Traffic Vol, veh/h	23	284	5	0	0	0	0	20	15	70	26	0
Future Vol, veh/h	23	284	5	0	0	0	0	20	15	70	26	0
Conflicting Peds, #/hr	1	0	3	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	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	302	5	0	0	0	0	21	16	74	28	0


Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	1	0	0	-	357	157	211	359	-
Stage 1	-	-	-	-	356	-	1	1	-
Stage 2	-	-	-	-	1	-	210	358	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1620	-	-	0	568	861	728	566	0
Stage 1	-	-	-	0	628	-	-	-	0
Stage 2	-	-	-	0	-	-	773	626	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1618	-	-	-	556	859	684	554	-
Mov Cap-2 Maneuver	-	-	-	-	556	-	684	554	-
Stage 1	-	-	-	-	615	-	-	-	-
Stage 2	-	-	-	-	-	-	719	613	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.6	10.8	11.7
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	655	1618	-	-	643
HCM Lane V/C Ratio	0.057	0.015	-	-	0.159
HCM Control Delay (s/veh)	10.8	7.3	0.1	-	11.7
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.2	0	-	-	0.6

HCM 6th Signalized Intersection Summary 43: S Wilson Way & Market Street

Background Conditions
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕		↗	↕↕	
Traffic Volume (veh/h)	38	262	75	0	0	0	0	850	112	188	814	0
Future Volume (veh/h)	38	262	75	0	0	0	0	850	112	188	814	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	40	276	79				0	895	118	198	857	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	56	395	118				0	1722	227	228	2592	0
Arrive On Green	0.05	0.05	0.05				0.00	0.55	0.55	0.26	1.00	0.00
Sat Flow, veh/h	350	2480	740				0	3249	416	1781	3647	0
Grp Volume(v), veh/h	212	0	183				0	504	509	198	857	0
Grp Sat Flow(s),veh/h/ln	1853	0	1717				0	1777	1795	1781	1777	0
Q Serve(g_s), s	10.1	0.0	9.4				0.0	16.2	16.2	9.6	0.0	0.0
Cycle Q Clear(g_c), s	10.1	0.0	9.4				0.0	16.2	16.2	9.6	0.0	0.0
Prop In Lane	0.19		0.43				0.00		0.23	1.00		0.00
Lane Grp Cap(c), veh/h	295	0	274				0	970	980	228	2592	0
V/C Ratio(X)	0.72	0.00	0.67				0.00	0.52	0.52	0.87	0.33	0.00
Avail Cap(c_a), veh/h	432	0	401				0	970	980	257	2592	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.93	0.93	0.00
Uniform Delay (d), s/veh	40.6	0.0	40.3				0.0	13.0	13.0	32.7	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	1.1				0.0	2.0	2.0	20.6	0.3	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
%ile BackOfQ(50%),veh/ln	5.1	0.0	4.4				0.0	6.6	6.7	4.9	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.9	0.0	41.4				0.0	14.9	14.9	53.3	0.3	0.0
LnGrp LOS	D		D					B	B	D	A	
Approach Vol, veh/h		395						1013			1055	
Approach Delay, s/veh		41.6						14.9			10.3	
Approach LOS		D						B			B	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	16.5	54.1				70.7		19.3				
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0				
Max Green Setting (Gmax), s	13.0	41.0				59.0		21.0				
Max Q Clear Time (g_c+I1), s	11.6	18.2				2.0		12.1				
Green Ext Time (p_c), s	0.0	15.0				21.3		1.1				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			17.2									
HCM 6th LOS			B									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 6th TWSC
44: S Eugenia Street & Market Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Traffic Vol, veh/h	574	12	0	0	0	42
Future Vol, veh/h	574	12	0	0	0	42
Conflicting Peds, #/hr	0	6	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, %	2	2	2	2	2	2
Mvmt Flow	624	13	0	0	0	46

Major/Minor	Major1		Minor1	
Conflicting Flow All	0	0	-	325
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	671
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-		
Mov Cap-1 Maneuver	-	-	-	667
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s/v	0	10.8
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	667	-	-
HCM Lane V/C Ratio	0.068	-	-
HCM Control Delay (s/veh)	10.8	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q (veh)	0.2	-	-

HCM 6th TWSC
45: Della Street & Market Street

Background Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EB						EB			EB	
Traffic Vol, veh/h	55	535	18	0	0	0	0	1	1	34	44	0
Future Vol, veh/h	55	535	18	0	0	0	0	1	1	34	44	0
Conflicting Peds, #/hr	2	0	1	0	0	0	0	0	1	1	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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	601	20	0	0	0	0	1	1	38	49	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	2	0	0	-	738	313	428	748	-
Stage 1	-	-	-	-	736	-	2	2	-
Stage 2	-	-	-	-	2	-	426	746	-
Critical Hdwy	4.14	-	-	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	1619	-	-	0	344	683	511	339	0
Stage 1	-	-	-	0	423	-	-	-	0
Stage 2	-	-	-	0	-	-	577	419	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1616	-	-	-	323	682	485	318	-
Mov Cap-2 Maneuver	-	-	-	-	323	-	485	318	-
Stage 1	-	-	-	-	398	-	-	-	-
Stage 2	-	-	-	-	-	-	541	394	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.8	13.3	17.5
HCM LOS		B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	438	1616	-	-	374
HCM Lane V/C Ratio	0.005	0.038	-	-	0.234
HCM Control Delay (s/veh)	13.3	7.3	0.2	-	17.5
HCM Lane LOS	B	A	A	-	C
HCM 95th %tile Q (veh)	0	0.1	-	-	0.9

Queues

2: S San Joaquin Street/N San Joaquin Street & Main Street

Background Conditions

Timing Plan: AM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	96	250	256
v/c Ratio	0.41	0.20	0.19
Control Delay (s/veh)	40.8	11.5	13.8
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	40.8	11.5	13.8
Queue Length 50th (ft)	22	26	35
Queue Length 95th (ft)	43	42	61
Internal Link Dist (ft)	301	264	331
Turn Bay Length (ft)			
Base Capacity (vph)	508	1211	1326
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.19	0.21	0.19
Intersection Summary			

Queues

3: S Sutter Street/N Sutter Street & Main Street

Background Conditions

Timing Plan: AM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	83	102	144
v/c Ratio	0.11	0.22	0.15
Control Delay (s/veh)	12.5	15.3	20.0
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	12.5	15.3	20.0
Queue Length 50th (ft)	14	20	24
Queue Length 95th (ft)	27	36	41
Internal Link Dist (ft)	298	256	344
Turn Bay Length (ft)			
Base Capacity (vph)	735	455	915
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.11	0.22	0.16
Intersection Summary			

Queues

4: California Street & Main Street

Background Conditions

Timing Plan: AM Peak Hour

	←	↑	↓
Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	170	307	255
v/c Ratio	0.23	0.34	0.26
Control Delay (s/veh)	36.7	17.0	20.9
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	36.7	17.0	20.9
Queue Length 50th (ft)	38	56	45
Queue Length 95th (ft)	m53	85	70
Internal Link Dist (ft)	307	257	324
Turn Bay Length (ft)			
Base Capacity (vph)	710	897	952
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.24	0.34	0.27

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

5: S American Street/N American Street & Main Street

Background Conditions

Timing Plan: AM Peak Hour



Lane Group	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	366	58	53	34
v/c Ratio	0.77	0.10	0.08	0.06
Control Delay (s/veh)	41.2	9.0	16.8	16.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	41.2	9.0	16.8	16.7
Queue Length 50th (ft)	82	8	16	10
Queue Length 95th (ft)	80	11	24	18
Internal Link Dist (ft)	303	260	330	
Turn Bay Length (ft)				
Base Capacity (vph)	473	539	612	508
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.77	0.11	0.09	0.07
Intersection Summary				

Queues

6: S Stanislaus Street/N Stanislaus Street & Main Street

Background Conditions

Timing Plan: AM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	211	712	311
v/c Ratio	0.17	0.48	0.17
Control Delay (s/veh)	15.5	10.1	9.4
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	15.5	10.2	9.4
Queue Length 50th (ft)	31	64	34
Queue Length 95th (ft)	41	73	42
Internal Link Dist (ft)	300	272	338
Turn Bay Length (ft)			
Base Capacity (vph)	1239	1455	1757
Starvation Cap Reductn	0	46	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.17	0.51	0.18
Intersection Summary			

Queues

11: Airport Way & Main Street

Background Conditions

Timing Plan: AM Peak Hour








Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	242	866	728
v/c Ratio	0.28	0.40	0.32
Control Delay (s/veh)	9.1	5.8	7.5
Queue Delay	0.0	0.1	0.0
Total Delay (s/veh)	9.1	6.0	7.5
Queue Length 50th (ft)	11	120	86
Queue Length 95th (ft)	40	11	115
Internal Link Dist (ft)	310	254	262
Turn Bay Length (ft)			
Base Capacity (vph)	864	2125	2274
Starvation Cap Reductn	0	439	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.28	0.51	0.32
Intersection Summary			

Queues

13: S Wilson Way & Main Street

Background Conditions

Timing Plan: AM Peak Hour

					
Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	268	215	33	753	689
v/c Ratio	0.53	0.52	0.06	0.28	0.26
Control Delay (s/veh)	38.7	9.2	9.2	7.7	4.5
Queue Delay	0.0	0.0	0.0	0.3	0.0
Total Delay (s/veh)	38.7	9.2	9.2	8.1	4.5
Queue Length 50th (ft)	77	0	4	52	47
Queue Length 95th (ft)	98	53	36	215	112
Internal Link Dist (ft)	710			271	283
Turn Bay Length (ft)		215	70		
Base Capacity (vph)	881	564	533	2633	2621
Starvation Cap Reductn	0	0	0	1263	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.30	0.38	0.06	0.55	0.26
Intersection Summary					

Queues

14: Market Street/E Market Street & Main St/Main Street

Background Conditions

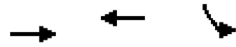
Timing Plan: AM Peak Hour



Lane Group	WBT	NET	SWR
Lane Group Flow (vph)	503	18	37
v/c Ratio	0.17	0.05	0.06
Control Delay (s/veh)	2.2	0.2	0.2
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	2.2	0.2	0.2
Queue Length 50th (ft)	18	0	0
Queue Length 95th (ft)	27	0	0
Internal Link Dist (ft)	87	10	
Turn Bay Length (ft)			
Base Capacity (vph)	3369	1182	1164
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.15	0.02	0.03
Intersection Summary			

Queues
17: Main Street & D Street

Background Conditions
Timing Plan: AM Peak Hour



Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	300	472	15
v/c Ratio	0.11	0.15	0.03
Control Delay (s/veh)	1.7	1.5	7.2
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	1.7	1.5	7.2
Queue Length 50th (ft)	0	0	1
Queue Length 95th (ft)	20	31	9
Internal Link Dist (ft)	615	624	178
Turn Bay Length (ft)			
Base Capacity (vph)	3311	3486	1541
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.09	0.14	0.01
Intersection Summary			

Queues

20: S Filbert Street & Main Street

Background Conditions

Timing Plan: AM Peak Hour







	→	←	↑	↘	↓
Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	293	649	67	247	82
v/c Ratio	0.27	0.49	0.24	0.57	0.18
Control Delay (s/veh)	15.9	13.7	25.7	27.1	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.9	13.7	25.7	27.1	11.6
Queue Length 50th (ft)	35	63	19	69	7
Queue Length 95th (ft)	98	176	63	197	46
Internal Link Dist (ft)	616	739	220		239
Turn Bay Length (ft)				50	
Base Capacity (vph)	2079	2442	733	1236	1168
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.14	0.27	0.09	0.20	0.07
Intersection Summary					

Queues

25: Golden Gate Avenue & Main Street

Background Conditions

Timing Plan: AM Peak Hour







						
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	3	460	92	546	142	54
v/c Ratio	0.01	0.29	0.28	0.24	0.37	0.13
Control Delay (s/veh)	28.0	14.0	25.2	8.5	18.2	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.0	14.0	25.2	8.5	18.2	15.5
Queue Length 50th (ft)	1	44	22	30	29	11
Queue Length 95th (ft)	10	129	82	141	80	37
Internal Link Dist (ft)		249		250	364	346
Turn Bay Length (ft)	95		95			
Base Capacity (vph)	904	3116	904	3228	1168	1367
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.15	0.10	0.17	0.12	0.04
Intersection Summary						

Queues

27: Netherton Avenue & Main Street

Background Conditions

Timing Plan: AM Peak Hour

						
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	4	397	32	605	77	108
v/c Ratio	0.01	0.20	0.10	0.30	0.19	0.26
Control Delay (s/veh)	22.7	9.1	20.7	9.0	7.3	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.7	9.1	20.7	9.0	7.3	8.3
Queue Length 50th (ft)	1	15	4	25	3	6
Queue Length 95th (ft)	10	107	38	156	30	41
Internal Link Dist (ft)		247		244	354	364
Turn Bay Length (ft)	90		90			
Base Capacity (vph)	1307	3158	1523	3221	1316	1336
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.13	0.02	0.19	0.06	0.08
Intersection Summary						

Queues
29: S Center Street & Market Street

Background Conditions
Timing Plan: AM Peak Hour

	→	↓
Lane Group	EBT	SBT
Lane Group Flow (vph)	120	1500
v/c Ratio	0.12	0.48
Control Delay (s/veh)	14.9	9.3
Queue Delay	0.0	0.0
Total Delay (s/veh)	14.9	9.3
Queue Length 50th (ft)	14	140
Queue Length 95th (ft)	34	169
Internal Link Dist (ft)	316	666
Turn Bay Length (ft)		
Base Capacity (vph)	929	3111
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.13	0.48
Intersection Summary		

Queues
30: S El Dorado Street & Market Street

Background Conditions
Timing Plan: AM Peak Hour

	→	↑
Lane Group	EBT	NBT
Lane Group Flow (vph)	246	1974
v/c Ratio	0.27	0.49
Control Delay (s/veh)	23.1	9.1
Queue Delay	0.0	0.0
Total Delay (s/veh)	23.1	9.1
Queue Length 50th (ft)	53	147
Queue Length 95th (ft)	84	163
Internal Link Dist (ft)	266	322
Turn Bay Length (ft)		
Base Capacity (vph)	910	3964
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.27	0.50
Intersection Summary		

Queues

32: S San Joaquin Street & Market Street

Background Conditions

Timing Plan: AM Peak Hour

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	281	262	155
v/c Ratio	0.24	0.14	0.09
Control Delay (s/veh)	15.0	7.4	3.8
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	15.0	7.4	3.8
Queue Length 50th (ft)	38	23	5
Queue Length 95th (ft)	56	35	8
Internal Link Dist (ft)	297	287	264
Turn Bay Length (ft)			
Base Capacity (vph)	1169	1747	1563
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.24	0.15	0.10
Intersection Summary			

Queues

33: S Sutter Street & Market Street

Background Conditions

Timing Plan: AM Peak Hour

	→	↑	↗	↓
Lane Group	EBT	NBT	NBR	SBT
Lane Group Flow (vph)	255	136	21	132
v/c Ratio	0.18	0.17	0.03	0.09
Control Delay (s/veh)	14.2	13.0	3.6	3.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	14.2	13.0	3.6	3.5
Queue Length 50th (ft)	28	35	0	3
Queue Length 95th (ft)	46	55	6	5
Internal Link Dist (ft)	296	293		256
Turn Bay Length (ft)				
Base Capacity (vph)	1361	798	626	1434
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.19	0.17	0.03	0.09
Intersection Summary				

Queues

34: California Street & Market Street

Background Conditions

Timing Plan: AM Peak Hour

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	142	450	327
v/c Ratio	0.15	0.22	0.18
Control Delay (s/veh)	8.6	5.8	0.5
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	8.6	5.8	0.5
Queue Length 50th (ft)	10	34	1
Queue Length 95th (ft)	14	43	1
Internal Link Dist (ft)	309	298	257
Turn Bay Length (ft)			
Base Capacity (vph)	946	2034	1777
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.15	0.22	0.18
Intersection Summary			

Queues

35: S American Street & Market Street

Background Conditions

Timing Plan: AM Peak Hour

	→	↓
Lane Group	EBT	SBT
Lane Group Flow (vph)	332	200
v/c Ratio	0.16	0.49
Control Delay (s/veh)	6.3	17.5
Queue Delay	0.0	0.0
Total Delay (s/veh)	6.3	17.5
Queue Length 50th (ft)	27	91
Queue Length 95th (ft)	27	56
Internal Link Dist (ft)	303	260
Turn Bay Length (ft)		
Base Capacity (vph)	1999	401
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.17	0.50
Intersection Summary		

Queues

36: S Stanislaus Street & Market Street

Background Conditions

Timing Plan: AM Peak Hour

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	363	783	312
v/c Ratio	0.28	0.44	0.19
Control Delay (s/veh)	9.0	11.9	7.1
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	9.0	11.9	7.1
Queue Length 50th (ft)	21	103	15
Queue Length 95th (ft)	30	106	18
Internal Link Dist (ft)	304	325	272
Turn Bay Length (ft)			
Base Capacity (vph)	1258	1753	1628
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.29	0.45	0.19
Intersection Summary			

Queues
41: Airport Way & Market Street

Background Conditions
Timing Plan: AM Peak Hour

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	143	949	743
v/c Ratio	0.40	0.34	0.35
Control Delay (s/veh)	34.1	3.8	3.4
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	34.1	3.8	3.5
Queue Length 50th (ft)	36	46	35
Queue Length 95th (ft)	53	158	56
Internal Link Dist (ft)	289	285	254
Turn Bay Length (ft)			
Base Capacity (vph)	849	2783	2065
Starvation Cap Reductn	0	0	222
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.17	0.34	0.40
Intersection Summary			

Queues

43: S Wilson Way & Market Street




Background Conditions

Timing Plan: AM Peak Hour

	→	↑	↘	↓
Lane Group	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	226	797	126	663
v/c Ratio	0.50	0.38	0.62	0.24
Control Delay (s/veh)	35.7	11.3	46.3	4.5
Queue Delay	0.0	0.0	0.0	0.1
Total Delay (s/veh)	35.7	11.3	46.3	4.7
Queue Length 50th (ft)	55	107	70	67
Queue Length 95th (ft)	61	211	126	135
Internal Link Dist (ft)	296	296		271
Turn Bay Length (ft)			90	
Base Capacity (vph)	823	2087	255	2712
Starvation Cap Reductn	0	0	0	1160
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.27	0.38	0.49	0.43
Intersection Summary				

Queues
205: Locust Street & Market Street

Background Conditions
Timing Plan: AM Peak Hour

			
Lane Group	EBL	EBT	NBR2
Lane Group Flow (vph)	17	310	2
v/c Ratio	0.05	0.17	0.00
Control Delay (s/veh)	0.3	5.1	0.0
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	0.3	5.1	0.0
Queue Length 50th (ft)	0	11	0
Queue Length 95th (ft)	0	44	0
Internal Link Dist (ft)	239		
Turn Bay Length (ft)	100		
Base Capacity (vph)	1153	3535	974
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.01	0.09	0.00
Intersection Summary			

Queues

2: S San Joaquin Street/N San Joaquin Street & Main Street

Background Conditions

Timing Plan: PM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	101	146	165
v/c Ratio	0.43	0.10	0.11
Control Delay (s/veh)	40.8	9.6	13.3
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	40.8	9.6	13.3
Queue Length 50th (ft)	23	13	22
Queue Length 95th (ft)	45	21	41
Internal Link Dist (ft)	301	264	331
Turn Bay Length (ft)			
Base Capacity (vph)	502	1375	1428
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.20	0.11	0.12
Intersection Summary			

Queues

3: S Sutter Street/N Sutter Street & Main Street

Background Conditions

Timing Plan: PM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	98	186	137
v/c Ratio	0.13	0.38	0.14
Control Delay (s/veh)	15.6	16.8	19.9
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	15.6	16.8	19.9
Queue Length 50th (ft)	19	37	23
Queue Length 95th (ft)	34	56	38
Internal Link Dist (ft)	298	256	344
Turn Bay Length (ft)			
Base Capacity (vph)	716	488	916
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.14	0.38	0.15
Intersection Summary			

Queues

4: California Street & Main Street

Background Conditions

Timing Plan: PM Peak Hour

	←	↑	↓
Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	125	258	295
v/c Ratio	0.17	0.28	0.30
Control Delay (s/veh)	41.2	17.8	21.3
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	41.2	17.8	21.3
Queue Length 50th (ft)	30	48	53
Queue Length 95th (ft)	54	75	81
Internal Link Dist (ft)	307	257	324
Turn Bay Length (ft)			
Base Capacity (vph)	719	900	955
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.17	0.29	0.31
Intersection Summary			

Queues

5: S American Street/N American Street & Main Street

Background Conditions

Timing Plan: PM Peak Hour



Lane Group	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	152	32	14	18
v/c Ratio	0.28	0.05	0.02	0.03
Control Delay (s/veh)	24.8	9.5	16.1	16.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.8	9.5	16.1	16.3
Queue Length 50th (ft)	31	3	4	5
Queue Length 95th (ft)	54	12	14	17
Internal Link Dist (ft)	303	260	330	
Turn Bay Length (ft)				
Base Capacity (vph)	533	600	612	512
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.05	0.02	0.04
Intersection Summary				

Queues

6: S Stanislaus Street/N Stanislaus Street & Main Street

Background Conditions

Timing Plan: PM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	159	313	330
v/c Ratio	0.12	0.20	0.18
Control Delay (s/veh)	14.2	8.1	9.8
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	14.2	8.1	9.8
Queue Length 50th (ft)	21	26	37
Queue Length 95th (ft)	40	39	59
Internal Link Dist (ft)	300	272	338
Turn Bay Length (ft)			
Base Capacity (vph)	1227	1553	1764
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.13	0.20	0.19
Intersection Summary			

Queues

11: Airport Way & Main Street

Background Conditions

Timing Plan: PM Peak Hour

	←	↑	↓
Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	205	926	806
v/c Ratio	0.23	0.43	0.35
Control Delay (s/veh)	9.8	5.6	7.8
Queue Delay	0.0	0.1	0.0
Total Delay (s/veh)	9.8	5.7	7.8
Queue Length 50th (ft)	11	130	98
Queue Length 95th (ft)	40	10	130
Internal Link Dist (ft)	310	254	262
Turn Bay Length (ft)			
Base Capacity (vph)	856	2153	2274
Starvation Cap Reductn	0	376	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.24	0.52	0.35
Intersection Summary			

Queues

13: S Wilson Way & Main Street

Background Conditions

Timing Plan: PM Peak Hour



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	240	189	28	965	992
v/c Ratio	0.50	0.55	0.07	0.36	0.37
Control Delay (s/veh)	38.4	15.7	11.7	10.7	5.0
Queue Delay	0.0	0.0	0.0	1.0	0.0
Total Delay (s/veh)	38.4	15.7	11.7	11.7	5.0
Queue Length 50th (ft)	69	22	5	126	73
Queue Length 95th (ft)	90	72	m23	287	176
Internal Link Dist (ft)	710			271	283
Turn Bay Length (ft)		215	70		
Base Capacity (vph)	884	508	377	2656	2643
Starvation Cap Reductn	0	0	0	1342	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.27	0.37	0.07	0.73	0.38

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

14: Market Street/E Market Street & Main St/Main Street

Background Conditions

Timing Plan: PM Peak Hour



Lane Group	WBT	NET	SWR
Lane Group Flow (vph)	403	17	29
v/c Ratio	0.13	0.04	0.04
Control Delay (s/veh)	1.5	0.2	0.1
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	1.5	0.2	0.1
Queue Length 50th (ft)	0	0	0
Queue Length 95th (ft)	22	0	0
Internal Link Dist (ft)	87	10	
Turn Bay Length (ft)			
Base Capacity (vph)	3369	1125	1157
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.12	0.02	0.03
Intersection Summary			

Queues

17: Main Street & D Street

Background Conditions

Timing Plan: PM Peak Hour



Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	489	410	18
v/c Ratio	0.16	0.13	0.03
Control Delay (s/veh)	1.5	1.5	7.2
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	1.5	1.5	7.2
Queue Length 50th (ft)	0	0	1
Queue Length 95th (ft)	33	27	10
Internal Link Dist (ft)	615	624	178
Turn Bay Length (ft)			
Base Capacity (vph)	3275	3453	1537
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.15	0.12	0.01
Intersection Summary			

Queues

20: S Filbert Street & Main Street

Background Conditions

Timing Plan: PM Peak Hour







	→	←	↑	↘	↓
Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	493	587	81	411	112
v/c Ratio	0.50	0.49	0.35	0.72	0.19
Control Delay (s/veh)	21.5	14.6	34.9	29.6	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.5	14.6	34.9	29.6	9.0
Queue Length 50th (ft)	82	63	28	146	10
Queue Length 95th (ft)	172	148	86	300	49
Internal Link Dist (ft)	616	739	220		239
Turn Bay Length (ft)				50	
Base Capacity (vph)	1876	2106	627	1057	1022
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.26	0.28	0.13	0.39	0.11
Intersection Summary					

Queues

25: Golden Gate Avenue & Main Street

Background Conditions

Timing Plan: PM Peak Hour







						
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	9	745	66	450	246	55
v/c Ratio	0.05	0.54	0.29	0.24	0.64	0.12
Control Delay (s/veh)	34.2	16.4	33.0	9.2	28.2	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.2	16.4	33.0	9.2	28.2	18.0
Queue Length 50th (ft)	3	100	22	35	72	13
Queue Length 95th (ft)	20	207	72	112	174	45
Internal Link Dist (ft)		249		250	364	346
Turn Bay Length (ft)	95		95			
Base Capacity (vph)	654	2674	654	2792	986	1138
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.28	0.10	0.16	0.25	0.05
Intersection Summary						

Queues

27: Netherton Avenue & Main Street

Background Conditions

Timing Plan: PM Peak Hour

						
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	11	561	38	450	95	87
v/c Ratio	0.03	0.30	0.11	0.24	0.22	0.21
Control Delay (s/veh)	20.4	10.0	19.0	9.3	6.7	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	20.4	10.0	19.0	9.3	6.7	8.0
Queue Length 50th (ft)	1	22	4	17	3	5
Queue Length 95th (ft)	18	153	40	117	33	35
Internal Link Dist (ft)		247		244	354	364
Turn Bay Length (ft)	90		90			
Base Capacity (vph)	1391	3155	1569	3236	1330	1310
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.18	0.02	0.14	0.07	0.07
Intersection Summary						

Queues

29: S Center Street & Market Street

Background Conditions

Timing Plan: PM Peak Hour

	→	↓
Lane Group	EBT	SBT
Lane Group Flow (vph)	133	2008
v/c Ratio	0.14	0.65
Control Delay (s/veh)	21.0	12.3
Queue Delay	0.0	0.0
Total Delay (s/veh)	21.0	12.3
Queue Length 50th (ft)	25	232
Queue Length 95th (ft)	46	281
Internal Link Dist (ft)	316	666
Turn Bay Length (ft)		
Base Capacity (vph)	926	3054
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.14	0.66
Intersection Summary		

Queues

30: S El Dorado Street & Market Street

Background Conditions

Timing Plan: PM Peak Hour



Lane Group	EBT	NBT
Lane Group Flow (vph)	154	1547
v/c Ratio	0.14	0.41
Control Delay (s/veh)	14.0	9.8
Queue Delay	0.0	0.0
Total Delay (s/veh)	14.0	9.8
Queue Length 50th (ft)	17	118
Queue Length 95th (ft)	m33	142
Internal Link Dist (ft)	266	322
Turn Bay Length (ft)		
Base Capacity (vph)	1040	3755
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.15	0.41

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

32: S San Joaquin Street & Market Street

Background Conditions

Timing Plan: PM Peak Hour

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	184	189	164
v/c Ratio	0.15	0.11	0.09
Control Delay (s/veh)	12.7	6.3	3.2
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	12.7	6.3	3.2
Queue Length 50th (ft)	22	14	4
Queue Length 95th (ft)	41	28	7
Internal Link Dist (ft)	297	287	264
Turn Bay Length (ft)			
Base Capacity (vph)	1176	1714	1669
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.16	0.11	0.10
Intersection Summary			

Queues

33: S Sutter Street & Market Street

Background Conditions

Timing Plan: PM Peak Hour

	→	↑	↗	↓
Lane Group	EBT	NBT	NBR	SBT
Lane Group Flow (vph)	222	147	54	187
v/c Ratio	0.15	0.18	0.08	0.13
Control Delay (s/veh)	15.2	13.2	4.2	9.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.2	13.2	4.2	9.0
Queue Length 50th (ft)	30	38	0	13
Queue Length 95th (ft)	46	59	13	20
Internal Link Dist (ft)	296	293		256
Turn Bay Length (ft)				
Base Capacity (vph)	1444	798	630	1374
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.15	0.18	0.09	0.14
Intersection Summary				

Queues

34: California Street & Market Street

Background Conditions

Timing Plan: PM Peak Hour

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	196	247	308
v/c Ratio	0.20	0.12	0.16
Control Delay (s/veh)	11.8	5.6	0.2
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	11.8	5.6	0.2
Queue Length 50th (ft)	15	18	0
Queue Length 95th (ft)	28	33	0
Internal Link Dist (ft)	309	298	257
Turn Bay Length (ft)			
Base Capacity (vph)	949	2036	1877
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.21	0.12	0.16
Intersection Summary			

Queues

35: S American Street & Market Street

Background Conditions

Timing Plan: PM Peak Hour

	→	↓
Lane Group	EBT	SBT
Lane Group Flow (vph)	290	55
v/c Ratio	0.14	0.13
Control Delay (s/veh)	4.0	15.6
Queue Delay	0.0	0.0
Total Delay (s/veh)	4.0	15.6
Queue Length 50th (ft)	17	12
Queue Length 95th (ft)	21	28
Internal Link Dist (ft)	303	260
Turn Bay Length (ft)		
Base Capacity (vph)	2008	408
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.14	0.13
Intersection Summary		

Queues

36: S Stanislaus Street & Market Street

Background Conditions

Timing Plan: PM Peak Hour

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	264	360	452
v/c Ratio	0.21	0.20	0.26
Control Delay (s/veh)	4.8	9.3	7.9
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	4.8	9.3	7.9
Queue Length 50th (ft)	1	38	24
Queue Length 95th (ft)	1	55	32
Internal Link Dist (ft)	304	325	272
Turn Bay Length (ft)			
Base Capacity (vph)	1246	1751	1681
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.21	0.21	0.27
Intersection Summary			

Queues
41: Airport Way & Market Street

Background Conditions
Timing Plan: PM Peak Hour

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	225	987	863
v/c Ratio	0.55	0.36	0.44
Control Delay (s/veh)	39.1	4.3	4.5
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	39.1	4.3	4.5
Queue Length 50th (ft)	62	60	41
Queue Length 95th (ft)	82	167	66
Internal Link Dist (ft)	289	285	254
Turn Bay Length (ft)			
Base Capacity (vph)	854	2714	1922
Starvation Cap Reductn	0	0	2
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.26	0.36	0.45
Intersection Summary			

Queues

43: S Wilson Way & Market Street

Background Conditions

Timing Plan: PM Peak Hour

	→	↑	↘	↓
Lane Group	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	395	1013	198	857
v/c Ratio	0.68	0.55	0.74	0.33
Control Delay (s/veh)	46.2	16.7	50.2	6.6
Queue Delay	0.2	0.0	0.0	0.2
Total Delay (s/veh)	46.5	16.7	50.2	6.8
Queue Length 50th (ft)	113	195	109	116
Queue Length 95th (ft)	111	286	#220	191
Internal Link Dist (ft)	296	296		271
Turn Bay Length (ft)			90	
Base Capacity (vph)	817	1819	280	2571
Starvation Cap Reductn	0	0	0	911
Spillback Cap Reductn	93	69	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.55	0.58	0.71	0.52

Intersection Summary

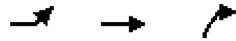
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

205: Locust Street & Market Street

Background Conditions

Timing Plan: PM Peak Hour




Lane Group	EBL	EBT	NBR2
Lane Group Flow (vph)	17	526	4
v/c Ratio	0.04	0.29	0.00
Control Delay (s/veh)	0.2	5.7	0.0
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	0.2	5.7	0.0
Queue Length 50th (ft)	0	20	0
Queue Length 95th (ft)	0	74	0
Internal Link Dist (ft)	239		
Turn Bay Length (ft)	100		
Base Capacity (vph)	1105	3535	862
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.02	0.15	0.00
Intersection Summary			

HCM Signalized Intersection Capacity Analysis

2: S San Joaquin Street/N San Joaquin Street & Main Street

Background Build Conditions

Timing Plan: AM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Volume (vph)	0	0	0	13	48	28	55	175	0	0	119	117
Future Volume (vph)	0	0	0	13	48	28	55	175	0	0	119	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			0.95			0.95	
Frpb, ped/bikes					0.96			1.00			0.96	
Flpb, ped/bikes					0.97			0.99			1.00	
Frt					0.95			1.00			0.92	
Flt Protected					0.99			0.98			1.00	
Satd. Flow (prot)					1678			3468			3163	
Flt Permitted					0.99			0.82			1.00	
Satd. Flow (perm)					1678			2911			3163	
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)	0	0	0	14	52	30	60	190	0	0	129	127
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	96	0	0	250	0	0	256	0
Confl. Peds. (#/hr)				45		31	39					39
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					6.8			27.2			27.2	
Effective Green, g (s)					6.8			27.2			27.2	
Actuated g/C Ratio					0.10			0.39			0.39	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					163			1131			1229	
v/s Ratio Prot											0.08	
v/s Ratio Perm					0.06			c0.09				
v/c Ratio					0.58			0.22			0.20	
Uniform Delay, d1					30.2			14.3			14.2	
Progression Factor					1.10			0.82			1.00	
Incremental Delay, d2					3.4			0.4			0.3	
Delay (s)					36.9			12.2			14.6	
Level of Service					D			B			B	
Approach Delay (s/veh)		0.0			36.9			12.2			14.6	
Approach LOS		A			D			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			17.2									
HCM 2000 Volume to Capacity ratio			0.18									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			33.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: S Sutter Street/N Sutter Street & Main Street

Background Build Conditions

Timing Plan: AM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↕	
Traffic Volume (vph)	0	0	0	9	53	6	20	64	0	0	94	24
Future Volume (vph)	0	0	0	9	53	6	20	64	0	0	94	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			1.00			0.95	
Frpb, ped/bikes					0.99			1.00			0.97	
Flpb, ped/bikes					0.99			0.97			1.00	
Frt					0.98			1.00			0.96	
Flt Protected					0.99			0.98			1.00	
Satd. Flow (prot)					1810			1796			3332	
Flt Permitted					0.99			0.91			1.00	
Satd. Flow (perm)					1810			1662			3332	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	11	65	7	24	78	0	0	115	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	83	0	0	102	0	0	144	0
Confl. Peds. (#/hr)				36		13	69					69
Confl. Bikes (#/hr)												1
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			4			4	
Permitted Phases				2			4					
Actuated Green, G (s)					15.0			19.0			19.0	
Effective Green, g (s)					15.0			19.0			19.0	
Actuated g/C Ratio					0.21			0.27			0.27	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					387			451			904	
v/s Ratio Prot											0.04	
v/s Ratio Perm					0.05			c0.06				
v/c Ratio					0.21			0.22			0.15	
Uniform Delay, d1					22.6			19.7			19.4	
Progression Factor					0.54			0.68			1.00	
Incremental Delay, d2					1.1			1.1			0.3	
Delay (s)					13.5			14.7			19.7	
Level of Service					B			B			B	
Approach Delay (s/veh)		0.0			13.5			14.7			19.7	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			16.6									
HCM 2000 Volume to Capacity ratio			0.13									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			23.2%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: California Street & Main Street

Background Build Conditions

Timing Plan: AM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Volume (vph)	0	0	0	63	49	34	13	251	0	0	208	11
Future Volume (vph)	0	0	0	63	49	34	13	251	0	0	208	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			0.99	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.96			1.00			0.99	
Flt Protected					0.97			0.99			1.00	
Satd. Flow (prot)					1741			1858			1847	
Flt Permitted					0.97			0.97			1.00	
Satd. Flow (perm)					1741			1821			1847	
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)	0	0	0	73	57	40	15	292	0	0	242	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	170	0	0	307	0	0	255	0
Confl. Peds. (#/hr)				7		4	5					5
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					15.0			19.0			19.0	
Effective Green, g (s)					15.0			19.0			19.0	
Actuated g/C Ratio					0.21			0.27			0.27	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					373			494			501	
v/s Ratio Prot											0.14	
v/s Ratio Perm					0.10			c0.17				
v/c Ratio					0.45			0.62			0.50	
Uniform Delay, d1					23.9			22.3			21.5	
Progression Factor					1.58			0.71			1.00	
Incremental Delay, d2					2.2			5.3			3.6	
Delay (s)					40.2			21.3			25.2	
Level of Service					D			C			C	
Approach Delay (s/veh)		0.0			40.2			21.3			25.2	
Approach LOS		A			D			C			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			27.1									
HCM 2000 Volume to Capacity ratio			0.33									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			40.4%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: S American Street/N American Street & Main Street

Background Build Conditions

Timing Plan: AM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↑	↗
Traffic Volume (vph)	0	0	0	82	110	24	16	18	0	0	31	20
Future Volume (vph)	0	0	0	82	110	24	16	18	0	0	31	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	5.0
Lane Util. Factor					1.00			1.00			1.00	1.00
Frpb, ped/bikes					0.99			1.00			1.00	0.96
Flpb, ped/bikes					0.91			0.99			1.00	1.00
Frt					0.98			1.00			1.00	0.85
Flt Protected					0.98			0.97			1.00	1.00
Satd. Flow (prot)					1643			1804			1863	1520
Flt Permitted					0.98			0.87			1.00	1.00
Satd. Flow (perm)					1643			1620			1863	1520
Peak-hour factor, PHF	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
Adj. Flow (vph)	0	0	0	139	186	41	27	31	0	0	53	34
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	366	0	0	58	0	0	53	34
Confl. Peds. (#/hr)				96		2	11					11
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			4			4	
Permitted Phases				2			4					4
Actuated Green, G (s)					15.0			19.0			19.0	19.0
Effective Green, g (s)					15.0			19.0			19.0	19.0
Actuated g/C Ratio					0.21			0.27			0.27	0.27
Clearance Time (s)					5.0			5.0			5.0	5.0
Vehicle Extension (s)					0.2			0.2			0.2	0.2
Lane Grp Cap (vph)					352			439			505	412
v/s Ratio Prot											0.03	
v/s Ratio Perm					0.22			0.04				0.02
v/c Ratio					1.03			0.13			0.10	0.08
Uniform Delay, d1					27.5			19.2			19.1	19.0
Progression Factor					0.98			1.00			1.00	1.00
Incremental Delay, d2					57.9			0.6			0.4	0.3
Delay (s)					84.9			20.0			19.5	19.3
Level of Service					F			C			B	B
Approach Delay (s/veh)		0.0			84.9			20.0			19.4	
Approach LOS		A			F			C			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			66.4									
HCM 2000 Volume to Capacity ratio			0.32									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			31.0%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: S Stanislaus Street/N Stanislaus Street & Main Street




Background Build Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Volume (vph)	0	0	0	46	101	5	86	427	0	0	209	15
Future Volume (vph)	0	0	0	46	101	5	86	427	0	0	209	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			0.95			0.95	
Frpb, ped/bikes					0.99			1.00			0.99	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.99			1.00			0.98	
Flt Protected					0.98			0.99			1.00	
Satd. Flow (prot)					1823			3504			3495	
Flt Permitted					0.98			0.82			1.00	
Satd. Flow (perm)					1823			2906			3495	
Peak-hour factor, PHF	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Adj. Flow (vph)	0	0	0	64	140	7	119	593	0	0	290	21
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	0	0	0	211	0	0	712	0	0	304	0
Confl. Peds. (#/hr)				5		2	7					7
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					1			2			2	
Permitted Phases				1			2					
Actuated Green, G (s)					25.0			35.0			35.0	
Effective Green, g (s)					25.0			35.0			35.0	
Actuated g/C Ratio					0.36			0.50			0.50	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					651			1453			1747	
v/s Ratio Prot											0.09	
v/s Ratio Perm					0.12			c0.24				
v/c Ratio					0.32			0.49			0.17	
Uniform Delay, d1					16.3			11.5			9.5	
Progression Factor					1.00			0.72			1.00	
Incremental Delay, d2					1.3			1.0			0.2	
Delay (s)					17.6			9.4			9.7	
Level of Service					B			A			A	
Approach Delay (s/veh)		0.0			17.6			9.4			9.7	
Approach LOS		A			B			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			11.0									
HCM 2000 Volume to Capacity ratio			0.42									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			55.1%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
7: S Grant Street/N Grant Street & Main Street

Background Build Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	6	130	7	9	43	0	0	16	16
Future Vol, veh/h	0	0	0	6	130	7	9	43	0	0	16	16
Conflicting Peds, #/hr	0	0	0	2	0	5	4	0	0	0	0	4
Sign Control	Stop	Stop	Stop	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	65	65	65	65	65	65	65	65	65	65	65	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	9	200	11	14	66	0	0	25	25




Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	2	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1620	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1617	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	0.3	11.3	10.3
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	655	1617	-	-	732
HCM Lane V/C Ratio	0.122	0.006	-	-	0.067
HCM Control Delay (s/veh)	11.3	7.2	0	-	10.3
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.4	0	-	-	0.2

HCM 6th TWSC
8: S Aurora Street/N Aurora Street & Main Street

Background Build Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	9	126	4	24	103	0	0	34	6
Future Vol, veh/h	0	0	0	9	126	4	24	103	0	0	34	6
Conflicting Peds, #/hr	0	0	0	1	0	4	2	0	0	0	0	2
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	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	12	173	5	33	141	0	0	47	8

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1622	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1620	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-




Approach	WB	NB	SB
HCM Control Delay, s/v	0.5	12.1	10.5
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	680	1620	-	-	704
HCM Lane V/C Ratio	0.256	0.008	-	-	0.078
HCM Control Delay (s/veh)	12.1	7.2	0	-	10.5
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	1	0	-	-	0.3

HCM 6th AWSC
9: Union Street & Main Street

Background Build Conditions
Timing Plan: AM Peak Hour

Intersection												
Intersection Delay, s/veh	8.3											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	12	119	14	9	90	0	0	66	9
Future Vol, veh/h	0	0	0	12	119	14	9	90	0	0	66	9
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	14	138	16	10	105	0	0	77	10
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB			NB			SB		
Opposing Approach				SB			NB		
Opposing Lanes	0			1			1		
Conflicting Approach Left	NB						WB		
Conflicting Lanes Left	1			0			1		
Conflicting Approach Right	SB			WB					
Conflicting Lanes Right	1			1			0		
HCM Control Delay, s/veh	8.5			8.2			7.9		
HCM LOS	A			A			A		

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	9%	8%	0%
Vol Thru, %	91%	82%	88%
Vol Right, %	0%	10%	12%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	99	145	75
LT Vol	9	12	0
Through Vol	90	119	66
RT Vol	0	14	9
Lane Flow Rate	115	169	87
Geometry Grp	1	1	1
Degree of Util (X)	0.142	0.204	0.106
Departure Headway (Hd)	4.439	4.354	4.381
Convergence, Y/N	Yes	Yes	Yes
Cap	810	826	821
Service Time	2.452	2.367	2.395
HCM Lane V/C Ratio	0.142	0.205	0.106
HCM Control Delay, s/veh	8.2	8.5	7.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.8	0.4

HCM 6th TWSC
10: Pilgrim Street & Main Street

Background Build Conditions
Timing Plan: AM Peak Hour

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	0	0	0	9	145	5	3	7	0	0	11	0
Future Vol, veh/h	0	0	0	9	145	5	3	7	0	0	11	0
Conflicting Peds, #/hr	0	0	0	4	0	4	3	0	0	0	0	3
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	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	13	207	7	4	10	0	0	16	0

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	4	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1618	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1612	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	0.4	10.6	10.7
HCM LOS		B	B
















Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	655	1612	-	-	646
HCM Lane V/C Ratio	0.022	0.008	-	-	0.024
HCM Control Delay (s/veh)	10.6	7.3	0	-	10.7
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1

HCM 6th Signalized Intersection Summary

11: Airport Way & Main Street




Background Build Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	35	126	64	18	788	0	0	662	15
Future Volume (veh/h)	0	0	0	35	126	64	18	788	0	0	662	15
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	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
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				38	135	69	19	847	0	0	712	16
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				47	168	86	66	2440	0	0	2550	57
Arrive On Green				0.06	0.06	0.06	1.00	1.00	0.00	0.00	0.72	0.72
Sat Flow, veh/h				276	981	502	34	3485	0	0	3646	80
Grp Volume(v), veh/h				242	0	0	459	407	0	0	356	372
Grp Sat Flow(s),veh/h/ln				1759	0	0	1817	1617	0	0	1777	1856
Q Serve(g_s), s				12.2	0.0	0.0	0.0	0.0	0.0	0.0	6.4	6.4
Cycle Q Clear(g_c), s				12.2	0.0	0.0	0.0	0.0	0.0	0.0	6.4	6.4
Prop In Lane				0.16		0.29	0.04		0.00	0.00		0.04
Lane Grp Cap(c), veh/h				301	0	0	1346	1161	0	0	1275	1332
V/C Ratio(X)				0.80	0.00	0.00	0.34	0.35	0.00	0.00	0.28	0.28
Avail Cap(c_a), veh/h				430	0	0	1346	1161	0	0	1275	1332
HCM Platoon Ratio				0.33	0.33	0.33	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.94	0.94	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				41.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	4.5
Incr Delay (d2), s/veh				4.6	0.0	0.0	0.6	0.8	0.0	0.0	0.5	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
%ile BackOfQ(50%),veh/ln				6.1	0.0	0.0	0.2	0.3	0.0	0.0	2.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				45.5	0.0	0.0	0.6	0.8	0.0	0.0	5.0	5.0
LnGrp LOS				D			A	A			A	A
Approach Vol, veh/h					242			866			728	
Approach Delay, s/veh					45.5			0.7			5.0	
Approach LOS					D			A			A	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	69.6			20.4			69.6					
Change Period (Y+Rc), s	5.0			5.0			5.0					
Max Green Setting (Gmax), s	58.0			22.0			58.0					
Max Q Clear Time (g_c+I1), s	2.0			14.2			8.4					
Green Ext Time (p_c), s	0.8			0.6			0.7					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				8.3								
HCM 6th LOS				A								

HCM 6th TWSC
12: Sierra Nevada Street & Main Street

Background Build Conditions
Timing Plan: AM Peak Hour

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	0	0	0	9	195	12	17	17	0	0	33	11
Future Vol, veh/h	0	0	0	9	195	12	17	17	0	0	33	11
Conflicting Peds, #/hr	0	0	0	13	0	6	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	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	10	224	14	20	20	0	0	38	13


















Major/Minor	Major2		Minor1		Minor2	
Conflicting Flow All	13	0	0	290	277	-
Stage 1	-	-	-	13	13	-
Stage 2	-	-	-	277	264	-
Critical Hdwy	4.12	-	-	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	3.518	4.018	-
Pot Cap-1 Maneuver	1606	-	-	662	631	0
Stage 1	-	-	-	-	-	0
Stage 2	-	-	-	729	690	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1586	-	-	610	615	-
Mov Cap-2 Maneuver	-	-	-	610	615	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	673	681	-

Approach	WB	NB	SB
HCM Control Delay, s/v	0.3	11.3	10.9
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	612	1586	-	-	656
HCM Lane V/C Ratio	0.064	0.007	-	-	0.077
HCM Control Delay (s/veh)	11.3	7.3	0	-	10.9
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.2	0	-	-	0.3

HCM 6th Signalized Intersection Summary 13: S Wilson Way & Main Street

Background Build Conditions
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	115	145	209	32	730	0	0	648	20
Future Volume (veh/h)	0	0	0	115	145	209	32	730	0	0	648	20
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	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
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				119	149	215	33	753	0	0	668	21
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				147	184	283	562	2516	0	0	2490	78
Arrive On Green				0.18	0.18	0.18	1.00	1.00	0.00	0.00	0.71	0.71
Sat Flow, veh/h				812	1017	1567	754	3647	0	0	3610	111
Grp Volume(v), veh/h				268	0	215	33	753	0	0	337	352
Grp Sat Flow(s),veh/h/ln				1830	0	1567	754	1777	0	0	1777	1850
Q Serve(g_s), s				12.7	0.0	11.7	0.4	0.0	0.0	0.0	6.2	6.2
Cycle Q Clear(g_c), s				12.7	0.0	11.7	6.6	0.0	0.0	0.0	6.2	6.2
Prop In Lane				0.44		1.00	1.00		0.00	0.00		0.06
Lane Grp Cap(c), veh/h				331	0	283	562	2516	0	0	1258	1310
V/C Ratio(X)				0.81	0.00	0.76	0.06	0.30	0.00	0.00	0.27	0.27
Avail Cap(c_a), veh/h				468	0	400	562	2516	0	0	1258	1310
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.91	0.91	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				35.4	0.0	35.0	0.3	0.0	0.0	0.0	4.7	4.7
Incr Delay (d2), s/veh				4.7	0.0	2.9	0.2	0.3	0.0	0.0	0.5	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
%ile BackOfQ(50%),veh/ln				6.0	0.0	4.6	0.0	0.1	0.0	0.0	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				40.1	0.0	37.9	0.5	0.3	0.0	0.0	5.3	5.2
LnGrp LOS				D		D	A	A			A	A
Approach Vol, veh/h					483			786			689	
Approach Delay, s/veh					39.1			0.3			5.2	
Approach LOS					D			A			A	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	68.7			21.3			68.7					
Change Period (Y+Rc), s	5.0			5.0			5.0					
Max Green Setting (Gmax), s	57.0			23.0			57.0					
Max Q Clear Time (g_c+I1), s	8.6			14.7			8.2					
Green Ext Time (p_c), s	2.5			1.0			1.7					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				11.6								
HCM 6th LOS				B								

HCM 6th TWSC

Background Build Conditions

15: B Street/E Washington Street & Main Street

Timing Plan: AM Peak Hour

Intersection													
Int Delay, s/veh 1.3													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔			↔			↔				↔	
Traffic Vol, veh/h	3	247	18	16	429	2	23	0	30	0	0	9	
Future Vol, veh/h	3	247	18	16	429	2	23	0	30	0	0	9	
Conflicting Peds, #/hr	4	0	2	2	0	4	4	0	1	1	0	4	
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	93	93	93	93	93	93	93	93	93	93	93	93	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	3	266	19	17	461	2	25	0	32	0	0	10	

Major/Minor	Major1	Major2	Minor1	Minor2										
Conflicting Flow All	467	0	0	287	0	0	789	785	279	799	793	470		
Stage 1	-	-	-	-	-	-	284	284	-	500	500	-		
Stage 2	-	-	-	-	-	-	505	501	-	299	293	-		
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318		
Pot Cap-1 Maneuver	1094	-	-	1275	-	-	308	325	760	304	321	594		
Stage 1	-	-	-	-	-	-	723	676	-	553	543	-		
Stage 2	-	-	-	-	-	-	549	543	-	710	670	-		
Platoon blocked, %	-	-	-	-	-	-								
Mov Cap-1 Maneuver	1090	-	-	1273	-	-	296	316	758	285	312	589		
Mov Cap-2 Maneuver	-	-	-	-	-	-	296	316	-	285	312	-		
Stage 1	-	-	-	-	-	-	719	673	-	549	531	-		
Stage 2	-	-	-	-	-	-	528	531	-	677	667	-		

Approach	EB	WB	NB	SB										
HCM Control Delay, s/v	0.1	0.3	14.1	11.2										
HCM LOS					B				B					

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	452	1090	-	-	1273	-	-	589						
HCM Lane V/C Ratio	0.126	0.003	-	-	0.014	-	-	0.016						
HCM Control Delay (s/veh)	14.1	8.3	0	-	7.9	0	-	11.2						
HCM Lane LOS	B	A	A	-	A	A	-	B						
HCM 95th %tile Q (veh)	0.4	0	-	-	0	-	-	0.1						

HCM 6th TWSC

16: E Lafayette Street & Main Street

Background Build Conditions

Timing Plan: AM Peak Hour

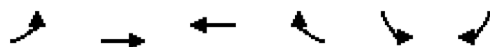
Intersection													
Int Delay, s/veh		2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	36	232	4	18	393	0	13	10	17	0	4	42	↔
Future Vol, veh/h	36	232	4	18	393	0	13	10	17	0	4	42	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	40	255	4	20	432	0	14	11	19	0	4	46	
Major/Minor	Major1	Major2	Major1			Minor1			Minor2				
Conflicting Flow All	432	0	0	259	0	0	834	809	257	824	811	432	
Stage 1	-	-	-	-	-	-	337	337	-	472	472	-	
Stage 2	-	-	-	-	-	-	497	472	-	352	339	-	
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-	
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318	
Pot Cap-1 Maneuver	1128	-	-	1306	-	-	288	314	782	292	313	624	
Stage 1	-	-	-	-	-	-	677	641	-	573	559	-	
Stage 2	-	-	-	-	-	-	555	559	-	665	640	-	
Platoon blocked, %													
Mov Cap-1 Maneuver	1128	-	-	1306	-	-	251	295	782	264	294	624	
Mov Cap-2 Maneuver	-	-	-	-	-	-	251	295	-	264	294	-	
Stage 1	-	-	-	-	-	-	649	615	-	550	548	-	
Stage 2	-	-	-	-	-	-	500	548	-	611	614	-	
Approach	EB	WB	NB		SB								
HCM Control Delay, s/v	1.1	0.3	16		11.9								
HCM LOS			C		B								
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	372	1128	-	-	1306	-	-	569					
HCM Lane V/C Ratio	0.118	0.035	-	-	0.015	-	-	0.089					
HCM Control Delay (s/veh)	16	8.3	0	-	7.8	0	-	11.9					
HCM Lane LOS	C	A	A	-	A	A	-	B					
HCM 95th %tile Q (veh)	0.4	0.1	-	-	0	-	-	0.3					

HCM Signalized Intersection Capacity Analysis

17: Main Street & D Street

Background Build Conditions

Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	
Traffic Volume (vph)	3	270	425	5	6	7
Future Volume (vph)	3	270	425	5	6	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	0.99		0.92	
Flt Protected		0.99	1.00		0.97	
Satd. Flow (prot)		1862	1860		1689	
Flt Permitted		0.99	1.00		0.97	
Satd. Flow (perm)		1851	1860		1689	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	3	297	467	5	7	8
RTOR Reduction (vph)	0	0	0	0	8	0
Lane Group Flow (vph)	0	300	472	0	7	0
Turn Type	Perm	NA	NA		Perm	
Protected Phases		2	6			
Permitted Phases	2				4	
Actuated Green, G (s)		11.2	11.2		0.6	
Effective Green, g (s)		11.2	11.2		0.6	
Actuated g/C Ratio		0.51	0.51		0.03	
Clearance Time (s)		5.0	5.0		5.0	
Vehicle Extension (s)		6.0	6.0		2.0	
Lane Grp Cap (vph)		950	955		46	
v/s Ratio Prot		c0.25				
v/s Ratio Perm		0.16			c0.00	
v/c Ratio		0.31	0.49		0.15	
Uniform Delay, d1		3.0	3.4		10.3	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		0.5	1.1		0.5	
Delay (s)		3.6	4.5		10.9	
Level of Service		A	A		B	
Approach Delay (s/veh)		3.6	4.5		10.9	
Approach LOS		A	A		B	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			4.3		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.48			
Actuated Cycle Length (s)			21.8		Sum of lost time (s)	10.0
Intersection Capacity Utilization			34.3%		ICU Level of Service	A
Analysis Period (min)			15			

c Critical Lane Group

HCM 6th TWSC

Background Build Conditions

18: Marsh Street/E Street & Main Street

Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh		1.4										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	239	1	12	395	42	0	0	10	28	3	10
Future Vol, veh/h	16	239	1	12	395	42	0	0	10	28	3	10
Conflicting Peds, #/hr	2	0	1	1	0	2	0	0	0	0	0	1
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	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	285	1	14	470	50	0	0	12	33	4	12

Major/Minor	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	522	0	0	287	0	0	857	875	287	855	850	498
Stage 1	-	-	-	-	-	-	325	325	-	525	525	-
Stage 2	-	-	-	-	-	-	532	550	-	330	325	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1044	-	-	1275	-	-	277	288	752	278	298	572
Stage 1	-	-	-	-	-	-	687	649	-	536	529	-
Stage 2	-	-	-	-	-	-	531	516	-	683	649	-
Platoon blocked, %												
Mov Cap-1 Maneuver	1042	-	-	1274	-	-	260	276	751	265	286	570
Mov Cap-2 Maneuver	-	-	-	-	-	-	260	276	-	265	286	-
Stage 1	-	-	-	-	-	-	671	634	-	523	519	-
Stage 2	-	-	-	-	-	-	508	507	-	657	634	-

Approach	EB	WB	NB	SB								
HCM Control Delay, s/v	0.5	0.2	9.9	18.9								
HCM LOS	A			C								

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	751	1042	-	-	1274	-	-	307				
HCM Lane V/C Ratio	0.016	0.018	-	-	0.011	-	-	0.159				
HCM Control Delay (s/veh)	9.9	8.5	0	-	7.9	0	-	18.9				
HCM Lane LOS	A	A	A	A	A	A	A	C				
HCM 95th %tile Q (veh)	0	0.1	-	-	0	-	-	0.6				

HCM 6th TWSC

Background Build Conditions

19: Alma Street/F Street & Main Street

Timing Plan: AM Peak Hour

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	13	270	0	18	409	10	0	2	13	5	4	3
Future Vol, veh/h	13	270	0	18	409	10	0	2	13	5	4	3
Conflicting Peds, #/hr	4	0	5	5	0	4	0	0	5	5	0	2
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	293	0	20	445	11	0	2	14	5	4	3

Major/Minor	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	460	0	0	298	0	0	822	826	303	829	821	457
Stage 1	-	-	-	-	-	-	326	326	-	495	495	-
Stage 2	-	-	-	-	-	-	496	500	-	334	326	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1101	-	-	1263	-	-	293	307	737	290	309	604
Stage 1	-	-	-	-	-	-	687	648	-	556	546	-
Stage 2	-	-	-	-	-	-	556	543	-	680	648	-
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	1097	-	-	1257	-	-	278	293	730	273	295	601
Mov Cap-2 Maneuver	-	-	-	-	-	-	278	293	-	273	295	-
Stage 1	-	-	-	-	-	-	673	635	-	545	532	-
Stage 2	-	-	-	-	-	-	536	529	-	651	635	-

Approach	EB	WB	NB	SB								
HCM Control Delay, s/v	0.4	0.3	11.1	16.5								
HCM LOS	B			C								

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	609	1097	-	-	1257	-	-	326				
HCM Lane V/C Ratio	0.027	0.013	-	-	0.016	-	-	0.04				
HCM Control Delay (s/veh)	11.1	8.3	0	-	7.9	0	-	16.5				
HCM Lane LOS	B	A	A	-	A	A	-	C				
HCM 95th %tile Q (veh)	0.1	0	-	-	0	-	-	0.1				

HCM 6th TWSC

21: Burkett Avenue & Main Street

Background Build Conditions

Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh												
1												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	19	428	14	13	604	12	9	2	6	5	2	13
Future Vol, veh/h	19	428	14	13	604	12	9	2	6	5	2	13
Conflicting Peds, #/hr	7	0	0	0	0	7	2	0	1	1	0	2
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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	451	15	14	636	13	9	2	6	5	2	14

Major/Minor	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	656	0	0	466	0	0	1180	1183	460	1182	1184	652
Stage 1	-	-	-	-	-	-	499	499	-	678	678	-
Stage 2	-	-	-	-	-	-	681	684	-	504	506	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	931	-	-	1095	-	-	167	189	601	167	189	468
Stage 1	-	-	-	-	-	-	554	544	-	442	452	-
Stage 2	-	-	-	-	-	-	440	449	-	550	540	-
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	925	-	-	1095	-	-	154	179	600	156	179	464
Mov Cap-2 Maneuver	-	-	-	-	-	-	154	179	-	156	179	-
Stage 1	-	-	-	-	-	-	538	528	-	427	440	-
Stage 2	-	-	-	-	-	-	416	437	-	526	524	-

Approach	EB	WB	NB	SB								
HCM Control Delay, s/v	0.4	0.2	23.4	18.8								
HCM LOS					C				C			

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	214	925	-	-	1095	-	-	281				
HCM Lane V/C Ratio	0.084	0.022	-	-	0.012	-	-	0.075				
HCM Control Delay (s/veh)	23.4	9	0	0	8.3	0	-	18.8				
HCM Lane LOS	C	A	A	A	A	A	-	C				
HCM 95th %tile Q (veh)	0.3	0.1	-	-	0	-	-	0.2				

HCM 6th TWSC

22: Shasta Avenue & Main Street

Background Build Conditions

Timing Plan: AM Peak Hour

Intersection													
Int Delay, s/veh 0.4													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	2	434	5	4	620	5	9	1	5	2	0	2	↔
Future Vol, veh/h	2	434	5	4	620	5	9	1	5	2	0	2	
Conflicting Peds, #/hr	7	0	2	2	0	7	1	0	3	3	0	1	
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, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	2	477	5	4	681	5	10	1	5	2	0	2	
Major/Minor	Major1	Major2	Minor1				Minor2						
Conflicting Flow All	693	0	0	484	0	0	1180	1187	485	1189	1187	692	
Stage 1	-	-	-	-	-	-	-	486	486	-	699	699	-
Stage 2	-	-	-	-	-	-	-	694	701	-	490	488	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	902	-	-	1079	-	-	-	167	188	582	165	188	444
Stage 1	-	-	-	-	-	-	-	563	551	-	430	442	-
Stage 2	-	-	-	-	-	-	-	433	441	-	560	550	-
Platoon blocked, %													
Mov Cap-1 Maneuver	896	-	-	1077	-	-	-	164	185	579	160	185	441
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	164	185	-	160	185	-
Stage 1	-	-	-	-	-	-	-	560	548	-	426	436	-
Stage 2	-	-	-	-	-	-	-	428	435	-	550	547	-
Approach	EB	WB	NB				SB						
HCM Control Delay, s/v	0	0.1	22.9				20.6						
HCM LOS			C				C						
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	218	896	-	-	1077	-	-	235					
HCM Lane V/C Ratio	0.076	0.002	-	-	0.004	-	-	0.019					
HCM Control Delay (s/veh)	22.9	9	0	-	8.4	0	-	20.6					
HCM Lane LOS	C	A	A	-	A	A	-	C					
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0.1					

HCM 6th TWSC

23: David Avenue & Main Street

Background Build Conditions

Timing Plan: AM Peak Hour

Intersection													
Int Delay, s/veh 0.5													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	1	440	6	3	610	5	10	1	4	3	0	9	↔
Future Vol, veh/h	1	440	6	3	610	5	10	1	4	3	0	9	
Conflicting Peds, #/hr	3	0	3	3	0	3	3	0	1	1	0	3	
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, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	1	478	7	3	663	5	11	1	4	3	0	10	

Major/Minor	Major1	Major2	Minor1	Minor2										
Conflicting Flow All	671	0	0	488	0	0	1167	1164	486	1162	1165	672		
Stage 1	-	-	-	-	-	-	487	487	-	675	675	-		
Stage 2	-	-	-	-	-	-	680	677	-	487	490	-		
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318		
Pot Cap-1 Maneuver	919	-	-	1075	-	-	171	194	581	172	194	456		
Stage 1	-	-	-	-	-	-	562	550	-	444	453	-		
Stage 2	-	-	-	-	-	-	441	452	-	562	549	-		
Platoon blocked, %														
Mov Cap-1 Maneuver	916	-	-	1072	-	-	166	192	579	169	192	453		
Mov Cap-2 Maneuver	-	-	-	-	-	-	166	192	-	169	192	-		
Stage 1	-	-	-	-	-	-	560	548	-	442	450	-		
Stage 2	-	-	-	-	-	-	429	449	-	556	547	-		

Approach	EB	WB	NB	SB										
HCM Control Delay, s/v	0	0	23.9	16.8										
HCM LOS			C	C										

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	207	916	-	-	1072	-	-	319						
HCM Lane V/C Ratio	0.079	0.001	-	-	0.003	-	-	0.041						
HCM Control Delay (s/veh)	23.9	8.9	0	-	8.4	0	-	16.8						
HCM Lane LOS	C	A	A	-	A	A	-	C						
HCM 95th %tile Q (veh)	0.3	0	-	-	0	-	-	0.1						

HCM 6th TWSC
24: Rendon Avenue & Main Street

Background Build Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	419	12	8	595	9	11	3	3	13	1	18
Future Vol, veh/h	11	419	12	8	595	9	11	3	3	13	1	18
Conflicting Peds, #/hr	5	0	1	1	0	5	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	455	13	9	647	10	12	3	3	14	1	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	662	0	0	469	0	0	1168	1167	463	1164	1168	657
Stage 1	-	-	-	-	-	-	487	487	-	675	675	-
Stage 2	-	-	-	-	-	-	681	680	-	489	493	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	927	-	-	1093	-	-	170	194	599	171	193	465
Stage 1	-	-	-	-	-	-	562	550	-	444	453	-
Stage 2	-	-	-	-	-	-	440	451	-	561	547	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	923	-	-	1092	-	-	158	187	598	163	186	463
Mov Cap-2 Maneuver	-	-	-	-	-	-	158	187	-	163	186	-
Stage 1	-	-	-	-	-	-	551	540	-	434	445	-
Stage 2	-	-	-	-	-	-	415	443	-	545	537	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.2			0.1			26.4			21.1		
HCM LOS							D			C		



















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	187	923	-	-	1092	-	-	258
HCM Lane V/C Ratio	0.099	0.013	-	-	0.008	-	-	0.135
HCM Control Delay (s/veh)	26.4	9	0	-	8.3	-	-	21.1
HCM Lane LOS	D	A	A	-	A	-	-	C
HCM 95th %tile Q (veh)	0.3	0	-	-	0	-	-	0.5

HCM 6th Signalized Intersection Summary

25: Golden Gate Avenue & Main Street

Background Build Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	345	92	87	514	5	74	17	44	12	32	7
Future Volume (veh/h)	3	345	92	87	514	5	74	17	44	12	32	7
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		0.97	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	363	97	92	541	5	78	18	46	13	34	7
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	623	166	118	927	9	236	41	69	140	180	32
Arrive On Green	0.00	0.44	0.44	0.07	0.50	0.50	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	1422	380	1781	1850	17	747	293	498	239	1302	229
Grp Volume(v), veh/h	3	0	460	92	0	546	142	0	0	54	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1801	1781	0	1867	1538	0	0	1770	0	0
Q Serve(g_s), s	0.1	0.0	8.1	2.1	0.0	8.7	2.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	8.1	2.1	0.0	8.7	3.6	0.0	0.0	1.1	0.0	0.0
Prop In Lane	1.00		0.21	1.00		0.01	0.55		0.32	0.24		0.13
Lane Grp Cap(c), veh/h	6	0	789	118	0	935	346	0	0	352	0	0
V/C Ratio(X)	0.51	0.00	0.58	0.78	0.00	0.58	0.41	0.00	0.00	0.15	0.00	0.00
Avail Cap(c_a), veh/h	848	0	2059	848	0	2134	1550	0	0	1313	0	0
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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.9	0.0	8.9	19.3	0.0	7.4	17.1	0.0	0.0	16.1	0.0	0.0
Incr Delay (d2), s/veh	23.6	0.0	2.5	4.2	0.0	2.1	0.3	0.0	0.0	0.1	0.0	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	0.1	0.0	2.7	0.9	0.0	2.6	1.2	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.5	0.0	11.4	23.5	0.0	9.5	17.3	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	D		B	C		A	B			B		
Approach Vol, veh/h		463			638			142			54	
Approach Delay, s/veh		11.6			11.5			17.3			16.1	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	23.4		10.8	5.1	26.0		10.8				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	20.0	48.0		40.0	20.0	48.0		30.0				
Max Q Clear Time (g_c+I1), s	4.1	10.1		5.6	2.1	10.7		3.1				
Green Ext Time (p_c), s	0.1	8.4		0.6	0.0	10.3		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			12.4									
HCM 6th LOS			B									

HCM 6th TWSC

26: Windsor Avenue & Main Street

Background Build Conditions

Timing Plan: AM Peak Hour

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	2	376	15	13	597	3	8	1	5	6	3	13
Future Vol, veh/h	2	376	15	13	597	3	8	1	5	6	3	13
Conflicting Peds, #/hr	9	0	3	3	0	9	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	396	16	14	628	3	8	1	5	6	3	14

Major/Minor	Major1	Major2	Minor1	Minor2									
Conflicting Flow All	640	0	415	0	0	1077	1079	407	1078	1086	639		
Stage 1	-	-	-	-	-	411	411	-	667	667	-		
Stage 2	-	-	-	-	-	666	668	-	411	419	-		
Critical Hdwy	4.12	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22		
Critical Hdwy Stg 1	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Critical Hdwy Stg 2	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Follow-up Hdwy	2.218	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318		
Pot Cap-1 Maneuver	944	-	1144	-	-	197	218	644	196	216	476		
Stage 1	-	-	-	-	-	618	595	-	448	457	-		
Stage 2	-	-	-	-	-	449	456	-	618	590	-		
Platoon blocked, %	-	-	-	-	-								
Mov Cap-1 Maneuver	936	-	1141	-	-	185	211	642	189	209	472		
Mov Cap-2 Maneuver	-	-	-	-	-	185	211	-	189	209	-		
Stage 1	-	-	-	-	-	614	591	-	443	444	-		
Stage 2	-	-	-	-	-	425	443	-	610	586	-		

Approach	EB	WB	NB	SB								
HCM Control Delay, s/v	0	0.2	20.2	18								
HCM LOS			C	C								








Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	251	936	-	-	1141	-	-	299				
HCM Lane V/C Ratio	0.059	0.002	-	-	0.012	-	-	0.077				
HCM Control Delay (s/veh)	20.2	8.9	0	-	8.2	0	-	18				
HCM Lane LOS	C	A	A	-	A	A	-	C				
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0.3				

HCM Signalized Intersection Capacity Analysis

27: Netherton Avenue & Main Street

Background Build Conditions








Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	358	4	29	548	3	11	7	52	19	18	61
Future Volume (vph)	4	358	4	29	548	3	11	7	52	19	18	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99			0.98			0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Frt	1.00	0.99		1.00	0.99			0.90			0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	1860		1770	1861			1641			1667	
Flt Permitted	0.95	1.00		0.95	1.00			0.93			0.91	
Satd. Flow (perm)	1770	1860		1770	1861			1549			1536	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	4	393	4	32	602	3	12	8	57	21	20	67
RTOR Reduction (vph)	0	0	0	0	0	0	0	49	0	0	57	0
Lane Group Flow (vph)	4	397	0	32	605	0	0	28	0	0	51	0
Confl. Peds. (#/hr)			2			10	1		11	11		1
Confl. Bikes (#/hr)						2						
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	0.5	24.6		2.1	26.2			6.9			6.9	
Effective Green, g (s)	0.5	24.6		2.1	26.2			6.9			6.9	
Actuated g/C Ratio	0.01	0.51		0.04	0.54			0.14			0.14	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	2.0	6.0		2.0	6.0			2.0			2.0	
Lane Grp Cap (vph)	18	941		76	1003			219			218	
v/s Ratio Prot	0.00	0.21		c0.02	c0.33							
v/s Ratio Perm								0.02			c0.03	
v/c Ratio	0.22	0.42		0.42	0.60			0.12			0.23	
Uniform Delay, d1	23.8	7.5		22.6	7.6			18.2			18.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	2.2	0.8		1.3	1.8			0.0			0.1	
Delay (s)	26.1	8.3		24.0	9.4			18.3			18.6	
Level of Service	C	A		C	A			B			B	
Approach Delay (s/veh)		8.5			10.2			18.3			18.6	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			10.9			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			48.6			Sum of lost time (s)			15.0			
Intersection Capacity Utilization			48.5%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th TWSC
28: Broadway Avenue & Main Street

Background Build Conditions
Timing Plan: AM Peak Hour

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	105	313	5	12	514	51	3	3	6	24	5	49
Future Vol, veh/h	105	313	5	12	514	51	3	3	6	24	5	49
Conflicting Peds, #/hr	13	0	4	4	0	13	0	0	13	13	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	50	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	119	356	6	14	584	58	3	3	7	27	6	56

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	655	0	0	366	0	0	1273	1284	376	1240	1229	597
Stage 1	-	-	-	-	-	-	601	601	-	625	625	-
Stage 2	-	-	-	-	-	-	672	683	-	615	604	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	932	-	-	1193	-	-	144	165	670	152	178	503
Stage 1	-	-	-	-	-	-	487	489	-	473	477	-
Stage 2	-	-	-	-	-	-	445	449	-	479	488	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	920	-	-	1188	-	-	111	140	659	129	151	497
Mov Cap-2 Maneuver	-	-	-	-	-	-	111	140	-	129	151	-
Stage 1	-	-	-	-	-	-	422	424	-	407	466	-
Stage 2	-	-	-	-	-	-	386	438	-	404	424	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	2.4			0.2			23.5			27.8		
HCM LOS							C			D		


Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	208	920	-	-	1188	-	-	245
HCM Lane V/C Ratio	0.066	0.13	-	-	0.011	-	-	0.362
HCM Control Delay (s/veh)	23.5	9.5	-	-	8.1	-	-	27.8
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q (veh)	0.2	0.4	-	-	0	-	-	1.6

HCM Signalized Intersection Capacity Analysis

29: S Center Street & Market Street

Background Build Conditions

Timing Plan: AM Peak Hour













												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↶									↶↶↶	
Traffic Volume (vph)	0	63	44	0	0	0	0	0	0	166	1169	0
Future Volume (vph)	0	63	44	0	0	0	0	0	0	166	1169	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0									5.0	
Lane Util. Factor		1.00									0.91	
Frpb, ped/bikes		0.99									1.00	
Flpb, ped/bikes		1.00									0.99	
Frt		0.94									1.00	
Flt Protected		1.00									0.99	
Satd. Flow (prot)		1750									5048	
Flt Permitted		1.00									0.99	
Satd. Flow (perm)		1750									5048	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	71	49	0	0	0	0	0	0	187	1313	0
RTOR Reduction (vph)	0	29	0	0	0	0	0	0	0	0	22	0
Lane Group Flow (vph)	0	91	0	0	0	0	0	0	0	0	1478	0
Confl. Peds. (#/hr)			2								6	
Turn Type		NA									Perm	NA
Protected Phases		2										1
Permitted Phases											1	
Actuated Green, G (s)		23.0									52.0	
Effective Green, g (s)		23.0									52.0	
Actuated g/C Ratio		0.27									0.61	
Clearance Time (s)		5.0									5.0	
Vehicle Extension (s)		0.2									0.2	
Lane Grp Cap (vph)		473									3088	
v/s Ratio Prot		0.05										
v/s Ratio Perm												0.29
v/c Ratio		0.19									0.47	
Uniform Delay, d1		23.8									9.0	
Progression Factor		1.00									1.00	
Incremental Delay, d2		0.9									0.5	
Delay (s)		24.7									9.5	
Level of Service		C									A	
Approach Delay (s/veh)		24.7			0.0			0.0			9.5	
Approach LOS		C			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			10.7									HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio			0.39									B
Actuated Cycle Length (s)			85.0								10.0	Sum of lost time (s)
Intersection Capacity Utilization			53.5%									ICU Level of Service
Analysis Period (min)			15									A
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

30: S El Dorado Street & Market Street

Background Build Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰						↱↱↱				
Traffic Volume (vph)	96	115	0	0	0	0	0	1598	100	0	0	0
Future Volume (vph)	96	115	0	0	0	0	0	1598	100	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0				
Lane Util. Factor		1.00						0.91				
Frpb, ped/bikes		1.00						0.99				
Flpb, ped/bikes		0.99						1.00				
Frt		1.00						0.99				
Flt Protected		0.97						1.00				
Satd. Flow (prot)		1813						5028				
Flt Permitted		0.97						1.00				
Satd. Flow (perm)		1813						5028				
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)	112	134	0	0	0	0	0	1858	116	0	0	0
RTOR Reduction (vph)	0	19	0	0	0	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	227	0	0	0	0	0	1966	0	0	0	0
Confl. Peds. (#/hr)	9								11			
Turn Type	Perm	NA						NA				
Protected Phases		2						1				
Permitted Phases	2											
Actuated Green, G (s)		22.0						53.0				
Effective Green, g (s)		22.0						53.0				
Actuated g/C Ratio		0.26						0.62				
Clearance Time (s)		5.0						5.0				
Vehicle Extension (s)		0.2						0.2				
Lane Grp Cap (vph)		469						3135				
v/s Ratio Prot								c0.39				
v/s Ratio Perm		0.13										
v/c Ratio		0.48						0.62				
Uniform Delay, d1		26.6						9.8				
Progression Factor		1.02						1.00				
Incremental Delay, d2		3.2						0.9				
Delay (s)		30.5						10.8				
Level of Service		C						B				
Approach Delay (s/veh)		30.5			0.0			10.8			0.0	
Approach LOS		C			A			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		13.0						HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio		0.58										
Actuated Cycle Length (s)		85.0						Sum of lost time (s)		10.0		
Intersection Capacity Utilization		52.9%						ICU Level of Service		A		
Analysis Period (min)		15										
c Critical Lane Group												





HCM 6th AWSC
31: S Hunter Street & Market Street

Background Build Conditions
Timing Plan: AM Peak Hour

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	0	141	66	0	0	0	0	0	29	62	84	0
Future Vol, veh/h	0	141	66	0	0	0	0	0	29	62	84	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	193	90	0	0	0	0	0	40	85	115	0
Number of Lanes	0	1	0	0	0	0	0	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	9.6	7.6	9.1
HCM LOS	A	A	A
















Lane	NBLn1	EBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%
Vol Thru, %	0%	68%	0%	100%
Vol Right, %	100%	32%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	207	62	84
LT Vol	0	0	62	0
Through Vol	0	141	0	84
RT Vol	29	66	0	0
Lane Flow Rate	40	284	85	115
Geometry Grp	4a	2	5	5
Degree of Util (X)	0.048	0.342	0.135	0.167
Departure Headway (Hd)	4.339	4.345	5.719	5.216
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	822	828	627	687
Service Time	2.38	2.365	3.454	2.95
HCM Lane V/C Ratio	0.049	0.343	0.136	0.167
HCM Control Delay, s/veh	7.6	9.6	9.3	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	1.5	0.5	0.6

HCM Signalized Intersection Capacity Analysis

32: S San Joaquin Street & Market Street

Background Build Conditions

Timing Plan: AM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	122	36	0	0	0	0	170	39	25	99	0
Future Volume (vph)	66	122	36	0	0	0	0	170	39	25	99	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						0.95			0.95	
Frpb, ped/bikes		0.98						0.95			1.00	
Flpb, ped/bikes		0.99						1.00			0.97	
Frt		0.97						0.97			1.00	
Flt Protected		0.98						1.00			0.99	
Satd. Flow (prot)		1767						3291			3399	
Flt Permitted		0.98						1.00			0.87	
Satd. Flow (perm)		1767						3291			3004	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	82	152	45	0	0	0	0	212	49	31	124	0
RTOR Reduction (vph)	0	10	0	0	0	0	0	24	0	0	0	0
Lane Group Flow (vph)	0	271	0	0	0	0	0	238	0	0	155	0
Confl. Peds. (#/hr)	23		61						111	111		
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						1			1	
Permitted Phases	2									1		
Actuated Green, G (s)		24.0						36.0			36.0	
Effective Green, g (s)		24.0						36.0			36.0	
Actuated g/C Ratio		0.34						0.51			0.51	
Clearance Time (s)		5.0						5.0			5.0	
Vehicle Extension (s)		0.2						0.2			0.2	
Lane Grp Cap (vph)		605						1692			1544	
v/s Ratio Prot								c0.07				
v/s Ratio Perm		0.15									0.05	
v/c Ratio		0.44						0.14			0.10	
Uniform Delay, d1		17.8						8.9			8.7	
Progression Factor		1.00						1.00			0.41	
Incremental Delay, d2		2.3						0.1			0.1	
Delay (s)		20.2						9.0			3.7	
Level of Service		C						A			A	
Approach Delay (s/veh)		20.2			0.0			9.0			3.7	
Approach LOS		C			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		12.4										
HCM 2000 Volume to Capacity ratio		0.26										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		49.3%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

33: S Sutter Street & Market Street

Background Build Conditions

Timing Plan: AM Peak Hour

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔						↑	↗		↖↑	
Traffic Volume (vph)	22	89	80	0	0	0	0	102	16	4	95	0
Future Volume (vph)	22	89	80	0	0	0	0	102	16	4	95	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0	5.0		5.0	
Lane Util. Factor		1.00						1.00	1.00		0.95	
Frpb, ped/bikes		0.92						1.00	0.82		1.00	
Flpb, ped/bikes		0.99						1.00	1.00		0.99	
Frt		0.94						1.00	0.85		1.00	
Flt Protected		0.99						1.00	1.00		0.99	
Satd. Flow (prot)		1608						1863	1312		3516	
Flt Permitted		0.99						1.00	1.00		0.94	
Satd. Flow (perm)		1608						1863	1312		3340	
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)	29	119	107	0	0	0	0	136	21	5	127	0
RTOR Reduction (vph)	0	37	0	0	0	0	0	0	12	0	0	0
Lane Group Flow (vph)	0	218	0	0	0	0	0	136	9	0	132	0
Confl. Peds. (#/hr)	24		154						70	70		
Confl. Bikes (#/hr)			1						2			
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1								2	2		
Actuated Green, G (s)		30.0						30.0	30.0		30.0	
Effective Green, g (s)		30.0						30.0	30.0		30.0	
Actuated g/C Ratio		0.43						0.43	0.43		0.43	
Clearance Time (s)		5.0						5.0	5.0		5.0	
Vehicle Extension (s)		0.2						0.2	0.2		0.2	
Lane Grp Cap (vph)		689						798	562		1431	
v/s Ratio Prot								c0.07				
v/s Ratio Perm		0.14							0.01		0.04	
v/c Ratio		0.31						0.17	0.01		0.09	
Uniform Delay, d1		13.2						12.3	11.5		11.8	
Progression Factor		1.66						1.00	1.00		0.27	
Incremental Delay, d2		1.1						0.4	0.0		0.1	
Delay (s)		23.1						12.7	11.5		3.4	
Level of Service		C						B	B		A	
Approach Delay (s/veh)		23.1			0.0			12.6			3.4	
Approach LOS		C			A			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		15.3										
HCM 2000 Volume to Capacity ratio		0.24										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		45.0%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

34: California Street & Market Street

Background Build Conditions

Timing Plan: AM Peak Hour
















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	78	14	0	0	0	0	268	74	34	214	0
Future Volume (veh/h)	16	78	14	0	0	0	0	268	74	34	214	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.99	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	21	103	18				0	353	97	45	282	0
Peak Hour Factor	0.76	0.76	0.76				0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	85	418	423				0	826	227	153	908	0
Arrive On Green	0.09	0.09	0.09				0.00	0.59	0.59	1.00	1.00	0.00
Sat Flow, veh/h	314	1541	1559				0	1411	388	161	1551	0
Grp Volume(v), veh/h	124	0	18				0	0	450	327	0	0
Grp Sat Flow(s),veh/h/ln	1855	0	1559				0	0	1798	1711	0	0
Q Serve(g_s), s	4.4	0.0	0.7				0.0	0.0	9.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.4	0.0	0.7				0.0	0.0	9.7	0.0	0.0	0.0
Prop In Lane	0.17		1.00				0.00		0.22	0.14		0.00
Lane Grp Cap(c), veh/h	503	0	423				0	0	1053	1061	0	0
V/C Ratio(X)	0.25	0.00	0.04				0.00	0.00	0.43	0.31	0.00	0.00
Avail Cap(c_a), veh/h	503	0	423				0	0	1053	1061	0	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	0.95	0.00	0.95				0.00	0.00	1.00	0.85	0.00	0.00
Uniform Delay (d), s/veh	25.2	0.0	23.6				0.0	0.0	8.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.2				0.0	0.0	1.3	0.6	0.0	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
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.3				0.0	0.0	3.5	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.3	0.0	23.7				0.0	0.0	9.3	0.6	0.0	0.0
LnGrp LOS	C		C						A	A		
Approach Vol, veh/h		142						450			327	
Approach Delay, s/veh		26.0						9.3			0.6	
Approach LOS		C						A			A	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		46.0		24.0		46.0						
Change Period (Y+Rc), s		5.0		5.0		5.0						
Max Green Setting (Gmax), s		41.0		19.0		41.0						
Max Q Clear Time (g_c+I1), s		11.7		6.4		2.0						
Green Ext Time (p_c), s		0.5		0.1		0.4						
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			8.8									
HCM 6th LOS			A									

HCM Signalized Intersection Capacity Analysis

35: S American Street & Market Street

Background Build Conditions

Timing Plan: AM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	149	0	0	0	0	0	0	0	108	0	0
Future Volume (vph)	30	149	0	0	0	0	0	0	0	108	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0									5.0	
Lane Util. Factor		1.00									1.00	
Frpb, ped/bikes		1.00									1.00	
Flpb, ped/bikes		0.99									0.99	
Frt		1.00									1.00	
Flt Protected		0.99									0.95	
Satd. Flow (prot)		1841									1762	
Flt Permitted		0.99									0.75	
Satd. Flow (perm)		1841									1404	
Peak-hour factor, PHF	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Adj. Flow (vph)	56	276	0	0	0	0	0	0	0	200	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	332	0	0	0	0	0	0	0	0	200	0
Confl. Peds. (#/hr)	10		2						2	2		
Confl. Bikes (#/hr)			1									
Turn Type	Perm	NA								Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		40.0									20.0	
Effective Green, g (s)		40.0									20.0	
Actuated g/C Ratio		0.57									0.29	
Clearance Time (s)		5.0									5.0	
Vehicle Extension (s)		0.2									0.2	
Lane Grp Cap (vph)		1052									401	
v/s Ratio Prot												
v/s Ratio Perm		0.18									c0.14	
v/c Ratio		0.31									0.49	
Uniform Delay, d1		7.8									20.8	
Progression Factor		0.99									0.70	
Incremental Delay, d2		0.7									2.8	
Delay (s)		8.5									17.5	
Level of Service		A									B	
Approach Delay (s/veh)		8.5			0.0			0.0			17.5	
Approach LOS		A			A			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		12.0										
HCM 2000 Volume to Capacity ratio		0.38										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		36.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

36: S Stanislaus Street & Market Street

Background Build Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔						↕			↕	
Traffic Volume (vph)	51	102	108	0	0	0	0	512	52	9	215	0
Future Volume (vph)	51	102	108	0	0	0	0	512	52	9	215	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						0.95			0.95	
Frpb, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		0.99						1.00			0.99	
Frt		0.94						0.98			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		1724						3483			3532	
Flt Permitted		0.99						1.00			0.92	
Satd. Flow (perm)		1724						3483			3256	
Peak-hour factor, PHF	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Adj. Flow (vph)	71	142	150	0	0	0	0	711	72	12	299	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	363	0	0	0	0	0	772	0	0	312	0
Confl. Peds. (#/hr)	13		4						2	2		
Confl. Bikes (#/hr)			1									
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		25.0						35.0			35.0	
Effective Green, g (s)		25.0						35.0			35.0	
Actuated g/C Ratio		0.36						0.50			0.50	
Clearance Time (s)		5.0						5.0			5.0	
Vehicle Extension (s)		0.2						0.2			0.2	
Lane Grp Cap (vph)		615						1741			1628	
v/s Ratio Prot								c0.22				
v/s Ratio Perm		0.21									0.10	
v/c Ratio		0.59						0.44			0.19	
Uniform Delay, d1		18.3						11.2			9.6	
Progression Factor		0.82						1.00			0.69	
Incremental Delay, d2		3.8						0.8			0.2	
Delay (s)		19.0						12.0			6.9	
Level of Service		B						B			A	
Approach Delay (s/veh)		19.0			0.0			12.0			6.9	
Approach LOS		B			A			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		12.7						HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio		0.50										
Actuated Cycle Length (s)		70.0						Sum of lost time (s)		10.0		
Intersection Capacity Utilization		39.2%						ICU Level of Service		A		
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th TWSC
37: S Grant Street & Market Street

Background Build Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	52	110	0	0	0	0	0	8	0	9	5	0
Future Vol, veh/h	52	110	0	0	0	0	0	8	0	9	5	0
Conflicting Peds, #/hr	10	0	0	0	0	0	0	0	4	4	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	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	157	0	0	0	0	0	11	0	13	7	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	10	0	0	-	315	161	325	315	-
Stage 1	-	-	-	-	305	-	10	10	-
Stage 2	-	-	-	-	10	-	315	305	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1610	-	-	0	601	884	628	601	0
Stage 1	-	-	-	0	662	-	-	-	0
Stage 2	-	-	-	0	-	-	696	662	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1595	-	-	-	565	884	588	565	-
Mov Cap-2 Maneuver	-	-	-	-	565	-	588	565	-
Stage 1	-	-	-	-	628	-	-	-	-
Stage 2	-	-	-	-	-	-	648	628	-

Approach	EB	NB	SB
HCM Control Delay, s/v	2.4	11.5	11.4
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	565	1595	-	-	580
HCM Lane V/C Ratio	0.02	0.047	-	-	0.034
HCM Control Delay (s/veh)	11.5	7.4	0	-	11.4
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0.1	-	-	0.1

HCM 6th TWSC
38: S Aurora Street & Market Street

Background Build Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	6.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	9	96	15	0	0	0	0	102	9	4	36	0
Future Vol, veh/h	9	96	15	0	0	0	0	102	9	4	36	0
Conflicting Peds, #/hr	2	0	1	0	0	0	0	0	2	2	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	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	123	19	0	0	0	0	131	12	5	46	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	2	0	0	-	160	136	232	169	-
Stage 1	-	-	-	-	158	-	2	2	-
Stage 2	-	-	-	-	2	-	230	167	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1620	-	-	0	732	913	723	724	0
Stage 1	-	-	-	0	767	-	-	-	0
Stage 2	-	-	-	0	-	-	773	760	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1617	-	-	-	724	912	610	716	-
Mov Cap-2 Maneuver	-	-	-	-	724	-	610	716	-
Stage 1	-	-	-	-	760	-	-	-	-
Stage 2	-	-	-	-	-	-	627	753	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.5	11.1	10.5
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	736	1617	-	-	704
HCM Lane V/C Ratio	0.193	0.007	-	-	0.073
HCM Control Delay (s/veh)	11.1	7.2	0	-	10.5
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.7	0	-	-	0.2

HCM 6th TWSC
39: Union Street & Market Street

Background Build Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	6.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↔			↔	
Traffic Vol, veh/h	8	88	5	0	0	0	0	90	8	15	39	0
Future Vol, veh/h	8	88	5	0	0	0	0	90	8	15	39	0
Conflicting Peds, #/hr	1	0	1	0	0	0	0	0	1	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	97	5	0	0	0	0	99	9	16	43	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	1	0	0	-	120	102	174	122	-
Stage 1	-	-	-	-	119	-	1	1	-
Stage 2	-	-	-	-	1	-	173	121	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1622	-	-	0	770	953	789	768	0
Stage 1	-	-	-	0	797	-	-	-	0
Stage 2	-	-	-	0	-	-	829	796	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1620	-	-	-	764	952	701	762	-
Mov Cap-2 Maneuver	-	-	-	-	764	-	701	762	-
Stage 1	-	-	-	-	791	-	-	-	-
Stage 2	-	-	-	-	-	-	714	790	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.6	10.4	10.3
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	777	1620	-	-	744
HCM Lane V/C Ratio	0.139	0.005	-	-	0.08
HCM Control Delay (s/veh)	10.4	7.2	0	-	10.3
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.5	0	-	-	0.3

HCM 6th TWSC
40: Pilgrim Street & Market Street

Background Build Conditions
Timing Plan: AM Peak Hour

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	6	108	2	0	0	0	0	8	9	13	4	0
Future Vol, veh/h	6	108	2	0	0	0	0	8	9	13	4	0
Conflicting Peds, #/hr	3	0	1	0	0	0	0	0	9	9	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	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	161	3	0	0	0	0	12	13	19	6	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	3	0	0	-	185	173	205	186	-
Stage 1	-	-	-	-	182	-	3	3	-
Stage 2	-	-	-	-	3	-	202	183	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1619	-	-	0	709	871	753	708	0
Stage 1	-	-	-	0	749	-	-	-	0
Stage 2	-	-	-	0	-	-	800	748	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1614	-	-	-	702	870	727	701	-
Mov Cap-2 Maneuver	-	-	-	-	702	-	727	701	-
Stage 1	-	-	-	-	744	-	-	-	-
Stage 2	-	-	-	-	-	-	770	743	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.4	9.8	10.2
HCM LOS		A	B
















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	782	1614	-	-	721
HCM Lane V/C Ratio	0.032	0.006	-	-	0.035
HCM Control Delay (s/veh)	9.8	7.2	0	-	10.2
HCM Lane LOS	A	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1

HCM 6th Signalized Intersection Summary

41: Airport Way & Market Street

Background Build Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	84	19	0	0	0	0	815	39	77	591	0
Future Volume (veh/h)	26	84	19	0	0	0	0	815	39	77	591	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	29	93	21				0	906	43	86	657	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	41	131	29				0	2683	127	268	1990	0
Arrive On Green	0.11	0.11	0.11				0.00	0.78	0.78	1.00	1.00	0.00
Sat Flow, veh/h	364	1166	263				0	3547	164	280	2646	0
Grp Volume(v), veh/h	143	0	0				0	466	483	329	414	0
Grp Sat Flow(s),veh/h/ln	1794	0	0				0	1777	1840	1224	1617	0
Q Serve(g_s), s	6.9	0.0	0.0				0.0	7.1	7.1	0.8	0.0	0.0
Cycle Q Clear(g_c), s	6.9	0.0	0.0				0.0	7.1	7.1	8.0	0.0	0.0
Prop In Lane	0.20		0.15				0.00		0.09	0.26		0.00
Lane Grp Cap(c), veh/h	201	0	0				0	1380	1430	1002	1256	0
V/C Ratio(X)	0.71	0.00	0.00				0.00	0.34	0.34	0.33	0.33	0.00
Avail Cap(c_a), veh/h	438	0	0				0	1380	1430	1002	1256	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	0.96	0.96	0.00
Uniform Delay (d), s/veh	38.6	0.0	0.0				0.0	3.0	3.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	0.0				0.0	0.7	0.6	0.8	0.7	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
%ile BackOfQ(50%),veh/ln	3.1	0.0	0.0				0.0	1.8	1.9	0.2	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.3	0.0	0.0				0.0	3.7	3.7	0.9	0.7	0.0
LnGrp LOS	D							A	A	A	A	
Approach Vol, veh/h		143						949			743	
Approach Delay, s/veh		40.3						3.7			0.8	
Approach LOS		D						A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		74.9				74.9		15.1				
Change Period (Y+Rc), s		5.0				5.0		5.0				
Max Green Setting (Gmax), s		58.0				58.0		22.0				
Max Q Clear Time (g_c+I1), s		10.0				9.1		8.9				
Green Ext Time (p_c), s		1.0				0.9		0.1				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			5.4									
HCM 6th LOS			A									

HCM 6th TWSC
42: Sierra Nevada Street & Market Street

Background Build Conditions
Timing Plan: AM Peak Hour

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	14	186	2	0	0	0	0	15	15	24	7	0
Future Vol, veh/h	14	186	2	0	0	0	0	15	15	24	7	0
Conflicting Peds, #/hr	2	0	2	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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	209	2	0	0	0	0	17	17	27	8	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	2	0	0	-	246	212	261	247	-
Stage 1	-	-	-	-	244	-	2	2	-
Stage 2	-	-	-	-	2	-	259	245	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1620	-	-	0	656	828	692	655	0
Stage 1	-	-	-	0	704	-	-	-	0
Stage 2	-	-	-	0	-	-	746	703	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1617	-	-	-	646	826	657	645	-
Mov Cap-2 Maneuver	-	-	-	-	646	-	657	645	-
Stage 1	-	-	-	-	695	-	-	-	-
Stage 2	-	-	-	-	-	-	705	694	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.5	10.2	10.8
HCM LOS		B	B

















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	725	1617	-	-	654
HCM Lane V/C Ratio	0.046	0.01	-	-	0.053
HCM Control Delay (s/veh)	10.2	7.2	0	-	10.8
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0	-	-	0.2

HCM 6th Signalized Intersection Summary

43: S Wilson Way & Market Street



Background Build Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	148	50	0	0	0	0	686	63	118	623	0
Future Volume (veh/h)	15	148	50	0	0	0	0	686	63	118	623	0
Initial Q (Qb), veh	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
Parking Bus, Adj	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	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	16	157	53				0	730	67	126	663	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	20	192	65				0	1943	178	157	2609	0
Arrive On Green	0.05	0.05	0.05				0.00	0.59	0.59	0.12	0.98	0.00
Sat Flow, veh/h	126	1241	419				0	3384	302	1781	3647	0
Grp Volume(v), veh/h	226	0	0				0	394	403	126	663	0
Grp Sat Flow(s),veh/h/ln	1787	0	0				0	1777	1815	1781	1777	0
Q Serve(g_s), s	11.3	0.0	0.0				0.0	10.5	10.5	6.2	0.5	0.0
Cycle Q Clear(g_c), s	11.3	0.0	0.0				0.0	10.5	10.5	6.2	0.5	0.0
Prop In Lane	0.07		0.23				0.00		0.17	1.00		0.00
Lane Grp Cap(c), veh/h	277	0	0				0	1049	1072	157	2609	0
V/C Ratio(X)	0.82	0.00	0.00				0.00	0.38	0.38	0.80	0.25	0.00
Avail Cap(c_a), veh/h	417	0	0				0	1049	1072	257	2609	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	0.97	0.97	0.00
Uniform Delay (d), s/veh	41.4	0.0	0.0				0.0	9.7	9.7	39.0	0.3	0.0
Incr Delay (d2), s/veh	4.4	0.0	0.0				0.0	1.0	1.0	3.5	0.2	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
%ile BackOfQ(50%),veh/ln	5.7	0.0	0.0				0.0	4.1	4.2	2.8	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.8	0.0	0.0				0.0	10.7	10.7	42.5	0.5	0.0
LnGrp LOS	D							B	B	D	A	
Approach Vol, veh/h		226						797			789	
Approach Delay, s/veh		45.8						10.7			7.2	
Approach LOS		D						B			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	12.9	58.2				71.1		18.9				
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0				
Max Green Setting (Gmax), s	13.0	41.0				59.0		21.0				
Max Q Clear Time (g_c+I1), s	8.2	12.5				2.5		13.3				
Green Ext Time (p_c), s	0.1	13.6				15.0		0.5				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			13.6									
HCM 6th LOS			B									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 6th TWSC
44: S Eugenia Street & Market Street

Background Build Conditions
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	1.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	312	16	0	0	0	37
Future Vol, veh/h	312	16	0	0	0	37
Conflicting Peds, #/hr	0	2	0	0	0	1
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, %	2	2	2	2	2	2
Mvmt Flow	339	17	0	0	0	40

Major/Minor	Major1		Minor1	
Conflicting Flow All	0	0	-	351
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	692
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-		
Mov Cap-1 Maneuver	-	-	-	691
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s/v	0	10.5
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	691	-	-
HCM Lane V/C Ratio	0.058	-	-
HCM Control Delay (s/veh)	10.5	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q (veh)	0.2	-	-

HCM 6th TWSC
45: Della Street & Market Street

Background Build Conditions
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	54	264	12	0	0	0	0	3	2	5	54	0
Future Vol, veh/h	54	264	12	0	0	0	0	3	2	5	54	0
Conflicting Peds, #/hr	0	0	4	0	0	0	0	0	2	2	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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	297	13	0	0	0	0	3	2	6	61	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	0	-	430	310	430	436	-
Stage 1	-	-	-	-	430	-	0	0	-
Stage 2	-	-	-	-	0	-	430	436	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	-	-	-	0	518	730	535	514	0
Stage 1	-	-	-	0	583	-	-	-	0
Stage 2	-	-	-	0	-	-	603	580	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	516	727	531	512	-
Mov Cap-2 Maneuver	-	-	-	-	516	-	531	512	-
Stage 1	-	-	-	-	581	-	-	-	-
Stage 2	-	-	-	-	-	-	598	578	-

Approach	EB	NB	SB
HCM Control Delay, s/v		11.2	13
HCM LOS		B	B


Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	584	-	-	-	514
HCM Lane V/C Ratio	0.01	-	-	-	0.129
HCM Control Delay (s/veh)	11.2	-	-	-	13
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q (veh)	0	-	-	-	0.4

HCM Signalized Intersection Capacity Analysis

Background Build Conditions

2: S San Joaquin Street/N San Joaquin Street & Main Street

Timing Plan: PM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Volume (vph)	0	0	0	23	28	38	7	121	0	0	128	18
Future Volume (vph)	0	0	0	23	28	38	7	121	0	0	128	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			0.95			0.95	
Frpb, ped/bikes					0.98			1.00			0.99	
Flpb, ped/bikes					0.98			0.99			1.00	
Frt					0.94			1.00			0.98	
Flt Protected					0.98			0.99			1.00	
Satd. Flow (prot)					1680			3524			3451	
Flt Permitted					0.98			0.94			1.00	
Satd. Flow (perm)					1680			3328			3451	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	0	0	26	32	43	8	138	0	0	145	20
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	101	0	0	146	0	0	165	0
Confl. Peds. (#/hr)				16		10	28					28
Confl. Bikes (#/hr)						1						1
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					7.0			27.0			27.0	
Effective Green, g (s)					7.0			27.0			27.0	
Actuated g/C Ratio					0.10			0.39			0.39	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					168			1283			1331	
v/s Ratio Prot											c0.05	
v/s Ratio Perm					0.06			0.04				
v/c Ratio					0.60			0.11			0.12	
Uniform Delay, d1					30.1			13.8			13.8	
Progression Factor					1.11			0.73			1.00	
Incremental Delay, d2					4.0			0.1			0.1	
Delay (s)					37.5			10.3			14.0	
Level of Service					D			B			B	
Approach Delay (s/veh)		0.0			37.5			10.3			14.0	
Approach LOS		A			D			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			18.5									
HCM 2000 Volume to Capacity ratio			0.13									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			22.4%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: S Sutter Street/N Sutter Street & Main Street

Background Build Conditions

Timing Plan: PM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↕	
Traffic Volume (vph)	0	0	0	23	43	12	13	134	0	0	85	23
Future Volume (vph)	0	0	0	23	43	12	13	134	0	0	85	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			1.00			0.95	
Frpb, ped/bikes					0.99			1.00			0.97	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.97			1.00			0.96	
Flt Protected					0.98			0.99			1.00	
Satd. Flow (prot)					1766			1842			3344	
Flt Permitted					0.98			0.97			1.00	
Satd. Flow (perm)					1766			1795			3344	
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	0	0	0	29	54	15	16	170	0	0	108	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	98	0	0	186	0	0	137	0
Confl. Peds. (#/hr)				24		14	52					52
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			4			4	
Permitted Phases				2			4					
Actuated Green, G (s)					15.0			19.0			19.0	
Effective Green, g (s)					15.0			19.0			19.0	
Actuated g/C Ratio					0.21			0.27			0.27	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					378			487			907	
v/s Ratio Prot											0.04	
v/s Ratio Perm					0.06			c0.10				
v/c Ratio					0.25			0.38			0.15	
Uniform Delay, d1					22.8			20.7			19.3	
Progression Factor					0.67			0.68			1.00	
Incremental Delay, d2					1.5			2.2			0.3	
Delay (s)					16.9			16.3			19.7	
Level of Service					B			B			B	
Approach Delay (s/veh)		0.0			16.9			16.3			19.7	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			17.6									
HCM 2000 Volume to Capacity ratio			0.20									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			27.3%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: California Street & Main Street

Background Build Conditions

Timing Plan: PM Peak Hour

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Volume (vph)	0	0	0	27	57	24	9	216	0	0	249	8
Future Volume (vph)	0	0	0	27	57	24	9	216	0	0	249	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			0.99	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.96			1.00			0.99	
Flt Protected					0.98			0.99			1.00	
Satd. Flow (prot)					1766			1858			1853	
Flt Permitted					0.98			0.98			1.00	
Satd. Flow (perm)					1766			1830			1853	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	31	66	28	10	248	0	0	286	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	125	0	0	258	0	0	295	0
Confl. Peds. (#/hr)				2		9	9					9
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					15.0			19.0			19.0	
Effective Green, g (s)					15.0			19.0			19.0	
Actuated g/C Ratio					0.21			0.27			0.27	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					378			496			502	
v/s Ratio Prot											c0.16	
v/s Ratio Perm					0.07			0.14				
v/c Ratio					0.33			0.52			0.58	
Uniform Delay, d1					23.2			21.6			22.1	
Progression Factor					1.72			0.81			1.00	
Incremental Delay, d2					2.1			3.8			4.9	
Delay (s)					42.2			21.4			27.0	
Level of Service					D			C			C	
Approach Delay (s/veh)		0.0			42.2			21.4			27.0	
Approach LOS		A			D			C			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			27.7									
HCM 2000 Volume to Capacity ratio			0.28									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			33.2%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: S American Street/N American Street & Main Street

Background Build Conditions

Timing Plan: PM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	22	88	19	3	24	0	0	12	15
Future Volume (vph)	0	0	0	22	88	19	3	24	0	0	12	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	5.0
Lane Util. Factor					1.00			1.00			1.00	1.00
Frpb, ped/bikes					0.99			1.00			1.00	0.97
Flpb, ped/bikes					0.99			0.99			1.00	1.00
Frt					0.98			1.00			1.00	0.85
Flt Protected					0.99			0.99			1.00	1.00
Satd. Flow (prot)					1787			1850			1863	1547
Flt Permitted					0.99			0.98			1.00	1.00
Satd. Flow (perm)					1787			1829			1863	1547
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	0	0	26	104	22	4	28	0	0	14	18
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	152	0	0	32	0	0	14	18
Confl. Peds. (#/hr)				15		5	2					2
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			4			4	
Permitted Phases				2			4					4
Actuated Green, G (s)					11.0			23.0			23.0	23.0
Effective Green, g (s)					11.0			23.0			23.0	23.0
Actuated g/C Ratio					0.16			0.33			0.33	0.33
Clearance Time (s)					5.0			5.0			5.0	5.0
Vehicle Extension (s)					0.2			0.2			0.2	0.2
Lane Grp Cap (vph)					280			600			612	508
v/s Ratio Prot											0.01	
v/s Ratio Perm					0.09			c0.02				0.01
v/c Ratio					0.54			0.05			0.02	0.03
Uniform Delay, d1					27.1			16.0			15.8	15.9
Progression Factor					0.86			0.95			1.00	1.00
Incremental Delay, d2					7.3			0.1			0.0	0.1
Delay (s)					30.8			15.5			15.9	16.0
Level of Service					C			B			B	B
Approach Delay (s/veh)		0.0			30.8			15.5			16.0	
Approach LOS		A			C			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			26.4									
HCM 2000 Volume to Capacity ratio			0.13									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			26.2%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: S Stanislaus Street/N Stanislaus Street & Main Street




Background Build Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Volume (vph)	0	0	0	66	68	12	39	249	0	0	295	8
Future Volume (vph)	0	0	0	66	68	12	39	249	0	0	295	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			0.95			0.95	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.98			1.00			0.99	
Flt Protected					0.97			0.99			1.00	
Satd. Flow (prot)					1798			3512			3522	
Flt Permitted					0.97			0.87			1.00	
Satd. Flow (perm)					1798			3103			3522	
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)	0	0	0	72	74	13	42	271	0	0	321	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	159	0	0	313	0	0	327	0
Confl. Peds. (#/hr)				4			5					5
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					1			2			2	
Permitted Phases				1			2					
Actuated Green, G (s)					25.0			35.0			35.0	
Effective Green, g (s)					25.0			35.0			35.0	
Actuated g/C Ratio					0.36			0.50			0.50	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					0.2			0.2			0.2	
Lane Grp Cap (vph)					642			1551			1761	
v/s Ratio Prot											0.09	
v/s Ratio Perm					0.09			c0.10				
v/c Ratio					0.24			0.20			0.18	
Uniform Delay, d1					15.8			9.7			9.6	
Progression Factor					1.00			0.78			1.00	
Incremental Delay, d2					0.9			0.2			0.2	
Delay (s)					16.7			7.9			9.8	
Level of Service					B			A			A	
Approach Delay (s/veh)		0.0			16.7			7.9			9.8	
Approach LOS		A			B			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			10.5									
HCM 2000 Volume to Capacity ratio			0.22									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			41.8%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
7: S Grant Street/N Grant Street & Main Street

Background Build Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	7	124	11	10	21	0	0	31	25
Future Vol, veh/h	0	0	0	7	124	11	10	21	0	0	31	25
Conflicting Peds, #/hr	0	0	0	1	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	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	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	10	177	16	14	30	0	0	44	36




Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	1	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1622	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1620	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	0.4	10.8	10.4
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	665	1620	-	-	751
HCM Lane V/C Ratio	0.067	0.006	-	-	0.107
HCM Control Delay (s/veh)	10.8	7.2	0	-	10.4
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.2	0	-	-	0.4

HCM 6th TWSC
8: S Aurora Street/N Aurora Street & Main Street

Background Build Conditions
Timing Plan: PM Peak Hour

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	0	0	0	15	75	1	12	96	0	0	38	5
Future Vol, veh/h	0	0	0	15	75	1	12	96	0	0	38	5
Conflicting Peds, #/hr	0	0	0	8	0	1	1	0	0	0	0	1
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	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	18	90	1	14	116	0	0	46	6

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	8	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1612	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1600	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-




Approach	WB	NB	SB
HCM Control Delay, s/v	1.2	10.9	10.1
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	740	1600	-	-	760
HCM Lane V/C Ratio	0.176	0.011	-	-	0.068
HCM Control Delay (s/veh)	10.9	7.3	0	-	10.1
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.6	0	-	-	0.2

HCM 6th AWSC
9: Union Street & Main Street

Background Build Conditions
Timing Plan: PM Peak Hour

Intersection												
Intersection Delay, s/veh	8											
Intersection LOS	A											




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	13	78	15	13	108	0	0	76	7
Future Vol, veh/h	0	0	0	13	78	15	13	108	0	0	76	7
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	14	82	16	14	114	0	0	80	7
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB			NB			SB		
Opposing Approach				SB			NB		
Opposing Lanes	0			1			1		
Conflicting Approach Left	NB						WB		
Conflicting Lanes Left	1			0			1		
Conflicting Approach Right	SB			WB					
Conflicting Lanes Right	1			1			0		
HCM Control Delay, s/veh	8			8.1			7.8		
HCM LOS	A			A			A		

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	11%	12%	0%
Vol Thru, %	89%	74%	92%
Vol Right, %	0%	14%	8%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	121	106	83
LT Vol	13	13	0
Through Vol	108	78	76
RT Vol	0	15	7
Lane Flow Rate	127	112	87
Geometry Grp	1	1	1
Degree of Util (X)	0.149	0.135	0.104
Departure Headway (Hd)	4.219	4.352	4.282
Convergence, Y/N	Yes	Yes	Yes
Cap	837	828	842
Service Time	2.314	2.357	2.282
HCM Lane V/C Ratio	0.152	0.135	0.103
HCM Control Delay, s/veh	8.1	8	7.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.5	0.3

HCM 6th TWSC
10: Pilgrim Street & Main Street

Background Build Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	18	97	15	8	16	0	0	20	5
Future Vol, veh/h	0	0	0	18	97	15	8	16	0	0	20	5
Conflicting Peds, #/hr	0	0	0	4	0	1	3	0	0	0	0	3
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	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	23	123	19	10	20	0	0	25	6

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	4	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1618	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1612	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	1	10.4	10.2
HCM LOS		B	B
















Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	697	1612	-	-	729
HCM Lane V/C Ratio	0.044	0.014	-	-	0.043
HCM Control Delay (s/veh)	10.4	7.3	0	-	10.2
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.1	0	-	-	0.1

HCM 6th Signalized Intersection Summary

11: Airport Way & Main Street

Background Build Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	41	93	61	10	869	0	0	749	17
Future Volume (veh/h)	0	0	0	41	93	61	10	869	0	0	749	17
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.97	1.00		1.00	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
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				43	98	64	11	915	0	0	788	18
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				56	128	84	50	2533	0	0	2606	60
Arrive On Green				0.05	0.05	0.05	1.00	1.00	0.00	0.00	0.73	0.73
Sat Flow, veh/h				364	829	541	13	3536	0	0	3644	81
Grp Volume(v), veh/h				205	0	0	494	432	0	0	394	412
Grp Sat Flow(s),veh/h/ln				1734	0	0	1847	1617	0	0	1777	1855
Q Serve(g_s), s				10.5	0.0	0.0	0.0	0.0	0.0	0.0	6.8	6.8
Cycle Q Clear(g_c), s				10.5	0.0	0.0	0.0	0.0	0.0	0.0	6.8	6.8
Prop In Lane				0.21		0.31	0.02		0.00	0.00		0.04
Lane Grp Cap(c), veh/h				269	0	0	1397	1187	0	0	1304	1361
V/C Ratio(X)				0.76	0.00	0.00	0.35	0.36	0.00	0.00	0.30	0.30
Avail Cap(c_a), veh/h				424	0	0	1397	1187	0	0	1304	1361
HCM Platoon Ratio				0.33	0.33	0.33	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.93	0.93	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				41.1	0.0	0.0	0.0	0.0	0.0	0.0	4.1	4.1
Incr Delay (d2), s/veh				1.7	0.0	0.0	0.7	0.8	0.0	0.0	0.6	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
%ile BackOfQ(50%),veh/ln				5.0	0.0	0.0	0.3	0.3	0.0	0.0	2.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				42.8	0.0	0.0	0.7	0.8	0.0	0.0	4.7	4.7
LnGrp LOS				D			A	A			A	A
Approach Vol, veh/h					205			926			806	
Approach Delay, s/veh					42.8			0.7			4.7	
Approach LOS					D			A			A	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	71.1			18.9			71.1					
Change Period (Y+Rc), s	5.0			5.0			5.0					
Max Green Setting (Gmax), s	58.0			22.0			58.0					
Max Q Clear Time (g_c+I1), s	2.0			12.5			8.8					
Green Ext Time (p_c), s	0.9			0.5			0.7					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				6.8								
HCM 6th LOS				A								

HCM 6th TWSC
12: Sierra Nevada Street & Main Street

Background Build Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					EB			E			B	
Traffic Vol, veh/h	0	0	0	30	154	40	9	37	0	0	49	32
Future Vol, veh/h	0	0	0	30	154	40	9	37	0	0	49	32
Conflicting Peds, #/hr	0	0	0	6	0	3	9	0	0	0	0	9
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	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	32	164	43	10	39	0	0	52	34


















Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	6	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1613	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1604	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	1	11.3	10.8
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	618	1604	-	-	712
HCM Lane V/C Ratio	0.079	0.02	-	-	0.121
HCM Control Delay (s/veh)	11.3	7.3	0.1	-	10.8
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.3	0.1	-	-	0.4

HCM 6th Signalized Intersection Summary 13: S Wilson Way & Main Street

Background Build Conditions
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	107	126	183	27	936	0	0	933	29
Future Volume (veh/h)	0	0	0	107	126	183	27	936	0	0	933	29
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	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
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				110	130	189	28	965	0	0	962	30
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				135	159	254	435	2588	0	0	2562	80
Arrive On Green				0.16	0.16	0.16	1.00	1.00	0.00	0.00	0.73	0.73
Sat Flow, veh/h				838	990	1582	567	3647	0	0	3611	110
Grp Volume(v), veh/h				240	0	189	28	965	0	0	486	506
Grp Sat Flow(s),veh/h/ln				1828	0	1582	567	1777	0	0	1777	1850
Q Serve(g_s), s				11.4	0.0	10.3	0.7	0.0	0.0	0.0	9.2	9.2
Cycle Q Clear(g_c), s				11.4	0.0	10.3	9.9	0.0	0.0	0.0	9.2	9.2
Prop In Lane				0.46		1.00	1.00		0.00	0.00		0.06
Lane Grp Cap(c), veh/h				294	0	254	435	2588	0	0	1294	1347
V/C Ratio(X)				0.82	0.00	0.74	0.06	0.37	0.00	0.00	0.38	0.38
Avail Cap(c_a), veh/h				467	0	404	435	2588	0	0	1294	1347
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.75	0.75	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.5	0.0	36.0	0.7	0.0	0.0	0.0	4.6	4.6
Incr Delay (d2), s/veh				2.8	0.0	1.6	0.2	0.3	0.0	0.0	0.8	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
%ile BackOfQ(50%),veh/ln				5.2	0.0	4.0	0.0	0.1	0.0	0.0	3.1	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				39.3	0.0	37.6	0.9	0.3	0.0	0.0	5.4	5.4
LnGrp LOS				D		D	A	A			A	A
Approach Vol, veh/h					429			993			992	
Approach Delay, s/veh					38.6			0.3			5.4	
Approach LOS					D			A			A	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	70.6			19.4			70.6					
Change Period (Y+Rc), s	5.0			5.0			5.0					
Max Green Setting (Gmax), s	57.0			23.0			57.0					
Max Q Clear Time (g_c+I1), s	11.9			13.4			11.2					
Green Ext Time (p_c), s	3.4			0.9			2.6					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				9.2								
HCM 6th LOS				A								

HCM 6th TWSC

Background Build Conditions

15: B Street/E Washington Street & Main Street

Timing Plan: PM Peak Hour

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	5	416	32	15	326	1	28	2	38	1	2	14	
Future Vol, veh/h	5	416	32	15	326	1	28	2	38	1	2	14	
Conflicting Peds, #/hr	1	0	1	1	0	1	3	0	0	0	0	3	
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	94	94	94	94	94	94	94	94	94	94	94	94	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	5	443	34	16	347	1	30	2	40	1	2	15	

Major/Minor	Major1	Major2	Minor1	Minor2										
Conflicting Flow All	349	0	0	478	0	0	862	852	461	872	869	352		
Stage 1	-	-	-	-	-	-	471	471	-	381	381	-		
Stage 2	-	-	-	-	-	-	391	381	-	491	488	-		
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318		
Pot Cap-1 Maneuver	1210	-	-	1084	-	-	275	297	600	271	290	692		
Stage 1	-	-	-	-	-	-	573	560	-	641	613	-		
Stage 2	-	-	-	-	-	-	633	613	-	559	550	-		
Platoon blocked, %	-	-	-	-	-	-								
Mov Cap-1 Maneuver	1209	-	-	1083	-	-	262	289	599	247	282	689		
Mov Cap-2 Maneuver	-	-	-	-	-	-	262	289	-	247	282	-		
Stage 1	-	-	-	-	-	-	569	556	-	637	601	-		
Stage 2	-	-	-	-	-	-	604	601	-	516	546	-		

Approach	EB	WB	NB	SB										
HCM Control Delay, s/v	0.1	0.4	16.5	11.9										
HCM LOS					C				B					

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	384	1209	-	-	1083	-	-	540					
HCM Lane V/C Ratio	0.188	0.004	-	-	0.015	-	-	0.033					
HCM Control Delay (s/veh)	16.5	8	0	0	8.4	0	0	11.9					
HCM Lane LOS	C	A	A	A	A	A	A	B					
HCM 95th %tile Q (veh)	0.7	0	-	-	0	-	-	0.1					

HCM 6th TWSC
16: E Lafayette Street & Main Street

Background Build Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	40	394	9	25	333	12	11	4	31	0	3	15
Future Vol, veh/h	40	394	9	25	333	12	11	4	31	0	3	15
Conflicting Peds, #/hr	1	0	0	0	0	1	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	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	402	9	26	340	12	11	4	32	0	3	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	353	0	0	411	0	0	896	894	407	906	892	347
Stage 1	-	-	-	-	-	-	489	489	-	399	399	-
Stage 2	-	-	-	-	-	-	407	405	-	507	493	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1206	-	-	1148	-	-	261	280	644	257	281	696
Stage 1	-	-	-	-	-	-	561	549	-	627	602	-
Stage 2	-	-	-	-	-	-	621	598	-	548	547	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1205	-	-	1148	-	-	239	260	644	228	261	695
Mov Cap-2 Maneuver	-	-	-	-	-	-	239	260	-	228	261	-
Stage 1	-	-	-	-	-	-	536	525	-	599	585	-
Stage 2	-	-	-	-	-	-	587	581	-	494	523	-

Approach	EB			WB			NE			SW		
HCM Control Delay, s/v	0.7			0.6			12			11.8		
HCM LOS							B			B		










Minor Lane/Major Mvmt	NELn1	EBL	EBT	EBR	WBL	WBT	WBR	SWLn1
Capacity (veh/h)	551	1205	-	-	1148	-	-	544
HCM Lane V/C Ratio	0.065	0.034	-	-	0.022	-	-	0.034
HCM Control Delay (s/veh)	12	8.1	0	-	8.2	0	-	11.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q (veh)	0.2	0.1	-	-	0.1	-	-	0.1

HCM Signalized Intersection Capacity Analysis

17: Main Street & D Street





Background Build Conditions

Timing Plan: PM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	450	370	15	8	8
Future Volume (vph)	9	450	370	15	8	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	
Lane Util. Factor		1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.99		1.00	
Flpb, ped/bikes		0.99	1.00		1.00	
Frt		1.00	0.99		0.93	
Flt Protected		0.99	1.00		0.97	
Satd. Flow (prot)		1861	1851		1695	
Flt Permitted		0.98	1.00		0.97	
Satd. Flow (perm)		1839	1851		1695	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	479	394	16	9	9
RTOR Reduction (vph)	0	0	0	0	9	0
Lane Group Flow (vph)	0	489	410	0	9	0
Confl. Peds. (#/hr)	1			1		
Turn Type	Perm	NA	NA		Perm	
Protected Phases		2	6			
Permitted Phases	2				4	
Actuated Green, G (s)		11.4	11.4		0.6	
Effective Green, g (s)		11.4	11.4		0.6	
Actuated g/C Ratio		0.52	0.52		0.03	
Clearance Time (s)		5.0	5.0		5.0	
Vehicle Extension (s)		6.0	6.0		2.0	
Lane Grp Cap (vph)		952	959		46	
v/s Ratio Prot			0.22			
v/s Ratio Perm		c0.27			c0.01	
v/c Ratio		0.51	0.42		0.20	
Uniform Delay, d1		3.4	3.2		10.4	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		1.2	0.8		0.7	
Delay (s)		4.7	4.1		11.2	
Level of Service		A	A		B	
Approach Delay (s/veh)		4.7	4.1		11.2	
Approach LOS		A	A		B	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			4.6		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.50			
Actuated Cycle Length (s)			22.0		Sum of lost time (s)	10.0
Intersection Capacity Utilization			42.6%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						





HCM 6th TWSC
18: Marsh Street & Main Street & E Street

Background Build Conditions
Timing Plan: PM Peak Hour

Intersection											
Int Delay, s/veh	1.9										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL	NER	
Lane Configurations											
Traffic Vol, veh/h	6	428	0	18	332	37	51	25	0	0	
Future Vol, veh/h	6	428	0	18	332	37	51	25	0	0	
Conflicting Peds, #/hr	1	0	5	5	0	1	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	-	None	
Storage Length	-	-	-	-	-	-	0	-	0	-	
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	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	7	465	0	20	361	40	55	27	0	0	
Major/Minor	Major1			Major2			Minor2		Minor1		
Conflicting Flow All	402	0	0	470	0	0	901	382	919	470	
Stage 1	-	-	-	-	-	-	422	-	484	-	
Stage 2	-	-	-	-	-	-	479	-	435	-	
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.22	7.12	6.22	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	-	6.12	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	-	6.12	-	
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	3.318	3.518	3.318	
Pot Cap-1 Maneuver	1157	-	-	1092	-	-	259	665	252	594	
Stage 1	-	-	-	-	-	-	609	-	564	-	
Stage 2	-	-	-	-	-	-	568	-	600	-	
Platoon blocked, %		-	-		-	-					
Mov Cap-1 Maneuver	1156	-	-	1087	-	-	253	664	235	591	
Mov Cap-2 Maneuver	-	-	-	-	-	-	253	-	235	-	
Stage 1	-	-	-	-	-	-	604	-	557	-	
Stage 2	-	-	-	-	-	-	563	-	562	-	
Approach	EB			WB			SB		NE		
HCM Control Delay, s/v	0.1			0.4			20.2		0		
HCM LOS							C		A		
Minor Lane/Major Mvmt	NELn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)	-	1156	-	-	1087	-	-	318			
HCM Lane V/C Ratio	-	0.006	-	-	0.018	-	-	0.26			
HCM Control Delay (s/veh)	0	8.1	0	-	8.4	0	-	20.2			
HCM Lane LOS	A	A	A	-	A	A	-	C			
HCM 95th %tile Q (veh)	-	0	-	-	0.1	-	-	1			

HCM 6th TWSC
19: Alma Street & Main Street & F Street

Background Build Conditions
Timing Plan: PM Peak Hour

Intersection											
Int Delay, s/veh	0.9										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL	NER	
Lane Configurations											
Traffic Vol, veh/h	13	458	1	31	331	12	17	3	0	0	
Future Vol, veh/h	13	458	1	31	331	12	17	3	0	0	
Conflicting Peds, #/hr	0	0	5	5	0	0	1	0	0	1	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	-	None	
Storage Length	-	-	-	-	-	-	0	-	0	-	
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	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	14	503	1	34	364	13	19	3	0	0	

Major/Minor	Major1			Major2			Minor2		Minor1	
Conflicting Flow All	377	0	0	509	0	0	972	371	977	510
Stage 1	-	-	-	-	-	-	439	-	537	-
Stage 2	-	-	-	-	-	-	533	-	440	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.22	7.12	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	-	6.12	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	-	6.12	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	3.318	3.518	3.318
Pot Cap-1 Maneuver	1181	-	-	1056	-	-	232	675	230	563
Stage 1	-	-	-	-	-	-	597	-	528	-
Stage 2	-	-	-	-	-	-	531	-	596	-
Platoon blocked, %		-	-		-	-				
Mov Cap-1 Maneuver	1181	-	-	1051	-	-	222	675	218	560
Mov Cap-2 Maneuver	-	-	-	-	-	-	222	-	218	-
Stage 1	-	-	-	-	-	-	587	-	517	-
Stage 2	-	-	-	-	-	-	522	-	569	-

Approach	EB		WB		SB		NE	
HCM Control Delay, s/v	0.2		0.7		21		0	
HCM LOS					C		A	

Minor Lane/Major Mvmt	NELn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1181	-	-	1051	-	-	247
HCM Lane V/C Ratio	-	0.012	-	-	0.032	-	-	0.089
HCM Control Delay (s/veh)	0	8.1	0	-	8.5	0	-	21
HCM Lane LOS	A	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	-	0	-	-	0.1	-	-	0.3

HCM 6th TWSC

21: Burkett Avenue & Main Street

Background Build Conditions

Timing Plan: PM Peak Hour

Intersection																
Int Delay, s/veh 0.9																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Vol, veh/h	17	723	30	11	543	11	8	2	16	5	0	7				
Future Vol, veh/h	17	723	30	11	543	11	8	2	16	5	0	7				
Conflicting Peds, #/hr	3	0	3	3	0	3	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	93	93	93	93	93	93	93	93	93	93	93	93				
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2				
Mvmt Flow	18	777	32	12	584	12	9	2	17	5	0	8				
Major/Minor	Major1	Major2	Minor1				Minor2									
Conflicting Flow All	599	0	812	0	0	1450	1455	796	1456	1465	593					
Stage 1	-	-	-	-	-	832	832	-	617	617	-					
Stage 2	-	-	-	-	-	618	623	-	839	848	-					
Critical Hdwy	4.12	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22					
Critical Hdwy Stg 1	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-					
Critical Hdwy Stg 2	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-					
Follow-up Hdwy	2.218	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318					
Pot Cap-1 Maneuver	978	-	814	-	-	109	130	387	108	128	506					
Stage 1	-	-	-	-	-	363	384	-	477	481	-					
Stage 2	-	-	-	-	-	477	478	-	360	378	-					
Platoon blocked, %	-	-	-	-	-											
Mov Cap-1 Maneuver	975	-	812	-	-	103	122	386	97	120	505					
Mov Cap-2 Maneuver	-	-	-	-	-	103	122	-	97	120	-					
Stage 1	-	-	-	-	-	350	370	-	459	469	-					
Stage 2	-	-	-	-	-	460	466	-	330	364	-					
Approach	EB	WB	NB				SB									
HCM Control Delay, s/v	0.2	0.2	26.9				26.2									
HCM LOS			D				D									
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1								
Capacity (veh/h)	192	975	-	-	812	-	-	183								
HCM Lane V/C Ratio	0.146	0.019	-	-	0.015	-	-	0.071								
HCM Control Delay (s/veh)	26.9	8.8	0	-	9.5	0	-	26.2								
HCM Lane LOS	D	A	A	A	A	A	-	D								
HCM 95th %tile Q (veh)	0.5	0.1	-	-	0	-	-	0.2								

HCM 6th TWSC

22: Shasta Avenue & Main Street

Background Build Conditions

Timing Plan: PM Peak Hour

Intersection													
Int Delay, s/veh 0.6													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	8	720	15	5	556	10	5	0	12	3	1	5	↕
Future Vol, veh/h	8	720	15	5	556	10	5	0	12	3	1	5	
Conflicting Peds, #/hr	3	0	4	4	0	3	1	0	0	0	0	1	
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, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	9	783	16	5	604	11	5	0	13	3	1	5	

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	618	0	0	803	0	0	1437	1441	795	1439	1444	614	
Stage 1	-	-	-	-	-	-	813	813	-	623	623	-	
Stage 2	-	-	-	-	-	-	624	628	-	816	821	-	
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-	
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318	
Pot Cap-1 Maneuver	962	-	-	821	-	-	111	133	388	111	132	492	
Stage 1	-	-	-	-	-	-	372	392	-	474	478	-	
Stage 2	-	-	-	-	-	-	473	476	-	371	389	-	
Platoon blocked, %													
Mov Cap-1 Maneuver	959	-	-	818	-	-	106	129	387	105	128	490	
Mov Cap-2 Maneuver	-	-	-	-	-	-	106	129	-	105	128	-	
Stage 1	-	-	-	-	-	-	364	384	-	465	472	-	
Stage 2	-	-	-	-	-	-	462	470	-	352	381	-	

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	0.1		0.1		23.1		24.6	
HCM LOS			C		C		C	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	217	959	-	-	818	-	-	193
HCM Lane V/C Ratio	0.085	0.009	-	-	0.007	-	-	0.051
HCM Control Delay (s/veh)	23.1	8.8	0	-	9.4	0	-	24.6
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q (veh)	0.3	0	-	-	0	-	-	0.2

HCM 6th TWSC

23: David Avenue & Main Street

Background Build Conditions

Timing Plan: PM Peak Hour

Intersection													
Int Delay, s/veh 0.6													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	8	715	10	4	556	8	11	1	1	2	1	5	↔
Future Vol, veh/h	8	715	10	4	556	8	11	1	1	2	1	5	
Conflicting Peds, #/hr	1	0	4	4	0	1	0	0	2	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	9	777	11	4	604	9	12	1	1	2	1	5	

Major/Minor	Major1	Major2	Minor1	Minor2										
Conflicting Flow All	614	0	0	792	0	0	1425	1427	789	1422	1428	610		
Stage 1	-	-	-	-	-	-	805	805	-	618	618	-		
Stage 2	-	-	-	-	-	-	620	622	-	804	810	-		
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-		
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318		
Pot Cap-1 Maneuver	965	-	-	829	-	-	113	135	391	114	135	494		
Stage 1	-	-	-	-	-	-	376	395	-	477	481	-		
Stage 2	-	-	-	-	-	-	476	479	-	377	393	-		
Platoon blocked, %														
Mov Cap-1 Maneuver	964	-	-	826	-	-	109	131	389	111	131	494		
Mov Cap-2 Maneuver	-	-	-	-	-	-	109	131	-	111	131	-		
Stage 1	-	-	-	-	-	-	368	387	-	468	477	-		
Stage 2	-	-	-	-	-	-	466	475	-	368	385	-		

Approach	EB	WB	NB	SB											
HCM Control Delay, s/v	0.1	0.1	40	21.7											
HCM LOS				E											C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	117	964	-	-	826	-	-	224						
HCM Lane V/C Ratio	0.121	0.009	-	-	0.005	-	-	0.039						
HCM Control Delay (s/veh)	40	8.8	0	-	9.4	0	-	21.7						
HCM Lane LOS	E	A	A	-	A	A	-	C						
HCM 95th %tile Q (veh)	0.4	0	-	-	0	-	-	0.1						

HCM 6th TWSC

24: Rendon Avenue & Main Street

Background Build Conditions

Timing Plan: PM Peak Hour

Intersection													
Int Delay, s/veh 1.4													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	10	679	34	18	533	12	16	4	11	6	3	12	↕
Future Vol, veh/h	10	679	34	18	533	12	16	4	11	6	3	12	
Conflicting Peds, #/hr	4	0	7	7	0	4	0	0	3	3	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	11	730	37	19	573	13	17	4	12	6	3	13	

Major/Minor	Major1	Major2	Minor1	Minor2										
Conflicting Flow All	590	0	774	0	0	1404	1406	759	1404	1418	584			
Stage 1	-	-	-	-	-	778	778	-	622	622	-			
Stage 2	-	-	-	-	-	626	628	-	782	796	-			
Critical Hdwy	4.12	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-			
Follow-up Hdwy	2.218	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318			
Pot Cap-1 Maneuver	985	-	842	-	-	117	139	406	117	137	512			
Stage 1	-	-	-	-	-	389	407	-	474	479	-			
Stage 2	-	-	-	-	-	472	476	-	387	399	-			
Platoon blocked, %														
Mov Cap-1 Maneuver	981	-	836	-	-	107	130	402	106	128	510			
Mov Cap-2 Maneuver	-	-	-	-	-	107	130	-	106	128	-			
Stage 1	-	-	-	-	-	378	396	-	463	461	-			
Stage 2	-	-	-	-	-	441	458	-	363	388	-			

Approach	EB	WB	NB	SB										
HCM Control Delay, s/v	0.1	0.3	36	24.9										
HCM LOS					E	C								




















Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	149	981	-	-	836	-	-	203					
HCM Lane V/C Ratio	0.224	0.011	-	-	0.023	-	-	0.111					
HCM Control Delay (s/veh)	36	8.7	0	-	9.4	0	-	24.9					
HCM Lane LOS	E	A	A	-	A	A	-	C					
HCM 95th %tile Q (veh)	0.8	0	-	-	0.1	-	-	0.4					

HCM 6th Signalized Intersection Summary

25: Golden Gate Avenue & Main Street

Background Build Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	510	190	62	414	9	128	23	81	13	30	8
Future Volume (veh/h)	8	510	190	62	414	9	128	23	81	13	30	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		1.00	0.99		0.99	0.99		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	543	202	66	440	10	136	24	86	14	32	9
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	16	686	255	85	1040	24	239	45	111	122	246	60
Arrive On Green	0.01	0.53	0.53	0.05	0.57	0.57	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	1290	480	1781	1821	41	764	212	525	281	1167	283
Grp Volume(v), veh/h	9	0	745	66	0	450	246	0	0	55	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1770	1781	0	1863	1501	0	0	1731	0	0
Q Serve(g_s), s	0.4	0.0	24.4	2.6	0.0	9.8	9.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.0	24.4	2.6	0.0	9.8	11.0	0.0	0.0	1.8	0.0	0.0
Prop In Lane	1.00		0.27	1.00		0.02	0.55		0.35	0.25		0.16
Lane Grp Cap(c), veh/h	16	0	942	85	0	1063	394	0	0	428	0	0
V/C Ratio(X)	0.55	0.00	0.79	0.78	0.00	0.42	0.62	0.00	0.00	0.13	0.00	0.00
Avail Cap(c_a), veh/h	497	0	1186	497	0	1248	903	0	0	766	0	0
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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.4	0.0	13.5	33.7	0.0	8.7	26.5	0.0	0.0	23.0	0.0	0.0
Incr Delay (d2), s/veh	10.4	0.0	5.7	5.6	0.0	1.0	0.6	0.0	0.0	0.0	0.0	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	0.2	0.0	9.5	1.2	0.0	3.5	3.9	0.0	0.0	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.7	0.0	19.3	39.3	0.0	9.7	27.1	0.0	0.0	23.1	0.0	0.0
LnGrp LOS	D		B	D		A	C			C		
Approach Vol, veh/h		754			516			246			55	
Approach Delay, s/veh		19.6			13.5			27.1			23.1	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	43.1		20.1	5.7	45.9		20.1				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	20.0	48.0		40.0	20.0	48.0		30.0				
Max Q Clear Time (g_c+I1), s	4.6	26.4		13.0	2.4	11.8		3.8				
Green Ext Time (p_c), s	0.1	11.8		1.1	0.0	7.9		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			18.9									
HCM 6th LOS			B									

HCM 6th TWSC

26: Windsor Avenue & Main Street

Background Build Conditions

Timing Plan: PM Peak Hour

Intersection														
Int Delay, s/veh 0.6														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↔			↔			↔				↔		
Traffic Vol, veh/h	7	581	26	4	471	4	11	0	5	4	2	7		
Future Vol, veh/h	7	581	26	4	471	4	11	0	5	4	2	7		
Conflicting Peds, #/hr	6	0	6	6	0	6	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	97	97	97	97	97	97	97	97	97	97	97	97		
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2		
Mvmt Flow	7	599	27	4	486	4	11	0	5	4	2	7		

Major/Minor	Major1	Major2	Minor1	Minor2											
Conflicting Flow All	496	0	632	0	0	1134	1137	619	1131	1148	494				
Stage 1	-	-	-	-	-	633	633	-	502	502	-				
Stage 2	-	-	-	-	-	501	504	-	629	646	-				
Critical Hdwy	4.12	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22				
Critical Hdwy Stg 1	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-				
Critical Hdwy Stg 2	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-				
Follow-up Hdwy	2.218	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318				
Pot Cap-1 Maneuver	1068	-	951	-	-	180	202	489	181	199	575				
Stage 1	-	-	-	-	-	468	473	-	552	542	-				
Stage 2	-	-	-	-	-	552	541	-	470	467	-				
Platoon blocked, %	-	-	-	-	-										
Mov Cap-1 Maneuver	1062	-	946	-	-	173	196	486	176	193	572				
Mov Cap-2 Maneuver	-	-	-	-	-	173	196	-	176	193	-				
Stage 1	-	-	-	-	-	461	465	-	543	535	-				
Stage 2	-	-	-	-	-	540	535	-	460	460	-				

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.1	0.1	23	18.2
HCM LOS		C	C	C








Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	217	1062	-	-	946	-	-	287
HCM Lane V/C Ratio	0.076	0.007	-	-	0.004	-	-	0.047
HCM Control Delay (s/veh)	23	8.4	0	0	8.8	0	0	18.2
HCM Lane LOS	C	A	A	A	A	A	A	C
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0.1

HCM Signalized Intersection Capacity Analysis

27: Netherton Avenue & Main Street








Background Build Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	529	27	38	441	5	21	6	67	27	12	48
Future Volume (vph)	11	529	27	38	441	5	21	6	67	27	12	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99			0.98			0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Frt	1.00	0.99		1.00	0.99			0.90			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	1847		1770	1859			1646			1676	
Flt Permitted	0.95	1.00		0.95	1.00			0.89			0.86	
Satd. Flow (perm)	1770	1847		1770	1859			1496			1465	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	11	534	27	38	445	5	21	6	68	27	12	48
RTOR Reduction (vph)	0	0	0	0	0	0	0	57	0	0	41	0
Lane Group Flow (vph)	11	561	0	38	450	0	0	38	0	0	46	0
Confl. Peds. (#/hr)			4			1	2		6	6		2
Confl. Bikes (#/hr)			1									
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	0.6	19.4		2.1	20.9			6.7			6.7	
Effective Green, g (s)	0.6	19.4		2.1	20.9			6.7			6.7	
Actuated g/C Ratio	0.01	0.45		0.05	0.48			0.16			0.16	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	2.0	6.0		2.0	6.0			2.0			2.0	
Lane Grp Cap (vph)	24	829		86	899			232			227	
v/s Ratio Prot	0.01	c0.30		c0.02	0.24							
v/s Ratio Perm								0.03			c0.03	
v/c Ratio	0.45	0.67		0.44	0.50			0.16			0.20	
Uniform Delay, d1	21.1	9.4		19.9	7.5			15.8			15.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	4.9	3.3		1.3	1.2			0.1			0.1	
Delay (s)	26.1	12.8		21.2	8.8			15.9			16.0	
Level of Service	C	B		C	A			B			B	
Approach Delay (s/veh)		13.0			9.8			15.9			16.0	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			12.2			HCM 2000 Level of Service					B	
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			43.2			Sum of lost time (s)				15.0		
Intersection Capacity Utilization			49.9%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
28: Broadway Avenue & Main Street

Background Build Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	559	6	10	446	16	12	2	11	13	5	14
Future Vol, veh/h	26	559	6	10	446	16	12	2	11	13	5	14
Conflicting Peds, #/hr	8	0	14	14	0	8	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	50	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	576	6	10	460	16	12	2	11	13	5	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	484	0	0	596	0	0	1145	1151	596	1131	1138	468
Stage 1	-	-	-	-	-	-	647	647	-	488	488	-
Stage 2	-	-	-	-	-	-	498	504	-	643	650	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1079	-	-	980	-	-	177	198	504	181	201	595
Stage 1	-	-	-	-	-	-	460	467	-	561	550	-
Stage 2	-	-	-	-	-	-	554	541	-	462	465	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1071	-	-	967	-	-	162	187	496	169	190	590
Mov Cap-2 Maneuver	-	-	-	-	-	-	162	187	-	169	190	-
Stage 1	-	-	-	-	-	-	443	449	-	542	540	-
Stage 2	-	-	-	-	-	-	530	531	-	437	447	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.4			0.2			22.3			21.4		
HCM LOS							C			C		


Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	234	1071	-	-	967	-	-	252
HCM Lane V/C Ratio	0.11	0.025	-	-	0.011	-	-	0.131
HCM Control Delay (s/veh)	22.3	8.4	-	-	8.8	-	-	21.4
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q (veh)	0.4	0.1	-	-	0	-	-	0.4

HCM Signalized Intersection Capacity Analysis

29: S Center Street & Market Street

Background Build Conditions

Timing Plan: PM Peak Hour













												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻									↻↻↻	
Traffic Volume (vph)	0	63	58	0	0	0	0	0	0	56	1771	0
Future Volume (vph)	0	63	58	0	0	0	0	0	0	56	1771	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0									5.0	
Lane Util. Factor		1.00									0.91	
Frpb, ped/bikes		0.98									1.00	
Flpb, ped/bikes		1.00									0.99	
Frt		0.93									1.00	
Flt Protected		1.00									0.99	
Satd. Flow (prot)		1722									5075	
Flt Permitted		1.00									0.99	
Satd. Flow (perm)		1722									5075	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	69	64	0	0	0	0	0	0	62	1946	0
RTOR Reduction (vph)	0	9	0	0	0	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	124	0	0	0	0	0	0	0	0	1998	0
Confl. Peds. (#/hr)	5		11								11	
Turn Type		NA								Perm	NA	
Protected Phases		2									1	
Permitted Phases										1		
Actuated Green, G (s)		24.0									51.0	
Effective Green, g (s)		24.0									51.0	
Actuated g/C Ratio		0.28									0.60	
Clearance Time (s)		5.0									5.0	
Vehicle Extension (s)		0.2									0.2	
Lane Grp Cap (vph)		486									3045	
v/s Ratio Prot		0.07										
v/s Ratio Perm											0.39	
v/c Ratio		0.25									0.65	
Uniform Delay, d1		23.5									11.2	
Progression Factor		1.00									1.00	
Incremental Delay, d2		1.2									1.1	
Delay (s)		24.8									12.3	
Level of Service		C									B	
Approach Delay (s/veh)		24.8			0.0			0.0			12.3	
Approach LOS		C			A			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			13.1									
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			85.0							10.0		
Intersection Capacity Utilization			62.9%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

30: S El Dorado Street & Market Street

Background Build Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰						↱↱↱				
Traffic Volume (vph)	67	81	0	0	0	0	0	1446	39	0	0	0
Future Volume (vph)	67	81	0	0	0	0	0	1446	39	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0				
Lane Util. Factor		1.00						0.91				
Frpb, ped/bikes		1.00						0.99				
Flpb, ped/bikes		0.99						1.00				
Frt		1.00						0.99				
Flt Protected		0.97						1.00				
Satd. Flow (prot)		1818						5060				
Flt Permitted		0.97						1.00				
Satd. Flow (perm)		1818						5060				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	70	84	0	0	0	0	0	1506	41	0	0	0
RTOR Reduction (vph)	0	24	0	0	0	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	130	0	0	0	0	0	1544	0	0	0	0
Confl. Peds. (#/hr)	3								10			
Confl. Bikes (#/hr)			2						3			
Turn Type	Perm	NA						NA				
Protected Phases		2						1				
Permitted Phases	2											
Actuated Green, G (s)		25.0						50.0				
Effective Green, g (s)		25.0						50.0				
Actuated g/C Ratio		0.29						0.59				
Clearance Time (s)		5.0						5.0				
Vehicle Extension (s)		0.2						0.2				
Lane Grp Cap (vph)		534						2976				
v/s Ratio Prot								c0.31				
v/s Ratio Perm		0.07										
v/c Ratio		0.24						0.51				
Uniform Delay, d1		22.8						10.3				
Progression Factor		0.78						1.00				
Incremental Delay, d2		1.0						0.6				
Delay (s)		18.9						11.0				
Level of Service		B						B				
Approach Delay (s/veh)		18.9			0.0			11.0			0.0	
Approach LOS		B			A			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		11.7						HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio		0.43										
Actuated Cycle Length (s)		85.0						Sum of lost time (s)		10.0		
Intersection Capacity Utilization		45.1%						ICU Level of Service		A		
Analysis Period (min)		15										
c Critical Lane Group												





HCM 6th AWSC
31: S Hunter Street & Market Street

Background Build Conditions
Timing Plan: PM Peak Hour

Intersection

Intersection Delay, s/veh 7.9

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	106	13	0	0	0	0	0	24	32	36	0
Future Vol, veh/h	0	106	13	0	0	0	0	0	24	32	36	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	125	15	0	0	0	0	0	28	38	42	0
Number of Lanes	0	1	0	0	0	0	0	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7.9	7	8.1
HCM LOS	A	A	A


Lane	NBLn1	EBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%
Vol Thru, %	0%	89%	0%	100%
Vol Right, %	100%	11%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	119	32	36
LT Vol	0	0	32	0
Through Vol	0	106	0	36
RT Vol	24	13	0	0
Lane Flow Rate	28	140	38	42
Geometry Grp	4a	2	5	5
Degree of Util (X)	0.03	0.158	0.055	0.056
Departure Headway (Hd)	3.842	4.05	5.297	4.796
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	937	874	671	740
Service Time	1.842	2.132	3.069	2.567
HCM Lane V/C Ratio	0.03	0.16	0.057	0.057
HCM Control Delay, s/veh	7	7.9	8.4	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.6	0.2	0.2

HCM Signalized Intersection Capacity Analysis

32: S San Joaquin Street & Market Street

Background Build Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔						↕			↕	
Traffic Volume (vph)	21	105	36	0	0	0	0	118	48	15	129	0
Future Volume (vph)	21	105	36	0	0	0	0	118	48	15	129	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						0.95			0.95	
Frpb, ped/bikes		0.98						0.95			1.00	
Flpb, ped/bikes		0.99						1.00			0.98	
Frt		0.96						0.95			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		1770						3216			3478	
Flt Permitted		0.99						1.00			0.92	
Satd. Flow (perm)		1770						3216			3232	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	24	119	41	0	0	0	0	134	55	17	147	0
RTOR Reduction (vph)	0	14	0	0	0	0	0	27	0	0	0	0
Lane Group Flow (vph)	0	170	0	0	0	0	0	162	0	0	164	0
Confl. Peds. (#/hr)	19		49						78	78		
Confl. Bikes (#/hr)									4			
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						1			1	
Permitted Phases	2									1		
Actuated Green, G (s)		24.0						36.0			36.0	
Effective Green, g (s)		24.0						36.0			36.0	
Actuated g/C Ratio		0.34						0.51			0.51	
Clearance Time (s)		5.0						5.0			5.0	
Vehicle Extension (s)		0.2						0.2			0.2	
Lane Grp Cap (vph)		606						1653			1662	
v/s Ratio Prot								0.05				
v/s Ratio Perm		0.10									c0.05	
v/c Ratio		0.27						0.09			0.09	
Uniform Delay, d1		16.7						8.6			8.6	
Progression Factor		1.00						1.00			0.35	
Incremental Delay, d2		1.1						0.1			0.1	
Delay (s)		17.8						8.8			3.1	
Level of Service		B						A			A	
Approach Delay (s/veh)		17.8			0.0			8.8			3.1	
Approach LOS		B			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		10.2						HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio		0.17										
Actuated Cycle Length (s)		70.0						Sum of lost time (s)		10.0		
Intersection Capacity Utilization		43.6%						ICU Level of Service		A		
Analysis Period (min)		15										


















c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

33: S Sutter Street & Market Street


Background Build Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	121	30	0	0	0	0	112	41	18	124	0
Future Volume (vph)	18	121	30	0	0	0	0	112	41	18	124	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0	5.0		5.0	
Lane Util. Factor		1.00						1.00	1.00		0.95	
Frpb, ped/bikes		0.97						1.00	0.80		1.00	
Flpb, ped/bikes		0.99						1.00	1.00		0.98	
Frt		0.97						1.00	0.85		1.00	
Flt Protected		0.99						1.00	1.00		0.99	
Satd. Flow (prot)		1750						1863	1276		3451	
Flt Permitted		0.99						1.00	1.00		0.91	
Satd. Flow (perm)		1750						1863	1276		3180	
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	24	159	39	0	0	0	0	147	54	24	163	0
RTOR Reduction (vph)	0	11	0	0	0	0	0	0	31	0	0	0
Lane Group Flow (vph)	0	211	0	0	0	0	0	147	23	0	187	0
Confl. Peds. (#/hr)	35		123						81	81		
Confl. Bikes (#/hr)									1			
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1								2	2		
Actuated Green, G (s)		30.0						30.0	30.0		30.0	
Effective Green, g (s)		30.0						30.0	30.0		30.0	
Actuated g/C Ratio		0.43						0.43	0.43		0.43	
Clearance Time (s)		5.0						5.0	5.0		5.0	
Vehicle Extension (s)		0.2						0.2	0.2		0.2	
Lane Grp Cap (vph)		750						798	546		1362	
v/s Ratio Prot								c0.08				
v/s Ratio Perm		0.12							0.02		0.06	
v/c Ratio		0.28						0.18	0.04		0.13	
Uniform Delay, d1		12.9						12.4	11.6		12.1	
Progression Factor		1.48						1.00	1.00		0.70	
Incremental Delay, d2		0.9						0.5	0.1		0.2	
Delay (s)		20.2						12.9	11.7		8.8	
Level of Service		C						B	B		A	
Approach Delay (s/veh)		20.2			0.0			12.6			8.8	
Approach LOS		C			A			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		14.2										
HCM 2000 Volume to Capacity ratio		0.23										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		45.6%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Signalized Intersection Summary 34: California Street & Market Street

Background Build Conditions
Timing Plan: PM Peak Hour
















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱					↰			↱	
Traffic Volume (veh/h)	27	131	18	0	0	0	0	190	32	31	247	0
Future Volume (veh/h)	27	131	18	0	0	0	0	190	32	31	247	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		0.99	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	30	146	20				0	211	36	34	274	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	86	418	427				0	911	155	130	976	0
Arrive On Green	0.09	0.09	0.09				0.00	0.59	0.59	1.00	1.00	0.00
Sat Flow, veh/h	316	1538	1573				0	1556	265	124	1666	0
Grp Volume(v), veh/h	176	0	20				0	0	247	308	0	0
Grp Sat Flow(s),veh/h/ln	1855	0	1573				0	0	1821	1789	0	0
Q Serve(g_s), s	6.2	0.0	0.8				0.0	0.0	4.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.2	0.0	0.8				0.0	0.0	4.6	0.0	0.0	0.0
Prop In Lane	0.17		1.00				0.00		0.15	0.11		0.00
Lane Grp Cap(c), veh/h	503	0	427				0	0	1067	1105	0	0
V/C Ratio(X)	0.35	0.00	0.05				0.00	0.00	0.23	0.28	0.00	0.00
Avail Cap(c_a), veh/h	503	0	427				0	0	1067	1105	0	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	0.98	0.00	0.98				0.00	0.00	1.00	0.78	0.00	0.00
Uniform Delay (d), s/veh	26.1	0.0	23.6				0.0	0.0	6.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.2				0.0	0.0	0.5	0.5	0.0	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
%ile BackOfQ(50%),veh/ln	3.1	0.0	0.3				0.0	0.0	1.6	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.9	0.0	23.8				0.0	0.0	7.5	0.5	0.0	0.0
LnGrp LOS	C		C						A	A		
Approach Vol, veh/h		196						247			308	
Approach Delay, s/veh		27.5						7.5			0.5	
Approach LOS		C						A			A	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		46.0		24.0		46.0						
Change Period (Y+Rc), s		5.0		5.0		5.0						
Max Green Setting (Gmax), s		41.0		19.0		41.0						
Max Q Clear Time (g_c+I1), s		6.6		8.2		2.0						
Green Ext Time (p_c), s		0.3		0.1		0.3						
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			9.8									
HCM 6th LOS			A									

HCM Signalized Intersection Capacity Analysis

35: S American Street & Market Street

Background Build Conditions

Timing Plan: PM Peak Hour
















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	178	0	0	0	0	0	0	0	38	1	0
Future Volume (vph)	25	178	0	0	0	0	0	0	0	38	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0									5.0	
Lane Util. Factor		1.00									1.00	
Frpb, ped/bikes		1.00									1.00	
Flpb, ped/bikes		0.99									0.98	
Frt		1.00									1.00	
Flt Protected		0.99									0.95	
Satd. Flow (prot)		1849									1753	
Flt Permitted		0.99									0.77	
Satd. Flow (perm)		1849									1423	
Peak-hour factor, PHF	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Adj. Flow (vph)	36	254	0	0	0	0	0	0	0	54	1	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	290	0	0	0	0	0	0	0	0	55	0
Confl. Peds. (#/hr)	5		1							6	6	
Turn Type	Perm	NA								Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		40.0									20.0	
Effective Green, g (s)		40.0									20.0	
Actuated g/C Ratio		0.57									0.29	
Clearance Time (s)		5.0									5.0	
Vehicle Extension (s)		0.2									0.2	
Lane Grp Cap (vph)		1056									406	
v/s Ratio Prot												
v/s Ratio Perm		0.16									c0.04	
v/c Ratio		0.27									0.13	
Uniform Delay, d1		7.6									18.5	
Progression Factor		0.52									0.74	
Incremental Delay, d2		0.6									0.6	
Delay (s)		4.6									14.5	
Level of Service		A									B	
Approach Delay (s/veh)		4.6			0.0			0.0			14.5	
Approach LOS		A			A			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		6.2										
HCM 2000 Volume to Capacity ratio		0.23										
Actuated Cycle Length (s)		70.0								10.0		
Intersection Capacity Utilization		36.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

36: S Stanislaus Street & Market Street

Background Build Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	135	64	0	0	0	0	263	32	6	365	0
Future Volume (vph)	17	135	64	0	0	0	0	263	32	6	365	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						0.95			0.95	
Frpb, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		0.99						1.00			0.99	
Frt		0.96						0.98			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		1771						3470			3536	
Flt Permitted		0.99						1.00			0.94	
Satd. Flow (perm)		1771						3470			3361	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	21	165	78	0	0	0	0	321	39	7	445	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	14	0	0	0	0
Lane Group Flow (vph)	0	264	0	0	0	0	0	347	0	0	452	0
Confl. Peds. (#/hr)	4		5						5	5		
Confl. Bikes (#/hr)			1						1			
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		25.0						35.0			35.0	
Effective Green, g (s)		25.0						35.0			35.0	
Actuated g/C Ratio		0.36						0.50			0.50	
Clearance Time (s)		5.0						5.0			5.0	
Vehicle Extension (s)		0.2						0.2			0.2	
Lane Grp Cap (vph)		632						1735			1680	
v/s Ratio Prot								0.10				
v/s Ratio Perm		0.15									c0.13	
v/c Ratio		0.41						0.19			0.26	
Uniform Delay, d1		17.0						9.7			10.1	
Progression Factor		0.50						1.00			0.75	
Incremental Delay, d2		1.9						0.2			0.3	
Delay (s)		10.6						9.9			8.0	
Level of Service		B						A			A	
Approach Delay (s/veh)		10.6			0.0			9.9			8.0	
Approach LOS		B			A			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		9.3										
HCM 2000 Volume to Capacity ratio		0.33										
Actuated Cycle Length (s)		70.0										
Intersection Capacity Utilization		37.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th TWSC
37: S Grant Street & Market Street

Background Build Conditions
Timing Plan: PM Peak Hour

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	24	149	2	0	0	0	0	2	5	26	10	0
Future Vol, veh/h	24	149	2	0	0	0	0	2	5	26	10	0
Conflicting Peds, #/hr	2	0	1	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	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	177	2	0	0	0	0	2	6	31	12	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	2	0	0	-	239	179	242	240	-
Stage 1	-	-	-	-	237	-	2	2	-
Stage 2	-	-	-	-	2	-	240	238	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1620	-	-	0	662	864	712	661	0
Stage 1	-	-	-	0	709	-	-	-	0
Stage 2	-	-	-	0	-	-	763	708	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1617	-	-	-	647	863	693	646	-
Mov Cap-2 Maneuver	-	-	-	-	647	-	693	646	-
Stage 1	-	-	-	-	694	-	-	-	-
Stage 2	-	-	-	-	-	-	740	693	-

Approach	EB	NB	SB
HCM Control Delay, s/v	1	9.6	10.7
HCM LOS		A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	788	1617	-	-	679
HCM Lane V/C Ratio	0.011	0.018	-	-	0.063
HCM Control Delay (s/veh)	9.6	7.3	0	-	10.7
HCM Lane LOS	A	A	A	-	B
HCM 95th %tile Q (veh)	0	0.1	-	-	0.2

HCM 6th TWSC
38: S Aurora Street & Market Street

Background Build Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	26	128	21	0	0	0	0	115	28	8	53	0
Future Vol, veh/h	26	128	21	0	0	0	0	115	28	8	53	0
Conflicting Peds, #/hr	1	0	1	0	0	0	0	0	2	2	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	138	23	0	0	0	0	124	30	9	57	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	1	0	0	-	208	153	286	219	-
Stage 1	-	-	-	-	207	-	1	1	-
Stage 2	-	-	-	-	1	-	285	218	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1622	-	-	0	689	893	666	679	0
Stage 1	-	-	-	0	731	-	-	-	0
Stage 2	-	-	-	0	-	-	722	723	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1620	-	-	-	675	892	545	665	-
Mov Cap-2 Maneuver	-	-	-	-	675	-	545	665	-
Stage 1	-	-	-	-	716	-	-	-	-
Stage 2	-	-	-	-	-	-	566	709	-

Approach	EB	NB	SB
HCM Control Delay, s/v	1.1	11.5	11.2
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	709	1620	-	-	646
HCM Lane V/C Ratio	0.217	0.017	-	-	0.102
HCM Control Delay (s/veh)	11.5	7.3	0	-	11.2
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.8	0.1	-	-	0.3

HCM 6th TWSC
39: Union Street & Market Street

Background Build Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	6.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	17	166	7	0	0	0	0	87	27	16	91	0
Future Vol, veh/h	17	166	7	0	0	0	0	87	27	16	91	0
Conflicting Peds, #/hr	0	0	3	0	0	0	0	0	1	1	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	178	8	0	0	0	0	94	29	17	98	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	0	-	221	186	281	225	-
Stage 1	-	-	-	-	221	-	0	0	-
Stage 2	-	-	-	-	0	-	281	225	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	-	-	-	0	678	856	671	674	0
Stage 1	-	-	-	0	720	-	-	-	0
Stage 2	-	-	-	0	-	-	726	718	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	676	854	579	672	-
Mov Cap-2 Maneuver	-	-	-	-	676	-	579	672	-
Stage 1	-	-	-	-	718	-	-	-	-
Stage 2	-	-	-	-	-	-	610	716	-

Approach	EB	NB	SB
HCM Control Delay, s/v		11.1	11.7
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	711	-	-	-	656
HCM Lane V/C Ratio	0.172	-	-	-	0.175
HCM Control Delay (s/veh)	11.1	-	-	-	11.7
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q (veh)	0.6	-	-	-	0.6

HCM 6th TWSC
40: Pilgrim Street & Market Street

Background Build Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	11	196	3	0	0	0	0	11	10	15	8	0
Future Vol, veh/h	11	196	3	0	0	0	0	11	10	15	8	0
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	8	8	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	211	3	0	0	0	0	12	11	16	9	0
















Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	0	-	238	222	256	239	-
Stage 1	-	-	-	-	238	-	0	0	-
Stage 2	-	-	-	-	0	-	256	239	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	-	-	-	0	663	818	697	662	0
Stage 1	-	-	-	0	708	-	-	-	0
Stage 2	-	-	-	0	-	-	749	708	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	662	817	678	661	-
Mov Cap-2 Maneuver	-	-	-	-	662	-	678	661	-
Stage 1	-	-	-	-	707	-	-	-	-
Stage 2	-	-	-	-	-	-	727	707	-

Approach	EB	NB	SB
HCM Control Delay, s/v		10.1	10.6
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	728	-	-	-	672
HCM Lane V/C Ratio	0.031	-	-	-	0.037
HCM Control Delay (s/veh)	10.1	-	-	-	10.6
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q (veh)	0.1	-	-	-	0.1

HCM 6th Signalized Intersection Summary 41: Airport Way & Market Street

Background Build Conditions
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	160	22	0	0	0	0	845	53	97	688	0
Future Volume (veh/h)	23	160	22	0	0	0	0	845	53	97	688	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		0.97	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	25	176	24				0	929	58	107	756	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	30	214	29				0	2506	156	261	1808	0
Arrive On Green	0.15	0.15	0.15				0.00	0.74	0.74	1.00	1.00	0.00
Sat Flow, veh/h	203	1426	194				0	3484	212	283	2531	0
Grp Volume(v), veh/h	225	0	0				0	487	500	368	495	0
Grp Sat Flow(s),veh/h/ln	1823	0	0				0	1777	1826	1113	1617	0
Q Serve(g_s), s	10.8	0.0	0.0				0.0	8.9	8.9	3.2	0.0	0.0
Cycle Q Clear(g_c), s	10.8	0.0	0.0				0.0	8.9	8.9	12.0	0.0	0.0
Prop In Lane	0.11		0.11				0.00		0.12	0.29		0.00
Lane Grp Cap(c), veh/h	273	0	0				0	1313	1349	874	1195	0
V/C Ratio(X)	0.82	0.00	0.00				0.00	0.37	0.37	0.42	0.41	0.00
Avail Cap(c_a), veh/h	446	0	0				0	1313	1349	874	1195	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	0.94	0.94	0.00
Uniform Delay (d), s/veh	37.1	0.0	0.0				0.0	4.2	4.2	0.2	0.0	0.0
Incr Delay (d2), s/veh	2.7	0.0	0.0				0.0	0.8	0.8	1.4	1.0	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
%ile BackOfQ(50%),veh/ln	5.0	0.0	0.0				0.0	2.6	2.6	0.3	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.8	0.0	0.0				0.0	5.0	5.0	1.6	1.0	0.0
LnGrp LOS	D							A	A	A	A	
Approach Vol, veh/h		225						987			863	
Approach Delay, s/veh		39.8						5.0			1.3	
Approach LOS		D						A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		71.5				71.5		18.5				
Change Period (Y+Rc), s		5.0				5.0		5.0				
Max Green Setting (Gmax), s		58.0				58.0		22.0				
Max Q Clear Time (g_c+I1), s		14.0				10.9		12.8				
Green Ext Time (p_c), s		1.3				0.9		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			7.2									
HCM 6th LOS			A									

HCM 6th TWSC
42: Sierra Nevada Street & Market Street

Background Build Conditions
Timing Plan: PM Peak Hour

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	23	284	5	0	0	0	0	20	15	70	26	0
Future Vol, veh/h	23	284	5	0	0	0	0	20	15	70	26	0
Conflicting Peds, #/hr	1	0	3	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	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	302	5	0	0	0	0	21	16	74	28	0


Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	1	0	0	-	357	308	372	359	-
Stage 1	-	-	-	-	356	-	1	1	-
Stage 2	-	-	-	-	1	-	371	358	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1622	-	-	0	569	732	585	568	0
Stage 1	-	-	-	0	629	-	-	-	0
Stage 2	-	-	-	0	-	-	649	628	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1620	-	-	-	556	730	548	556	-
Mov Cap-2 Maneuver	-	-	-	-	556	-	548	556	-
Stage 1	-	-	-	-	616	-	-	-	-
Stage 2	-	-	-	-	-	-	602	615	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.5	11.2	13
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	619	1620	-	-	550
HCM Lane V/C Ratio	0.06	0.015	-	-	0.186
HCM Control Delay (s/veh)	11.2	7.3	0	-	13
HCM Lane LOS	B	A	A	-	B
HCM 95th %tile Q (veh)	0.2	0	-	-	0.7



HCM 6th Signalized Intersection Summary 43: S Wilson Way & Market Street

Background Build Conditions
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔						↔		↔	↔	
Traffic Volume (veh/h)	38	262	75	0	0	0	0	850	112	188	814	0
Future Volume (veh/h)	38	262	75	0	0	0	0	850	112	188	814	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	40	276	79				0	895	118	198	857	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	42	292	84				0	1484	196	231	2330	0
Arrive On Green	0.08	0.08	0.08				0.00	0.47	0.47	0.17	0.87	0.00
Sat Flow, veh/h	181	1251	358				0	3249	416	1781	3647	0
Grp Volume(v), veh/h	395	0	0				0	504	509	198	857	0
Grp Sat Flow(s),veh/h/ln	1790	0	0				0	1777	1795	1781	1777	0
Q Serve(g_s), s	19.8	0.0	0.0				0.0	18.9	18.9	9.7	4.1	0.0
Cycle Q Clear(g_c), s	19.8	0.0	0.0				0.0	18.9	18.9	9.7	4.1	0.0
Prop In Lane	0.10		0.20				0.00		0.23	1.00		0.00
Lane Grp Cap(c), veh/h	418	0	0				0	836	844	231	2330	0
V/C Ratio(X)	0.95	0.00	0.00				0.00	0.60	0.60	0.86	0.37	0.00
Avail Cap(c_a), veh/h	418	0	0				0	836	844	257	2330	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	0.92	0.92	0.00
Uniform Delay (d), s/veh	41.0	0.0	0.0				0.0	17.6	17.6	36.4	2.2	0.0
Incr Delay (d2), s/veh	30.2	0.0	0.0				0.0	3.2	3.2	19.1	0.4	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
%ile BackOfQ(50%),veh/ln	13.0	0.0	0.0				0.0	8.2	8.3	5.2	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	71.2	0.0	0.0				0.0	20.8	20.8	55.5	2.7	0.0
LnGrp LOS	E							C	C	E	A	
Approach Vol, veh/h		395						1013			1055	
Approach Delay, s/veh		71.2						20.8			12.6	
Approach LOS		E						C			B	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	16.7	47.3				64.0		26.0				
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0				
Max Green Setting (Gmax), s	13.0	41.0				59.0		21.0				
Max Q Clear Time (g_c+l1), s	11.7	20.9				6.1		21.8				
Green Ext Time (p_c), s	0.0	13.6				20.7		0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			25.4									
HCM 6th LOS			C									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 6th TWSC
44: S Eugenia Street & Market Street

Background Build Conditions
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	574	12	0	0	0	42
Future Vol, veh/h	574	12	0	0	0	42
Conflicting Peds, #/hr	0	6	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, %	2	2	2	2	2	2
Mvmt Flow	624	13	0	0	0	46

Major/Minor	Major1		Minor1	
Conflicting Flow All	0	0	-	637
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	477
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-		
Mov Cap-1 Maneuver	-	-	-	474
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s/v	0	13.4
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	474	-	-
HCM Lane V/C Ratio	0.096	-	-
HCM Control Delay (s/veh)	13.4	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q (veh)	0.3	-	-

HCM 6th TWSC
45: Della Street & Market Street

Background Build Conditions
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	55	535	18	0	0	0	0	1	1	34	44	0
Future Vol, veh/h	55	535	18	0	0	0	0	1	1	34	44	0
Conflicting Peds, #/hr	2	0	1	0	0	0	0	0	1	1	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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	601	20	0	0	0	0	1	1	38	49	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	2	0	0	-	738	613	739	748	-
Stage 1	-	-	-	-	736	-	2	2	-
Stage 2	-	-	-	-	2	-	737	746	-
Critical Hdwy	4.12	-	-	-	6.52	6.22	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318	3.518	4.018	-
Pot Cap-1 Maneuver	1620	-	-	0	346	492	333	341	0
Stage 1	-	-	-	0	425	-	-	-	0
Stage 2	-	-	-	0	-	-	410	421	0
Platoon blocked, %		-	-						
Mov Cap-1 Maneuver	1617	-	-	-	325	492	316	320	-
Mov Cap-2 Maneuver	-	-	-	-	325	-	316	320	-
Stage 1	-	-	-	-	400	-	-	-	-
Stage 2	-	-	-	-	-	-	384	396	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0.7	14.3	20.6
HCM LOS		B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	391	1617	-	-	318
HCM Lane V/C Ratio	0.006	0.038	-	-	0.276
HCM Control Delay (s/veh)	14.3	7.3	0	-	20.6
HCM Lane LOS	B	A	A	-	C
HCM 95th %tile Q (veh)	0	0.1	-	-	1.1

Queues

Background Build Conditions

2: S San Joaquin Street/N San Joaquin Street & Main Street

Timing Plan: AM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	96	250	256
v/c Ratio	0.57	0.22	0.20
Control Delay (s/veh)	46.3	13.0	15.5
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	46.3	13.0	15.5
Queue Length 50th (ft)	41	28	37
Queue Length 95th (ft)	79	44	67
Internal Link Dist (ft)	301	264	331
Turn Bay Length (ft)			
Base Capacity (vph)	269	1129	1223
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.36	0.22	0.21
Intersection Summary			

Queues

Background Build Conditions

3: S Sutter Street/N Sutter Street & Main Street

Timing Plan: AM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	83	102	144
v/c Ratio	0.21	0.22	0.15
Control Delay (s/veh)	13.8	15.0	20.0
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	13.8	15.0	20.0
Queue Length 50th (ft)	28	20	24
Queue Length 95th (ft)	m56	36	41
Internal Link Dist (ft)	298	256	344
Turn Bay Length (ft)			
Base Capacity (vph)	387	451	904
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.21	0.23	0.16

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Background Build Conditions

4: California Street & Main Street

Timing Plan: AM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	170	307	255
v/c Ratio	0.45	0.62	0.50
Control Delay (s/veh)	41.3	21.8	25.8
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	41.3	21.8	25.8
Queue Length 50th (ft)	77	118	93
Queue Length 95th (ft)	m86	181	150
Internal Link Dist (ft)	307	257	324
Turn Bay Length (ft)			
Base Capacity (vph)	373	494	501
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.46	0.62	0.51

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Background Build Conditions

5: S American Street/N American Street & Main Street

Timing Plan: AM Peak Hour



Lane Group	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	366	58	53	34
v/c Ratio	1.04	0.13	0.10	0.08
Control Delay (s/veh)	89.3	20.4	19.9	19.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	89.3	20.4	19.9	19.8
Queue Length 50th (ft)	~169	14	17	11
Queue Length 95th (ft)	156	20	27	20
Internal Link Dist (ft)	303	260	330	
Turn Bay Length (ft)				
Base Capacity (vph)	351	439	505	412
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.04	0.13	0.10	0.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

Queues

Background Build Conditions

6: S Stanislaus Street/N Stanislaus Street & Main Street

Timing Plan: AM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	211	712	311
v/c Ratio	0.32	0.48	0.17
Control Delay (s/veh)	18.1	9.6	9.4
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	18.1	9.7	9.4
Queue Length 50th (ft)	65	61	34
Queue Length 95th (ft)	88	67	42
Internal Link Dist (ft)	300	272	338
Turn Bay Length (ft)			
Base Capacity (vph)	651	1454	1755
Starvation Cap Reductn	0	47	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.32	0.51	0.18
Intersection Summary			

Queues

Background Build Conditions

11: Airport Way & Main Street

Timing Plan: AM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	242	866	728
v/c Ratio	0.56	0.40	0.32
Control Delay (s/veh)	22.9	5.2	7.5
Queue Delay	0.0	0.1	0.0
Total Delay (s/veh)	22.9	5.4	7.5
Queue Length 50th (ft)	82	120	86
Queue Length 95th (ft)	169	11	115
Internal Link Dist (ft)	310	254	262
Turn Bay Length (ft)			
Base Capacity (vph)	432	2125	2274
Starvation Cap Reductn	0	409	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.56	0.50	0.32
Intersection Summary			

Queues

Background Build Conditions

13: S Wilson Way & Main Street

Timing Plan: AM Peak Hour



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	268	215	33	753	689
v/c Ratio	0.76	0.44	0.06	0.30	0.28
Control Delay (s/veh)	48.5	7.3	11.6	10.3	5.9
Queue Delay	0.0	0.0	0.0	0.5	0.0
Total Delay (s/veh)	48.5	7.3	11.6	10.8	5.9
Queue Length 50th (ft)	145	0	5	73	66
Queue Length 95th (ft)	213	53	m33	213	112
Internal Link Dist (ft)	710			271	283
Turn Bay Length (ft)		300	70		
Base Capacity (vph)	463	564	489	2462	2450
Starvation Cap Reductn	0	0	0	1183	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.58	0.38	0.07	0.59	0.28

Intersection Summary

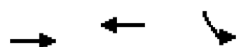
m Volume for 95th percentile queue is metered by upstream signal.

Queues

Background Build Conditions

17: Main Street & D Street

Timing Plan: AM Peak Hour









Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	300	472	15
v/c Ratio	0.19	0.27	0.03
Control Delay (s/veh)	2.0	2.1	8.4
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	2.0	2.1	8.4
Queue Length 50th (ft)	0	0	1
Queue Length 95th (ft)	48	80	11
Internal Link Dist (ft)	615	624	178
Turn Bay Length (ft)			
Base Capacity (vph)	1784	1793	1477
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.17	0.26	0.01
Intersection Summary			

Queues

25: Golden Gate Avenue & Main Street

Background Build Conditions

Timing Plan: AM Peak Hour







						
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	3	460	92	546	142	54
v/c Ratio	0.01	0.60	0.35	0.50	0.46	0.15
Control Delay (s/veh)	36.6	19.8	32.9	11.0	26.1	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	36.6	19.8	32.9	11.0	26.1	21.8
Queue Length 50th (ft)	1	117	28	77	36	14
Queue Length 95th (ft)	11	324	101	331	112	51
Internal Link Dist (ft)		249		250	364	346
Turn Bay Length (ft)	95		95			
Base Capacity (vph)	685	1463	685	1520	1012	1189
Starvation Cap Reductn	0	0	0	17	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.31	0.13	0.36	0.14	0.05
Intersection Summary						

Queues

27: Netherton Avenue & Main Street

Background Build Conditions

Timing Plan: AM Peak Hour

						
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	4	397	32	605	77	108
v/c Ratio	0.01	0.37	0.12	0.51	0.22	0.30
Control Delay (s/veh)	28.0	11.9	26.1	11.0	10.0	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.0	11.9	26.1	11.0	10.0	11.5
Queue Length 50th (ft)	1	35	6	62	4	8
Queue Length 95th (ft)	12	236	44	385	39	53
Internal Link Dist (ft)		247		244	354	364
Turn Bay Length (ft)	90		90			
Base Capacity (vph)	1135	1548	1330	1649	1171	1168
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.26	0.02	0.37	0.07	0.09
Intersection Summary						

Queues
29: S Center Street & Market Street

Background Build Conditions
Timing Plan: AM Peak Hour

	→	↓
Lane Group	EBT	SBT
Lane Group Flow (vph)	120	1500
v/c Ratio	0.23	0.48
Control Delay (s/veh)	17.8	9.3
Queue Delay	0.0	0.0
Total Delay (s/veh)	17.8	9.3
Queue Length 50th (ft)	33	140
Queue Length 95th (ft)	74	169
Internal Link Dist (ft)	316	666
Turn Bay Length (ft)		
Base Capacity (vph)	502	3110
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.24	0.48
Intersection Summary		

Queues

30: S El Dorado Street & Market Street

Background Build Conditions

Timing Plan: AM Peak Hour

	→	↑
Lane Group	EBT	NBT
Lane Group Flow (vph)	246	1974
v/c Ratio	0.50	0.62
Control Delay (s/veh)	28.3	10.8
Queue Delay	0.0	0.0
Total Delay (s/veh)	28.3	10.8
Queue Length 50th (ft)	109	212
Queue Length 95th (ft)	174	236
Internal Link Dist (ft)	266	322
Turn Bay Length (ft)		
Base Capacity (vph)	488	3142
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.50	0.63
Intersection Summary		

Queues

32: S San Joaquin Street & Market Street

Background Build Conditions

Timing Plan: AM Peak Hour

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	281	262	155
v/c Ratio	0.45	0.15	0.10
Control Delay (s/veh)	19.8	7.4	3.8
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	19.8	7.4	3.8
Queue Length 50th (ft)	87	23	5
Queue Length 95th (ft)	130	35	8
Internal Link Dist (ft)	297	287	264
Turn Bay Length (ft)			
Base Capacity (vph)	615	1716	1544
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.46	0.15	0.10
Intersection Summary			

Queues

Background Build Conditions

33: S Sutter Street & Market Street

Timing Plan: AM Peak Hour

	→	↑	↗	↓
Lane Group	EBT	NBT	NBR	SBT
Lane Group Flow (vph)	255	136	21	132
v/c Ratio	0.35	0.17	0.03	0.09
Control Delay (s/veh)	18.1	13.0	3.7	3.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	18.1	13.0	3.7	3.4
Queue Length 50th (ft)	78	35	0	3
Queue Length 95th (ft)	92	55	6	5
Internal Link Dist (ft)	296	293		256
Turn Bay Length (ft)				
Base Capacity (vph)	725	798	580	1431
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.17	0.04	0.09
Intersection Summary				

Queues

Background Build Conditions

34: California Street & Market Street

Timing Plan: AM Peak Hour

	→	↘	↑	↓
Lane Group	EBT	EBR	NBT	SBT
Lane Group Flow (vph)	124	18	450	327
v/c Ratio	0.24	0.04	0.42	0.33
Control Delay (s/veh)	10.8	0.5	8.7	1.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	10.8	0.5	8.7	1.1
Queue Length 50th (ft)	17	1	87	2
Queue Length 95th (ft)	29	m1	111	2
Internal Link Dist (ft)	309		298	257
Turn Bay Length (ft)		50		
Base Capacity (vph)	500	443	1066	987
Starvation Cap Reductn	0	0	0	15
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.04	0.42	0.34

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Background Build Conditions

35: S American Street & Market Street

Timing Plan: AM Peak Hour



Lane Group	EBT	SBT
Lane Group Flow (vph)	332	200
v/c Ratio	0.31	0.49
Control Delay (s/veh)	8.7	18.1
Queue Delay	0.0	0.0
Total Delay (s/veh)	8.7	18.1
Queue Length 50th (ft)	66	77
Queue Length 95th (ft)	59	m73
Internal Link Dist (ft)	303	260
Turn Bay Length (ft)		
Base Capacity (vph)	1052	401
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.32	0.50

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Background Build Conditions

36: S Stanislaus Street & Market Street

Timing Plan: AM Peak Hour

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	363	783	312
v/c Ratio	0.59	0.44	0.19
Control Delay (s/veh)	19.6	11.9	7.0
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	19.6	11.9	7.0
Queue Length 50th (ft)	138	103	15
Queue Length 95th (ft)	140	106	18
Internal Link Dist (ft)	304	325	272
Turn Bay Length (ft)			
Base Capacity (vph)	615	1752	1628
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.59	0.45	0.19
Intersection Summary			

Queues
41: Airport Way & Market Street

Background Build Conditions
Timing Plan: AM Peak Hour

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	143	949	743
v/c Ratio	0.63	0.35	0.37
Control Delay (s/veh)	48.3	4.5	3.8
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	48.3	4.5	3.8
Queue Length 50th (ft)	80	64	35
Queue Length 95th (ft)	119	159	54
Internal Link Dist (ft)	289	285	254
Turn Bay Length (ft)			
Base Capacity (vph)	440	2680	1990
Starvation Cap Reductn	0	0	179
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.33	0.35	0.41
Intersection Summary			

Queues

Background Build Conditions

43: S Wilson Way & Market Street

Timing Plan: AM Peak Hour






Lane Group	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	226	797	126	663
v/c Ratio	0.73	0.41	0.62	0.26
Control Delay (s/veh)	55.5	13.7	45.1	6.5
Queue Delay	0.0	0.0	0.0	0.2
Total Delay (s/veh)	55.5	13.7	45.1	6.7
Queue Length 50th (ft)	131	131	70	94
Queue Length 95th (ft)	171	211	m126	154
Internal Link Dist (ft)	296	296		271
Turn Bay Length (ft)			90	
Base Capacity (vph)	417	1911	255	2535
Starvation Cap Reductn	0	0	0	1076
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.54	0.42	0.49	0.45

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues
205: Locust Street & Market Street

Background Build Conditions
Timing Plan: AM Peak Hour

			
Lane Group	EBL	EBT	NBR2
Lane Group Flow (vph)	17	310	2
v/c Ratio	0.02	0.22	0.00
Control Delay (s/veh)	0.0	4.4	0.0
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	0.0	4.4	0.0
Queue Length 50th (ft)	0	0	0
Queue Length 95th (ft)	0	107	0
Internal Link Dist (ft)	239		
Turn Bay Length (ft)	100		
Base Capacity (vph)	1760	1850	1272
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.01	0.17	0.00
Intersection Summary			

Queues

Background Build Conditions

2: S San Joaquin Street/N San Joaquin Street & Main Street

Timing Plan: PM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	101	146	165
v/c Ratio	0.59	0.11	0.12
Control Delay (s/veh)	47.0	11.1	15.0
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	47.0	11.1	15.0
Queue Length 50th (ft)	43	13	23
Queue Length 95th (ft)	83	22	45
Internal Link Dist (ft)	301	264	331
Turn Bay Length (ft)			
Base Capacity (vph)	266	1282	1329
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.38	0.11	0.12
Intersection Summary			

Queues

Background Build Conditions

3: S Sutter Street/N Sutter Street & Main Street

Timing Plan: PM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	98	186	137
v/c Ratio	0.25	0.38	0.15
Control Delay (s/veh)	17.3	16.7	19.9
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	17.3	16.7	19.9
Queue Length 50th (ft)	38	38	23
Queue Length 95th (ft)	m67	56	38
Internal Link Dist (ft)	298	256	344
Turn Bay Length (ft)			
Base Capacity (vph)	378	487	907
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.26	0.38	0.15

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Background Build Conditions

4: California Street & Main Street

Timing Plan: PM Peak Hour

	←	↑	↓
Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	125	258	295
v/c Ratio	0.33	0.52	0.58
Control Delay (s/veh)	43.2	21.9	27.7
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	43.2	21.9	27.7
Queue Length 50th (ft)	58	98	110
Queue Length 95th (ft)	105	160	177
Internal Link Dist (ft)	307	257	324
Turn Bay Length (ft)			
Base Capacity (vph)	378	496	502
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.33	0.52	0.59
Intersection Summary			

Queues

Background Build Conditions

5: S American Street/N American Street & Main Street

Timing Plan: PM Peak Hour



Lane Group	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	152	32	14	18
v/c Ratio	0.54	0.05	0.02	0.03
Control Delay (s/veh)	31.4	15.8	16.1	16.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	31.4	15.8	16.1	16.3
Queue Length 50th (ft)	61	5	4	5
Queue Length 95th (ft)	110	18	14	17
Internal Link Dist (ft)	303	260	330	
Turn Bay Length (ft)				
Base Capacity (vph)	280	600	612	508
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.54	0.05	0.02	0.04
Intersection Summary				

Queues

Background Build Conditions

6: S Stanislaus Street/N Stanislaus Street & Main Street

Timing Plan: PM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	159	313	330
v/c Ratio	0.24	0.20	0.18
Control Delay (s/veh)	17.1	8.0	9.8
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	17.1	8.0	9.8
Queue Length 50th (ft)	47	26	37
Queue Length 95th (ft)	89	38	59
Internal Link Dist (ft)	300	272	338
Turn Bay Length (ft)			
Base Capacity (vph)	642	1552	1764
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.25	0.20	0.19
Intersection Summary			

Queues

Background Build Conditions

11: Airport Way & Main Street

Timing Plan: PM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	205	926	806
v/c Ratio	0.48	0.43	0.35
Control Delay (s/veh)	23.7	4.3	7.8
Queue Delay	0.0	0.1	0.0
Total Delay (s/veh)	23.7	4.4	7.8
Queue Length 50th (ft)	69	130	98
Queue Length 95th (ft)	150	11	130
Internal Link Dist (ft)	310	254	262
Turn Bay Length (ft)			
Base Capacity (vph)	427	2153	2273
Starvation Cap Reductn	0	325	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.48	0.51	0.35
Intersection Summary			

Queues

13: S Wilson Way & Main Street

Background Build Conditions

Timing Plan: PM Peak Hour



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	240	189	28	965	992
v/c Ratio	0.72	0.46	0.08	0.38	0.39
Control Delay (s/veh)	47.0	12.5	14.7	15.2	6.4
Queue Delay	0.0	0.0	0.0	1.8	0.0
Total Delay (s/veh)	47.0	12.5	14.7	17.1	6.4
Queue Length 50th (ft)	130	20	10	210	101
Queue Length 95th (ft)	191	72	m20	m282	176
Internal Link Dist (ft)	710			271	283
Turn Bay Length (ft)		300	70		
Base Capacity (vph)	465	508	346	2504	2492
Starvation Cap Reductn	0	0	0	1321	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.52	0.37	0.08	0.82	0.40

Intersection Summary

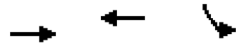
m Volume for 95th percentile queue is metered by upstream signal.

Queues

Background Build Conditions

17: Main Street & D Street

Timing Plan: PM Peak Hour









Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	489	410	18
v/c Ratio	0.29	0.24	0.03
Control Delay (s/veh)	2.1	1.9	8.6
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	2.1	1.9	8.6
Queue Length 50th (ft)	0	0	1
Queue Length 95th (ft)	87	69	13
Internal Link Dist (ft)	615	624	178
Turn Bay Length (ft)			
Base Capacity (vph)	1763	1776	1470
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.28	0.23	0.01
Intersection Summary			

Queues

Background Build Conditions

25: Golden Gate Avenue & Main Street

Timing Plan: PM Peak Hour

						
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	9	745	66	450	246	55
v/c Ratio	0.08	0.75	0.42	0.37	0.78	0.15
Control Delay (s/veh)	45.8	24.6	49.0	10.0	48.2	26.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	45.8	24.6	49.0	10.0	48.2	26.4
Queue Length 50th (ft)	5	316	36	93	120	22
Queue Length 95th (ft)	22	#687	84	264	212	54
Internal Link Dist (ft)		249		250	364	346
Turn Bay Length (ft)	95		95			
Base Capacity (vph)	410	986	410	1212	670	768
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.76	0.16	0.37	0.37	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

Background Build Conditions

27: Netherton Avenue & Main Street

Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	11	561	38	450	95	87
v/c Ratio	0.03	0.57	0.12	0.40	0.24	0.23
Control Delay (s/veh)	25.0	18.8	23.2	10.4	9.1	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.0	18.8	23.2	10.4	9.1	10.8
Queue Length 50th (ft)	2	54	5	40	4	5
Queue Length 95th (ft)	21	#414	47	268	42	46
Internal Link Dist (ft)		247		244	354	364
Turn Bay Length (ft)	90		90			
Base Capacity (vph)	1248	1592	1457	1668	1239	1213
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.35	0.03	0.27	0.08	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

29: S Center Street & Market Street

Background Build Conditions

Timing Plan: PM Peak Hour

	→	↓
Lane Group	EBT	SBT
Lane Group Flow (vph)	133	2008
v/c Ratio	0.26	0.65
Control Delay (s/veh)	23.0	12.3
Queue Delay	0.0	0.0
Total Delay (s/veh)	23.0	12.3
Queue Length 50th (ft)	49	232
Queue Length 95th (ft)	95	281
Internal Link Dist (ft)	316	666
Turn Bay Length (ft)		
Base Capacity (vph)	495	3053
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.27	0.66
Intersection Summary		

Queues

Background Build Conditions

30: S El Dorado Street & Market Street

Timing Plan: PM Peak Hour



Lane Group	EBT	NBT
Lane Group Flow (vph)	154	1547
v/c Ratio	0.27	0.51
Control Delay (s/veh)	15.4	11.0
Queue Delay	0.0	0.0
Total Delay (s/veh)	15.4	11.0
Queue Length 50th (ft)	34	163
Queue Length 95th (ft)	m64	200
Internal Link Dist (ft)	266	322
Turn Bay Length (ft)		
Base Capacity (vph)	559	2979
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.28	0.52

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

32: S San Joaquin Street & Market Street

Background Build Conditions

Timing Plan: PM Peak Hour

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	184	189	164
v/c Ratio	0.29	0.11	0.09
Control Delay (s/veh)	16.3	6.3	3.2
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	16.3	6.3	3.2
Queue Length 50th (ft)	50	14	4
Queue Length 95th (ft)	93	28	7
Internal Link Dist (ft)	297	287	264
Turn Bay Length (ft)			
Base Capacity (vph)	621	1680	1661
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.30	0.11	0.10
Intersection Summary			

Queues

Background Build Conditions

33: S Sutter Street & Market Street

Timing Plan: PM Peak Hour

	→	↑	↗	↓
Lane Group	EBT	NBT	NBR	SBT
Lane Group Flow (vph)	222	147	54	187
v/c Ratio	0.29	0.18	0.09	0.13
Control Delay (s/veh)	19.1	13.2	4.3	8.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.1	13.2	4.3	8.9
Queue Length 50th (ft)	75	38	0	13
Queue Length 95th (ft)	108	59	13	20
Internal Link Dist (ft)	296	293		256
Turn Bay Length (ft)				
Base Capacity (vph)	761	798	577	1363
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.18	0.09	0.14
Intersection Summary				

Queues

Background Build Conditions

34: California Street & Market Street

Timing Plan: PM Peak Hour

	→	↘	↑	↓
Lane Group	EBT	EBR	NBT	SBT
Lane Group Flow (vph)	176	20	247	308
v/c Ratio	0.35	0.04	0.23	0.29
Control Delay (s/veh)	14.4	1.8	6.9	0.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	14.4	1.8	6.9	0.6
Queue Length 50th (ft)	29	1	41	0
Queue Length 95th (ft)	54	0	74	0
Internal Link Dist (ft)	309		298	257
Turn Bay Length (ft)		50		
Base Capacity (vph)	501	443	1072	1037
Starvation Cap Reductn	0	0	0	52
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.05	0.23	0.31
Intersection Summary				

Queues

Background Build Conditions

35: S American Street & Market Street

Timing Plan: PM Peak Hour

	→	↓
Lane Group	EBT	SBT
Lane Group Flow (vph)	290	55
v/c Ratio	0.27	0.13
Control Delay (s/veh)	4.7	14.9
Queue Delay	0.0	0.0
Total Delay (s/veh)	4.7	14.9
Queue Length 50th (ft)	34	12
Queue Length 95th (ft)	40	24
Internal Link Dist (ft)	303	260
Turn Bay Length (ft)		
Base Capacity (vph)	1056	406
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.27	0.14
Intersection Summary		

Queues

Background Build Conditions

36: S Stanislaus Street & Market Street

Timing Plan: PM Peak Hour

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	264	360	452
v/c Ratio	0.41	0.20	0.26
Control Delay (s/veh)	10.8	9.3	8.1
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	10.8	9.3	8.1
Queue Length 50th (ft)	36	38	25
Queue Length 95th (ft)	48	55	32
Internal Link Dist (ft)	304	325	272
Turn Bay Length (ft)			
Base Capacity (vph)	632	1749	1681
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.42	0.21	0.27
Intersection Summary			

Queues
41: Airport Way & Market Street

Background Build Conditions
Timing Plan: PM Peak Hour

	→	↑	↓
Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	225	987	863
v/c Ratio	0.77	0.38	0.47
Control Delay (s/veh)	53.8	5.6	5.2
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	53.8	5.6	5.2
Queue Length 50th (ft)	125	88	47
Queue Length 95th (ft)	182	167	68
Internal Link Dist (ft)	289	285	254
Turn Bay Length (ft)			
Base Capacity (vph)	445	2557	1810
Starvation Cap Reductn	0	0	3
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.51	0.39	0.48
Intersection Summary			

Queues

Background Build Conditions

43: S Wilson Way & Market Street

Timing Plan: PM Peak Hour

	→	↑	↘	↓
Lane Group	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	395	1013	198	857
v/c Ratio	0.95	0.62	0.82	0.36
Control Delay (s/veh)	69.3	19.9	58.7	9.2
Queue Delay	44.9	0.0	0.0	0.3
Total Delay (s/veh)	114.3	20.0	58.7	9.6
Queue Length 50th (ft)	188	219	112	148
Queue Length 95th (ft)	#383	286	#220	206
Internal Link Dist (ft)	296	296		271
Turn Bay Length (ft)			90	
Base Capacity (vph)	418	1629	255	2329
Starvation Cap Reductn	0	0	0	843
Spillback Cap Reductn	97	68	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.23	0.65	0.78	0.58

Intersection Summary

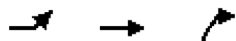
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

205: Locust Street & Market Street

Background Build Conditions

Timing Plan: PM Peak Hour








Lane Group	EBL	EBT	NBR2
Lane Group Flow (vph)	17	526	4
v/c Ratio	0.02	0.31	0.00
Control Delay (s/veh)	0.0	3.8	0.0
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	0.0	3.8	0.0
Queue Length 50th (ft)	0	0	0
Queue Length 95th (ft)	0	189	0
Internal Link Dist (ft)		239	
Turn Bay Length (ft)	100		
Base Capacity (vph)	1696	1780	1043
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.01	0.30	0.00
Intersection Summary			

DETAILED OUTPUT

 Site: 101 [Main St._Market St._AM]

New Site
Site Category: (None)
Roundabout

OUTPUT TABLE LINKS

-  Roundabouts
 - Roundabout Basic Parameters
 - Roundabout Circulating / Exiting Stream Parameters
 - Roundabout Gap Acceptance Parameters
 - Roundabout Flow Rates
 - Roundabout Pedestrian Effects
-  Movements
 - Intersection Negotiation and Travel Data
 - Movement Capacity and Performance Parameters
 - Fuel Consumption, Emissions and Cost
-  Lanes
 - Lane Performance and Capacity Information
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 - Driver Characteristics
 - Lane Delays
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 - Lane Queue Percentiles
 - Lane Stops
-  Flow Rates
 - Origin-Destination Flow Rates (Total)
 - Origin-Destination Flow Rates by Movement Class
 - Lane Flow Rates
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 - Parameter Settings Summary
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Roundabouts

Roundabout Basic Parameters
Site: Main St._Market St._AM

Site ID: 101											
Roundabout											
Central Island Diam ft	Circ Width ft	Insc Diam. ft	Entry Radius ft	Entry Angle deg	Circ Lanes	Entry Lanes	Av.Entry Lane Width ft	App Dist ft	Prop Upstr	Queued Signal	Extra Bunching %

South: Locust Street											
40.0	25.0	120.0U	100.0	30.0	1	1	13.00	200		NA	0.0N

East: Main Street											
40.0	15.0	120.0U	100.0	30.0	1	1	13.00	400		NA	0.0N

NorthEast: Market Street											
40.0	15.0	120.0U	100.0	30.0	1	1	13.00	350		NA	0.0N

SouthWest: Market Street											
40.0	15.0	120.0U	100.0	30.0	1	1	13.00	300		NA	0.0N

Roundabout Capacity Model: SIDRA Standard											
U Inscribed diameter value was specified by the user.											
NA Not Applicable (single Site analysis or unconnected Site in Network analysis).											
N Program option resulted in zero value (single Site analysis or unconnected Site in Network analysis).											

[Go to Table Links \(Top\)](#)

Roundabout Circulating / Exiting Stream Parameters

Site: Main St._Market St._AM

Site ID: 101
Roundabout

Dest	Turn	Lane No.	Lane Type	Opng Flow veh/h	HVE pcu/ veh	Adj. Flow pcu/h	%Near Lane Only	%Exit Flow Incl.	Cap. Const. Effect	O-D Factor	Aver Speed mph	In-Bunch Headway sec	Prop. Bunched
South: Locust Street													
W	L2	1	Dominant	326	1.02	333	0.0	0.0	N	0.997	22.0	2.00	0.333
E	R2	1	Dominant	326	1.02	333	0.0	0.0	N	0.997	22.0	2.00	0.333
East: Main Street													
S	L2	1	Dominant	18	1.02	19	0.0	0.0	N	1.000	14.6	2.00	0.023
W	T1	1	Dominant	18	1.02	19	0.0	0.0	N	1.000	14.6	2.00	0.023
NorthEast: Market Street													
E	L3	1	Dominant	523	1.02	533	0.0	0.0	N	0.981	23.6	2.00	0.481
S	L1	1	Dominant	523	1.02	533	0.0	0.0	N	0.981	23.6	2.00	0.481
W	R1	1	Dominant	523	1.02	533	0.0	0.0	N	0.981	23.6	2.00	0.481
SouthWest: Market Street													
W	L3	1	Dominant	3	1.02	3	0.0	0.0	N	1.000	13.9	2.00	0.004
E	R1	1	Dominant	3	1.02	3	0.0	0.0	N	1.000	13.9	2.00	0.004
S	R3	1	Dominant	3	1.02	3	0.0	0.0	N	1.000	13.9	2.00	0.004
Roundabout Capacity Model: SIDRA Standard													

[Go to Table Links \(Top\)](#)

Roundabout Gap Acceptance Parameters

Site: Main St._Market St._AM

Site ID: 101
Roundabout

Dest	Turn	Lane No.	Lane Type	In-Bunch Headway sec	Prop. Bunched	Priority Sharing	HVE for Entry	Critical Gap		Follow-up Headway sec
								Headway sec	Dist ft	
South: Locust Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
W	L2	1	Dominant	2.00	0.333	N	1.02	4.77	154.2	2.57
E	R2	1	Dominant	2.00	0.333	N	1.02	4.77	154.2	2.57
East: Main Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
S	L2	1	Dominant	2.00	0.023	N	1.02	5.28	113.5	2.69
W	T1	1	Dominant	2.00	0.023	N	1.02	5.28	113.5	2.69
NorthEast: Market Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
E	L3	1	Dominant	2.00	0.481	Y	1.02	4.48	154.9	2.49
S	L1	1	Dominant	2.00	0.481	Y	1.02	4.48	154.9	2.49
W	R1	1	Dominant	2.00	0.481	Y	1.02	4.48	154.9	2.49
SouthWest: Market Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
W	L3	1	Dominant	2.00	0.004	N	1.02	5.31	108.5	2.69
E	R1	1	Dominant	2.00	0.004	N	1.02	5.31	108.5	2.69
S	R3	1	Dominant	2.00	0.004	N	1.02	5.31	108.5	2.69

Roundabout Capacity Model: SIDRA Standard

Priority sharing means Follow-up Headway plus Intra-bunch Headway is larger than the Critical Gap.

Dist (Distance): Spacing, i.e. distance between the front ends of two successive vehicles across all lanes in the circulating

or exiting stream

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Roundabout Flow Rates
Site: Main St._Market St._AM

Site ID: 101
Roundabout

CIRCULATING LANE FLOW RATES

Lane No.	Circulating Flow Rate		
	veh/h	pcu/h	Percent

South: Locust Street			
1	326	333	100.0%
Total	326	333	

East: Main Street			
1	18	19	100.0%
Total	18	19	

NorthEast: Market Street			
1	523	533	100.0%
Total	523	533	

SouthWest: Market Street			
1	3	3	100.0%
Total	3	3	

The SIDRA Standard roundabout capacity model option is in use.
This model takes into account the total circulating flow as well as the effect of flow distribution in circulating lanes on the entry capacity results.

APPROACH LANE FLOW RATES

Lane No.	Approach Flows (veh/h)		
	Out	To Downst	Total

South: Locust Street			
1	2	1	3
Total	2	1	3

East: Main Street			
1	0	504	504
Total	0	504	504

NorthEast: Market Street			
1	37	2	39
Total	37	2	39

SouthWest: Market Street			
1	2	325	327
Total	2	325	327

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Roundabout Pedestrian Effects
Site: Main St._Market St._AM

Site ID: 101
Roundabout

ROUNDBOUT ENTRY

Lane	Turn	Pedestrian Flow Rate ped/h	Adj.Flow Rate ped/h	Opposing Ped.Factor	Circulating Flow Rate veh/h	Circulating Flow Rate pcu/h	Adjustment Factor

South: Locust Street							
1	L2	1	1	1.00	326	333	1.000
1	R2	1	1	1.00	326	333	1.000

East: Main Street									
1	L2	1	1	1.00	18	19	1.000		
1	T1	1	1	1.00	18	19	1.000		

NorthEast: Market Street									
1	L3	1	1	1.00	523	533	1.000		
1	L1	1	1	1.00	523	533	1.000		
1	R1	1	1	1.00	523	533	1.000		

ROUNDABOUT EXIT									

Flow Rate	Pedestrian		Opposing	Conflict	Critical	Follow-up	Exit Lane	Exit	Flow
Adj.Flow Rate	Adj.Flow Rate		Ped.Factor	Zone Length	Gap	Headway	Capacity	Total	Average
ped/h	ped/h			ft	sec	sec	veh/h	veh/h	veh/h/lane

South: Locust Street									
1		1	1.00	16.00	3.72	2.23	1611	4	4

East: Main Street									
1		1	1.00	16.00	3.72	2.23	1611	311	311

West: Main Street									
1		1	1.00	16.00	3.72	2.23	1611	559	559

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Movements

Intersection Negotiation and Travel Data
Site: Main St._Market St._AM

Site ID: 101									
Roundabout									
TRAVEL SPEED, TRAVEL DISTANCE AND TRAVEL TIME									

From	To		Running	Travel	Travel	Travel	Total	Travel	Distance
Approach	Exit	Turn	Speed	Speed	Distance	Time	Dem Flows	Arv Flows	Tot.Trav.
			mph	mph	ft	s	veh-mi/h	veh-mi/h	Time
									veh-h/h

South: Locust Street									
	West	L2	19.8	19.8	595.1#	20.5#	0.1	0.1	0.0
	East	R2	22.4	22.4	695.1#	21.2#	0.3	0.3	0.0

East: Main Street									
	South	L2	24.2	24.2	716.0#	20.2#	0.1	0.1	0.0
	West	T1	29.8	29.8	816.0#	18.7#	77.8	77.8	2.6

NorthEast: Market Street									
	East	L3	27.6	27.5	841.4#	20.9#	0.2	0.2	0.0
	South	L1	21.1	21.0	641.4#	20.8#	0.1	0.1	0.0
	West	R1	25.5	25.3	741.4#	19.9#	5.2	5.2	0.2

SouthWest: Market Street									
	West	L3	23.0	23.0	693.3#	20.5#	2.3	2.3	0.1
	East	R1	28.7	28.7	793.3#	18.9#	46.2	46.2	1.6
	South	R3	25.0	25.0	593.3#	16.2#	0.2	0.2	0.0

ALL VEHICLES:			29.0	29.0	800.9#	18.8#	132.6	132.6	4.6

"Running Speed" is the average speed excluding stopped periods.									
Travel Time values include cruise times and intersection delays including acceleration, deceleration and idling delays.									
# Travel Distance and Travel Time values include travel on the External Exit section based on the Exit Distance or user-specified Downstream Distance value as applicable.									
INTERSECTION NEGOTIATION DATA									

From Approach	To Exit	Turn	Negn Radius ft	Negn Speed mph	Negn Dist ft	App Dist ft	Exit Dist ft	Downstr Dist ft
South: Locust Street								
	West	L2	49.0	14.6	192.4	200	91	NA
	East	R2	88.6	18.3	46.5	200	122	NA
East: Main Street								
	South	L2	44.5	14.1	174.8	400	61	NA
	West	T1	180.0	23.9	115.8	400	91	NA
NorthEast: Market Street								
	East	L3	43.0	13.9	202.6	350	122	NA
	South	L1	42.3	13.8	133.0	350	61	NA
	West	R1	180.0	23.9	86.9	350	91	NA
SouthWest: Market Street								
	West	L3	49.5	14.7	233.3	300	91	NA
	East	R1	153.0	22.5	85.8	300	122	NA
	South	R3	75.0	17.2	32.8	300	61	NA

Maximum Negotiation (Design) Speed = 30.0 mph

- NA Downstream Distance does not apply if:
- Exit is an internal leg of a network
 - "Program" option was specified
 - Distance specified was less than the Exit Negotiation Distance
 - Distance specified was greater than the exit leg length

MOVEMENT SPEEDS AND GEOMETRIC DELAY

		App. Speeds		Exit Speeds		Queue	Geom Delay sec
Mov ID	Turn	Cruise mph	Negn mph	Negn mph	Cruise mph	Move-up Speed mph	
South: Locust Street							
3	L2	30.0	14.6	14.6	30.0	25.7	7.0
18	R2	30.0	18.3	18.3	30.0	25.7	2.4
East: Main Street							
1	L2	30.0	14.1	14.1	30.0	38.4	7.0
6	T1	30.0	23.9	23.9	30.0	38.4	1.6
NorthEast: Market Street							
1bx	L3	30.0	13.9	13.9	30.0	22.1	7.9
1ax	L1	30.0	13.8	13.8	30.0	22.1	6.1
16ax	R1	30.0	23.9	23.9	30.0	22.1	1.5
SouthWest: Market Street							
5bx	L3	30.0	14.7	14.7	30.0	35.4	8.0
12ax	R1	30.0	22.5	22.5	30.0	35.4	1.9
12bx	R3	30.0	17.2	17.2	30.0	35.4	2.6

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Movement Capacity and Performance Parameters
Site: Main St._Market St._AM

Site ID: 101
Roundabout

MOVEMENT CAPACITY PARAMETERS

Mov ID	Turn	Mov Cl.	Arv Flow veh/h	Opng Flow veh/h	Movement Adjust. pcu/h	Total Cap. veh/h	Prac. Deg. Satn xp	Prac. Spare Cap. %	Deg. Satn x
South: Locust Street									
3	L2	#	1	326	333	338	0.85	****	0.003
18	R2	#	2	326	333	676	0.85	****	0.003

East: Main Street										
1	L2	#	1	18	19	3	0.85	121	0.385*	
6	T1	#	503	18	19	1309	0.85	121	0.385*	

NorthEast: Market Street										
1bx	L3	#	1	523	533	24	0.85	1794	0.045	
1ax	L1	#	1	523	533	24	0.85	1794	0.045	
16ax	R1	#	37	523	533	824	0.85	1794	0.045	

SouthWest: Market Street										
5bx	L3	#	17	3	3	71	0.85	246	0.246	
12ax	R1	#	308	3	3	1251	0.85	246	0.246	
12bx	R3	#	2	3	3	9	0.85	246	0.246	

* Maximum degree of saturation										
# Combined Movement Capacity parameters are shown for all Movement Classes.										
MOVEMENT PERFORMANCE										

Mov ID	Turn	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Eff. Stop Rate	Total Stops	Perf. Index	Tot.Trav. Distance (veh-mi/h)	Tot.Trav. Time (veh-h/h)	Aver. Speed (mph)

South: Locust Street										
3	L2	0.00	0.00	8.5	0.48	0.5	0.02	0.1	0.0	19.8
18	R2	0.00	0.00	3.9	0.48	1.0	0.03	0.3	0.0	22.4

East: Main Street										
1	L2	0.00	0.00	7.2	0.23	0.2	2.11	0.1	0.0	24.2
6	T1	0.25	0.30	1.8	0.23	113.9	5.57	77.8	2.6	29.8

NorthEast: Market Street										
1bx	L3	0.00	0.00	10.8	0.51	0.6	0.20	0.2	0.0	27.5
1ax	L1	0.00	0.00	9.0	0.51	0.6	0.20	0.1	0.0	21.0
16ax	R1	0.04	0.05	4.3	0.51	19.0	0.51	5.2	0.2	25.3

SouthWest: Market Street										
5bx	L3	0.04	0.05	8.0	0.28	4.9	1.40	2.3	0.1	23.0
12ax	R1	0.16	0.19	1.9	0.28	87.3	3.44	46.2	1.6	28.7
12bx	R3	0.00	0.00	2.6	0.28	0.6	1.27	0.2	0.0	25.0

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Fuel Consumption, Emissions and Cost
Site: Main St._Market St._AM

Site ID: 101							
Roundabout							
FUEL CONSUMPTION, EMISSIONS AND COST (TOTAL)							

Mov ID	Turn	Cost Total \$/h	Fuel Total gal/h	CO2 Total kg/h	CO Total kg/h	HC Total kg/h	NOX Total kg/h

South: Locust Street							
3	L2	0.12	0.0	0.1	0.00	0.000	0.000
18	R2	0.24	0.0	0.2	0.00	0.000	0.000
		0.37	0.0	0.3	0.00	0.000	0.000

East: Main Street							
1	L2	0.09	0.0	0.1	0.00	0.000	0.000
6	T1	44.25	3.3	29.2	0.02	0.002	0.037
		44.34	3.3	29.3	0.02	0.002	0.038

NorthEast: Market Street							
1bx	L3	0.11	0.0	0.1	0.00	0.000	0.000
1ax	L1	0.11	0.0	0.1	0.00	0.000	0.000
16ax	R1	3.75	0.3	2.5	0.00	0.000	0.003
		3.97	0.3	2.7	0.00	0.000	0.004

SouthWest: Market Street							
5bx	L3	1.37	0.1	1.0	0.00	0.000	0.001
12ax	R1	24.48	2.1	18.3	0.01	0.001	0.022
12bx	R3	0.17	0.0	0.1	0.00	0.000	0.000
		26.01	2.2	19.4	0.01	0.002	0.023
INTERSECTION:							
		74.69	5.8	51.6	0.04	0.004	0.064

FUEL CONSUMPTION, EMISSIONS AND COST (RATE)

Mov ID	Turn	Cost Rate \$/mi	Fuel Eff. mpg	CO2 Rate g/km	CO Rate g/km	HC Rate g/km	NOX Rate g/km
South: Locust Street							
3	L2	0.99	12.7	435.4	0.38	0.041	0.545
18	R2	0.85	14.1	394.3	0.34	0.036	0.484
		0.89	13.7	406.6	0.35	0.037	0.502
East: Main Street							
1	L2	0.64	22.7	245.0	0.18	0.019	0.324
6	T1	0.57	23.8	233.3	0.18	0.018	0.299
		0.57	23.8	233.3	0.18	0.018	0.299
NorthEast: Market Street							
1bx	L3	0.64	19.7	282.3	0.23	0.024	0.376
1ax	L1	0.83	17.1	323.7	0.27	0.029	0.456
16ax	R1	0.72	18.5	300.2	0.25	0.026	0.411
		0.72	18.5	300.2	0.25	0.026	0.411
SouthWest: Market Street							
5bx	L3	0.60	21.3	260.6	0.20	0.021	0.315
12ax	R1	0.53	22.5	246.6	0.19	0.020	0.290
12bx	R3	0.69	19.9	279.3	0.22	0.023	0.347
		0.53	22.5	247.4	0.19	0.020	0.292
INTERSECTION:							
		0.56	23.0	241.8	0.18	0.019	0.302

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Lanes

Lane Performance and Capacity Information
Site: Main St._Market St._AM

Site ID: 101
Roundabout

LANE PERFORMANCE

						Q u e u e		
Lane	Flow	Cap	Deg.	Aver.	Eff.	95% Back		Lane
No.	veh/h	veh/h	Satn	Delay	Stop	-----		Length
			x	sec	Rate	veh	ft	ft
South: Locust Street								
1	3	1015	0.003	5.4	0.48	0.0	0.4	200.0
East: Main Street								
1	504	1311	0.385	1.8	0.23	2.6	66.3	400.0
NorthEast: Market Street								
1	39	872	0.045	4.6	0.51	0.2	5.9	350.0
SouthWest: Market Street								
1	327	1331	0.246	2.2	0.28	1.6	39.7	300.0

LANE FLOW AND CAPACITY INFORMATION

Lane No.	Total Arv Flow veh/h	Min Cap veh/h	Tot Cap veh/h	Deg. Satn x	Lane Util %
South: Locust Street					
1	3	3	1015	0.003	100
East: Main Street					
1	504	150	1311	0.385	100
NorthEast: Market Street					
1	39	39	872	0.045	100
SouthWest: Market Street					
1	327	150	1331	0.246	100

The capacity values of Continuous Lanes are obtained by adjusting the basic saturation flow for lane width, grade, movement class and turning vehicle effects. Saturation flow scale applies if specified.

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Lane, Approach and Intersection Performance
Site: Main St._Market St._AM

Site ID: 101
Roundabout

Lane No.	Arrival Flow (veh/h)	%HV	Adj. Basic Satf.	Deg Sat x	Aver. Delay sec	Longest Queue ft	Lane Length ft
South: Locust Street							
1	3	2		0.003	5.4	0	200
	3	2		0.003	5.4	0	
East: Main Street							
1	504	2		0.385	1.8	66	400
	504	2		0.385	1.8	66	
NorthEast: Market Street							
1	39	2		0.045	4.6	6	350
	39	2		0.045	4.6	6	
SouthWest: Market Street							
1	327	2		0.246	2.2	40	300
	327	2		0.246	2.2	40	
=====							
ALL VEHICLES							
	Total Flow	% HV		Max X	Aver. Delay	Max Queue	
	874	2		0.385	2.1	66	

Peak flow period = 15 minutes.

Queue values in this table are 95% queue (feet)
Note: Basic Saturation Flows at roundabouts or sign-controlled intersections apply only to continuous lanes.

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Driver Characteristics
Site: Main St._Market St._AM

Site ID: 101
Roundabout

Lane No.	Satn Speed mph	Satn Flow veh/h	Satn Hdwy sec	Satn Spacing ft	Average Queue Space ft	Driver Response Time sec
South: Locust Street						
1	17.0	1401	2.57	64.23	25.40	1.55
East: Main Street						
1	23.9	1339	2.69	94.17	25.40	1.96
NorthEast: Market Street						
1	23.3	1445	2.49	85.33	25.40	1.75
SouthWest: Market Street						
1	22.0	1336	2.69	87.04	25.40	1.91

Saturation Flow and Saturation Headway are derived from follow-up headway.

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Lane Delays

Site: Main St._Market St._AM

Site ID: 101
Roundabout

LANE DELAYS

				Delay (seconds/veh)									
Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Min Del dm	Stop-line 1st d1	2nd d2	Delay Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
South: Locust Street													
1	0.003	NA	NA	1.4	1.5	0.0	1.5	1.7	0.0	0.0	0.0	3.9	5.4
East: Main Street													
1	0.385	NA	NA	0.1	0.1	0.0	0.1	0.8	0.0	0.0	0.0	1.7	1.8
NorthEast: Market Street													
1	0.045	NA	NA	2.4	2.8	0.0	2.8	2.9	0.1	0.0	0.1	1.8	4.6
SouthWest: Market Street													
1	0.246	NA	NA	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	2.2	2.2

SIDRA Standard Delay Model is used. Control Delay is the sum of Stop-line Delay and Geometric Delay.
dm: Minimum delay for gap acceptance cases
dSL: Stop-line delay (=d1+d2)
dn: Average stop-start delay for all vehicles queued and unqueued
dq: Queuing delay (the part of the stop-line delay that includes stopped delay and queue move-up delay)
dqm: Queue move-up delay
di: Stopped delay (stopped (idling) time at near-zero speed)
dig: Geometric delay
dic: Control delay

Geometric delay is less than 2 seconds for some movements. The negotiation speed may be too high or the approach and exit speeds may be too low for given geometric design (e.g. for a large roundabout).
Check Detailed Output for geometric delay data including negotiation speeds.
If necessary, specify appropriate values of approach and exit speeds, negotiation radius or negotiation speed data in the Path Data dialog.

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Lane Queues

Site: Main St._Market St._AM

Site ID: 101
Roundabout

BACK OF QUEUE (VEHICLES)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (veh)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
	x				Nb1	Nb2	Nb	95%	Av.	95%		
South: Locust Street												
1	0.003	NA	NA	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA
East: Main Street												
1	0.385	NA	NA	0.0	1.0	0.0	1.0	2.6	0.07	0.17	0.0	NA
NorthEast: Market Street												
1	0.045	NA	NA	0.0	0.1	0.0	0.1	0.2	0.01	0.02	0.0	NA
SouthWest: Market Street												
1	0.246	NA	NA	0.0	0.6	0.0	0.6	1.6	0.05	0.13	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

BACK OF QUEUE (DISTANCE)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (ft)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
	x				Nb1	Nb2	Nb	95%	Av.	95%		
South: Locust Street												
1	0.003	NA	NA	0.0	0.2	0.0	0.2	0.4	0.00	0.00	0.0	NA
East: Main Street												
1	0.385	NA	NA	0.0	26.7	0.0	26.7	66.3	0.07	0.17	0.0	NA
NorthEast: Market Street												
1	0.045	NA	NA	0.0	2.4	0.0	2.4	5.9	0.01	0.02	0.0	NA
SouthWest: Market Street												
1	0.246	NA	NA	0.0	16.0	0.0	16.0	39.7	0.05	0.13	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

OTHER QUEUE RESULTS (VEHICLES)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
	x				Nc	95%
South: Locust Street						
1	0.003	NA	NA	0.0	0.0	0.0
East: Main Street						
1	0.385	NA	NA	0.0	0.0	0.0
NorthEast: Market Street						
1	0.045	NA	NA	0.0	0.0	0.1
SouthWest: Market Street						
1	0.246	NA	NA	0.0	0.0	0.0

OTHER QUEUE RESULTS (DISTANCE)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
	x				Nc	95%
South: Locust Street						
1	0.003	NA	NA	0.0	0.0	0.1
East: Main Street						
1	0.385	NA	NA	0.0	0.5	1.0
NorthEast: Market Street						
1	0.045	NA	NA	0.0	0.8	1.4

SouthWest: Market Street						
1	0.246	NA	NA	0.0	0.0	0.1

[Go to Table Links \(Top\)](#)

Lane Queue Percentiles
Site: Main St._Market St._AM

Site ID: 101
Roundabout

LANE QUEUE PERCENTILES (VEHICLES)

Lane No.	Deg. Satn	Percentile Back of Queue (veh)						
	x	50%	70%	85%	90%	95%	98%	100%

South: Locust Street								
1	0.003	0.0	0.0	0.0	0.0	0.0	0.0	0.0

East: Main Street								
1	0.385	1.0	1.4	1.9	2.2	2.6	2.9	3.1

NorthEast: Market Street								
1	0.045	0.1	0.1	0.2	0.2	0.2	0.3	0.3

SouthWest: Market Street								
1	0.246	0.6	0.8	1.1	1.3	1.6	1.7	1.9

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

LANE QUEUE PERCENTILES (DISTANCE)

Lane No.	Deg. Satn	Percentile Back of Queue (feet)						
	x	50%	70%	85%	90%	95%	98%	100%

South: Locust Street								
1	0.003	0.2	0.2	0.3	0.3	0.4	0.4	0.5

East: Main Street								
1	0.385	26.6	34.5	48.7	56.3	66.3	73.5	79.1

NorthEast: Market Street								
1	0.045	2.4	3.1	4.3	5.0	5.9	6.5	7.0

SouthWest: Market Street								
1	0.246	16.0	20.7	29.1	33.7	39.7	44.0	47.3

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

[Go to Table Links \(Top\)](#)

Lane Stops
Site: Main St._Market St._AM

Site ID: 101
Roundabout

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	-- Effective		Stop Rate	--		Total	Queue	Total	Prop.	Aver.
	x			he1	he2	Geom. hig	Overall h	Stops H	Rate hqm	Move-up Hqm	Queue Move-ups Hqm	Queued pq	Num. of Cycles to Depart

South: Locust Street													
1	0.003	NA	NA	0.21	0.00	0.27	0.48	1.6	0.00	0.0	0.43	0.43	

East: Main Street												
1	0.385	NA	NA	0.04	0.00	0.19	0.23	114.1	0.00	0.0	0.13	0.13

NorthEast: Market Street												
1	0.045	NA	NA	0.41	0.00	0.11	0.51	20.1	0.00	0.0	0.57	0.57

SouthWest: Market Street												
1	0.246	NA	NA	0.01	0.00	0.28	0.28	92.9	0.00	0.0	0.05	0.05

hig is the average value for all movements in a shared lane												
hqm is average queue move-up rate for all vehicles queued and unqueued												

[Go to Table Links \(Top\)](#)

Flow Rates

Origin-Destination Flow Rates (Total)
Site: Main St._Market St._AM

Site ID: 101
Roundabout

TOTAL FLOW RATES for All Movement Classes (veh/h)

From SOUTH To:	W	E		
Turn:	L2	R2	TOT	
Flow Rate	1.1	2.2	3.3	
%HV (all designations)	2.0	2.0	2.0	

From EAST To:	S	W		
Turn:	L2	T1	TOT	
Flow Rate	1.1	503.3	504.3	
%HV (all designations)	2.0	2.0	2.0	

From NORTHEAST To:	E	S	W	
Turn:	L3	L1	R1	TOT
Flow Rate	1.1	1.1	37.0	39.1
%HV (all designations)	2.0	2.0	2.0	2.0

From SOUTHWEST To:	W	E	S	
Turn:	L3	R1	R3	TOT
Flow Rate	17.4	307.6	2.2	327.2
%HV (all designations)	2.0	2.0	2.0	2.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:
Unit Time for Volumes = 60 minutes
Peak Flow Period = 15 minutes
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Origin-Destination Flow Rates by Movement Class
Site: Main St._Market St._AM

Site ID: 101
Roundabout

FLOW RATES for Light Vehicles (veh/h)

From SOUTH To:	W	E	
Turn:	L2	R2	TOT

Flow Rate	1.1	2.1	3.2
Mov Class %	98.0	98.0	98.0
Flow Scale	1.00	1.00	-
Peak Flow Factor	0.92	0.92	-
Residual Demand	0.0	0.0	0.0

From EAST To:	S	W	
Turn:	L2	T1	TOT

Flow Rate	1.1	493.2	494.3	
Mov Class %	98.0	98.0	98.0	
Flow Scale	1.00	1.00	-	
Peak Flow Factor	0.92	0.92	-	
Residual Demand	0.0	0.0	0.0	

From NORTHEAST To:	E	S	W	
Turn:	L3	L1	R1	TOT

Flow Rate	1.1	1.1	36.2	38.3
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From SOUTHWEST To:	W	E	S	
Turn:	L3	R1	R3	TOT

Flow Rate	17.0	301.5	2.1	320.6
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

FLOW RATES for Heavy Vehicles (veh/h)

From SOUTH To:	W	E		
Turn:	L2	R2	TOT	

Flow Rate	0.0	0.0	0.1	
Mov Class %	2.0	2.0	2.0	
Flow Scale	1.00	1.00	-	
Peak Flow Factor	0.92	0.92	-	
Residual Demand	0.0	0.0	0.0	

From EAST To:	S	W		
Turn:	L2	T1	TOT	

Flow Rate	0.0	10.1	10.1	
Mov Class %	2.0	2.0	2.0	
Flow Scale	1.00	1.00	-	
Peak Flow Factor	0.92	0.92	-	
Residual Demand	0.0	0.0	0.0	

From NORTHEAST To:	E	S	W	
Turn:	L3	L1	R1	TOT

Flow Rate	0.0	0.0	0.7	0.8
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From SOUTHWEST To:	W	E	S	
Turn:	L3	R1	R3	TOT

Flow Rate	0.3	6.2	0.0	6.5
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:
Unit Time for Volumes = 60 minutes
Peak Flow Period = 15 minutes
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Lane Flow Rates

Site: Main St._Market St._AM

Site ID: 101
Roundabout

LANE FLOW RATES AT STOP LINE (veh/h)

From SOUTH To:	W	E		
Turn:	L2	R2	TOT	

Lane 1				
LV	1.1	2.1	3.2	
HV	0.0	0.0	0.1	
Total	1.1	2.2	3.3	

Approach	1.1	2.2	3.3	

From EAST To:	S	W		
Turn:	L2	T1	TOT	

Lane 1				
LV	1.1	493.2	494.3	
HV	0.0	10.1	10.1	
Total	1.1	503.3	504.3	

Approach	1.1	503.3	504.3	

From NORTHEAST To:	E	S	W	
Turn:	L3	L1	R1	TOT

Lane 1				
LV	1.1	1.1	36.2	38.3
HV	0.0	0.0	0.7	0.8
Total	1.1	1.1	37.0	39.1

Approach	1.1	1.1	37.0	39.1

From SOUTHWEST To:	W	E	S	
Turn:	L3	R1	R3	TOT

Lane 1				
LV	17.0	301.5	2.1	320.6
HV	0.3	6.2	0.0	6.5
Total	17.4	307.6	2.2	327.2

Approach	17.4	307.6	2.2	327.2

EXIT LANE FLOW RATES

Movement Class:	LV	HV	TOT

Exit: SOUTH			
Lane: 1	4.3	0.1	4.3
Total	4.3	0.1	4.3

Exit: EAST			
Lane: 1	304.7	6.2	310.9
Total	304.7	6.2	310.9

Exit: WEST			
Lane: 1	547.5	11.2	558.7
Total	547.5	11.2	558.7

DOWNSTREAM LANE FLOW RATES FOR EXIT ROADS

Movement Class:	LV	HV	TOT

Exit: SOUTH			
Lane: 1	4.3	0.1	4.3
Total	4.3	0.1	4.3

Exit: EAST			
Lane: 1	304.7	6.2	310.9
Total	304.7	6.2	310.9

Exit: WEST			
Lane: 1	547.5	11.2	558.7
Total	547.5	11.2	558.7

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:
Unit Time for Volumes = 60 minutes
Peak Flow Period = 15 minutes
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Other

Parameter Settings Summary
Site: Main St._Market St._AM

Site ID: 101
Roundabout

* Basic Parameters:
Intersection Type: Roundabout
Driving on the right-hand side of the road
Input data specified in US units
Model Defaults: US HCM (Customary)
Peak Flow Period (for performance): 15 minutes
Unit time (for volumes): 60 minutes.
SIDRA Standard Delay model used
HCM Queue Model option used
Level of Service based on: Delay and v/c (HCM 6)
Queue percentile: 95%

[Go to Table Links \(Top\)](#)

Diagnostics
Site: Main St._Market St._AM

Site ID: 101
Roundabout

Lane Flow-Capacity Iterations:

Site Model Variability Index (Iterations 3 to N): 1.0%
Number of Iterations: 3 (Maximum: 10)

Other Diagnostic Messages (if any):

Geometric delay is less than 2 seconds for some movements. The negotiation speed may be too high or the approach and exit speeds may be too low for given geometric design (e.g. for a large roundabout).
Check Detailed Output for geometric delay data including negotiation speeds.
If necessary, specify appropriate values of approach and exit speeds, negotiation radius or negotiation speed data in the Path Data dialog.

[Go to Table Links \(Top\)](#)

MOVEMENT SUMMARY

 Site: 101 [Main St._Market St._AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Locust Street												
3	L2	1	2.0	0.003	8.5	LOS A	0.0	0.4	0.43	0.48	0.43	19.8
18	R2	2	2.0	0.003	3.9	LOS A	0.0	0.4	0.43	0.48	0.43	22.4
Approach		3	2.0	0.003	5.4	LOS A	0.0	0.4	0.43	0.48	0.43	21.5
East: Main Street												
1	L2	1	2.0	0.385	7.2	LOS A	2.6	66.3	0.13	0.23	0.13	24.2
6	T1	503	2.0	0.385	1.8	LOS A	2.6	66.3	0.13	0.23	0.13	29.8
Approach		504	2.0	0.385	1.8	LOS A	2.6	66.3	0.13	0.23	0.13	29.8
NorthEast: Market Street												
1bx	L3	1	2.0	0.045	10.8	LOS B	0.2	5.9	0.57	0.51	0.57	27.5
1ax	L1	1	2.0	0.045	9.0	LOS A	0.2	5.9	0.57	0.51	0.57	21.0
16ax	R1	37	2.0	0.045	4.3	LOS A	0.2	5.9	0.57	0.51	0.57	25.3
Approach		39	2.0	0.045	4.6	LOS A	0.2	5.9	0.57	0.51	0.57	25.3
SouthWest: Market Street												
5bx	L3	17	2.0	0.246	8.0	LOS A	1.6	39.7	0.05	0.28	0.05	23.0
12ax	R1	308	2.0	0.246	1.9	LOS A	1.6	39.7	0.05	0.28	0.05	28.7
12bx	R3	2	2.0	0.246	2.6	LOS A	1.6	39.7	0.05	0.28	0.05	25.0
Approach		327	2.0	0.246	2.2	LOS A	1.6	39.7	0.05	0.28	0.05	28.3
All Vehicles		874	2.0	0.385	2.1	LOS A	2.6	66.3	0.12	0.26	0.12	29.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Thursday, November 21, 2024 3:53:48 PM






Project: J:\JURISDICTION\Stockton\011-101 Main St Complete Streets\Analysis\Sidra\Project_v2 Built +P Conditions.sip8

DETAILED OUTPUT

 Site: 101 [Main St._Market St._PM]

New Site
Site Category: (None)
Roundabout

OUTPUT TABLE LINKS

-  Roundabouts
 - Roundabout Basic Parameters
 - Roundabout Circulating / Exiting Stream Parameters
 - Roundabout Gap Acceptance Parameters
 - Roundabout Flow Rates
 - Roundabout Pedestrian Effects
-  Movements
 - Intersection Negotiation and Travel Data
 - Movement Capacity and Performance Parameters
 - Fuel Consumption, Emissions and Cost
-  Lanes
 - Lane Performance and Capacity Information
 - Lane, Approach and Intersection Performance
 - Driver Characteristics
 - Lane Delays
 - Lane Queues
 - Lane Queue Percentiles
 - Lane Stops
-  Flow Rates
 - Origin-Destination Flow Rates (Total)
 - Origin-Destination Flow Rates by Movement Class
 - Lane Flow Rates
-  Other
 - Parameter Settings Summary
 - Diagnostics

Roundabouts

Roundabout Basic Parameters
Site: Main St._Market St._PM

Site ID: 101											
Roundabout											
Central Island Diam ft	Circ Width ft	Insc Diam. ft	Entry Radius ft	Entry Angle deg	Circ Lanes	Entry Lanes	Av.Entry Lane Width ft	App Dist ft	Prop Upstr	Queued Signal	Extra Bunching %

South: Locust Street											
40.0	25.0	120.0U	100.0	30.0	1	1	13.00	200		NA	0.0N

East: Main Street											
40.0	15.0	120.0U	100.0	30.0	1	1	13.00	400		NA	0.0N

NorthEast: Market Street											
40.0	15.0	120.0U	100.0	30.0	1	1	13.00	350		NA	0.0N

SouthWest: Market Street											
40.0	15.0	120.0U	100.0	30.0	1	1	13.00	300		NA	0.0N

Roundabout Capacity Model: SIDRA Standard											
U Inscribed diameter value was specified by the user.											
NA Not Applicable (single Site analysis or unconnected Site in Network analysis).											
N Program option resulted in zero value (single Site analysis or unconnected Site in Network analysis).											

[Go to Table Links \(Top\)](#)

Roundabout Circulating / Exiting Stream Parameters

Site: Main St._Market St._PM

Site ID: 101
Roundabout

Dest	Turn	Lane No.	Lane Type	Opng Flow veh/h	HVE pcu/veh	Adj. Flow pcu/h	%Near Lane Only	%Exit Flow Incl.	Cap. Const. Effect	O-D Factor	Aver Speed mph	In-Bunch Headway sec	Prop. Bunched
South: Locust Street													
W	L2	1	Dominant	541	1.02	552	0.0	0.0	N	0.992	22.2	2.00	0.493
E	R2	1	Dominant	541	1.02	552	0.0	0.0	N	0.992	22.2	2.00	0.493
East: Main Street													
S	L2	1	Dominant	18	1.02	19	0.0	0.0	N	1.000	14.6	2.00	0.023
W	T1	1	Dominant	18	1.02	19	0.0	0.0	N	1.000	14.6	2.00	0.023
NorthEast: Market Street													
E	L3	1	Dominant	432	1.02	440	0.0	0.0	N	0.987	23.5	2.00	0.416
S	L1	1	Dominant	432	1.02	440	0.0	0.0	N	0.987	23.5	2.00	0.416
W	R1	1	Dominant	432	1.02	440	0.0	0.0	N	0.987	23.5	2.00	0.416
SouthWest: Market Street													
W	L3	1	Dominant	3	1.02	3	0.0	0.0	N	1.000	13.9	2.00	0.004
E	R1	1	Dominant	3	1.02	3	0.0	0.0	N	1.000	13.9	2.00	0.004
S	R3	1	Dominant	3	1.02	3	0.0	0.0	N	1.000	13.9	2.00	0.004
Roundabout Capacity Model: SIDRA Standard													

[Go to Table Links \(Top\)](#)

Roundabout Gap Acceptance Parameters

Site: Main St._Market St._PM

Site ID: 101
Roundabout

Dest	Turn	Lane No.	Lane Type	In-Bunch Headway sec	Prop. Bunched	Priority Sharing	HVE for Entry	Critical Gap		Follow-up Headway sec
								Headway sec	Dist ft	
South: Locust Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
W	L2	1	Dominant	2.00	0.493	Y	1.02	4.46	145.2	2.48
E	R2	1	Dominant	2.00	0.493	Y	1.02	4.46	145.2	2.48
East: Main Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
S	L2	1	Dominant	2.00	0.023	N	1.02	5.28	113.5	2.69
W	T1	1	Dominant	2.00	0.023	N	1.02	5.28	113.5	2.69
NorthEast: Market Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
E	L3	1	Dominant	2.00	0.416	N	1.02	4.61	158.9	2.53
S	L1	1	Dominant	2.00	0.416	N	1.02	4.61	158.9	2.53
W	R1	1	Dominant	2.00	0.416	N	1.02	4.61	158.9	2.53
SouthWest: Market Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
W	L3	1	Dominant	2.00	0.004	N	1.02	5.31	108.5	2.69
E	R1	1	Dominant	2.00	0.004	N	1.02	5.31	108.5	2.69
S	R3	1	Dominant	2.00	0.004	N	1.02	5.31	108.5	2.69

Roundabout Capacity Model: SIDRA Standard

Priority sharing means Follow-up Headway plus Intra-bunch Headway is larger than the Critical Gap.

Dist (Distance): Spacing, i.e. distance between the front ends of two successive vehicles across all lanes in the circulating

or exiting stream

[Go to Table Links \(Top\)](#)

Roundabout Flow Rates
Site: Main St._Market St._PM

Site ID: 101
Roundabout

CIRCULATING LANE FLOW RATES

Lane No.	Circulating Flow Rate		
	veh/h	pcu/h	Percent
South: Locust Street			
1	541	552	100.0%
Total	541	552	
East: Main Street			
1	18	19	100.0%
Total	18	19	
NorthEast: Market Street			
1	432	440	100.0%
Total	432	440	
SouthWest: Market Street			
1	3	3	100.0%
Total	3	3	

The SIDRA Standard roundabout capacity model option is in use.
This model takes into account the total circulating flow as well as the effect of flow distribution in circulating lanes on the entry capacity results.

APPROACH LANE FLOW RATES

Lane No.	Approach Flows (veh/h)		
	Out	To Downst	Total
South: Locust Street			
1	4	1	5
Total	4	1	5
East: Main Street			
1	0	413	413
Total	0	413	413
NorthEast: Market Street			
1	29	3	32
Total	29	3	32
SouthWest: Market Street			
1	3	540	543
Total	3	540	543

[Go to Table Links \(Top\)](#)

Roundabout Pedestrian Effects
Site: Main St._Market St._PM

Site ID: 101
Roundabout

ROUNDBOUT ENTRY

Lane	Turn	Pedestrian		Opposing Ped.Factor	Circulating Flow Rate veh/h	Circulating Flow Rate pcu/h	Adjustment Factor
		Flow Rate ped/h	Adj.Flow Rate ped/h				
South: Locust Street							
1	L2	2	2	1.00	541	552	1.000
1	R2	2	2	1.00	541	552	1.000

East: Main Street								
1	L2	1	1	1.00	18	19	1.000	
1	T1	1	1	1.00	18	19	1.000	

NorthEast: Market Street								
1	L3	5	5	1.00	432	440	0.999	
1	L1	5	5	1.00	432	440	0.999	
1	R1	5	5	1.00	432	440	0.999	

ROUNDABOUT EXIT								

Pedestrian			Opposing	Conflict	Critical	Follow-up	Exit Lane	Exit Flow
Flow Rate	Adj.Flow Rate		Ped.Factor	Zone Length	Gap	Headway	Capacity	Total
ped/h	ped/h			ft	sec	sec	veh/h	veh/h

South: Locust Street								
1	1		1.00	16.00	3.72	2.23	1611	5

East: Main Street								
1	1		1.00	16.00	3.72	2.23	1611	528

West: Main Street								
1	1		1.00	16.00	3.72	2.23	1611	460

[Go to Table Links \(Top\)](#)

Movements

Intersection Negotiation and Travel Data
Site: Main St._Market St._PM

Site ID: 101									
Roundabout									
TRAVEL SPEED, TRAVEL DISTANCE AND TRAVEL TIME									

From	To		Running	Travel	Travel	Travel	Total Travel	Distance	Tot.Trav.
Approach	Exit	Turn	Speed	Speed	Distance	Time	Dem Flows	Arv Flows	Time
			mph	mph	ft	s	veh-mi/h	veh-mi/h	veh-h/h

South: Locust Street									
	West	L2	19.7	19.1	575.6#	20.5#	0.1	0.1	0.0
	East	R2	22.3	21.7	675.6#	21.3#	0.6	0.6	0.0

East: Main Street									
	South	L2	24.3	24.3	716.0#	20.1#	0.1	0.1	0.0
	West	T1	29.9	29.9	816.0#	18.6#	63.7	63.7	2.1

NorthEast: Market Street									
	East	L3	27.9	27.8	842.5#	20.7#	0.2	0.2	0.0
	South	L1	21.3	21.3	642.5#	20.6#	0.1	0.1	0.0
	West	R1	25.8	25.7	742.5#	19.7#	4.1	4.1	0.2

SouthWest: Market Street									
	West	L3	23.1	23.1	690.2#	20.4#	2.3	2.3	0.1
	East	R1	28.8	28.8	790.2#	18.7#	78.2	78.2	2.7
	South	R3	25.1	25.1	590.2#	16.0#	0.4	0.4	0.0

ALL VEHICLES:			29.0	29.0	796.1#	18.7#	149.8	149.8	5.2

"Running Speed" is the average speed excluding stopped periods.									
Travel Time values include cruise times and intersection delays including acceleration, deceleration and idling delays.									
# Travel Distance and Travel Time values include travel on the External Exit section based on the Exit Distance or user-specified Downstream Distance value as applicable.									
INTERSECTION NEGOTIATION DATA									

From Approach	To Exit	Turn	Negn Radius ft	Negn Speed mph	Negn Dist ft	App Dist ft	Exit Dist ft	Downstr Dist ft
South: Locust Street								
	West	L2	49.0	14.6	192.4	200	91	NA
	East	R2	88.6	18.3	46.5	200	122	NA
East: Main Street								
	South	L2	44.5	14.1	174.8	400	61	NA
	West	T1	180.0	23.9	115.8	400	91	NA
NorthEast: Market Street								
	East	L3	43.0	13.9	202.6	350	122	NA
	South	L1	42.3	13.8	133.0	350	61	NA
	West	R1	180.0	23.9	86.9	350	91	NA
SouthWest: Market Street								
	West	L3	49.5	14.7	233.3	300	91	NA
	East	R1	153.0	22.5	85.8	300	122	NA
	South	R3	75.0	17.2	32.8	300	61	NA

Maximum Negotiation (Design) Speed = 30.0 mph

- NA Downstream Distance does not apply if:
- Exit is an internal leg of a network
 - "Program" option was specified
 - Distance specified was less than the Exit Negotiation Distance
 - Distance specified was greater than the exit leg length

MOVEMENT SPEEDS AND GEOMETRIC DELAY

		App. Speeds		Exit Speeds		Queue	Geom Delay sec
Mov ID	Turn	Cruise mph	Negn mph	Negn mph	Cruise mph	Move-up Speed mph	
South: Locust Street							
3	L2	30.0	14.6	14.6	30.0	21.8	7.0
18	R2	30.0	18.3	18.3	30.0	21.8	2.4
East: Main Street							
1	L2	30.0	14.1	14.1	30.0	38.4	7.0
6	T1	30.0	23.9	23.9	30.0	38.4	1.6
NorthEast: Market Street							
1bx	L3	30.0	13.9	13.9	30.0	23.4	7.9
1ax	L1	30.0	13.8	13.8	30.0	23.4	6.1
16ax	R1	30.0	23.9	23.9	30.0	23.4	1.5
SouthWest: Market Street							
5bx	L3	30.0	14.7	14.7	30.0	35.7	8.0
12ax	R1	30.0	22.5	22.5	30.0	35.7	1.9
12bx	R3	30.0	17.2	17.2	30.0	35.7	2.6

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Movement Capacity and Performance Parameters
Site: Main St._Market St._PM

Site ID: 101
Roundabout

MOVEMENT CAPACITY PARAMETERS

Mov ID	Turn	Mov Cl.	Arv Flow veh/h	Opng Flow veh/h	Movement Adjust. pcu/h	Total Cap. veh/h	Prac. Deg. Satn xp	Prac. Spare Cap. %	Deg. Satn x
South: Locust Street									
3	L2	#	1	541	552	173	0.85	****	0.006
18	R2	#	4	541	552	692	0.85	****	0.006

East: Main Street										
1	L2	#	1	18	19	3	0.85	170	0.315	
6	T1	#	412	18	19	1308	0.85	170	0.315	

NorthEast: Market Street										
1bx	L3	#	1	432	440	32	0.85	2418	0.034	
1ax	L1	#	1	432	440	32	0.85	2418	0.034	
16ax	R1	#	29	432	440	870	0.85	2418	0.034	

SouthWest: Market Street										
5bx	L3	#	17	3	3	43	0.85	108	0.408*	
12ax	R1	#	523	3	3	1280	0.85	108	0.408*	
12bx	R3	#	3	3	3	8	0.85	108	0.408*	

* Maximum degree of saturation										
# Combined Movement Capacity parameters are shown for all Movement Classes.										

MOVEMENT PERFORMANCE										

Mov ID	Turn	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Eff. Stop Rate	Total Stops	Perf. Index	Tot.Trav. Distance (veh-mi/h)	Tot.Trav. Time (veh-h/h)	Aver. Speed (mph)

South: Locust Street										
3	L2	0.00	0.00	9.7	0.52	0.6	0.04	0.1	0.0	19.1
18	R2	0.01	0.01	5.2	0.52	2.3	0.06	0.6	0.0	21.7

East: Main Street										
1	L2	0.00	0.00	7.2	0.23	0.2	1.58	0.1	0.0	24.3
6	T1	0.20	0.24	1.8	0.23	92.7	4.41	63.7	2.1	29.9

NorthEast: Market Street										
1bx	L3	0.00	0.00	10.1	0.46	0.5	0.15	0.2	0.0	27.8
1ax	L1	0.00	0.00	8.3	0.46	0.5	0.15	0.1	0.0	21.3
16ax	R1	0.03	0.04	3.7	0.46	13.6	0.38	4.1	0.2	25.7

SouthWest: Market Street										
5bx	L3	0.04	0.05	8.0	0.27	4.7	2.70	2.3	0.1	23.1
12ax	R1	0.27	0.33	1.9	0.27	142.1	6.23	78.2	2.7	28.8
12bx	R3	0.00	0.00	2.6	0.27	0.9	2.58	0.4	0.0	25.1

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Fuel Consumption, Emissions and Cost
Site: Main St._Market St._PM

Site ID: 101

Roundabout

FUEL CONSUMPTION, EMISSIONS AND COST (TOTAL)

Mov ID	Turn	Cost Total \$/h	Fuel Total gal/h	CO2 Total kg/h	CO Total kg/h	HC Total kg/h	NOX Total kg/h
South: Locust Street							
3	L2	0.12	0.0	0.1	0.00	0.000	0.000
18	R2	0.47	0.0	0.3	0.00	0.000	0.000
		0.59	0.0	0.4	0.00	0.000	0.001
East: Main Street							
1	L2	0.09	0.0	0.1	0.00	0.000	0.000
6	T1	36.04	2.7	23.8	0.02	0.002	0.030
		36.14	2.7	23.8	0.02	0.002	0.031
NorthEast: Market Street							
1bx	L3	0.11	0.0	0.1	0.00	0.000	0.000
1ax	L1	0.11	0.0	0.1	0.00	0.000	0.000
16ax	R1	2.93	0.2	2.0	0.00	0.000	0.003
		3.14	0.2	2.1	0.00	0.000	0.003

SouthWest: Market Street							
5bx	L3	1.34	0.1	0.9	0.00	0.000	0.001
12ax	R1	40.92	3.4	30.7	0.02	0.002	0.036
12bx	R3	0.25	0.0	0.2	0.00	0.000	0.000
		42.51	3.6	31.8	0.02	0.003	0.038
INTERSECTION:							
		82.38	6.5	58.2	0.04	0.005	0.072

FUEL CONSUMPTION, EMISSIONS AND COST (RATE)

Mov ID	Turn	Cost Rate \$/mi	Fuel Eff. mpg	CO2 Rate g/km	CO Rate g/km	HC Rate g/km	NOX Rate g/km
South: Locust Street							
3	L2	0.99	12.9	428.7	0.37	0.040	0.556
18	R2	0.85	14.3	387.4	0.33	0.035	0.492
		0.88	14.1	394.7	0.34	0.036	0.503
East: Main Street							
1	L2	0.64	22.8	243.7	0.18	0.019	0.322
6	T1	0.57	23.9	232.2	0.17	0.018	0.297
		0.57	23.9	232.2	0.17	0.018	0.297
NorthEast: Market Street							
1bx	L3	0.63	20.0	277.3	0.22	0.023	0.366
1ax	L1	0.81	17.5	317.1	0.26	0.028	0.442
16ax	R1	0.71	18.8	294.5	0.24	0.025	0.399
		0.71	18.8	294.5	0.24	0.025	0.399
SouthWest: Market Street							
5bx	L3	0.59	21.6	257.7	0.20	0.021	0.314
12ax	R1	0.52	22.8	244.0	0.19	0.019	0.290
12bx	R3	0.68	20.1	276.0	0.22	0.023	0.346
		0.53	22.7	244.5	0.19	0.019	0.291
		0.55	23.0	241.4	0.18	0.019	0.298

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Lanes

Lane Performance and Capacity Information
Site: Main St._Market St._PM

Site ID: 101
Roundabout

LANE PERFORMANCE

						Q u e u e		
Lane	Flow	Cap	Deg.	Aver.	Eff.	95% Back		Lane
No.	veh/h	veh/h	Satn	Delay	Stop	-----		Length
			x	sec	Rate	veh	ft	ft
South: Locust Street								
1	5	865	0.006	6.1	0.52	0.0	0.8	200.0
East: Main Street								
1	413	1311	0.315	1.8	0.23	2.0	49.6	400.0
NorthEast: Market Street								
1	32	934	0.034	4.1	0.46	0.2	4.3	350.0
SouthWest: Market Street								
1	543	1331	0.408	2.1	0.27	3.2	80.8	300.0

LANE FLOW AND CAPACITY INFORMATION

Lane No.	Total Arv Flow veh/h	Min Cap veh/h	Tot Cap veh/h	Deg. Satn x	Lane Util %
South: Locust Street					
1	5	5	865	0.006	100
East: Main Street					
1	413	150	1311	0.315	100
NorthEast: Market Street					
1	32	32	934	0.034	100
SouthWest: Market Street					
1	543	150	1331	0.408	100

The capacity values of Continuous Lanes are obtained by adjusting the basic saturation flow for lane width, grade, movement class and turning vehicle effects. Saturation flow scale applies if specified.

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Lane, Approach and Intersection Performance
Site: Main St._Market St._PM

Site ID: 101
Roundabout

Lane No.	Arrival Flow (veh/h)	%HV	Adj. Basic Satf.	Deg Sat x	Aver. Delay sec	Longest Queue ft	Lane Length ft
South: Locust Street							
1	5	2		0.006	6.1	1	200
	5	2		0.006	6.1	1	
East: Main Street							
1	413	2		0.315	1.8	50	400
	413	2		0.315	1.8	50	
NorthEast: Market Street							
1	32	2		0.034	4.1	4	350
	32	2		0.034	4.1	4	
SouthWest: Market Street							
1	543	2		0.408	2.1	81	300
	543	2		0.408	2.1	81	
ALL VEHICLES							
	Total Flow	% HV		Max X	Aver. Delay	Max Queue	
	993	2		0.408	2.0	81	

Peak flow period = 15 minutes.

Queue values in this table are 95% queue (feet)
Note: Basic Saturation Flows at roundabouts or sign-controlled intersections apply only to continuous lanes.

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Driver Characteristics
Site: Main St._Market St._PM

Site ID: 101
Roundabout

Lane No.	Satn Speed mph	Satn Flow veh/h	Satn Hdwy sec	Satn Spacing ft	Average Queue Space ft	Driver Response Time sec
South: Locust Street						
1	17.5	1449	2.48	63.92	25.40	1.50
East: Main Street						
1	23.9	1339	2.69	94.15	25.40	1.96
NorthEast: Market Street						
1	23.2	1424	2.53	86.05	25.40	1.78
SouthWest: Market Street						
1	22.2	1336	2.69	87.71	25.40	1.91

Saturation Flow and Saturation Headway are derived from follow-up headway.

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Lane Delays

Site: Main St._Market St._PM

Site ID: 101
Roundabout

LANE DELAYS

Delay (seconds/veh)													
Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Min Del dm	Stop-line 1st d1	Delay 2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
South: Locust Street													
1	0.006	NA	NA	2.5	2.8	0.0	2.8	2.2	0.6	0.0	0.6	3.3	6.1
East: Main Street													
1	0.315	NA	NA	0.1	0.1	0.0	0.1	0.7	0.0	0.0	0.0	1.7	1.8
NorthEast: Market Street													
1	0.034	NA	NA	1.9	2.2	0.0	2.2	2.6	0.1	0.0	0.1	1.9	4.1
SouthWest: Market Street													
1	0.408	NA	NA	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	2.1	2.1

SIDRA Standard Delay Model is used. Control Delay is the sum of Stop-line Delay and Geometric Delay.
dm: Minimum delay for gap acceptance cases
dSL: Stop-line delay (=d1+d2)
dn: Average stop-start delay for all vehicles queued and unqueued
dq: Queuing delay (the part of the stop-line delay that includes stopped delay and queue move-up delay)
dqm: Queue move-up delay
di: Stopped delay (stopped (idling) time at near-zero speed)
dig: Geometric delay
dic: Control delay

Geometric delay is less than 2 seconds for some movements. The negotiation speed may be too high or the approach and exit speeds may be too low for given geometric design (e.g. for a large roundabout).
Check Detailed Output for geometric delay data including negotiation speeds.
If necessary, specify appropriate values of approach and exit speeds, negotiation radius or negotiation speed data in the Path Data dialog.

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Lane Queues

Site: Main St._Market St._PM

Site ID: 101
Roundabout

BACK OF QUEUE (VEHICLES)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (veh)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
	x				Nb1	Nb2	Nb	95%	Av.	95%		
South: Locust Street												
1	0.006	NA	NA	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA
East: Main Street												
1	0.315	NA	NA	0.0	0.8	0.0	0.8	2.0	0.05	0.12	0.0	NA
NorthEast: Market Street												
1	0.034	NA	NA	0.0	0.1	0.0	0.1	0.2	0.00	0.01	0.0	NA
SouthWest: Market Street												
1	0.408	NA	NA	0.0	1.3	0.0	1.3	3.2	0.11	0.27	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

BACK OF QUEUE (DISTANCE)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (ft)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
	x				Nb1	Nb2	Nb	95%	Av.	95%		
South: Locust Street												
1	0.006	NA	NA	0.0	0.3	0.0	0.3	0.8	0.00	0.00	0.0	NA
East: Main Street												
1	0.315	NA	NA	0.0	20.0	0.0	20.0	49.6	0.05	0.12	0.0	NA
NorthEast: Market Street												
1	0.034	NA	NA	0.0	1.7	0.0	1.7	4.3	0.00	0.01	0.0	NA
SouthWest: Market Street												
1	0.408	NA	NA	0.0	32.5	0.0	32.5	80.8	0.11	0.27	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

OTHER QUEUE RESULTS (VEHICLES)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
	x				Nc	95%
South: Locust Street						
1	0.006	NA	NA	0.0	0.0	0.0
East: Main Street						
1	0.315	NA	NA	0.0	0.0	0.0
NorthEast: Market Street						
1	0.034	NA	NA	0.0	0.0	0.0
SouthWest: Market Street						
1	0.408	NA	NA	0.0	0.0	0.0

OTHER QUEUE RESULTS (DISTANCE)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
	x				Nc	95%
South: Locust Street						
1	0.006	NA	NA	0.0	0.1	0.2
East: Main Street						
1	0.315	NA	NA	0.0	0.4	0.7
NorthEast: Market Street						
1	0.034	NA	NA	0.0	0.5	0.9

SouthWest: Market Street						
1	0.408	NA	NA	0.0	0.1	0.2

[Go to Table Links \(Top\)](#)

Lane Queue Percentiles
Site: Main St._Market St._PM

Site ID: 101
Roundabout

LANE QUEUE PERCENTILES (VEHICLES)

Lane No.	Deg. Satn	Percentile Back of Queue (veh)						
	x	50%	70%	85%	90%	95%	98%	100%

South: Locust Street								
1	0.006	0.0	0.0	0.0	0.0	0.0	0.0	0.0

East: Main Street								
1	0.315	0.8	1.0	1.4	1.7	2.0	2.2	2.3

NorthEast: Market Street								
1	0.034	0.1	0.1	0.1	0.1	0.2	0.2	0.2

SouthWest: Market Street								
1	0.408	1.3	1.7	2.3	2.7	3.2	3.5	3.8

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

LANE QUEUE PERCENTILES (DISTANCE)

Lane No.	Deg. Satn	Percentile Back of Queue (feet)						
	x	50%	70%	85%	90%	95%	98%	100%

South: Locust Street								
1	0.006	0.3	0.4	0.6	0.7	0.8	0.9	0.9

East: Main Street								
1	0.315	20.0	25.9	36.4	42.2	49.6	55.1	59.2

NorthEast: Market Street								
1	0.034	1.7	2.2	3.1	3.6	4.3	4.8	5.1

SouthWest: Market Street								
1	0.408	32.5	42.1	59.3	68.7	80.8	89.7	96.4

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

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Lane Stops
Site: Main St._Market St._PM

Site ID: 101
Roundabout

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	-- Effective		Stop Rate	--		Total Queue Move-up Rate	Total Queue Move-ups	Prop. Queued	Aver. Num. of Cycles to Depart
	x			he1	he2	Geom. hig	Overall h	Stops H	hqm	Hqm	pq	

South: Locust Street												
1	0.006	NA	NA	0.33	0.00	0.19	0.52	2.8	0.00	0.0	0.56	0.56

East: Main Street												
1	0.315	NA	NA	0.03	0.00	0.19	0.23	93.0	0.00	0.0	0.12	0.12

NorthEast: Market Street												
1	0.034	NA	NA	0.34	0.00	0.13	0.46	14.6	0.00	0.0	0.51	0.51

SouthWest: Market Street												
1	0.408	NA	NA	0.01	0.00	0.26	0.27	147.7	0.00	0.0	0.05	0.05

hig is the average value for all movements in a shared lane												
hqm is average queue move-up rate for all vehicles queued and unqueued												

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Flow Rates

Origin-Destination Flow Rates (Total)
Site: Main St._Market St._PM

Site ID: 101
Roundabout

TOTAL FLOW RATES for All Movement Classes (veh/h)

From SOUTH To:	W	E		
Turn:	L2	R2	TOT	
Flow Rate	1.1	4.3	5.4	
%HV (all designations)	2.0	2.0	2.0	

From EAST To:	S	W		
Turn:	L2	T1	TOT	
Flow Rate	1.1	412.0	413.0	
%HV (all designations)	2.0	2.0	2.0	

From NORTHEAST To:	E	S	W	
Turn:	L3	L1	R1	TOT
Flow Rate	1.1	1.1	29.3	31.5
%HV (all designations)	2.0	2.0	2.0	2.0

From SOUTHWEST To:	W	E	S	
Turn:	L3	R1	R3	TOT
Flow Rate	17.4	522.8	3.3	543.5
%HV (all designations)	2.0	2.0	2.0	2.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:
Unit Time for Volumes = 60 minutes
Peak Flow Period = 15 minutes
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

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Origin-Destination Flow Rates by Movement Class
Site: Main St._Market St._PM

Site ID: 101
Roundabout

FLOW RATES for Light Vehicles (veh/h)

From SOUTH To:	W	E	
Turn:	L2	R2	TOT

Flow Rate	1.1	4.3	5.3
Mov Class %	98.0	98.0	98.0
Flow Scale	1.00	1.00	-
Peak Flow Factor	0.92	0.92	-
Residual Demand	0.0	0.0	0.0

From EAST To:	S	W	
Turn:	L2	T1	TOT

Flow Rate	1.1	403.7	404.8	
Mov Class %	98.0	98.0	98.0	
Flow Scale	1.00	1.00	-	
Peak Flow Factor	0.92	0.92	-	
Residual Demand	0.0	0.0	0.0	

From NORTHEAST To:	E	S	W	
Turn:	L3	L1	R1	TOT

Flow Rate	1.1	1.1	28.8	30.9
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From SOUTHWEST To:	W	E	S	
Turn:	L3	R1	R3	TOT

Flow Rate	17.0	512.4	3.2	532.6
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

FLOW RATES for Heavy Vehicles (veh/h)

From SOUTH To:	W	E		
Turn:	L2	R2	TOT	

Flow Rate	0.0	0.1	0.1	
Mov Class %	2.0	2.0	2.0	
Flow Scale	1.00	1.00	-	
Peak Flow Factor	0.92	0.92	-	
Residual Demand	0.0	0.0	0.0	

From EAST To:	S	W		
Turn:	L2	T1	TOT	

Flow Rate	0.0	8.2	8.3	
Mov Class %	2.0	2.0	2.0	
Flow Scale	1.00	1.00	-	
Peak Flow Factor	0.92	0.92	-	
Residual Demand	0.0	0.0	0.0	

From NORTHEAST To:	E	S	W	
Turn:	L3	L1	R1	TOT

Flow Rate	0.0	0.0	0.6	0.6
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From SOUTHWEST To:	W	E	S	
Turn:	L3	R1	R3	TOT

Flow Rate	0.3	10.5	0.1	10.9
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:
Unit Time for Volumes = 60 minutes
Peak Flow Period = 15 minutes
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

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Lane Flow Rates

Site: Main St._Market St._PM

Site ID: 101
Roundabout

LANE FLOW RATES AT STOP LINE (veh/h)

From SOUTH To:	W	E		
Turn:	L2	R2	TOT	

Lane 1				
LV	1.1	4.3	5.3	
HV	0.0	0.1	0.1	
Total	1.1	4.3	5.4	

Approach	1.1	4.3	5.4	

From EAST To:	S	W		
Turn:	L2	T1	TOT	

Lane 1				
LV	1.1	403.7	404.8	
HV	0.0	8.2	8.3	
Total	1.1	412.0	413.0	

Approach	1.1	412.0	413.0	

From NORTHEAST To:	E	S	W	
Turn:	L3	L1	R1	TOT

Lane 1				
LV	1.1	1.1	28.8	30.9
HV	0.0	0.0	0.6	0.6
Total	1.1	1.1	29.3	31.5

Approach	1.1	1.1	29.3	31.5

From SOUTHWEST To:	W	E	S	
Turn:	L3	R1	R3	TOT

Lane 1				
LV	17.0	512.4	3.2	532.6
HV	0.3	10.5	0.1	10.9
Total	17.4	522.8	3.3	543.5

Approach	17.4	522.8	3.3	543.5

EXIT LANE FLOW RATES

Movement Class:	LV	HV	TOT

Exit: SOUTH			
Lane: 1	5.3	0.1	5.4
Total	5.3	0.1	5.4

Exit: EAST			
Lane: 1	517.7	10.6	528.3
Total	517.7	10.6	528.3

Exit: WEST			
Lane: 1	450.6	9.2	459.8
Total	450.6	9.2	459.8

DOWNSTREAM LANE FLOW RATES FOR EXIT ROADS

Movement Class:	LV	HV	TOT

Exit: SOUTH			
Lane: 1	5.3	0.1	5.4
Total	5.3	0.1	5.4

Exit: EAST			
Lane: 1	517.7	10.6	528.3
Total	517.7	10.6	528.3

Exit: WEST			
Lane: 1	450.6	9.2	459.8
Total	450.6	9.2	459.8

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:
Unit Time for Volumes = 60 minutes
Peak Flow Period = 15 minutes
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Other

Parameter Settings Summary
Site: Main St._Market St._PM

Site ID: 101
Roundabout

* Basic Parameters:
Intersection Type: Roundabout
Driving on the right-hand side of the road
Input data specified in US units
Model Defaults: US HCM (Customary)
Peak Flow Period (for performance): 15 minutes
Unit time (for volumes): 60 minutes.
SIDRA Standard Delay model used
HCM Queue Model option used
Level of Service based on: Delay and v/c (HCM 6)
Queue percentile: 95%

[Go to Table Links \(Top\)](#)

Diagnostics
Site: Main St._Market St._PM

Site ID: 101
Roundabout

Lane Flow-Capacity Iterations:

Site Model Variability Index (Iterations 3 to N): 0.7%
Number of Iterations: 3 (Maximum: 10)

Other Diagnostic Messages (if any):

Geometric delay is less than 2 seconds for some movements. The negotiation speed may be too high or the approach and exit speeds may be too low for given geometric design (e.g. for a large roundabout).
Check Detailed Output for geometric delay data including negotiation speeds.
If necessary, specify appropriate values of approach and exit speeds, negotiation radius or negotiation speed data in the Path Data dialog.

[Go to Table Links \(Top\)](#)

MOVEMENT SUMMARY

 Site: 101 [Main St._Market St._PM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Locust Street												
3	L2	1	2.0	0.006	9.7	LOS A	0.0	0.8	0.56	0.52	0.56	19.1
18	R2	4	2.0	0.006	5.2	LOS A	0.0	0.8	0.56	0.52	0.56	21.7
Approach		5	2.0	0.006	6.1	LOS A	0.0	0.8	0.56	0.52	0.56	21.2
East: Main Street												
1	L2	1	2.0	0.315	7.2	LOS A	2.0	49.6	0.12	0.23	0.12	24.3
6	T1	412	2.0	0.315	1.8	LOS A	2.0	49.6	0.12	0.23	0.12	29.9
Approach		413	2.0	0.315	1.8	LOS A	2.0	49.6	0.12	0.23	0.12	29.9
NorthEast: Market Street												
1bx	L3	1	2.0	0.034	10.1	LOS B	0.2	4.3	0.51	0.46	0.51	27.8
1ax	L1	1	2.0	0.034	8.3	LOS A	0.2	4.3	0.51	0.46	0.51	21.3
16ax	R1	29	2.0	0.034	3.7	LOS A	0.2	4.3	0.51	0.46	0.51	25.7
Approach		32	2.0	0.034	4.1	LOS A	0.2	4.3	0.51	0.46	0.51	25.6
SouthWest: Market Street												
5bx	L3	17	2.0	0.408	8.0	LOS A	3.2	80.8	0.05	0.27	0.05	23.1
12ax	R1	523	2.0	0.408	1.9	LOS A	3.2	80.8	0.05	0.27	0.05	28.8
12bx	R3	3	2.0	0.408	2.6	LOS A	3.2	80.8	0.05	0.27	0.05	25.1
Approach		543	2.0	0.408	2.1	LOS A	3.2	80.8	0.05	0.27	0.05	28.6
All Vehicles		993	2.0	0.408	2.0	LOS A	3.2	80.8	0.10	0.26	0.10	29.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Thursday, November 21, 2024 3:53:49 PM






Project: J:\JURISDICTION\Stockton\011-101 Main St Complete Streets\Analysis\Sidra\Project_v2 Built +P Conditions.sip8

DETAILED OUTPUT

 Site: 101 [Main St._Filbert St._AM]

New Site
Site Category: (None)
Roundabout

OUTPUT TABLE LINKS

-  Roundabouts
 - Roundabout Basic Parameters
 - Roundabout Circulating / Exiting Stream Parameters
 - Roundabout Gap Acceptance Parameters
 - Roundabout Flow Rates
 - Roundabout Pedestrian Effects
-  Movements
 - Intersection Negotiation and Travel Data
 - Movement Capacity and Performance Parameters
 - Fuel Consumption, Emissions and Cost
-  Lanes
 - Lane Performance and Capacity Information
 - Lane, Approach and Intersection Performance
 - Driver Characteristics
 - Lane Delays
 - Lane Queues
 - Lane Queue Percentiles
 - Lane Stops
-  Flow Rates
 - Origin-Destination Flow Rates (Total)
 - Origin-Destination Flow Rates by Movement Class
 - Lane Flow Rates
-  Other
 - Parameter Settings Summary
 - Diagnostics

Roundabouts

Roundabout Basic Parameters
Site: Main St._Filbert St._AM

Site ID: 101											
Roundabout											
Central Island Diam	Circ Width	Insc Diam.	Entry Radius	Entry Angle	Circ Lanes	Entry Lanes	Av.Entry Lane Width	App Dist	Prop Upstr	Queued Signal	Extra Bunching
ft	ft	ft	ft	deg			ft	ft			%

South: Filbert Street											
30.0	15.0	100.0U	100.0	30.0	1	1	13.00	450		NA	0.0N

East: Main Street											
30.0	15.0	100.0U	100.0	30.0	1	1	13.00	400		NA	0.0N

North: Filbert Street											
30.0	15.0	100.0U	100.0	30.0	2	1	13.00	60		NA	0.0N

West: Main Street											
30.0	15.0	100.0U	100.0	30.0	1	1	13.00	630		NA	0.0N

Roundabout Capacity Model: SIDRA Standard											
U Inscribed diameter value was specified by the user.											
NA Not Applicable (single Site analysis or unconnected Site in Network analysis).											
N Program option resulted in zero value (single Site analysis or unconnected Site in Network analysis).											

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Roundabout Circulating / Exiting Stream Parameters

Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

Dest	Turn	Lane No.	Lane Type	Opng Flow veh/h	HVE pcu/veh	Adj. Flow pcu/h	%Near Lane Only	%Exit Flow Incl.	Cap. Const. Effect	O-D Factor	Aver Speed mph	In-Bunch Headway sec	Prop. Bunched
South: Filbert Street													
W	L2	1	Dominant	571	1.02	582	0.0	0.0	N	0.946	17.0	2.00	0.513
N	T1	1	Dominant	571	1.02	582	0.0	0.0	N	0.946	17.0	2.00	0.513
E	R2	1	Dominant	571	1.02	582	0.0	0.0	N	0.946	17.0	2.00	0.513
East: Main Street													
S	L2	1	Dominant	126	1.02	129	0.0	0.0	N	0.988	16.9	2.00	0.145
W	T1	1	Dominant	126	1.02	129	0.0	0.0	N	0.988	16.9	2.00	0.145
N	R2	1	Dominant	126	1.02	129	0.0	0.0	N	0.988	16.9	2.00	0.145
North: Filbert Street													
E	L2	1	Dominant	433	1.02	441	0.0	0.0	N	0.938	21.1	2.00	0.417
S	T1	1	Dominant	433	1.02	441	0.0	0.0	N	0.938	21.1	2.00	0.417
W	R2	1	Dominant	433	1.02	441	0.0	0.0	N	0.938	21.1	2.00	0.417
West: Main Street													
N	L2	1	Dominant	297	1.02	303	0.0	0.0	N	0.949	14.4	2.00	0.308
E	T1	1	Dominant	297	1.02	303	0.0	0.0	N	0.949	14.4	2.00	0.308
S	R2	1	Dominant	297	1.02	303	0.0	0.0	N	0.949	14.4	2.00	0.308
Roundabout Capacity Model: SIDRA Standard													

[Go to Table Links \(Top\)](#)

Roundabout Gap Acceptance Parameters

Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

Dest	Turn	Lane No.	Lane Type	In-Bunch Headway sec	Prop. Bunched	Priority Sharing	HVE for Entry	Critical Gap		Follow-up Headway sec
								Headway sec	Dist ft	
South: Filbert Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
W	L2	1	Dominant	2.00	0.513	N	1.02	4.58	114.5	2.57
N	T1	1	Dominant	2.00	0.513	N	1.02	4.58	114.5	2.57
E	R2	1	Dominant	2.00	0.513	N	1.02	4.58	114.5	2.57
East: Main Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
S	L2	1	Dominant	2.00	0.145	N	1.02	5.27	131.1	2.74
W	T1	1	Dominant	2.00	0.145	N	1.02	5.27	131.1	2.74
N	R2	1	Dominant	2.00	0.145	N	1.02	5.27	131.1	2.74
North: Filbert Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
E	L2	1	Dominant	2.00	0.417	Y	1.02	4.62	143.0	2.99
S	T1	1	Dominant	2.00	0.417	Y	1.02	4.62	143.0	2.99
W	R2	1	Dominant	2.00	0.417	Y	1.02	4.62	143.0	2.99
West: Main Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
N	L2	1	Dominant	2.00	0.308	N	1.02	4.99	105.3	2.67
E	T1	1	Dominant	2.00	0.308	N	1.02	4.99	105.3	2.67
S	R2	1	Dominant	2.00	0.308	N	1.02	4.99	105.3	2.67
Roundabout Capacity Model: SIDRA Standard										
Priority sharing means Follow-up Headway plus Intra-bunch Headway										

is larger than the Critical Gap.

Dist (Distance): Spacing, i.e. distance between the front ends of two successive vehicles across all lanes in the circulating or exiting stream

[Go to Table Links \(Top\)](#)

Roundabout Flow Rates
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

CIRCULATING LANE FLOW RATES

Lane No.	Circulating Flow Rate		
	veh/h	pcu/h	Percent
South: Filbert Street			
1	571	582	100.0%
Total	571	582	
East: Main Street			
1	126	129	100.0%
Total	126	129	
North: Filbert Street			
1	0	0	0.0%
2	433	441	100.0%
Total	433	441	
West: Main Street			
1	297	303	100.0%
Total	297	303	

The SIDRA Standard roundabout capacity model option is in use.
This model takes into account the total circulating flow as well as the effect of flow distribution in circulating lanes on the entry capacity results.

APPROACH LANE FLOW RATES

Lane No.	Approach Flows (veh/h)		
	Out	To Downst	Total
South: Filbert Street			
1	5	67	72
Total	5	67	72
East: Main Street			
1	272	419	691
Total	272	419	691
North: Filbert Street			
1	59	291	350
Total	59	291	350
West: Main Street			
1	4	308	312
Total	4	308	312

[Go to Table Links \(Top\)](#)

Roundabout Pedestrian Effects
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

ROUNDAABOUT ENTRY

Lane	Turn	Pedestrian		Opposing Ped.Factor	Circulating Flow Rate	Circulating Flow Rate	Adjustment Factor
		Flow Rate	Adj.Flow Rate				

[Go to Table Links \(Top\)](#)

Intersection Negotiation and Travel Data
Site: Main St. Filbert St. AM

TRAVEL SPEED, TRAVEL DISTANCE AND TRAVEL TIME

	North	L2	21.1	21.0	797.5#	25.9#	9.0	9.0	0.4
	East	T1	25.7	25.6	1137.5#	30.3#	53.4	53.4	2.1
	South	R2	24.4	24.4	1187.5#	33.2#	1.0	1.0	0.0

ALL VEHICLES:			23.8	23.7	855.1#	24.6#	230.8	230.8	9.7

"Running Speed" is the average speed excluding stopped periods.									
Travel Time values include cruise times and intersection delays including acceleration, deceleration and idling delays.									
# Travel Distance and Travel Time values include travel on the External Exit section based on the Exit Distance or user-specified Downstream Distance value as applicable.									
INTERSECTION NEGOTIATION DATA									

From	To		Negn	Negn	Negn	App	Exit	Downstr	
Approach	Exit	Turn	Radius	Speed	Dist	Dist	Dist	Dist	
			ft	mph	ft	ft	ft	ft	

South: Filbert Street									
	West	L2	41.0	13.6	161.0	450	192	NA	
	North	T1	135.4	21.5	95.8	450	18	NA	
	East	R2	81.7	17.7	38.6	450	122	NA	

East: Main Street									
	South	L2	41.0	13.6	161.0	400	137	NA	
	West	T1	135.4	21.5	95.8	400	192	NA	
	North	R2	81.7	17.7	38.6	400	18	NA	

North: Filbert Street									
	East	L2	41.0	13.6	161.0	60	122	NA	
	South	T1	135.4	21.5	95.8	60	137	NA	
	West	R2	81.7	17.7	38.6	60	192	NA	

West: Main Street									
	North	L2	41.0	13.6	161.0	630	18	NA	
	East	T1	135.4	21.5	95.8	630	122	NA	
	South	R2	81.7	17.7	38.6	630	137	NA	

Maximum Negotiation (Design) Speed = 30.0 mph									
NA Downstream Distance does not apply if:									
- Exit is an internal leg of a network									
- "Program" option was specified									
- Distance specified was less than the Exit Negotiation Distance									
- Distance specified was greater than the exit leg length									
MOVEMENT SPEEDS AND GEOMETRIC DELAY									

		App. Speeds		Exit Speeds		Queue			
		-----		-----		Move-up	Geom		
Mov	Turn	Cruise	Negn	Negn	Cruise	Speed	Delay		
ID		mph	mph	mph	mph	mph	sec		

South: Filbert Street									
3	L2	25.0	13.6	13.6	25.0	21.2	5.5		
8	T1	25.0	21.5	21.5	25.0	21.2	1.0		
18	R2	25.0	17.7	17.7	25.0	21.2	1.6		

East: Main Street									
1	L2	35.0	13.6	13.6	35.0	32.1	8.2		
6	T1	35.0	21.5	21.5	35.0	32.1	3.3		
16	R2	35.0	17.7	17.7	35.0	32.1	3.4		

North: Filbert Street									
7	L2	25.0	13.6	13.6	25.0	21.7	4.4		
4	T1	25.0	21.5	21.5	25.0	21.7	0.7		
14	R2	25.0	17.7	17.7	25.0	21.7	0.9		

West: Main Street									
5	L2	30.0	13.6	13.6	30.0	26.1	7.0		
2	T1	30.0	21.5	21.5	30.0	26.1	2.2		
12	R2	30.0	17.7	17.7	30.0	26.1	2.6		

[Go to Table Links \(Top\)](#)

Movement Capacity and Performance Parameters
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

MOVEMENT CAPACITY PARAMETERS

Mov ID	Turn	Mov Cl.	Arv Flow veh/h	Opng Flow veh/h	Movement Adjust. Flow pcu/h	Total Cap. veh/h	Prac. Deg. Satn xp	Prac. Spare Cap. %	Deg. Satn x
South: Filbert Street									
3	L2	#	13	571	582	140	0.85	812	0.093
8	T1	#	53	571	582	572	0.85	812	0.093
18	R2	#	5	571	582	58	0.85	812	0.093
East: Main Street									
1	L2	#	5	126	129	9	0.85	39	0.610*
6	T1	#	414	126	129	679	0.85	39	0.610*
16	R2	#	272	126	129	445	0.85	39	0.610*
North: Filbert Street									
7	L2	#	263	433	441	576	0.85	86	0.456
4	T1	#	28	433	441	62	0.85	86	0.456
14	R2	#	59	433	441	129	0.85	86	0.456
West: Main Street									
5	L2	#	60	297	303	182	0.85	159	0.328
2	T1	#	248	297	303	755	0.85	159	0.328
12	R2	#	4	297	303	13	0.85	159	0.328

* Maximum degree of saturation
Combined Movement Capacity parameters are shown for all Movement Classes.

MOVEMENT PERFORMANCE

Mov ID	Turn	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Eff. Stop Rate	Total Stops	Perf. Index	Tot.Trav. Distance (veh-mi/h)	Tot.Trav. Time (veh-h/h)	Aver. Speed (mph)
South: Filbert Street										
3	L2	0.03	0.04	9.1	0.60	7.8	0.61	2.9	0.1	23.6
8	T1	0.07	0.08	4.5	0.60	31.9	0.90	6.2	0.4	15.0
18	R2	0.01	0.01	5.2	0.60	3.3	0.48	1.0	0.0	21.1
East: Main Street										
1	L2	0.01	0.02	9.6	0.52	2.8	4.67	1.0	0.0	27.1
6	T1	0.55	0.66	4.8	0.52	216.9	8.84	86.6	3.1	28.0
16	R2	0.37	0.44	4.9	0.52	142.4	6.56	27.5	1.4	20.2
North: Filbert Street										
7	L2	0.58	0.70	8.0	0.81	212.5	5.29	29.7	1.5	20.4
4	T1	0.03	0.04	4.3	0.81	22.8	2.64	3.5	0.2	19.8
14	R2	0.07	0.09	4.5	0.81	47.4	3.05	9.2	0.5	19.4
West: Main Street										
5	L2	0.15	0.18	9.1	0.59	35.5	2.41	9.0	0.4	21.0
2	T1	0.30	0.36	4.3	0.59	147.3	4.65	53.4	2.1	25.6
12	R2	0.01	0.01	4.7	0.59	2.6	1.81	1.0	0.0	24.4

[Go to Table Links \(Top\)](#)

Fuel Consumption, Emissions and Cost
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

FUEL CONSUMPTION, EMISSIONS AND COST (TOTAL)

Mov ID	Turn	Cost Total \$/h	Fuel Total gal/h	CO2 Total kg/h	CO Total kg/h	HC Total kg/h	NOX Total kg/h
South: Filbert Street							
3	L2	1.59	0.1	1.1	0.00	0.000	0.001
8	T1	6.10	0.3	2.9	0.00	0.000	0.003
18	R2	0.65	0.0	0.4	0.00	0.000	0.000
		8.33	0.5	4.4	0.00	0.000	0.005
East: Main Street							
1	L2	0.60	0.0	0.4	0.00	0.000	0.001
6	T1	46.13	4.0	36.1	0.03	0.003	0.045
16	R2	28.82	1.9	16.8	0.02	0.002	0.024
		75.55	6.0	53.4	0.05	0.005	0.070
North: Filbert Street							
7	L2	30.85	2.3	20.1	0.01	0.002	0.023
4	T1	3.33	0.2	2.2	0.00	0.000	0.003
14	R2	7.05	0.6	5.2	0.00	0.000	0.006
		41.24	3.1	27.5	0.02	0.002	0.032
West: Main Street							
5	L2	8.15	0.5	4.3	0.00	0.000	0.005
2	T1	34.67	2.4	21.5	0.02	0.002	0.026
12	R2	0.61	0.0	0.4	0.00	0.000	0.000
		43.42	2.9	26.1	0.02	0.002	0.032
INTERSECTION:		168.54	12.5	111.5	0.09	0.010	0.138
FUEL CONSUMPTION, EMISSIONS AND COST (RATE)							
Mov ID	Turn	Cost Rate \$/mi	Fuel Eff. mpg	CO2 Rate g/km	CO Rate g/km	HC Rate g/km	NOX Rate g/km
South: Filbert Street							
3	L2	0.54	24.2	230.1	0.14	0.018	0.233
8	T1	0.99	18.8	295.6	0.21	0.026	0.330
18	R2	0.66	22.5	247.1	0.16	0.020	0.258
		0.83	20.4	271.9	0.18	0.023	0.295
East: Main Street							
1	L2	0.63	19.7	281.5	0.27	0.025	0.365
6	T1	0.53	21.4	259.3	0.25	0.023	0.325
16	R2	1.05	14.6	380.8	0.35	0.037	0.544
		0.66	19.2	288.5	0.28	0.026	0.378
North: Filbert Street							
7	L2	1.04	13.2	422.0	0.30	0.038	0.489
4	T1	0.96	13.8	401.7	0.28	0.036	0.461
14	R2	0.77	15.9	348.9	0.23	0.030	0.389
		0.98	13.7	404.5	0.28	0.036	0.465
West: Main Street							
5	L2	0.90	18.9	293.0	0.24	0.026	0.376
2	T1	0.65	22.2	250.1	0.20	0.020	0.300
12	R2	0.62	22.6	245.9	0.19	0.020	0.292
		0.68	21.7	256.2	0.20	0.021	0.311
INTERSECTION:		0.73	18.5	300.2	0.25	0.027	0.372

[Go to Table Links \(Top\)](#)

Lanes

Lane Performance and Capacity Information
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

LANE PERFORMANCE

Lane No.	Flow veh/h	Cap veh/h	Deg. Satn x	Aver. Delay sec	Eff. Stop Rate	Q u e u e		Lane Length ft
						95% Back		
						veh	ft	
South: Filbert Street								
1	72	770	0.093	5.4	0.60	0.5	13.1	450.0
East: Main Street								
1	691	1133	0.610	4.8	0.52	5.7	145.7	400.0
North: Filbert Street								
1	350	767	0.456	7.1	0.81	2.9	73.9	60.0
West: Main Street								
1	312	951	0.328	5.3	0.59	2.2	55.4	630.0

LANE FLOW AND CAPACITY INFORMATION

Lane No.	Total Arv Flow veh/h	Min Cap veh/h	Tot Cap veh/h	Deg. Satn x	Lane Util %
South: Filbert Street					
1	72	72	770	0.093	100
East: Main Street					
1	691	150	1133	0.610	100
North: Filbert Street					
1	350	150	767	0.456	100
West: Main Street					
1	312	150	951	0.328	100

The capacity values of Continuous Lanes are obtained by adjusting the basic saturation flow for lane width, grade, movement class and turning vehicle effects. Saturation flow scale applies if specified.

[Go to Table Links \(Top\)](#)

Lane, Approach and Intersection Performance
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

Lane No.	Arrival Flow (veh/h)	%HV	Adj. Basic Satf.	Deg Sat x	Aver. Delay sec	Longest Queue ft	Lane Length ft
South: Filbert Street							
1	72	2		0.093	5.4	13	450
	72	2		0.093	5.4	13	
East: Main Street							
1	691	2		0.610	4.8	146	400
	691	2		0.610	4.8	146	
North: Filbert Street							
1	350	2		0.456	7.1	74	60

	350	2	0.456	7.1	74	

West: Main Street						
1	312	2	0.328	5.3	55	630

	312	2	0.328	5.3	55	
=====						
ALL VEHICLES						
Total	%	Max	Aver.	Max		
Flow	HV	X	Delay	Queue		
1425	2	0.610	5.5	146		
=====						
Peak flow period = 15 minutes.						
Queue values in this table are 95% queue (feet)						
Note: Basic Saturation Flows at roundabouts or sign-controlled intersections apply only to continuous lanes.						

[Go to Table Links \(Top\)](#)

Driver Characteristics
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

Lane No.	Satn Speed mph	Satn Flow veh/h	Satn Hdwy sec	Satn Spacing ft	Average Queue Space ft	Driver Response Time sec

South: Filbert Street	19.8	1403	2.57	74.35	25.40	1.69
1	-----					
East: Main Street	19.9	1314	2.74	80.07	25.40	1.87
1	-----					
North: Filbert Street	15.0	1205	2.99	65.54	25.40	1.83
1	-----					
West: Main Street	19.9	1347	2.67	78.04	25.40	1.80
1	-----					

Saturation Flow and Saturation Headway are derived from follow-up headway.

[Go to Table Links \(Top\)](#)

Lane Delays
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

LANE DELAYS

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Delay (seconds/veh)									
				Min Del dm	Stop-line 1st d1	2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic

South: Filbert Street	0.093	NA	NA	2.9	3.5	0.0	3.5	3.1	0.4	0.0	0.4	1.9	5.4
1	-----												
East: Main Street	0.610	NA	NA	0.5	1.5	0.0	1.5	2.7	0.0	0.0	0.0	3.4	4.8
1	-----												
North: Filbert Street	0.456	NA	NA	1.9	3.3	0.3	3.6	1.8	1.8	0.2	1.6	3.5	7.1
1	-----												
West: Main Street	0.328	NA	NA	1.3	2.1	0.0	2.1	2.9	0.1	0.0	0.1	3.2	5.3
1	-----												

SIDRA Standard Delay Model is used. Control Delay is the sum of Stop-line Delay and Geometric Delay.

dm: Minimum delay for gap acceptance cases
dSl: Stop-line delay (=d1+d2)
dn: Average stop-start delay for all vehicles queued and unqueued
dq: Queuing delay (the part of the stop-line delay that includes stopped delay and queue move-up delay)
dqm: Queue move-up delay
di: Stopped delay (stopped (idling) time at near-zero speed)
dig: Geometric delay
dic: Control delay

Geometric delay is less than 2 seconds for some movements. The negotiation speed may be too high or the approach and exit speeds may be too low for given geometric design (e.g. for a large roundabout).
Check Detailed Output for geometric delay data including negotiation speeds.
If necessary, specify appropriate values of approach and exit speeds, negotiation radius or negotiation speed data in the Path Data dialog.

[Go to Table Links \(Top\)](#)

Lane Queues
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout

BACK OF QUEUE (VEHICLES)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (veh)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
	x				Nb1	Nb2	Nb	95%	Av.	95%		
South: Filbert Street												
1	0.093	NA	NA	0.0	0.2	0.0	0.2	0.5	0.01	0.03	0.0	NA
East: Main Street												
1	0.610	NA	NA	0.0	2.3	0.0	2.3	5.7	0.15	0.36	0.0	NA
North: Filbert Street												
1	0.456	NA	NA	0.0	1.1	0.1	1.2	2.9	0.50	1.23	11.5	NA
West: Main Street												
1	0.328	NA	NA	0.0	0.9	0.0	0.9	2.2	0.04	0.09	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

BACK OF QUEUE (DISTANCE)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (ft)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
	x				Nb1	Nb2	Nb	95%	Av.	95%		
South: Filbert Street												
1	0.093	NA	NA	0.0	5.3	0.0	5.3	13.1	0.01	0.03	0.0	NA
East: Main Street												
1	0.610	NA	NA	0.0	58.6	0.0	58.6	145.7	0.15	0.36	0.0	NA
North: Filbert Street												
1	0.456	NA	NA	1.0	28.5	1.3	29.8	73.9	0.50	1.23	11.5	NA
West: Main Street												
1	0.328	NA	NA	0.0	22.3	0.0	22.3	55.4	0.04	0.09	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

OTHER QUEUE RESULTS (VEHICLES)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%

South: Filbert Street						
1	0.093	NA	NA	0.0	0.1	0.1

East: Main Street						
1	0.610	NA	NA	0.0	0.3	0.5

North: Filbert Street						
1	0.456	NA	NA	0.0	0.4	0.6

West: Main Street						
1	0.328	NA	NA	0.0	0.2	0.3

OTHER QUEUE RESULTS (DISTANCE)						

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Nc	Queue 95%

South: Filbert Street						
1	0.093	NA	NA	0.0	1.8	3.2

East: Main Street						
1	0.610	NA	NA	0.0	7.1	12.8

North: Filbert Street						
1	0.456	NA	NA	1.0	8.9	16.1

West: Main Street						
1	0.328	NA	NA	0.0	4.6	8.4

Go to Table Links (Top)

Lane Queue Percentiles

Site: Main St._Filbert St._AM

Site ID: 101								
Roundabout								
LANE QUEUE PERCENTILES (VEHICLES)								

Lane No.	Deg. Satn x	Percentile Back of Queue (veh)						
		50%	70%	85%	90%	95%	98%	100%

South: Filbert Street								
1	0.093	0.2	0.3	0.4	0.4	0.5	0.6	0.6

East: Main Street								
1	0.610	2.3	3.0	4.2	4.9	5.7	6.4	6.8

North: Filbert Street								
1	0.456	1.2	1.5	2.1	2.5	2.9	3.2	3.5

West: Main Street								
1	0.328	0.9	1.1	1.6	1.9	2.2	2.4	2.6

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.								
LANE QUEUE PERCENTILES (DISTANCE)								

Lane No.	Deg. Satn x	Percentile Back of Queue (feet)						
		50%	70%	85%	90%	95%	98%	100%

South: Filbert Street								
1	0.093	5.2	6.8	9.6	11.1	13.1	14.5	15.6

East: Main Street								

1	0.610	58.6	75.9	107.0	123.9	145.7	161.7	173.8

North: Filbert Street								
1	0.456	29.7	38.5	54.3	62.9	73.9	82.1	88.2

West: Main Street								
1	0.328	22.3	28.9	40.7	47.1	55.4	61.5	66.1

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.								

[Go to Table Links \(Top\)](#)

Lane Stops
Site: Main St._Filbert St._AM

Site ID: 101 Roundabout												

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	-- he1	Effective he2	Stop Geom. hig	Rate Overall h	Total Stops H	Queue Move-up Rate hqm	Total Queue Move-ups Hqm	Prop. Queued pq	Aver. Num. of Cycles to Depart

South: Filbert Street												
1	0.093	NA	NA	0.50	0.00	0.09	0.60	42.9	0.00	0.0	0.64	0.64

East: Main Street												
1	0.610	NA	NA	0.34	0.00	0.18	0.52	362.2	0.00	0.0	0.55	0.55

North: Filbert Street												
1	0.456	NA	NA	0.62	0.02	0.17	0.81	282.8	0.03	11.0	0.68	0.71

West: Main Street												
1	0.328	NA	NA	0.44	0.00	0.15	0.59	185.4	0.00	0.0	0.59	0.59

hig is the average value for all movements in a shared lane												
hqm is average queue move-up rate for all vehicles queued and unqueued												

[Go to Table Links \(Top\)](#)

Flow Rates

Origin-Destination Flow Rates (Total)
Site: Main St._Filbert St._AM

Site ID: 101 Roundabout				
TOTAL FLOW RATES for All Movement Classes (veh/h)				

From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	13.0	53.3	5.4	71.7
%HV (all designations)	2.0	2.0	2.0	2.0

From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Flow Rate	5.4	414.1	271.7	691.3
%HV (all designations)	2.0	2.0	2.0	2.0

From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Flow Rate	263.0	28.3	58.7	350.0
%HV (all designations)	2.0	2.0	2.0	2.0

From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT
Flow Rate	59.8	247.8	4.3	312.0
%HV (all designations)	2.0	2.0	2.0	2.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:				

Unit Time for Volumes = 60 minutes
 Peak Flow Period = 15 minutes
 Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
 Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Origin-Destination Flow Rates by Movement Class

Site: Main St._Filbert St._AM

Site ID: 101
 Roundabout

FLOW RATES for Light Vehicles (veh/h)

From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	12.8	52.2	5.3	70.3
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Flow Rate	5.3	405.8	266.3	677.5
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Flow Rate	257.8	27.7	57.5	343.0
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT
Flow Rate	58.6	242.9	4.3	305.7
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

FLOW RATES for Heavy Vehicles (veh/h)

From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	0.3	1.1	0.1	1.4
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Flow Rate	0.1	8.3	5.4	13.8
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Flow Rate	5.3	0.6	1.2	7.0

Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT

Flow Rate	1.2	5.0	0.1	6.2
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:

Unit Time for Volumes = 60 minutes

Peak Flow Period = 15 minutes

Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.

Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Lane Flow Rates

Site: Main St._Filbert St._AM

Site ID: 101

Roundabout

LANE FLOW RATES AT STOP LINE (veh/h)

From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT

Lane 1				
LV	12.8	52.2	5.3	70.3
HV	0.3	1.1	0.1	1.4
Total	13.0	53.3	5.4	71.7

Approach	13.0	53.3	5.4	71.7
----------	------	------	-----	------

From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT

Lane 1				
LV	5.3	405.8	266.3	677.5
HV	0.1	8.3	5.4	13.8
Total	5.4	414.1	271.7	691.3

Approach	5.4	414.1	271.7	691.3
----------	-----	-------	-------	-------

From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT

Lane 1				
LV	257.8	27.7	57.5	343.0
HV	5.3	0.6	1.2	7.0
Total	263.0	28.3	58.7	350.0

Approach	263.0	28.3	58.7	350.0
----------	-------	------	------	-------

From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT

Lane 1				
LV	58.6	242.9	4.3	305.7
HV	1.2	5.0	0.1	6.2
Total	59.8	247.8	4.3	312.0

Approach	59.8	247.8	4.3	312.0
----------	------	-------	-----	-------

EXIT LANE FLOW RATES

Movement Class:	LV	HV	TOT
-----------------	----	----	-----

Exit: SOUTH			
Lane: 1	37.3	0.8	38.0
Total	37.3	0.8	38.0

Exit: EAST			
Lane: 1	506.0	10.3	516.3
Total	506.0	10.3	516.3

Exit: NORTH			
Lane: 1	377.1	7.7	384.8
Total	377.1	7.7	384.8

Exit: WEST			
Lane: 1	476.2	9.7	485.9
Total	476.2	9.7	485.9

DOWNSTREAM LANE FLOW RATES FOR EXIT ROADS			

Movement Class:	LV	HV	TOT

Exit: SOUTH			
Lane: 1	37.3	0.8	38.0
Total	37.3	0.8	38.0

Exit: EAST			
Lane: 1	506.0	10.3	516.3
Total	506.0	10.3	516.3

Exit: NORTH			
Lane: 1	377.1	7.7	384.8
Total	377.1	7.7	384.8

Exit: WEST			
Lane: 1	476.2	9.7	485.9
Total	476.2	9.7	485.9

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:			
Unit Time for Volumes = 60 minutes			
Peak Flow Period = 15 minutes			
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.			
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.			

[Go to Table Links \(Top\)](#)

Other

Parameter Settings Summary
Site: Main St._Filbert St._AM

Site ID: 101
Roundabout
* Basic Parameters:
Intersection Type: Roundabout
Driving on the right-hand side of the road
Input data specified in US units
Model Defaults: US HCM (Customary)
Peak Flow Period (for performance): 15 minutes
Unit time (for volumes): 60 minutes.
SIDRA Standard Delay model used
HCM Queue Model option used
Level of Service based on: Delay and v/c (HCM 6)
Queue percentile: 95%

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Diagnostics
Site: Main St._Filbert St._AM

Site ID: 101

Roundabout

Lane Flow-Capacity Iterations:

Site Model Variability Index (Iterations 3 to N): 1.8%

Number of Iterations: 5 (Maximum: 10)

Largest change in Lane Degrees of Saturation for the last three Flow-Capacity Iterations:
2.9% 1.7% 0.9%

Other Diagnostic Messages (if any):

Geometric delay is less than 2 seconds for some movements. The negotiation speed may be too high or the approach and exit speeds may be too low for given geometric design (e.g. for a large roundabout).
Check Detailed Output for geometric delay data including negotiation speeds.
If necessary, specify appropriate values of approach and exit speeds, negotiation radius or negotiation speed data in the Path Data dialog.

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Thursday, November 21, 2024 3:53:48 PM

Project: J:\JURISDICTION\S\Stockton\011-101 Main St Complete Streets\Analysis\Sidra\Project_v2 Built +P Conditions.sip8

MOVEMENT SUMMARY

 Site: 101 [Main St._Filbert St._AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Filbert Street												
3	L2	13	2.0	0.093	9.1	LOS A	0.5	13.1	0.64	0.60	0.64	23.6
8	T1	53	2.0	0.093	4.5	LOS A	0.5	13.1	0.64	0.60	0.64	15.0
18	R2	5	2.0	0.093	5.2	LOS A	0.5	13.1	0.64	0.60	0.64	21.1
Approach		72	2.0	0.093	5.4	LOS A	0.5	13.1	0.64	0.60	0.64	17.3
East: Main Street												
1	L2	5	2.0	0.610	9.6	LOS A	5.7	145.7	0.55	0.52	0.55	27.1
6	T1	414	2.0	0.610	4.8	LOS A	5.7	145.7	0.55	0.52	0.55	28.0
16	R2	272	2.0	0.610	4.9	LOS A	5.7	145.7	0.55	0.52	0.55	20.2
Approach		691	2.0	0.610	4.8	LOS A	5.7	145.7	0.55	0.52	0.55	25.6
North: Filbert Street												
7	L2	263	2.0	0.456	8.0	LOS A	2.9	73.9	0.68	0.81	0.71	20.4
4	T1	28	2.0	0.456	4.3	LOS A	2.9	73.9	0.68	0.81	0.71	19.8
14	R2	59	2.0	0.456	4.5	LOS A	2.9	73.9	0.68	0.81	0.71	19.4
Approach		350	2.0	0.456	7.1	LOS A	2.9	73.9	0.68	0.81	0.71	20.1
West: Main Street												
5	L2	60	2.0	0.328	9.1	LOS A	2.2	55.4	0.59	0.59	0.59	21.0
2	T1	248	2.0	0.328	4.3	LOS A	2.2	55.4	0.59	0.59	0.59	25.6
12	R2	4	2.0	0.328	4.7	LOS A	2.2	55.4	0.59	0.59	0.59	24.4
Approach		312	2.0	0.328	5.3	LOS A	2.2	55.4	0.59	0.59	0.59	24.8
All Vehicles		1425	2.0	0.610	5.5	LOS A	5.7	145.7	0.60	0.61	0.60	23.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Thursday, November 21, 2024 3:53:48 PM






Project: J:\JURISDICTION\Stockton\011-101 Main St Complete Streets\Analysis\Sidra\Project_v2 Built +P Conditions.sip8

DETAILED OUTPUT

 Site: 101 [Main St._Filbert St._PM]

New Site
Site Category: (None)
Roundabout

OUTPUT TABLE LINKS

-  Roundabouts
 - Roundabout Basic Parameters
 - Roundabout Circulating / Exiting Stream Parameters
 - Roundabout Gap Acceptance Parameters
 - Roundabout Flow Rates
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-  Movements
 - Intersection Negotiation and Travel Data
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Roundabouts

Roundabout Basic Parameters
Site: Main St._Filbert St._PM

Site ID: 101											
Roundabout											
Central Island Diam ft	Circ Width ft	Insc Diam. ft	Entry Radius ft	Entry Angle deg	Circ Lanes	Entry Lanes	Av.Entry Lane Width ft	App Dist ft	Prop Upstr	Queued Signal	Extra Bunching %

South: Filbert Street											
30.0	15.0	100.0U	100.0	30.0	1	1	13.00	450		NA	0.0N

East: Main Street											
30.0	15.0	100.0U	100.0	30.0	1	1	13.00	400		NA	0.0N

North: Filbert Street											
30.0	15.0	100.0U	100.0	30.0	2	1	13.00	60		NA	0.0N

West: Main Street											
30.0	15.0	100.0U	100.0	30.0	1	1	13.00	630		NA	0.0N

Roundabout Capacity Model: SIDRA Standard											
U Inscribed diameter value was specified by the user.											
NA Not Applicable (single Site analysis or unconnected Site in Network analysis).											
N Program option resulted in zero value (single Site analysis or unconnected Site in Network analysis).											

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Roundabout Circulating / Exiting Stream Parameters

Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

Dest	Turn	Lane No.	Lane Type	Opng Flow veh/h	HVE pcu/veh	Adj. Flow pcu/h	%Near Lane Only	%Exit Flow Incl.	Cap. Const. Effect	O-D Factor	Aver Speed mph	In-Bunch Headway sec	Prop. Bunched
South: Filbert Street													
W	L2	1	Dominant	915	1.02	934	0.0	0.0	N	0.834	17.3	2.00	0.703
N	T1	1	Dominant	915	1.02	934	0.0	0.0	N	0.834	17.3	2.00	0.703
E	R2	1	Dominant	915	1.02	934	0.0	0.0	N	0.834	17.3	2.00	0.703
East: Main Street													
S	L2	1	Dominant	132	1.02	134	0.0	0.0	N	0.982	16.8	2.00	0.151
W	T1	1	Dominant	132	1.02	134	0.0	0.0	N	0.982	16.8	2.00	0.151
N	R2	1	Dominant	132	1.02	134	0.0	0.0	N	0.982	16.8	2.00	0.151
North: Filbert Street													
E	L2	1	Dominant	367	1.02	375	0.0	0.0	N	0.953	21.0	2.00	0.366
S	T1	1	Dominant	367	1.02	375	0.0	0.0	N	0.953	21.0	2.00	0.366
W	R2	1	Dominant	367	1.02	375	0.0	0.0	N	0.953	21.0	2.00	0.366
West: Main Street													
N	L2	1	Dominant	464	1.02	473	0.0	0.0	N	0.902	14.3	2.00	0.440
E	T1	1	Dominant	464	1.02	473	0.0	0.0	N	0.902	14.3	2.00	0.440
S	R2	1	Dominant	464	1.02	473	0.0	0.0	N	0.902	14.3	2.00	0.440
Roundabout Capacity Model: SIDRA Standard													

[Go to Table Links \(Top\)](#)

Roundabout Gap Acceptance Parameters

Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

Dest	Turn	Lane No.	Lane Type	In-Bunch Headway sec	Prop. Bunched	Priority Sharing	HVE for Entry	Critical Gap		Follow-up Headway sec
								Headway sec	Dist ft	
South: Filbert Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
W	L2	1	Dominant	2.00	0.703	Y	1.02	4.15	105.4	2.43
N	T1	1	Dominant	2.00	0.703	Y	1.02	4.15	105.4	2.43
E	R2	1	Dominant	2.00	0.703	Y	1.02	4.15	105.4	2.43
East: Main Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
S	L2	1	Dominant	2.00	0.151	N	1.02	5.26	129.8	2.74
W	T1	1	Dominant	2.00	0.151	N	1.02	5.26	129.8	2.74
N	R2	1	Dominant	2.00	0.151	N	1.02	5.26	129.8	2.74
North: Filbert Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
E	L2	1	Dominant	2.00	0.366	Y	1.02	4.71	145.4	3.01
S	T1	1	Dominant	2.00	0.366	Y	1.02	4.71	145.4	3.01
W	R2	1	Dominant	2.00	0.366	Y	1.02	4.71	145.4	3.01
West: Main Street										
Environment Factor: 1.05										
Entry/Circ. Flow Adjustment: None										
N	L2	1	Dominant	2.00	0.440	N	1.02	4.73	99.1	2.61
E	T1	1	Dominant	2.00	0.440	N	1.02	4.73	99.1	2.61
S	R2	1	Dominant	2.00	0.440	N	1.02	4.73	99.1	2.61
Roundabout Capacity Model: SIDRA Standard										
Priority sharing means Follow-up Headway plus Intra-bunch Headway										

is larger than the Critical Gap.

Dist (Distance): Spacing, i.e. distance between the front ends of two successive vehicles across all lanes in the circulating or exiting stream

[Go to Table Links \(Top\)](#)

Roundabout Flow Rates
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

CIRCULATING LANE FLOW RATES

Lane No.	Circulating Flow Rate		
	veh/h	pcu/h	Percent
South: Filbert Street			
1	915	934	100.0%
Total	915	934	
East: Main Street			
1	132	134	100.0%
Total	132	134	
North: Filbert Street			
1	0	0	0.0%
2	367	375	100.0%
Total	367	375	
West: Main Street			
1	464	473	100.0%
Total	464	473	

The SIDRA Standard roundabout capacity model option is in use.
This model takes into account the total circulating flow as well as the effect of flow distribution in circulating lanes on the entry capacity results.

APPROACH LANE FLOW RATES

Lane No.	Approach Flows (veh/h)		
	Out	To Downst	Total
South: Filbert Street			
1	11	72	83
Total	11	72	83
East: Main Street			
1	258	349	607
Total	258	349	607
North: Filbert Street			
1	77	462	539
Total	77	462	539
West: Main Street			
1	17	492	509
Total	17	492	509

[Go to Table Links \(Top\)](#)

Roundabout Pedestrian Effects
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

ROUNDAABOUT ENTRY

Lane	Turn	Pedestrian		Opposing Ped.Factor	Circulating Flow Rate	Circulating Flow Rate	Adjustment Factor
		Flow Rate	Adj.Flow Rate				

[Go to Table Links \(Top\)](#)

Intersection Negotiation and Travel Data
Site: Main St. Filbert St. PM

TRAVEL SPEED, TRAVEL DISTANCE AND TRAVEL TIME

	North	L2	19.1	18.6	791.5#	29.1#	9.0	9.0	0.5
	East	T1	23.6	23.0	1131.5#	33.5#	92.5	92.5	4.0
	South	R2	22.6	22.1	1181.5#	36.4#	3.9	3.9	0.2

ALL VEHICLES:			22.7	21.9	854.7#	26.6#	281.2	281.2	12.8

"Running Speed" is the average speed excluding stopped periods.									
Travel Time values include cruise times and intersection delays including acceleration, deceleration and idling delays.									
# Travel Distance and Travel Time values include travel on the External Exit section based on the Exit Distance or user-specified Downstream Distance value as applicable.									
INTERSECTION NEGOTIATION DATA									

From	To		Negn	Negn	Negn	App	Exit	Downstr	
Approach	Exit	Turn	Radius	Speed	Dist	Dist	Dist	Dist	
			ft	mph	ft	ft	ft	ft	

South: Filbert Street									
	West	L2	41.0	13.6	161.0	450	192	NA	
	North	T1	135.4	21.5	95.8	450	18	NA	
	East	R2	81.7	17.7	38.6	450	122	NA	

East: Main Street									
	South	L2	41.0	13.6	161.0	400	137	NA	
	West	T1	135.4	21.5	95.8	400	192	NA	
	North	R2	81.7	17.7	38.6	400	18	NA	

North: Filbert Street									
	East	L2	41.0	13.6	161.0	60	122	NA	
	South	T1	135.4	21.5	95.8	60	137	NA	
	West	R2	81.7	17.7	38.6	60	192	NA	

West: Main Street									
	North	L2	41.0	13.6	161.0	630	18	NA	
	East	T1	135.4	21.5	95.8	630	122	NA	
	South	R2	81.7	17.7	38.6	630	137	NA	

Maximum Negotiation (Design) Speed = 30.0 mph									
NA Downstream Distance does not apply if:									
- Exit is an internal leg of a network									
- "Program" option was specified									
- Distance specified was less than the Exit Negotiation Distance									
- Distance specified was greater than the exit leg length									
MOVEMENT SPEEDS AND GEOMETRIC DELAY									

Mov		App. Speeds	Exit Speeds		Queue		Geom		
ID	Turn	Cruise	Negn	Negn	Cruise	Move-up	Delay		
		mph	mph	mph	mph	Speed	sec		
		mph	mph	mph	mph	mph			

South: Filbert Street									
3	L2	25.0	13.6	13.6	25.0	18.9	5.5		
8	T1	25.0	21.5	21.5	25.0	18.9	1.0		
18	R2	25.0	17.7	17.7	25.0	18.9	1.6		

East: Main Street									
1	L2	35.0	13.6	13.6	35.0	31.9	8.2		
6	T1	35.0	21.5	21.5	35.0	31.9	3.3		
16	R2	35.0	17.7	17.7	35.0	31.9	3.4		

North: Filbert Street									
7	L2	25.0	13.6	13.6	25.0	22.9	4.4		
4	T1	25.0	21.5	21.5	25.0	22.9	0.7		
14	R2	25.0	17.7	17.7	25.0	22.9	0.9		

West: Main Street									
5	L2	30.0	13.6	13.6	30.0	22.5	7.0		
2	T1	30.0	21.5	21.5	30.0	22.5	2.2		
12	R2	30.0	17.7	17.7	30.0	22.5	2.6		

[Go to Table Links \(Top\)](#)

Movement Capacity and Performance Parameters
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

MOVEMENT CAPACITY PARAMETERS

Mov ID	Turn	Mov Cl.	Arv Flow veh/h	Opng Flow veh/h	Movement Adjust. Flow pcu/h	Total Cap. veh/h	Prac. Deg. Satn xp	Prac. Spare Cap. %	Deg. Satn x
South: Filbert Street									
3	L2	#	18	915	934	113	0.85	422	0.163
8	T1	#	53	915	934	327	0.85	422	0.163
18	R2	#	11	915	934	67	0.85	422	0.163
East: Main Street									
1	L2	#	2	132	134	4	0.85	57	0.541
6	T1	#	347	132	134	640	0.85	57	0.541
16	R2	#	258	132	134	476	0.85	57	0.541
North: Filbert Street									
7	L2	#	424	367	375	637	0.85	28	0.665*
4	T1	#	38	367	375	57	0.85	28	0.665*
14	R2	#	77	367	375	116	0.85	28	0.665*
West: Main Street									
5	L2	#	60	464	473	93	0.85	32	0.642
2	T1	#	432	464	473	672	0.85	32	0.642
12	R2	#	17	464	473	27	0.85	32	0.642

* Maximum degree of saturation
Combined Movement Capacity parameters are shown for all Movement Classes.

MOVEMENT PERFORMANCE

Mov ID	Turn	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Eff. Stop Rate	Total Stops	Perf. Index	Tot.Trav. Distance (veh-mi/h)	Tot.Trav. Time (veh-h/h)	Aver. Speed (mph)
South: Filbert Street										
3	L2	0.07	0.08	13.1	0.82	15.1	1.16	4.1	0.2	20.9
8	T1	0.13	0.15	8.6	0.82	43.7	1.46	6.2	0.5	13.0
18	R2	0.03	0.03	9.2	0.82	8.9	1.00	2.0	0.1	18.5
East: Main Street										
1	L2	0.01	0.01	9.5	0.52	1.1	3.78	0.4	0.0	27.3
6	T1	0.45	0.54	4.6	0.52	179.8	7.27	72.4	2.6	28.2
16	R2	0.34	0.41	4.8	0.52	133.6	5.58	25.9	1.3	20.4
North: Filbert Street										
7	L2	1.16	1.40	9.9	0.93	392.9	10.28	48.1	2.6	18.6
4	T1	0.06	0.08	6.1	0.93	35.3	5.46	4.7	0.3	18.2
14	R2	0.14	0.16	6.4	0.93	71.5	6.03	12.1	0.7	18.2
West: Main Street										
5	L2	0.23	0.27	13.7	0.96	57.4	6.25	9.0	0.5	18.6
2	T1	1.08	1.29	9.0	0.96	414.1	11.86	92.5	4.0	23.0
12	R2	0.04	0.05	9.3	0.96	16.7	5.67	3.9	0.2	22.1

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Fuel Consumption, Emissions and Cost
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

FUEL CONSUMPTION, EMISSIONS AND COST (TOTAL)

Mov ID	Turn	Cost Total \$/h	Fuel Total gal/h	CO2 Total kg/h	CO Total kg/h	HC Total kg/h	NOX Total kg/h
South: Filbert Street							
3	L2	2.67	0.2	1.7	0.00	0.000	0.002
8	T1	7.31	0.4	3.3	0.00	0.000	0.004
18	R2	1.54	0.1	0.9	0.00	0.000	0.001
		11.51	0.7	5.9	0.00	0.001	0.006
East: Main Street							
1	L2	0.23	0.0	0.2	0.00	0.000	0.000
6	T1	37.79	3.3	29.6	0.03	0.003	0.037
16	R2	26.70	1.7	15.5	0.01	0.001	0.022
		64.72	5.1	45.2	0.04	0.004	0.059
North: Filbert Street							
7	L2	55.76	3.9	35.1	0.03	0.003	0.041
4	T1	5.03	0.4	3.2	0.00	0.000	0.004
14	R2	10.37	0.8	7.2	0.00	0.001	0.008
		71.16	5.1	45.6	0.03	0.004	0.053
West: Main Street							
5	L2	9.27	0.5	4.8	0.00	0.000	0.006
2	T1	68.44	4.6	41.5	0.03	0.004	0.051
12	R2	2.77	0.2	1.7	0.00	0.000	0.002
		80.47	5.4	48.0	0.04	0.004	0.059
INTERSECTION:		227.87	16.2	144.7	0.12	0.013	0.177
FUEL CONSUMPTION, EMISSIONS AND COST (RATE)							
Mov ID	Turn	Cost Rate \$/mi	Fuel Eff. mpg	CO2 Rate g/km	CO Rate g/km	HC Rate g/km	NOX Rate g/km
South: Filbert Street							
3	L2	0.64	22.1	251.3	0.16	0.021	0.255
8	T1	1.18	16.5	336.5	0.24	0.031	0.373
18	R2	0.78	20.3	273.4	0.18	0.024	0.286
		0.94	18.6	297.7	0.20	0.027	0.320
East: Main Street							
1	L2	0.61	20.2	275.4	0.26	0.025	0.353
6	T1	0.52	21.9	254.2	0.25	0.022	0.315
16	R2	1.03	15.0	370.7	0.34	0.036	0.525
		0.66	19.5	284.9	0.27	0.026	0.371
North: Filbert Street							
7	L2	1.16	12.2	453.3	0.33	0.042	0.526
4	T1	1.08	12.9	430.7	0.31	0.039	0.495
14	R2	0.86	14.9	371.8	0.25	0.033	0.416
		1.10	12.7	436.5	0.31	0.040	0.503
West: Main Street							
5	L2	1.03	16.6	334.5	0.28	0.031	0.436
2	T1	0.74	19.9	278.9	0.23	0.024	0.342
12	R2	0.71	20.3	273.4	0.22	0.023	0.332
		0.76	19.6	283.4	0.23	0.025	0.349
INTERSECTION:		0.81	17.4	319.9	0.26	0.029	0.391

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Lanes

Lane Performance and Capacity Information
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

LANE PERFORMANCE

Lane No.	Flow veh/h	Cap veh/h	Deg. Satn x	Aver. Delay sec	Eff. Stop Rate	Q u e u e		Lane Length ft
						95% Back		
						veh	ft	
South: Filbert Street								
1	83	507	0.163	9.7	0.82	1.0	26.5	450.0
East: Main Street								
1	607	1120	0.541	4.7	0.52	4.7	118.5	400.0
North: Filbert Street								
1	539	810	0.665	9.1	0.93	6.2	158.2	60.0
West: Main Street								
1	509	792	0.642	9.5	0.96	6.7	170.6	630.0

LANE FLOW AND CAPACITY INFORMATION

Lane No.	Total Arv Flow veh/h	Min Cap veh/h	Tot Cap veh/h	Deg. Satn x	Lane Util %
South: Filbert Street					
1	83	83	507	0.163	100
East: Main Street					
1	607	150	1120	0.541	100
North: Filbert Street					
1	539	150	810	0.665	100
West: Main Street					
1	509	150	792	0.642	100

The capacity values of Continuous Lanes are obtained by adjusting the basic saturation flow for lane width, grade, movement class and turning vehicle effects. Saturation flow scale applies if specified.

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Lane, Approach and Intersection Performance
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

Lane No.	Arrival Flow (veh/h)	%HV	Adj. Basic Satf.	Deg Sat x	Aver. Delay sec	Longest Queue ft	Lane Length ft
South: Filbert Street							
1	83	2		0.163	9.7	27	450
	83	2		0.163	9.7	27	
East: Main Street							
1	607	2		0.541	4.7	118	400
	607	2		0.541	4.7	118	
North: Filbert Street							
1	539	2		0.665	9.1	158	60

[Go to Table Links \(Top\)](#)

Site ID: 101
Roundabout

Saturation Flow and Saturation Headway are derived from follow-up headway.

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Site ID: 101
Roundabout

LANE DELAYS

SIDRA Standard Delay Model is used. Control Delay is the sum of Stop-line Delay and Geometric Delay.

dm: Minimum delay for gap acceptance cases
dSl: Stop-line delay (=d1+d2)
dn: Average stop-start delay for all vehicles queued and unqueued
dq: Queuing delay (the part of the stop-line delay that includes
stopped delay and queue move-up delay)
dqm: Queue move-up delay
di: Stopped delay (stopped (idling) time at near-zero speed)
dig: Geometric delay
dic: Control delay

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Lane Queues
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

BACK OF QUEUE (VEHICLES)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (veh)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %		
	x						Nb1	Nb2	Nb	95%			Av.	95%
South: Filbert Street														
1	0.163	NA	NA	0.0	0.4	0.0	0.4	1.0	0.02	0.06	0.0	NA		
East: Main Street														
1	0.541	NA	NA	0.0	1.9	0.0	1.9	4.7	0.12	0.30	0.0	NA		
North: Filbert Street														
1	0.665	NA	NA	0.3	2.0	0.5	2.5	6.2	1.06	2.64	58.2	NA		
West: Main Street														
1	0.642	NA	NA	0.4	2.2	0.5	2.7	6.7	0.11	0.27	0.0	NA		

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

BACK OF QUEUE (DISTANCE)

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (ft)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
	x				Nb1	Nb2	Nb	95%	Av.	95%		
South: Filbert Street												
1	0.163	NA	NA	0.0	10.7	0.0	10.7	26.5	0.02	0.06	0.0	NA
East: Main Street												
1	0.541	NA	NA	0.0	47.7	0.0	47.7	118.5	0.12	0.30	0.0	NA
North: Filbert Street												
1	0.665	NA	NA	8.7	50.5	13.1	63.6	158.2	1.06	2.64	58.2	NA
West: Main Street												
1	0.642	NA	NA	10.0	54.8	13.9	68.6	170.6	0.11	0.27	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

OTHER QUEUE RESULTS (VEHICLES)

	Deg.	% Arv	Prog.	Ovrfl.	Cyc-Av.	Queue
Lane	Satn	During	Factor	Queue		
No.	x	Green		No	Nc	95%
South: Filbert Street						
1	0.163	NA	NA	0.0	0.2	0.3
East: Main Street						
1	0.541	NA	NA	0.0	0.2	0.4
North: Filbert Street						

1	0.665	NA	NA	0.3	0.8	1.5

West: Main Street						
1	0.642	NA	NA	0.4	1.0	1.7

OTHER QUEUE RESULTS (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Nc	Queue 95%

South: Filbert Street						
1	0.163	NA	NA	0.0	4.4	8.0

East: Main Street						
1	0.541	NA	NA	0.0	5.7	10.3

North: Filbert Street						
1	0.665	NA	NA	8.7	20.9	37.9

West: Main Street						
1	0.642	NA	NA	10.0	24.2	43.8

[Go to Table Links \(Top\)](#)

Lane Queue Percentiles
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

LANE QUEUE PERCENTILES (VEHICLES)

Lane No.	Deg. Satn x	Percentile Back of Queue (veh)						
		50%	70%	85%	90%	95%	98%	100%

South: Filbert Street								
1	0.163	0.4	0.5	0.8	0.9	1.0	1.2	1.2

East: Main Street								
1	0.541	1.9	2.4	3.4	4.0	4.7	5.2	5.6

North: Filbert Street								
1	0.665	2.5	3.2	4.6	5.3	6.2	6.9	7.4

West: Main Street								
1	0.642	2.7	3.5	4.9	5.7	6.7	7.5	8.0

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

LANE QUEUE PERCENTILES (DISTANCE)

Lane No.	Deg. Satn x	Percentile Back of Queue (feet)						
		50%	70%	85%	90%	95%	98%	100%

South: Filbert Street								
1	0.163	10.7	13.8	19.5	22.5	26.5	29.4	31.6

East: Main Street								
1	0.541	47.6	61.7	87.0	100.7	118.5	131.5	141.3

North: Filbert Street								
1	0.665	63.6	82.4	116.2	134.5	158.2	175.6	188.7

West: Main Street								
1	0.642	68.6	88.9	125.3	145.0	170.6	189.3	203.5

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

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Lane Stops
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

Lane No.	Deg. Satn	% Arv During Green	Prog. Factor	-- Effective		Stop Geom.	Rate Overall	Total Stops H	Queue Move-up Rate	Total Queue Move-ups	Prop. Queued	Aver. Num. of Cycles to Depart
	x			he1	he2	hig	h		hqm	Hqm	pq	
South: Filbert Street												
1	0.163	NA	NA	0.78	0.00	0.04	0.82	67.7	0.00	0.0	0.85	0.85
East: Main Street												
1	0.541	NA	NA	0.32	0.00	0.20	0.52	314.6	0.00	0.0	0.52	0.52
North: Filbert Street												
1	0.665	NA	NA	0.71	0.10	0.12	0.93	499.7	0.16	88.0	0.78	0.94
West: Main Street												
1	0.642	NA	NA	0.81	0.11	0.04	0.96	488.2	0.20	102.5	0.89	1.09
hig is the average value for all movements in a shared lane												
hqm is average queue move-up rate for all vehicles queued and unqueued												

[Go to Table Links \(Top\)](#)

Flow Rates

Origin-Destination Flow Rates (Total)
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

TOTAL FLOW RATES for All Movement Classes (veh/h)

From SOUTH To:		W	N	E	
Turn:		L2	T1	R2	TOT
Flow Rate		18.5	53.3	10.9	82.6
%HV (all designations)		2.0	2.0	2.0	2.0
From EAST To:		S	W	N	
Turn:		L2	T1	R2	TOT
Flow Rate		2.2	346.7	257.6	606.5
%HV (all designations)		2.0	2.0	2.0	2.0
From NORTH To:		E	S	W	
Turn:		L2	T1	R2	TOT
Flow Rate		423.9	38.0	77.2	539.1
%HV (all designations)		2.0	2.0	2.0	2.0
From WEST To:		N	E	S	
Turn:		L2	T1	R2	TOT
Flow Rate		59.8	431.5	17.4	508.7
%HV (all designations)		2.0	2.0	2.0	2.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:
Unit Time for Volumes = 60 minutes
Peak Flow Period = 15 minutes
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Origin-Destination Flow Rates by Movement Class
 Site: Main St._Filbert St._PM

Site ID: 101
 Roundabout

FLOW RATES for Light Vehicles (veh/h)

From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	18.1	52.2	10.7	81.0
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Flow Rate	2.1	339.8	252.5	594.4
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Flow Rate	415.4	37.3	75.6	528.3
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT
Flow Rate	58.6	422.9	17.0	498.5
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

FLOW RATES for Heavy Vehicles (veh/h)

From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	0.4	1.1	0.2	1.7
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Flow Rate	0.0	6.9	5.2	12.1
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Flow Rate	8.5	0.8	1.5	10.8
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT

Flow Rate	1.2	8.6	0.3	10.2
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:
Unit Time for Volumes = 60 minutes
Peak Flow Period = 15 minutes
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Lane Flow Rates
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

LANE FLOW RATES AT STOP LINE (veh/h)

From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Lane 1				
LV	18.1	52.2	10.7	81.0
HV	0.4	1.1	0.2	1.7
Total	18.5	53.3	10.9	82.6
Approach	18.5	53.3	10.9	82.6
From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Lane 1				
LV	2.1	339.8	252.5	594.4
HV	0.0	6.9	5.2	12.1
Total	2.2	346.7	257.6	606.5
Approach	2.2	346.7	257.6	606.5
From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Lane 1				
LV	415.4	37.3	75.6	528.3
HV	8.5	0.8	1.5	10.8
Total	423.9	38.0	77.2	539.1
Approach	423.9	38.0	77.2	539.1
From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT
Lane 1				
LV	58.6	422.9	17.0	498.5
HV	1.2	8.6	0.3	10.2
Total	59.8	431.5	17.4	508.7
Approach	59.8	431.5	17.4	508.7

EXIT LANE FLOW RATES

Movement Class:	LV	HV	TOT
Exit: SOUTH			
Lane: 1	56.5	1.2	57.6
Total	56.5	1.2	57.6
Exit: EAST			
Lane: 1	849.0	17.3	866.3

Total	849.0	17.3	866.3

Exit: NORTH			
Lane: 1	363.2	7.4	370.7
Total	363.2	7.4	370.7

Exit: WEST			
Lane: 1	433.5	8.8	442.4
Total	433.5	8.8	442.4

DOWNSTREAM LANE FLOW RATES FOR EXIT ROADS

Movement Class:	LV	HV	TOT

Exit: SOUTH			
Lane: 1	56.5	1.2	57.6
Total	56.5	1.2	57.6

Exit: EAST			
Lane: 1	849.0	17.3	866.3
Total	849.0	17.3	866.3

Exit: NORTH			
Lane: 1	363.2	7.4	370.7
Total	363.2	7.4	370.7

Exit: WEST			
Lane: 1	433.5	8.8	442.4
Total	433.5	8.8	442.4

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:
Unit Time for Volumes = 60 minutes
Peak Flow Period = 15 minutes
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Other

Parameter Settings Summary
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

* Basic Parameters:
Intersection Type: Roundabout
Driving on the right-hand side of the road
Input data specified in US units
Model Defaults: US HCM (Customary)
Peak Flow Period (for performance): 15 minutes
Unit time (for volumes): 60 minutes.
SIDRA Standard Delay model used
HCM Queue Model option used
Level of Service based on: Delay and v/c (HCM 6)
Queue percentile: 95%

[Go to Table Links \(Top\)](#)

Diagnostics
Site: Main St._Filbert St._PM

Site ID: 101
Roundabout

Lane Flow-Capacity Iterations:

Site Model Variability Index (Iterations 3 to N): 3.4%
Number of Iterations: 7 (Maximum: 10)

Largest change in Lane Degrees of Saturation for the last three Flow-Capacity Iterations:
2.8% 1.4% 0.7%

Other Diagnostic Messages (if any):

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Project: J:\JURISDICTION\Stockton\011-101 Main St Complete Streets\Analysis\Sidra\Project_v2 Built +P Conditions.sip8

MOVEMENT SUMMARY

 Site: 101 [Main St._Filbert St._PM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Filbert Street												
3	L2	18	2.0	0.163	13.1	LOS B	1.0	26.5	0.85	0.82	0.85	20.9
8	T1	53	2.0	0.163	8.6	LOS A	1.0	26.5	0.85	0.82	0.85	13.0
18	R2	11	2.0	0.163	9.2	LOS A	1.0	26.5	0.85	0.82	0.85	18.5
Approach		83	2.0	0.163	9.7	LOS A	1.0	26.5	0.85	0.82	0.85	15.7
East: Main Street												
1	L2	2	2.0	0.541	9.5	LOS A	4.7	118.5	0.52	0.52	0.52	27.3
6	T1	347	2.0	0.541	4.6	LOS A	4.7	118.5	0.52	0.52	0.52	28.2
16	R2	258	2.0	0.541	4.8	LOS A	4.7	118.5	0.52	0.52	0.52	20.4
Approach		607	2.0	0.541	4.7	LOS A	4.7	118.5	0.52	0.52	0.52	25.6
North: Filbert Street												
7	L2	424	2.0	0.665	9.9	LOS A	6.2	158.2	0.78	0.93	0.94	18.6
4	T1	38	2.0	0.665	6.1	LOS A	6.2	158.2	0.78	0.93	0.94	18.2
14	R2	77	2.0	0.665	6.4	LOS A	6.2	158.2	0.78	0.93	0.94	18.2
Approach		539	2.0	0.665	9.1	LOS A	6.2	158.2	0.78	0.93	0.94	18.5
West: Main Street												
5	L2	60	2.0	0.642	13.7	LOS B	6.7	170.6	0.89	0.96	1.09	18.6
2	T1	432	2.0	0.642	9.0	LOS A	6.7	170.6	0.89	0.96	1.09	23.0
12	R2	17	2.0	0.642	9.3	LOS A	6.7	170.6	0.89	0.96	1.09	22.1
Approach		509	2.0	0.642	9.5	LOS A	6.7	170.6	0.89	0.96	1.09	22.5
All Vehicles		1737	2.0	0.665	7.7	LOS A	6.7	170.6	0.72	0.79	0.83	21.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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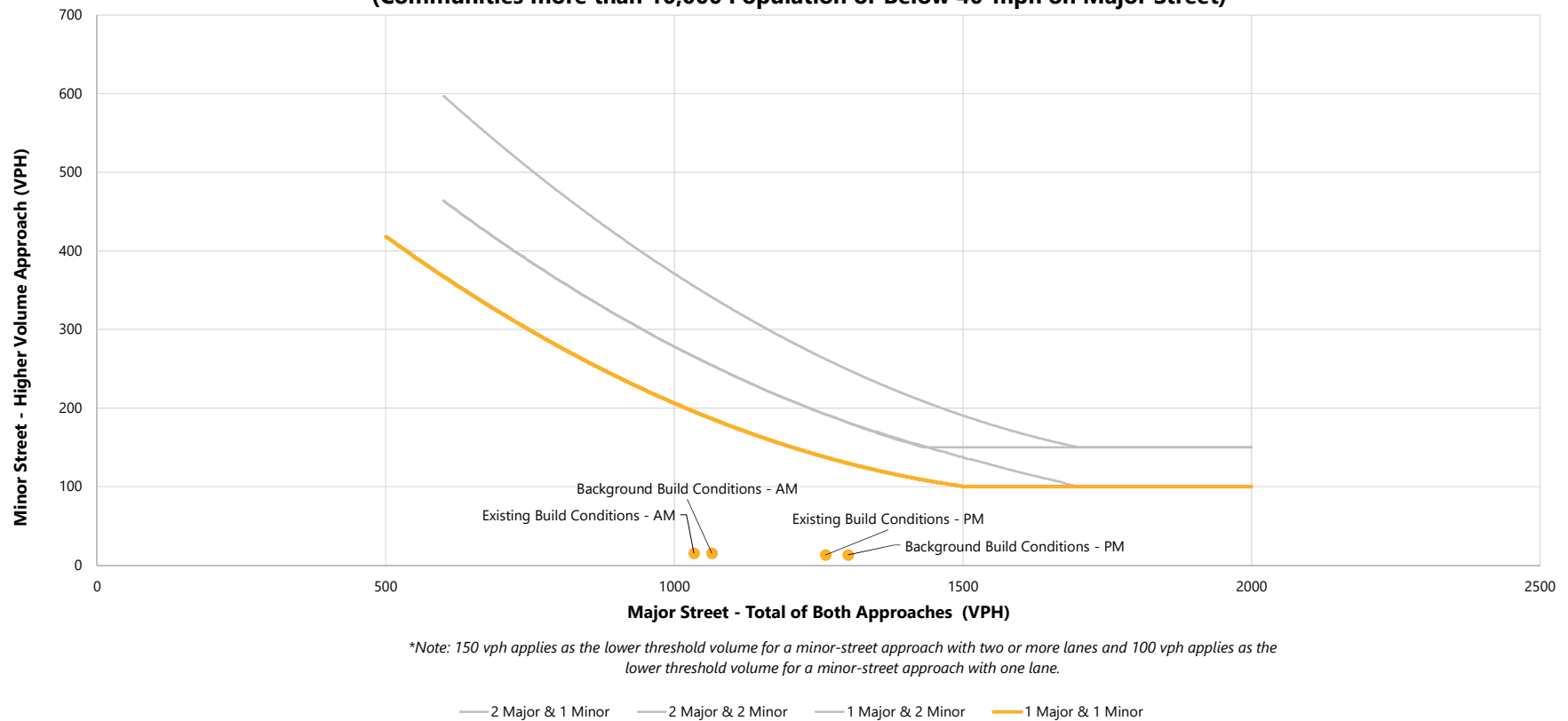
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APPENDIX D – WARRANT GUIDELINE AND ANALYSIS

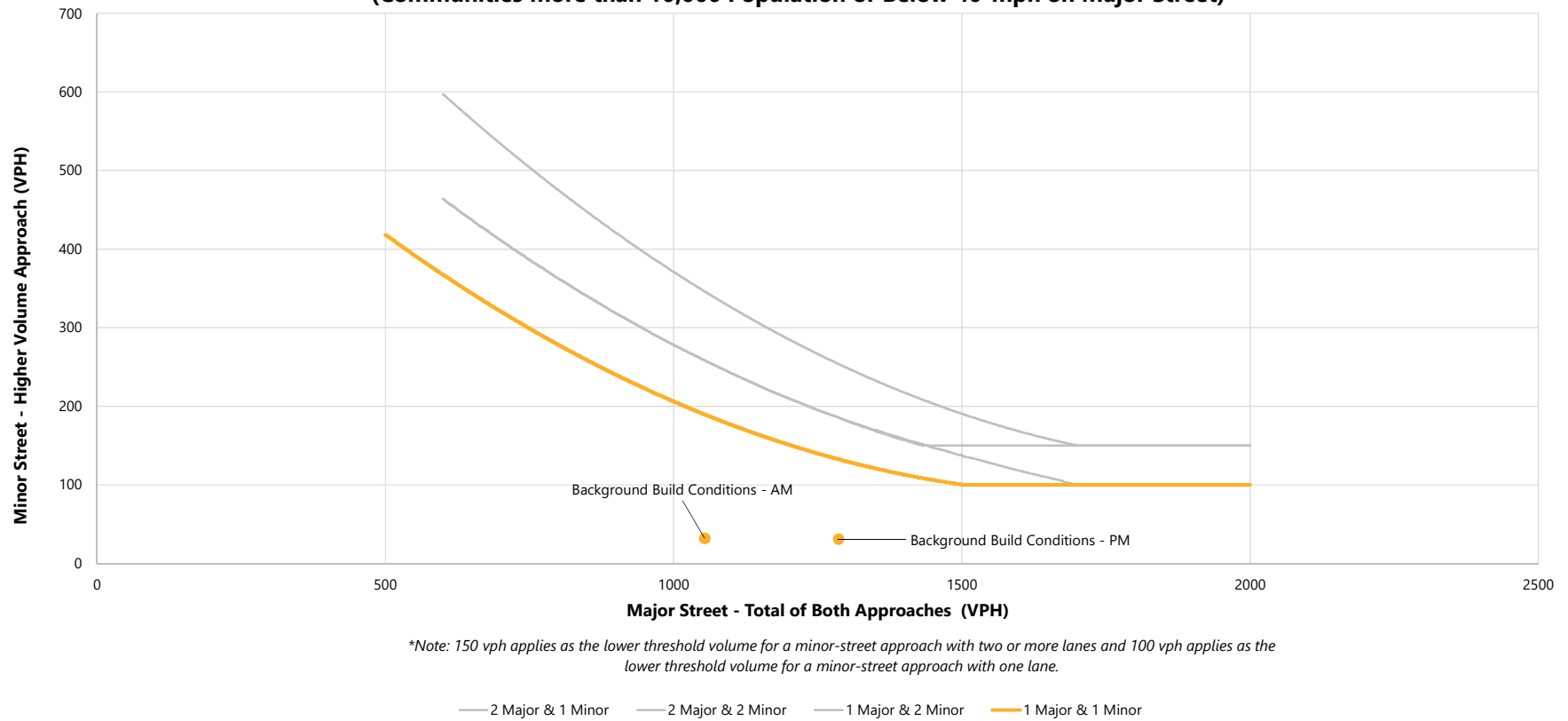
Main Street and David Avenue

**Figure 4C-3. Warrant 3, Peak Hour Vehicular Volume
(Communities more than 10,000 Population or Below 40-mph on Major Street)**



Main Street and Rendon Avenue

**Figure 4C-3. Warrant 3, Peak Hour Vehicular Volume
(Communities more than 10,000 Population or Below 40-mph on Major Street)**



CHAPTER 4F. PEDESTRIAN HYBRID BEACONS

Section 4F.01 Application of Pedestrian Hybrid Beacons

Support:

⁰¹ A pedestrian hybrid beacon is a special type of hybrid beacon used to warn and control traffic at an unsignalized location to assist pedestrians in crossing a street or highway at a marked crosswalk.

^{01a} A conventional traffic control signal operation with a standard signal face displaying green, yellow and red (steady and/or flashing red) indications, at a mid-block crosswalk is an alternative to the pedestrian hybrid beacon.

Option:

⁰² A pedestrian hybrid beacon may be considered for installation to facilitate pedestrian crossings at a location that does not meet traffic signal warrants (see Chapter 4C), or at a location that meets traffic signal warrants under Sections 4C.05 and/or 4C.06 but a decision is made to not install a traffic control signal.

Standard:

⁰³ **If used, pedestrian hybrid beacons shall be used in conjunction with signs and pavement markings to warn and control traffic at locations where pedestrians enter or cross a street or highway. A pedestrian hybrid beacon shall only be installed at a marked crosswalk.**

Guidance:

⁰⁴ *If one of the signal warrants of Chapter 4C is met and a traffic control signal is justified by an engineering study, and if a decision is made to install a traffic control signal, it should be installed based upon the provisions of Chapters 4D and 4E.*

⁰⁵ *If a traffic control signal is not justified under the signal warrants of Chapter 4C and if gaps in traffic are not adequate to permit pedestrians to cross, or if the speed for vehicles approaching on the major street is too high to permit pedestrians to cross, or if pedestrian delay is excessive, the need for a pedestrian hybrid beacon should be considered on the basis of an engineering study that considers major-street volumes, speeds, widths, and gaps in conjunction with pedestrian volumes, walking speeds, and delay.*

⁰⁶ *For a major street where the posted or statutory speed limit or the 85th-percentile speed is 35 mph or less, the need for a pedestrian hybrid beacon should be considered if the engineering study finds that the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding total of all pedestrians crossing the major street for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4F-1 for the length of the crosswalk.*

⁰⁷ *For a major street where the posted or statutory speed limit or the 85th-percentile speed exceeds 35 mph, the need for a pedestrian hybrid beacon should be considered if the engineering study finds that the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding total of all pedestrians crossing the major street for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4F-2 for the length of the crosswalk.*

⁰⁸ *For crosswalks that have lengths other than the four that are specifically shown in Figures 4F-1 and 4F-2, the values should be interpolated between the curves.*

Section 4F.02 Design of Pedestrian Hybrid Beacons

Standard:

⁰¹ **Except as otherwise provided in this Section, a pedestrian hybrid beacon shall meet the provisions of Chapters 4D and 4E.**

⁰² **A pedestrian hybrid beacon face shall consist of three signal sections, with a CIRCULAR YELLOW signal indication centered below two horizontally aligned CIRCULAR RED signal indications (see Figure 4F-3).**

⁰³ **When an engineering study finds that installation of a pedestrian hybrid beacon is justified, then:**

A. At least two pedestrian hybrid beacon faces shall be installed for each approach of the major street,

B. A stop line shall be installed for each approach to the crosswalk,

C. A pedestrian signal head conforming to the provisions set forth in Chapter 4E shall be installed at each end of the marked crosswalk, and

D. The pedestrian hybrid beacon shall be pedestrian actuated.

Guidance:

04 When an engineering study finds that installation of a pedestrian hybrid beacon is justified, then:

- A. The pedestrian hybrid beacon should be installed at an intersection, or at the junction of a roadway with a driveway, or at least 100 feet from side streets or driveways that are controlled by STOP or YIELD signs,*
- B. Parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the marked crosswalk, or site accommodations should be made through curb extensions or other techniques to provide adequate sight distance,*
- C. The installation should include suitable standard signs and pavement markings, and*
- D. If installed within a signal system, the pedestrian hybrid beacon should be coordinated.*

05 On approaches having posted or statutory speed limits or 85th-percentile speeds in excess of 35 mph and on approaches having traffic or operating conditions that would tend to obscure visibility of roadside hybrid beacon face locations, both of the minimum of two pedestrian hybrid beacon faces should be installed over the roadway.

06 On multi-lane approaches having a posted or statutory speed limits or 85th-percentile speeds of 35 mph or less, either a pedestrian hybrid beacon face should be installed on each side of the approach (if a median of sufficient width exists) or at least one of the pedestrian hybrid beacon faces should be installed over the roadway.

07 A pedestrian hybrid beacon should comply with the signal face location provisions described in Sections 4D.11 through 4D.16.

Standard:

08 A CROSSWALK STOP ON RED (symbolic circular red) (R10-23) sign (see Section 2B.53) shall be mounted adjacent to a pedestrian hybrid beacon face on each major street approach. If an overhead pedestrian hybrid beacon face is provided, the sign shall be mounted adjacent to the overhead signal face.

Option:

09 A Pedestrian (W11-2) warning sign (see Section 2C.50) with an AHEAD (W16-9P) supplemental plaque may be placed in advance of a pedestrian hybrid beacon. A warning beacon may be installed to supplement the W11-2 sign.

Guidance:

10 If a warning beacon supplements a W11-2 sign in advance of a pedestrian hybrid beacon, it should be programmed to flash only when the pedestrian hybrid beacon is not in the dark mode.

Standard:

11 If a warning beacon is installed to supplement the W11-2 sign, the design and location of the warning beacon shall comply with the provisions of Sections 4L.01 and 4L.03.

Section 4F.03 Operation of Pedestrian Hybrid Beacons

Standard:

01 Pedestrian hybrid beacon indications shall be dark (not illuminated) during periods between actuations.

02 Upon actuation by a pedestrian, a pedestrian hybrid beacon face shall display a flashing CIRCULAR yellow signal indication, followed by a steady CIRCULAR yellow signal indication, followed by both steady CIRCULAR RED signal indications during the pedestrian walk interval, followed by alternating flashing CIRCULAR RED signal indications during the pedestrian clearance change interval (see Figure 4F-3). Upon termination of the pedestrian clearance interval, the pedestrian hybrid beacon faces shall revert to a dark (not illuminated) condition.

03 Except as provided in Paragraph 4, the pedestrian signal heads shall continue to display a steady UPRaised HAND (symbolizing DONT WALK) signal indication when the pedestrian hybrid beacon faces are either dark or displaying flashing or steady CIRCULAR yellow signal indications. The pedestrian signal heads shall display a WALKING PERSON (symbolizing WALK) signal indication when the pedestrian hybrid beacon faces are displaying steady CIRCULAR RED signal indications. The pedestrian signal heads shall display a flashing UPRaised HAND (symbolizing DONT WALK) signal indication when the pedestrian hybrid beacon faces are displaying alternating flashing CIRCULAR RED signal indications. Upon termination of the pedestrian clearance interval, the pedestrian signal heads shall revert to a steady UPRaised HAND (symbolizing DONT WALK) signal indication.

Option:

⁰⁴ Where the pedestrian hybrid beacon is installed adjacent to a roundabout to facilitate crossings by pedestrians with visual disabilities and an engineering study determines that pedestrians without visual disabilities can be allowed to cross the roadway without actuating the pedestrian hybrid beacon, the pedestrian signal heads may be dark (not illuminated) when the pedestrian hybrid beacon faces are dark.

Guidance:

⁰⁵ *The duration of the flashing yellow interval should be determined by engineering judgment.*

Standard:

⁰⁶ **The duration of the steady yellow change interval shall be determined using engineering practices.**

Guidance:

⁰⁷ *The steady yellow interval should have a minimum duration of 3 seconds and a maximum duration of 6 seconds (see Section 4D.26). The longer intervals should be reserved for use on approaches with higher speeds.*

Figure 4F-1. Guidelines for the Installation of Pedestrian Hybrid Beacons on Low-Speed Roadways

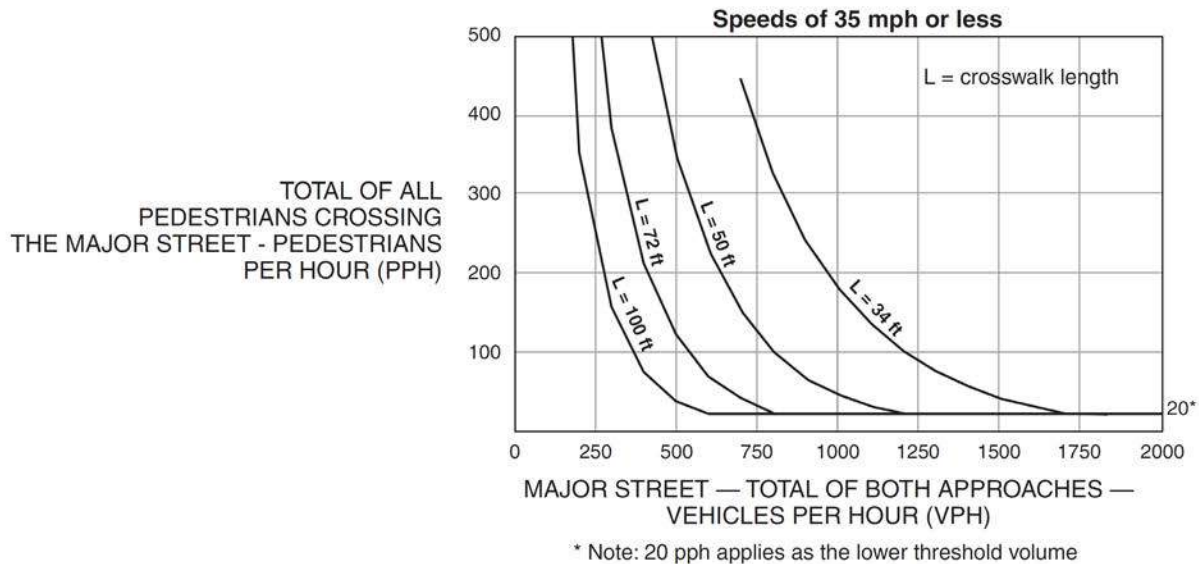


Figure 4F-2. Guidelines for the Installation of Pedestrian Hybrid Beacons on High-Speed Roadways

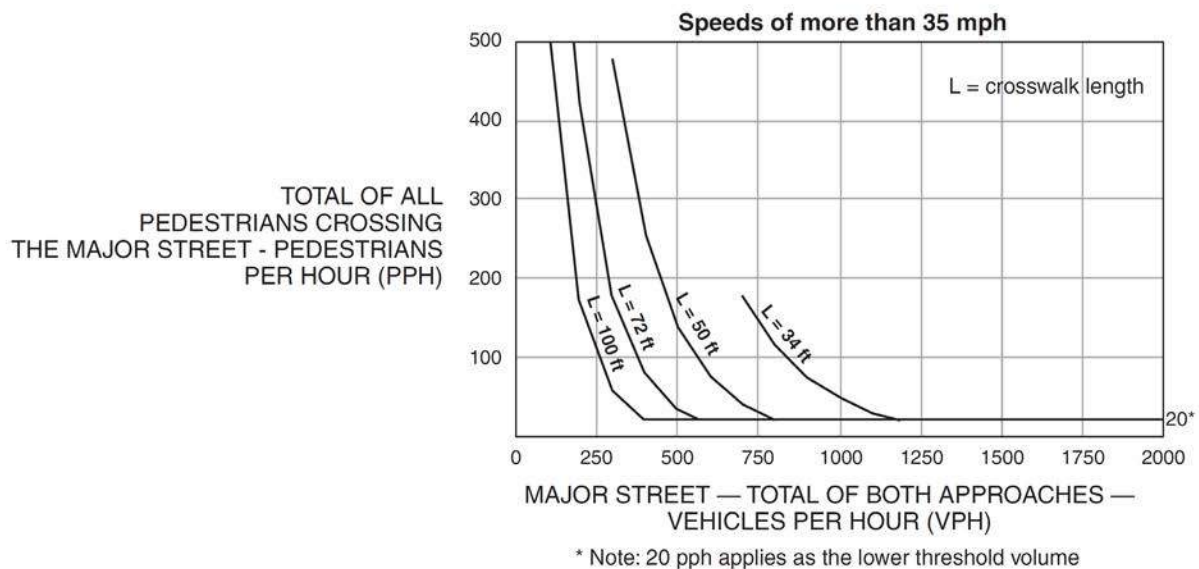
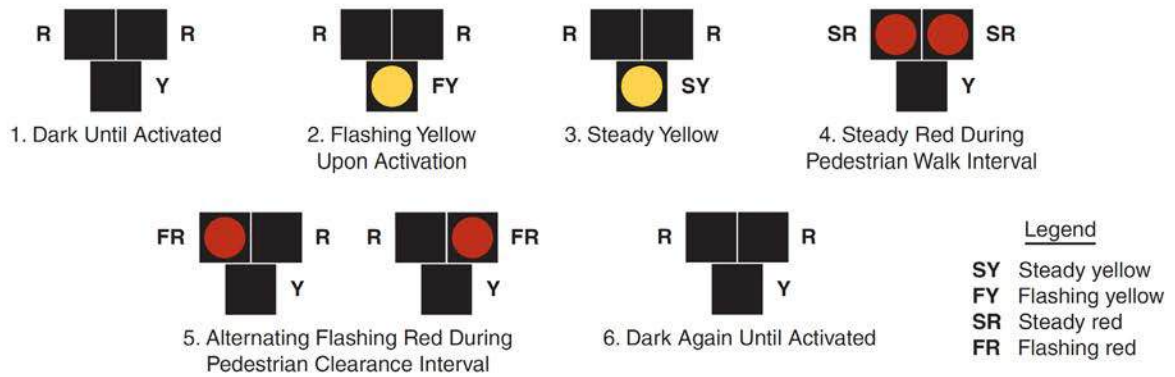


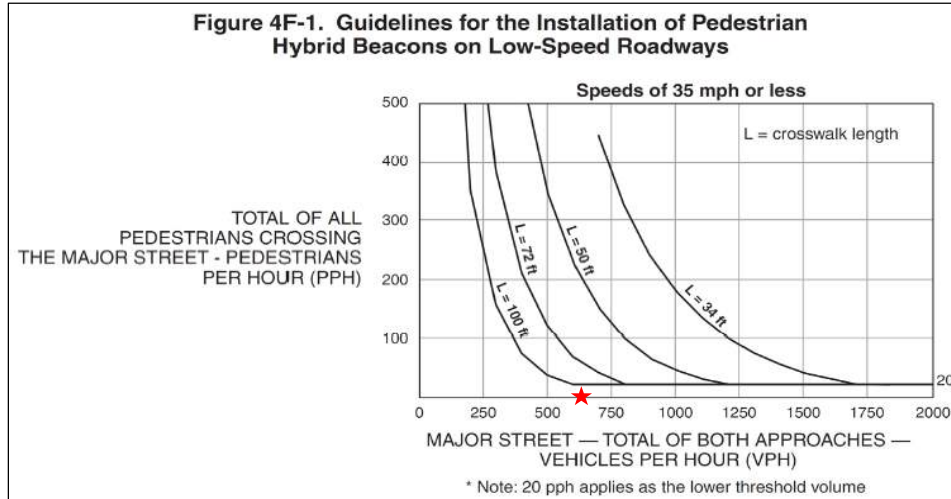
Figure 4F-3. Sequence for a Pedestrian Hybrid Beacon



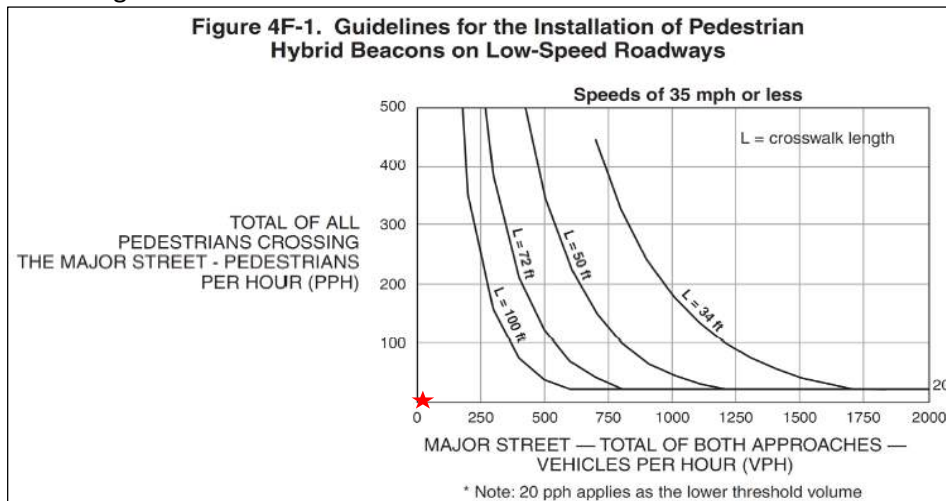
Pedestrian Hybrid Beacon Analysis

Main Street/D Street

East Leg



North Leg



CHAPTER 4N. IN-ROADWAY LIGHTS

Section 4N.01 Application of In-Roadway Lights

Support:

⁰¹ In-Roadway Lights are special types of highway traffic signals installed in the roadway surface to warn road users that they are approaching a condition on or adjacent to the roadway that might not be readily apparent and might require the road users to slow down and/or come to a stop. This includes situations warning of marked school crosswalks, marked midblock crosswalks, marked crosswalks on uncontrolled approaches, marked crosswalks in advance of roundabouts as described in Chapter 3C, and other roadway situations involving pedestrian crossings.

Standard:

⁰² In-Roadway Lights shall not be used for any application that is not described in this Chapter.

⁰³ If used, In-Roadway Lights shall not exceed a height of 3/4 inch above the roadway surface.

⁰⁴ When used, In-Roadway Lights shall be flashed and shall not be steadily illuminated.

Support:

⁰⁵ Steadily illuminated lights installed in the roadway surface are considered to be internally illuminated raised pavement markers (see Section 3B.11).

Option:

⁰⁶ In-Roadway Lights may be flashed in a manner that includes a continuous flash of varying intensity and time duration that is repeated to provide a flickering effect (see Section 4N.02).

Section 4N.02 In-Roadway Warning Lights at Crosswalks

Option:

⁰¹ In-roadway lights may be installed at certain marked crosswalks, based on an engineering study or engineering judgment, to provide additional warning to road users.

Standard:

⁰² If used, In-Roadway Warning Lights at crosswalks shall be installed only at marked crosswalks with applicable warning signs. They shall not be used at crosswalks controlled by YIELD signs, STOP signs, or traffic control signals.

⁰³ If In-Roadway Warning Lights are used at a crosswalk, the following requirements shall apply:

A. Except as provided in Paragraphs 7 and 8, they shall be installed along both sides of the crosswalk and shall span its entire length.

B. They shall initiate operation based on pedestrian actuation and shall cease operation at a predetermined time after the pedestrian actuation or, with passive detection, after the pedestrian clears the crosswalk.

C. They shall display a flashing yellow light when actuated. The flash rate shall be at least 50, but no more than 60, flash periods per minute. If they are flashed in a manner that includes a continuous flash of varying intensity and time duration that is repeated to provide a flickering effect, the flickers or pulses shall not repeat at a rate that is between 5 and 30 per second to avoid frequencies that might cause seizures.

D. They shall be installed in the area between the outside edge of the crosswalk line and 10 feet from the outside edge of the crosswalk.

E. They shall face away from the crosswalk if unidirectional, or shall face away from and across the crosswalk if bidirectional.

⁰⁴ If used on one-lane, one-way roadways, a minimum of two In-Roadway Warning Lights shall be installed on the approach side of the crosswalk. If used on two-lane roadways, a minimum of three In-Roadway Warning Lights shall be installed along both sides of the crosswalk. If used on roadways with more than two lanes, a minimum of one In-Roadway Warning Light per lane shall be installed along both sides of the crosswalk.

Guidance:

05 *If used, In-Roadway Warning Lights should be installed in the center of each travel lane, at the center line of the roadway, at each edge of the roadway or parking lanes, or at other suitable locations away from the normal tire track paths.*

06 *The location of the In-Roadway Warning Lights within the lanes should be based on engineering judgment.*

Option:

07 On one-way streets, In-Roadway Warning Lights may be omitted on the departure side of the crosswalk.

08 Based on engineering judgment, the In-Roadway Warning Lights on the departure side of the crosswalk on the left side of a median may be omitted.

09 Unidirectional In-Roadway Warning Lights installed at crosswalk locations may have an optional, additional yellow light indication in each unit that is visible to pedestrians in the crosswalk to indicate to pedestrians in the crosswalk that the In-Roadway Warning Lights are in fact flashing as they cross the street. These yellow lights may flash with and at the same flash rate as the light module in which each is installed.

Guidance:

10 *If used, the period of operation of the In-Roadway Warning Lights following each actuation should be sufficient to allow a pedestrian crossing in the crosswalk to leave the curb or shoulder and travel at a walking speed of 3.5 feet per second to at least the far side of the traveled way or to a median of sufficient width for pedestrians to wait. Where pedestrians who walk slower than 3.5 feet per second, or pedestrians who use wheelchairs, routinely use the crosswalk, a walking speed of less than 3.5 feet per second should be considered in determining the period of operation.*

Standard:

11 **If pedestrian pushbuttons are used to actuate the in-roadway lights, a Push Button To Turn On Warning Lights (with pushbutton symbol) (R10-25) sign (see Figure 2B-26) shall be mounted adjacent to immediately above or integral with each pedestrian pushbutton.**

12 **Where the period of operation is sufficient only for crossing from a curb or shoulder to a median of sufficient width for pedestrians to wait, median-mounted pedestrian actuators shall be provided.**

13 **In-Roadway Warning Lights (IRWLs) shall not be placed on or within the crosswalk markings. If the In-Roadway Warning Lights are activated by a push button, the PUSH BUTTON FOR PEDESTRIAN WARNING LIGHTS, CROSS WITH CAUTION (R62E(CA)) sign shall be used.**

14 **The following shall be considered when evaluating the need for In-Roadway Warning Lights:**

- A. **Whether the crossing is controlled or uncontrolled.**
- B. **An engineering traffic study to determine if In-Roadway Warning Lights are compatible with the safety and operation of nearby intersections, which may or may not be, controlled by traffic signals or STOP/YIELD signs.**
- C. **Standard traffic signs for crossings and crosswalk pavement markings are provided.**
- D. **At least 40 pedestrians regularly use the crossing during each of any two hours (not necessarily consecutive) during a 24-hour period.**
- E. **The vehicular volume through the crossing exceeds 200 vehicles per hour in urban areas or 140 vehicles per hour in rural areas during peak-hour pedestrian usage.**
- F. **The critical approach speed (85th percentile) is 45 mph or less.**
- G. **In-Roadway Warning Lights are visible to drivers at the minimum stopping sight distance for the posted speed limit.**
- H. **Public education on In-Roadway Warning Lights is conducted for new installations.**

Option:

15 Overhead or roadside Flashing Yellow Beacons may be installed in conjunction with In-Roadway Warning Lights. In-Roadway Warning Lights may be installed independently, but are not necessarily intended to be a substitute for standard flashing beacons. Engineering judgment should be exercised.

Guidance:

16 *Typical applications of In-Roadway Warning Lights are shown in Figure 4N-101(CA).*

Section 4N.101(CA) In-Roadway Warning Lights at Crosswalks Financing and Maintenance-State Highways Standard:

⁰¹ When In-Roadway Warning Lights are proposed by Caltrans on State highways, Caltrans shall pay the costs of installation and maintenance. When In-Roadway Warning Lights are proposed and installed by a local agency on State highways, the installation of In-Roadway Warning Lights shall be covered by an Encroachment Permit issued by the local Caltrans District Director. The local agency shall be responsible for installation and maintenance of the In-Roadway Warning Lights.



APPENDIX E - TRIP ESTIMATES FROM EASTBROOK EASTATES, LINGURIAN VILLAGE, AND LINGURIAN VILLAGE UNIT 2

Table 5 Project Trip Generation Estimates

Land Use	ITE Land Use	Size	Daily Rate	Daily Trips	AM Peak Hour				PM Peak Hour			
					Rate	Total	In	Out	Rate	Total	In	Out
Single Family Detached ^a	210	70 d.u.	10.7	749	0.83	58	15	43	1.11	78	49	29

Notes:

d.u. = dwelling units

a = Trip Generation rate based on fitted curve equations and development size.

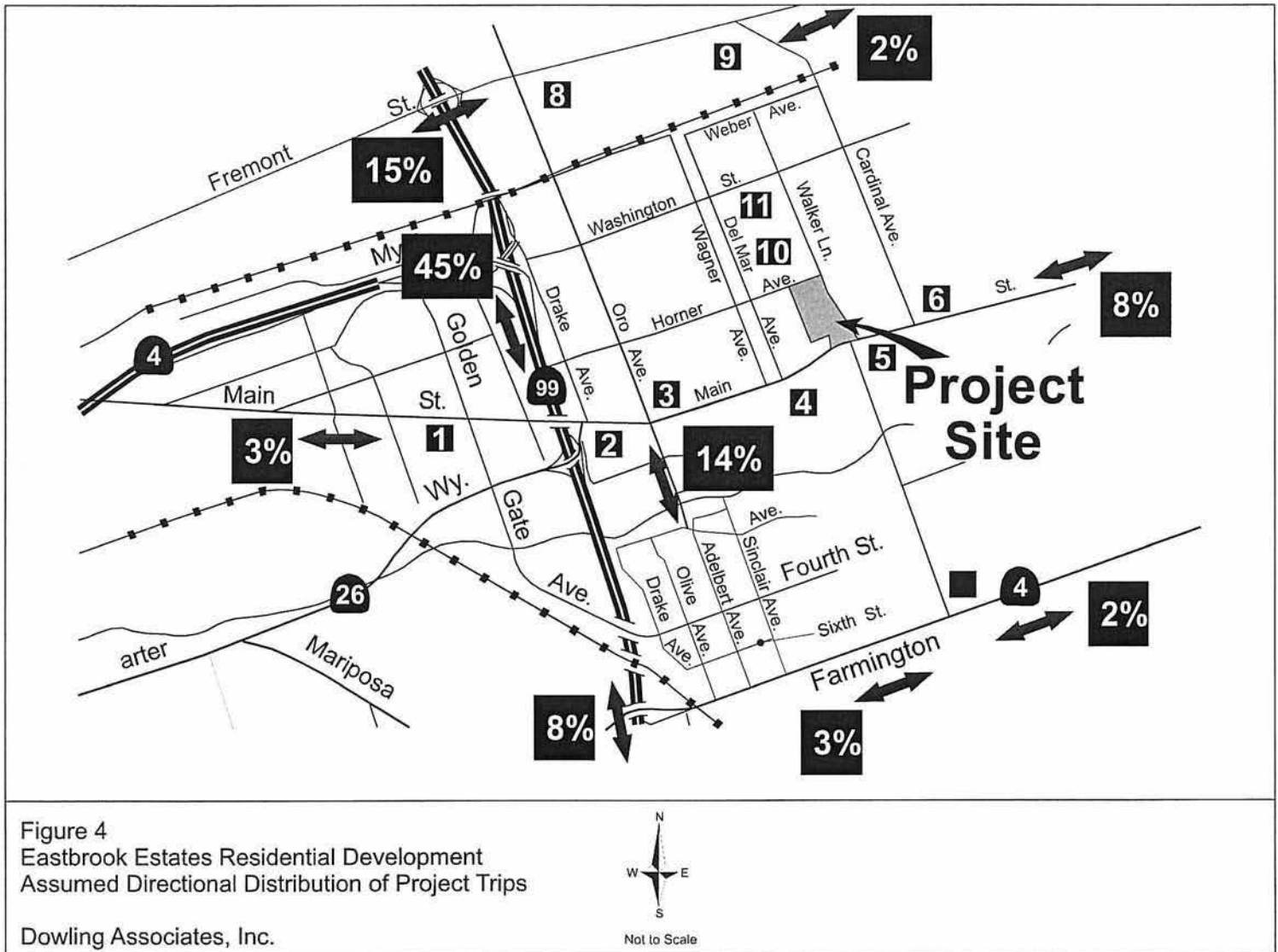


Figure 4
Eastbrook Estates Residential Development
Assumed Directional Distribution of Project Trips

Dowling Associates, Inc.

Table 5 Project Trip Generation Estimates

Land Use	ITE Land Use	Size	Daily Rate	Daily Trips	AM Peak Hour				PM Peak Hour			
					Rate	Total	In	Out	Rate	Total	In	Out
Single Family Detached ^a	210	117 du	10.26	1,201	0.78	91	23	68	1.05	123	77	46

Notes:

d.u. = dwelling units

a = Trip Generation rate based on fitted curve equations and development size.

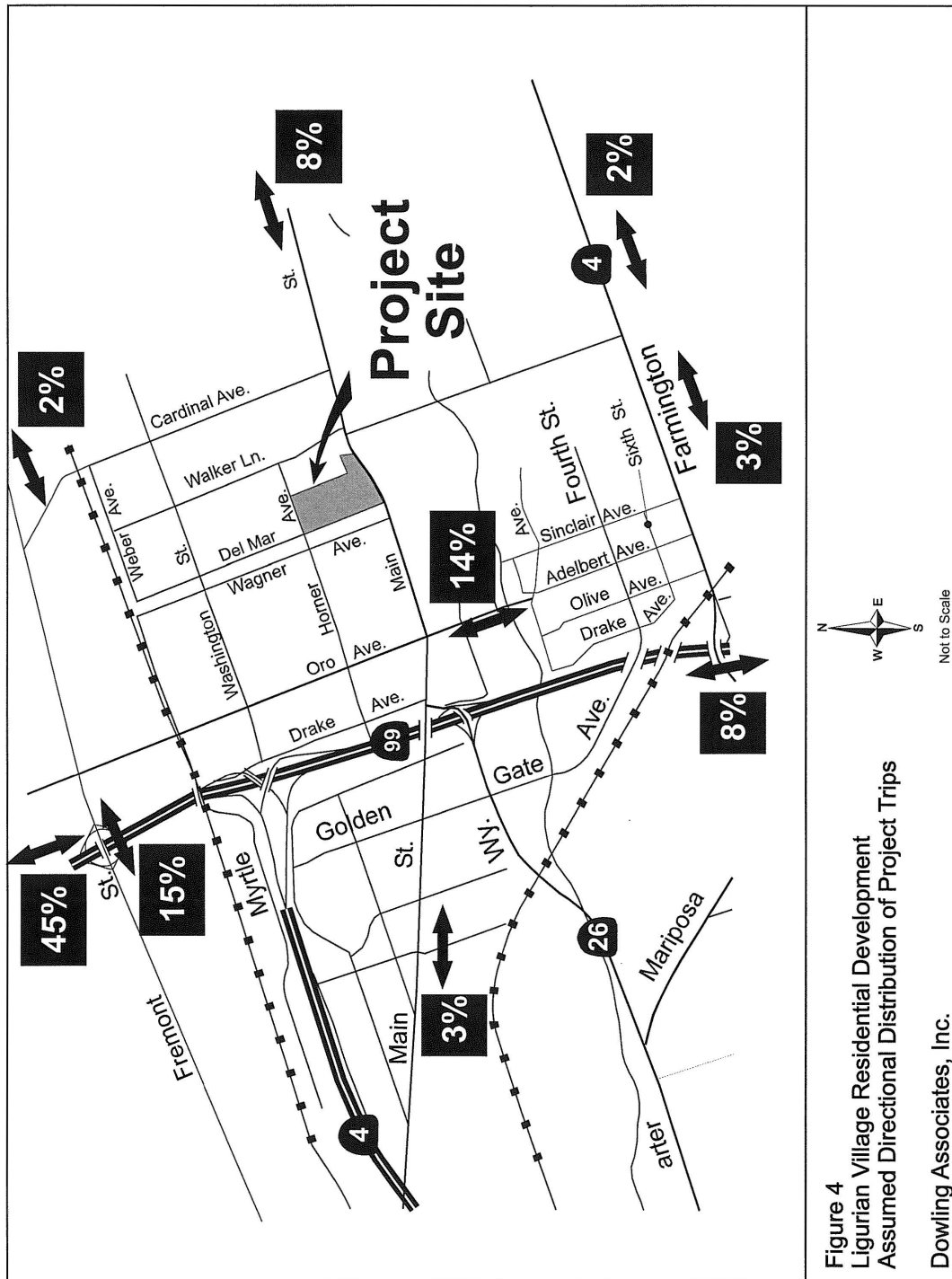


Figure 4
Ligurian Village Residential Development
Assumed Directional Distribution of Project Trips
Dowling Associates, Inc.



Trip Generation

Trip generation by the proposed Ligurian Village Unit 2 single family residential development was estimated based on data published in *Trip Generation, 7th Edition*, by the Institute of Transportation Engineers (ITE) as presented in Table 5. It is projected that the project would generate 580 daily trips, including 47 trips in the AM peak hour and 61 trips in the PM peak hour as shown in Table 5 below.

Table 5 Project Trip Generation Estimates

Land Use	ITE Land Use	Size	Daily Rate	Daily Trips	AM Peak Hour					PM Peak Hour			
					Rate	Total	In	Out		Rate	Total	In	Out
Single Family Detached ^a	210	53 du	10.94	580	0.89	47	12	35		1.15	61	38	23

Notes:

d.u. = dwelling units

a = Trip Generation rate based on fitted curve equations and development size.

Trip Distribution

Trip distribution for the project was based on similar studies conducted in the project area. The trip distribution percentages used herein are depicted graphically in Figure 4. Traffic generated by the project that will be added to the study intersections is displayed in Figure 5 for the AM and PM peak hours.

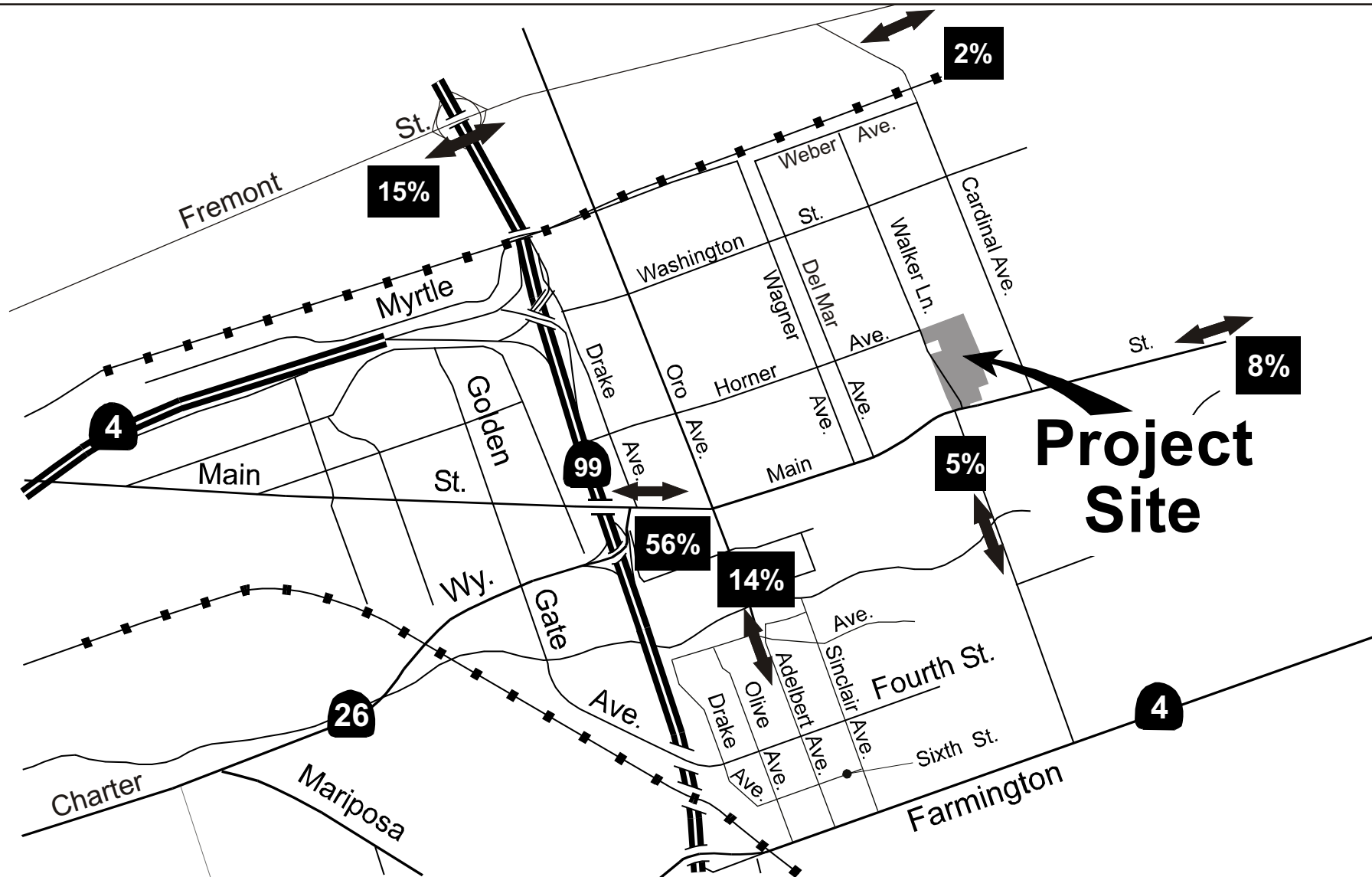


Figure 4
Ligurian Village Unit 2 Residential Development
Assumed Directional Distribution of Project Trips

Dowling Associates, Inc.



Not to Scale