Bay Avenue Corridor Study

Transportation Analysis

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Prepared for

Prepared by

10 South Almaden Boulevard, Suite 1250
San Jose, CA 95113

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Project Overview:

The Bay Avenue Corridor Study, conducted by Kimley-Horn in partnership with the City of Capitola, aims to analyze and propose improvements for the Bay Avenue corridor stretching from Highway 1 to Park Avenue. The primary objectives are to enhance mobility, economic development, traffic operations, and multimodal safety through long-term roadway and intersection modifications. It is intended that the proposed corridor improvements would be funded through grant opportunities.

Study Scope and Methodology:

A traffic operations analysis for existing (Year 2024) and cumulative (Year 2045) conditions was conducted to assess the feasibility of multiple alternative configurations:

- Alternative 0 – No Build: Maintain current traffic control and roadway geometry.
- Alternative 1 – Stop Control and Road Diet: Convert a portion of Bay Avenue from a four-lane to a two-lane road with enhanced multimodal crossings at the existing all-way stop intersections.
- Alternative 2 – Roundabout: Implement single-lane roundabouts at key intersections.
- Alternative 3 – Signal: Implement traffic signals at key intersections.

Traffic data, including intersection volumes, daily traffic, speed, and collision statistics, were collected and analyzed using Synchro, Sidra, and VISSIM software.

Existing Conditions (Year 2024) Analysis Results:

- Most intersections operate at an acceptable level of service (LOS).
- The roundabout alternative (Alt 2) demonstrates better LOS operations compared to the stop control (Alt 1) and signal (Alt 3) configurations.
- Significant vehicle queues were observed at some intersections, particularly the Bay Avenue/Highway 1 ramps and Hill Street.

Cumulative Conditions (Year 2045) Analysis Results:

- Several intersections are anticipated to exceed acceptable LOS thresholds.
- The roundabout alternative (Alt 2) consistently provides the best performance in terms of vehicle delay and travel times.
- Signalized intersections (Alt 3) yields acceptable LOS but with increased vehicle queues compared to roundabouts.

Multimodal Access and Safety Improvements

The proposed improvements for each alternative configuration would aim to enhance safety for pedestrians and cyclists through various measures:

- General Multimodal Enhancements:
    - Traffic Calming Features: All alternatives incorporate traffic calming features like narrower lanes and improved intersection design, which inherently enhance safety for all road users.
    - Visibility Improvements: Enhanced lighting, signage, and marked crosswalks improve visibility for pedestrians and cyclists, especially at night or during adverse weather conditions.

  - Collision Mitigation: Historical collision data and near-miss analysis inform the design to specifically address risky driver behaviors and common collision types, further ensuring pedestrian and cyclist safety.
- Summary of Multimodal Safety Benefits:
  - Reduced Vehicle Speeds: Slower travel speeds generally lead to decreased collision severity for vehicles, cyclists and pedestrians.
  - Clear Right-of-Way: Signal and roundabout controls provide structured and predictable movement patterns.
  - Protected Space: Buffered and clearly marked spaces for pedestrians and cyclists reduce the risk of conflicts with vehicles.
  - Improved Crossings: Shorter and more visible crossing areas make it safer and easier for pedestrians to navigate intersections.
  - Enhanced Visibility and Lighting: Increased visibility through better lighting and clear signage reduces the risk of accidents.

Conclusion and Recommendations:

The roundabout configuration (Alternative 2) offers the most optimal solution for minimizing vehicle delays, enhancing traffic safety, and improving multimodal access. This option, however, requires significant infrastructure investment and potential right-of-way acquisition.

The stop control and road diet alternative (Alternative 1) would improve pedestrian and cyclist safety with minimal initial capital costs but result in poor corridor operations and long vehicle delay.

The signalized intersection configuration (Alternative 3) presents an intermediate solution, providing moderate operation and multimodal improvements at the expense of infrastructure investment and high ongoing maintenance costs.

Based on the analysis results, the study recommends pursuing the roundabout configuration at key intersections for long-term benefits in traffic operations, safety, economic development, and multi-modal accessibility. Compared to the no-build alternative, the stop control and signal control alternatives could also be considered feasible based on budgetary constraints and immediate needs.

ES-1: Qualitative Corridor Operations Summary Comparison

Criteria	Alternative 0 – No Build	Alternative 1 – Stop & Road Diet	Alternative 2 – Roundabout	Alternative 3 - Signal
Operations				
Vehicle Delay	High Stop control creates delay for intersection approaches	High Stop control creates delay for intersection approaches	Low Yield control reduces average delay	Moderate Signal control reduces average delay
Vehicle Travel Time	Long Stop control creates delay for intersection approaches	Long Stop control creates delay for intersection approaches	Short Yield control reduces average delay	Moderate Signal control reduces average delay
Vehicle Queue Length	Long Long queues and spillback into adjacent intersection	Long Long queues and spillback into adjacent intersection	Moderate Yield control generates average queues	Moderate Signal control generates average queues
Transit and Emergency Vehicle Access Improvement	Poor Slower average travel times and higher VHT	Poor Slower average travel times and higher VHT	Moderate Faster average travel times and lower VHT	Moderate Opportunity for emergency vehicle preemption
Driver Adaptation Time	Low Existing conditions on corridor	Low Existing conditions on corridor	High New traffic control in City for users	Moderate Existing conditions on corridor
Safety				
Collision Severity Potential	Moderate Numerous conflict points with stop control at intersection	Moderate Numerous conflict points with stop control at intersection	Low Fewer conflict points and controlled lower speeds at intersection	High Higher vehicle speeds and numerous conflict points at intersection
Bicycle Access Improvement	Poor No Build scenario would not improve conditions	Moderate Buffered bike lanes and markings	Good Buffered bike lanes and markings. Shorter and protected crossings	Moderate Buffered bike lanes and markings. Designated crossing phases
Pedestrian Access Improvement	Poor No Build scenario would not improve conditions	Moderate Shorter crossings with traffic calming	Good Shorter and protected crossings	Moderate Designated crossing phases
Economic				
Capital Construction Cost	Low No Build scenario would not improve conditions	Low Updates to existing infrastructure	High New infrastructure and utility coordination	High New infrastructure and signal equipment
Right of Way Impact	Low	Low	High	Moderate

Criteria	Alternative 0 – No Build	Alternative 1 – Stop & Road Diet	Alternative 2 – Roundabout	Alternative 3 - Signal
	No change to existing conditions	Updates to existing infrastructure	Property impacts to accommodate design	New infrastructure and signal equipment
Operation & Maintenance Costs	Low No Build scenario would not improve conditions	Low Landscaping	Moderate Landscaping	High Signal equipment, electricity
Greenhouse Gas Emissions	Moderate Vehicle idling with stop traffic control	Moderate Vehicle idling with stop traffic control	Low Less vehicle idling with yield traffic control	Moderate Higher speeds & vehicle idling with signal traffic control
Aesthetics & Community Character Improvement	Poor No Build scenario would not improve conditions	Moderate Opportunities for art and landscaping with traffic calming	Good Opportunities for art and landscaping at intersection	Moderate Requires signal poles and cabinets
Grant Funding Opportunity	Poor No Build scenario would not improve conditions	Moderate Multimodal safety improvement	Good Multimodal safety improvement, traffic congestion reduction, environmental impact	Moderate Traffic congestion reduction
General Benefits	• Lower initial capital cost and ongoing maintenance	• Improved driver certainty • Lower initial capital cost • Improved bike & ped safety	• Reduction collision severity • Improved bike & ped safety • Improved operations • Reduced GHG emissions	• Improved operations & capacity • Provides designated crossing times and driver certainty
General Challenges	• Decreased operations • Increased queues	• Decreased operations • Increased queues	• High initial capital cost and potential ROW impact • Driver adaptation to new traffic operations	• High capital and maintenance costs • Increased queues and collision severity potential

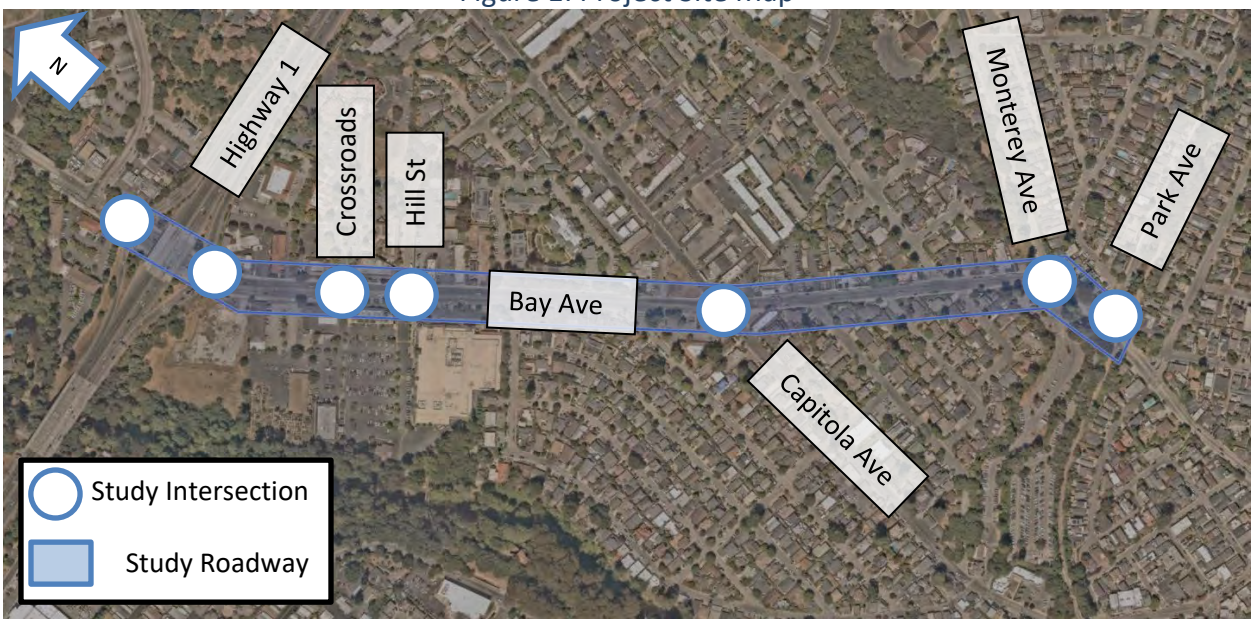
1. Project Description and Corridor Study Scope

Kimley-Horn and Associates, Inc. (Kimley-Horn) is working with the City of Capitola (City) to conduct a traffic operations analysis and corridor study along Bay Avenue from Highway 1 to Park Avenue. This planning study was prepared to assess current and future needs of the Bay Avenue corridor to improve mobility, safety, operations, and economic development for all users.

The study investigates feasible long-term roadway and intersection improvements that could enhance traffic operations and safety for vehicles, bicyclists, and pedestrians through a traffic analysis and intersection control evaluation (ICE) for the Bay Avenue corridor. The overall recommendations of the corridor study are consistent with the Bay Avenue Vision, mobility, and economic goals in the Capitola General Plan. It is anticipated these long-term future improvements would consist of permanent hardscape and geometric roadway changes that would be funded through grant opportunities.

Figure 1 presents an overview map of the Bay Avenue corridor study area.

Figure 1: Project Site Map



1.1 Corridor Study Scenarios

Traffic conditions for Bay Avenue was analyzed during the 7:00 – 9:00 AM and 4:00 – 6:00 PM peak hours of traffic which represent the most heavily congested traffic on a typical weekday. The study area was assessed under the following study scenarios.

- **Existing Scenario**: Existing AM and PM peak-hour traffic volumes from Year 2024 traffic count data and utilizing roadway geometry and intersection traffic control from proposed corridor alternatives aimed to enhance multimodal operations.

- **Cumulative Scenario**: Peak-hour traffic volumes based on the Santa Cruz County Regional Transportation Commission (SCCRTC) Travel Demand Model for Year 2045 and utilizing roadway geometry and intersection traffic control from proposed corridor alternatives aimed to enhance multimodal operations.

1.2 Proposed Corridor Alternatives

The corridor operations and intersection control evaluation (ICE) analysis investigated potential improvements that could improve access and safety for vehicles, bicycles, and pedestrians. Based on internal discussion and direction from City staff, the lane intersection improvement and lane configuration alternatives were evaluated under the Existing Year 2024 and Cumulative Year 2045 study scenarios. Exhibits and tables detailing the general operations, traffic control, and roadway geometry of the conceptual Bay Avenue corridor alternatives are included in **Figure 2**.

Alternative 0 – No Build

- All study intersections and roadways segments are analyzed with its existing traffic control and lane geometry to provide a comparison with the proposed corridor alternatives.

Alternative 1 – Stop Control and Road Diet

- Roadway between Crossroads Loop and Center Street
  - Convert Bay Avenue from a 4-lane roadway into a 2-lane roadway with road diet transition
- Bay Avenue / Crossroads Loop Intersection
  - Adjust Bay Avenue Major Approach (Southbound direction) for 2-lane road diet
- Bay Avenue / Hill Street Intersection
  - Install curb bulb-outs and enhanced pedestrian crossings with 2-lane road diet
- Assumes improvements can fit within existing City intersection footprint and right-of-way.
- All other study intersections are analyzed with its existing traffic control and lane geometry

Alternative 2 – Roundabout

For the purposes of this study, a qualitative right-of-way evaluation for the Existing and Cumulative condition was conducted to determine if a roundabout is feasible for any of the existing Bay Avenue stop-controlled study intersections.

- Roadway between Crossroads Loop and Center Street
  - Convert Bay Avenue from a 4-lane roadway into a 2-lane roadway with road diet transition
- Bay Avenue / Crossroads Loop Intersection
  - Adjust Bay Avenue Major Approach (Southbound direction) for 2-lane road diet
- Bay Avenue / Hill Street Intersection
  - Convert intersection into single lane roundabout layout with yield control with 2-lane road diet
- Bay Avenue / Capitola Avenue Intersection
  - Convert intersection into single lane roundabout layout with yield control
- Bay Avenue / Monterey Avenue Intersection
  - Convert intersection into single lane roundabout layout with yield control

    - It should be noted that for existing and cumulative conditions, the intersection has right-of-way constraints that impact the economic and construction feasibility for a roundabout; however for consistency and ICE comparison purposes, this intersection was analyzed as a roundabout for the Alternative 2 layout.
- Monterey Avenue / Park Avenue Intersection
    - Convert intersection into single lane roundabout layout with yield control
    - It should be noted that for existing and cumulative conditions, the intersection has right-of-way constraints that impact the economic and construction feasibility for a roundabout; however for consistency and ICE comparison purposes, this intersection was analyzed as a roundabout for the Alternative 2 layout.
- Assumes roundabout improvements would have minor impacts outside of City right-of-way.
- All other study intersections are analyzed with its existing traffic control and lane geometry

Alternative 3 – Signal

For the purposes of this study and based on the collected traffic volumes, MUTCD peak hour signal warrant #3 was evaluated for the Existing and Cumulative condition to determine if a signal is warranted for any of the existing Bay Avenue stop-controlled study intersections. See Section 3 for analysis.

- Roadway between Crossroads Loop and Center Street
    - Convert Bay Avenue from a 4-lane roadway into a 2-lane roadway with road diet transition
- Bay Avenue / Crossroads Loop Intersection
    - Adjust Bay Avenue Major Approach (Southbound direction) for 2-lane road diet
- Bay Avenue / Hill Street Intersection
    - Convert intersection into signal control with 2-lane road diet
- Bay Avenue / Capitola Avenue Intersection
    - Convert intersection into signal control
    - It should be noted that for existing and cumulative conditions, the Bay/Capitola intersection does not meet the Warrant 3 volume criteria for a signal; however for consistency and ICE comparison purposes, this intersection was analyzed as signal for the Alternative 3 layout.
- Bay Avenue / Monterey Avenue Intersection
    - Convert intersection into signal control
- Monterey Avenue / Park Avenue Intersection
    - Convert intersection into signal control
- Assumes signal equipment can fit within existing City intersection footprint and right-of-way, no physical improvements needed.
- All other study intersections are analyzed with its existing traffic control and lane geometry

It should be noted that a combination of the intersection control alternatives, such as an all-way stop at one location and a roundabout/signal at another location, may be considered along the Bay Avenue corridor pending City direction and public outreach. A detailed analysis of all the possible intersection control combinations is outside the scope of this planning study; however, , While I don't think we need to run a detailed analysis on this, having a general answer prepared would be helpful.

Figure 2: Corridor Alternatives Summary

Intersection

#	Intersection Name	Alternative 0 - No Build		Alternative 1 - Stop & Road Diet		Alternative 2 - Roundabout		Alternative 3 - Signal	
		Traffic Control	Intersection Geometry and Operations	Traffic Control	Intersection Geometry and Operations	Traffic Control	Intersection Geometry and Operations	Traffic Control	Intersection Geometry and Operations
1	Bay Avenue / Highway 1 NB Ramps	Signal	No changes to current condition (Intersection in Caltrans right-of-way) 3 NB, 2 SB, 2 WB Lanes	Signal	Same as Alt 0 - No Build	Signal	Same as Alt 0 - No Build	Signal	Same as Alt 0 - No Build
2	Bay Avenue / Highway 1 SB Ramps	Signal	No changes to current conditions (Intersection in Caltrans right-of-way) 2 NB, 3 SB, 3 EB Lanes	Signal	Same as Alt 0 - No Build	Signal	Same as Alt 0 - No Build	Signal	Same as Alt 0 - No Build
3	Bay Avenue / Crossroads Loop	TWSC	No changes to current condition (Minor street access to private driveways) 2 NB, 3 SB, 2 EB, 1 WB Lanes	TWSC	Adjust Bay Avenue Major Approach (Southbound direction) for 2-lane road diet -1 left lane, 1 through lane, 1 right lane -Buffered Class II bike lanes	TWSC	Adjust Bay Avenue Major Approach (Southbound direction) for 2-lane road diet -1 left lane, 1 through lane, 1 right lane -Buffered Class II bike lanes -It should be noted that for existing and cumulative conditions, the Bay/Crossroads intersection has right-of-way constraints that impact the economic and construction feasibility for a roundabout	TWSC	Adjust Bay Avenue Major Approach (Southbound direction) for 2-lane road diet -1 left lane, 1 through lane, 1 right lane -Buffered Class II bike lanes -It should be noted that for existing and cumulative conditions, the Bay/Crossroads intersection does not meet the MUTCD Warrant 3 volume criteria for a signal
4	Bay Avenue / Hill Street	AWSC	No changes to current condition 3 NB, 3 SB, 2 EB, 1 WB Lanes	AWSC	Install curb bulb-outs and enhanced pedestrian crossings with 2-lane road diet -Buffered Class II bike lanes -Bay Avenue Major Approach (Northbound and Southbound directions) --1 left lane, 1 shared through-right lane -Hill Street Minor Approach (Westbound direction) --1 shared left-through-right lane -Nob Hill Driveway Minor Approach (Eastbound direction) --1 shared left-through lane, 1 right lane	RDBT	Convert intersection into single lane roundabout layout with yield control with 2-lane road diet -Bay Avenue Major Approach (Northbound and Southbound directions) --1 shared left-through-right lane --Lane drop transition prior to roundabout intersection --Bike lane transitions and curb ramps onto Class I shared bike/ped pathway prior to roundabout intersection --Santa Cruz Metro bus stop and commercial driveway access is maintained along Bay Avenue corridor -Hill Street Minor Approach (Westbound direction) --1 shared left-through-right lane --Pedestrian crossing relocated before roundabout intersection -Nob Hill Driveway Minor Approach (Eastbound direction) --1 shared left-through-right lane --Pedestrian crossing and pathway relocated inside plaza parking lot before roundabout intersection	Signal	Convert intersection into signal control with 2-lane road diet -Bay Avenue Major Approach (Northbound and Southbound directions) --1 left lane, 1 shared through-right lane --Protected left turn operations for Northbound and Southbound approaches -Nob Hill Driveway and Hill Street Minor Approach (Eastbound and Westbound directions) --Lane geometry same as existing condition --Permissive yield left turn operations for Eastbound and Westbound approaches
5	Bay Avenue / Capitola Avenue	AWSC	No changes to current condition 2 NB, 2 SB, 2 EB, 1 WB Lanes	AWSC	Same as Alt 0 - No Build	RDBT	Convert intersection into single lane roundabout layout with yield control -Bay Avenue Major Approach (Northbound and Southbound directions) --1 shared left-through-right lane --Bike lane transitions and curb ramps onto Class I shared bike/ped pathway prior to roundabout intersection -Capitola Avenue Minor Approach (Westbound and Eastbound directions) --1 shared left-through-right lane --Pedestrian crossing relocated before roundabout intersection	Signal	Convert intersection into signal control -It should be noted that for existing and cumulative conditions, the Bay/Capitola intersection does not meet the MUTCD Warrant 3 volume criteria for a signal; however for consistency and ICE comparison purposes, this intersection was analyzed as signal for the Alternative 3 layout. -Lane geometry same as existing condition for all intersection leg approaches --Permissive yield left turn operations for all approaches

Intersection

#	Intersection Name	Alternative 0 - No Build		Alternative 1 - Stop & Road Diet		Alternative 2 - Roundabout		Alternative 3 - Signal	
		Traffic Control	Intersection Geometry and Operations	Traffic Control	Intersection Geometry and Operations	Traffic Control	Intersection Geometry and Operations	Traffic Control	Intersection Geometry and Operations
6	Bay Avenue / Monterey Avenue	AWSC	No changes to current condition 1 NB, 1 SB, 1 WB Lanes	AWSC	Same as Alt 0 - No Build	RDBT	Convert intersection into single lane roundabout layout with yield control -It should be noted that for existing and cumulative conditions, the Bay/Monterey intersection has right-of-way constraints that impact the economic and construction feasibility for a roundabout; however for consistency and ICE comparison purposes, this intersection was analyzed as a roundabout for the Alternative 2 layout. -All roadway approaches --1 shared left-through-right lane --Bike lane transitions and curb ramps onto Class I shared bike/ped pathway prior to roundabout intersection	Signal	Convert intersection into signal control -Lane geometry same as existing condition for all intersection leg approaches --Permissive yield left turn operations for all approaches
7	Monterey Avenue / Park Avenue	AWSC	No changes to current condition 2 NB, 2 SB, 1 EB, 1 WB Lanes	AWSC	Same as Alt 0 - No Build	RDBT	Convert intersection into single lane roundabout layout with yield control -It should be noted that for existing and cumulative conditions, the Monterey/Park intersection has right-of-way constraints that impact the economic and construction feasibility for a roundabout; however for consistency and ICE comparison purposes, this intersection was analyzed as a roundabout for the Alternative 2 layout. -All roadway approaches --1 shared left-through-right lane --Bike lane transitions and curb ramps onto Class I shared bike/ped pathway prior to roundabout intersection	Signal	Convert intersection into signal control -Lane geometry same as existing condition for all intersection leg approaches --Permissive yield left turn operations for all approaches

Roadway

#	Roadway Segment (Bay Avenue)	Alternative 0 - No Build		Alternative 1 - Stop & Road Diet		Alternative 2 - Roundabout		Alternative 3 - Signal	
		# Travel Lanes	Roadway Geometry and Operations	# Travel Lanes	Roadway Geometry and Operations	# Travel Lanes	Roadway Geometry and Operations	# Travel Lanes	Roadway Geometry and Operations
A	Highway 1 to Crossroads Loop	4	2 NB, 2 SB, Center left turn lane, Class II Bike	4	Same as Alt 0 - No Build	4	Same as Alt 0 - No Build	4	Same as Alt 0 - No Build
B	Crossroads Loop to Hill Street	4	2 NB, 2 SB, Center left turn lane, Class II Bike	2	Convert from a 4-lane roadway into a 2-lane roadway with road diet transition	2	Convert from a 4-lane roadway into a 2-lane roadway with road diet transition	2	Convert from a 4-lane roadway into a 2-lane roadway with road diet transition
C	Hill Street to Center Street	4	2 NB, 2 SB, Center left turn lane, Class II Bike	2	Convert from a 4-lane roadway into a 2-lane roadway with road diet transition	2	Convert from a 4-lane roadway into a 2-lane roadway with road diet transition	2	Convert from a 4-lane roadway into a 2-lane roadway with road diet transition
D	Center Street to Capitola Avenue	2	1 NB, 1 SB, Class II Bike, On-Street Parking	2	Same as Alt 0 - No Build	2	Same as Alt 0 - No Build	2	Same as Alt 0 - No Build
E	Capitola Avenue to Monterey Avenue	2	1 NB, 1 SB, Class II Bike, On-Street Parking	2	Same as Alt 0 - No Build	2	Same as Alt 0 - No Build	2	Same as Alt 0 - No Build
F	Monterey Avenue to Park Avenue	2	1 NB, 1 SB, Class II Bike	2	Same as Alt 0 - No Build	2	Same as Alt 0 - No Build	2	Same as Alt 0 - No Build

1.3 Capitola General Plan Consistency

The objectives of the Bay Avenue Corridor Study were prepared to be consistent with the following land use, mobility, and economic goals identified in the City's latest General Plan.

- Goal LU-10 Maintain and enhance Bay Avenue commercial district as a thriving destination with businesses that serve Capitola residents and visitors.
    - Policy LU-10.2 Bay Avenue Streetscape. Enhance the Bay Avenue streetscape in a way that improves the appearance of Bay Avenue, increases safety for bicyclists and pedestrians, and stimulates private investment within the area.
    - Policy LU-10.3 Tree-Lined Boulevard. Encourage a tree-lined boulevard streetscape character along Bay Avenue north of the Capitola Produce property. Encourage installation of drought tolerant and non-invasive street trees and landscaping along the Bay Avenue property frontage in conjunction with capital improvement or redevelopment projects.
    - Action LU-10.1 Medians. Explore opportunities to install medians on Bay Avenue in locations where left turn movements for vehicles would not be restricted.
    - Action LU-10.2 Roundabout. Conduct a public process to study the feasibility of installing a roundabout at the Bay Avenue/Capitola Avenue intersection. The study shall consider impacts on traffic speeds, delays, and air quality.
    - Action LU-10.3 Streetscape Master Plan. Prepare a streetscape master plan for Bay Avenue that presents a unified design theme for the corridors and identifies specific improvements needed to implement this vision.

- Goal MO-4 Provide a roadway system that enhances community aesthetics and promotes a high quality of life
    - Action MO-4.1 Bay Avenue Roundabout. Prepare a study and conduct outreach with business stakeholders and the public to evaluate the feasibility of constructing a roundabout at the intersection of Bay Avenue and Capitola Avenue.

- Goal ED-2 Provide businesses and jobs that create a healthy and stable local economy.
    - Policy ED-2.8 Major Bay Avenue Development Projects. Ensure that major development projects contribute to the vitality and enhance the function of Bay Avenue as a thriving commercial district.

Bay Avenue Vision in the Capitola General Plan

1.4 Level-of-Service Criteria and Thresholds

Analysis of potential adverse effects at roadway intersections is based on the concept of level-of-service (LOS). The LOS of an intersection is a qualitative measure used to describe operational conditions. LOS A (best) represents minimal delay, while LOS F (worst) represents heavy delay and a facility that is operating at or near its functional capacity.

This LOS analysis uses methods defined in the Highway Capacity Manual (HCM) Seventh Edition. HCM 7th Edition methodologies include procedures for analyzing side-street stop-controlled ("SSSC"), all-way stop-controlled ("AWSC"), and signalized intersections. The SSSC procedure defines LOS as a function of average control delay for each minor street approach movement. Conversely, the AWSC and signalized intersection procedures define LOS as a function of average control delay for the overall intersection. **Table 1** relates the operational characteristics associated with each LOS category for signalized and unsignalized intersections.

Table 1: Intersection Operation Standards at Signalized and Unsignalized Intersections

Level of Service	Description	Signalized (Avg. control delay per vehicle sec/veh.)	Unsignalized (Avg. control delay per vehicle sec/veh.)
A	Free flow with no delays. Users are virtually unaffected by others in the traffic stream	less than 10	less than 10
B	Stable traffic. Traffic flows smoothly with few delays.	less than or equal to 10 to 20	less than or equal to 10 to 15
C	Stable flow but the operation of individual users becomes affected by other vehicles. Modest delays.	less than or equal to 20 to 35	less than or equal to 15 to 25
D	Approaching unstable flow. Operation of individual users becomes significantly affected by other vehicles. Delays may be more than one cycle during peak hours.	less than or equal to 35 to 55	less than or equal to 25 to 35
E	Unstable flow with operating conditions at or near the capacity level. Long delays and vehicle queuing.	less than or equal to 55 to 80	less than or equal to 35 to 50
F	Forced or breakdown flow that causes reduced capacity. Stop and go traffic conditions. Excessive long delays and vehicle queuing.	greater than or equal to 80	greater than or equal to 50
Sources: Transportation Research Board, *Highway Capacity Manual 6th Edition*, National Research Council.			

City of Capitola LOS Threshold

The City of Capitola General Plan (adopted June 26, 2014, and updated March 13, 2019) (Policy MO-3.3) establishes a minimum LOS C traffic operation standard at intersections throughout the City, with the exception of the Village Area, Bay Avenue, and 41st Avenue where LOS D is the minimum acceptable standard.

Capitola General Plan Policy MP-3.4 permits a lower LOS and higher congestion at major regional intersections, if necessary, improvements are considered infeasible, as determined by the City's Public Works Director, or result in significant, unacceptable environmental impacts. Any evaluation of the Project's LOS impact on City of Capitola streets follows the City's General Plan.

California Department of Transportation (Caltrans) LOS Threshold

An LOS-based analysis of Caltrans facilities is provided using the previously applied LOS standard combined with the County v/c standard for significance criteria purposes. Deficiencies at Caltrans study intersections occur when:

- Cause operations to deteriorate from an acceptable level (LOS C or better) to an unacceptable level (LOS D or worse); or
- Causes the existing measure of effectiveness (average delay) to deteriorate at a State-operated intersection operating at LOS D or worse.

Roundabout Analysis – FHWA Requirements

Roundabouts: An Information Guide (June 2000) by the Federal Highway Administration (FHWA) was used for guidance. The FHWA recommends that no approach to a roundabout should handle more than 85% of its capacity, even if the level of service is still acceptable. This helps ensure that each entrance runs smoothly, preventing congestion and keeping traffic flowing efficiently. The analysis takes this design standard into account.

1.5 Traffic Analysis Methodology

For the Bay Avenue Corridor (Alternative 0 – No Build, Alternative 1 - Stop, Alternative 2 – Roundabout, and Alternative 3 – Signal), the LOS, vehicle delay, and critical vehicle queues were determined using Synchro 12 traffic analysis software. Sidra 9 traffic analysis software was also used to estimate the LOS, vehicle delay, and critical vehicle queues for the proposed roundabout geometry along Bay Avenue.

For the Alternative 1 – Stop and Alternative 2 – Roundabout layouts, a microsimulation analysis using VISSIM software was also conducted for operation comparison purposes. VISSIM was used because the software is the most appropriate tool to simulate the pedestrian, bicycle, vehicular traffic movements, and driver behavior through various traffic control devices. **Figure 3** illustrates the VISSIM model used for the traffic analysis.

Figure 3: Illustrative VISSIM Model for Project Study Area


Crossroads Loop
Hill St
Bay Ave
Capitola Ave
Bay Ave
Driveway
Driveway
Crossroads Loop
Hill St
Capitola Ave
Bay Ave
Bay Ave
Driveway
Driveway
Bay Ave
Monterey Ave
Park Ave

2. Existing Transportation Conditions

2.1 Study Intersections

Study intersections for the project were selected in consultation with City staff. The intersections evaluated in this study are listed below.

1. Bay Avenue / Highway 1 NB Ramps
2. Bay Avenue / Highway 1 SB Ramps
3. Bay Avenue / Crossroads Loop
4. Bay Avenue / Hill Street
5. Bay Avenue / Capitola Avenue
6. Bay Avenue / Monterey Avenue
7. Monterey Avenue / Park Avenue

2.2 Roadway Network

The following local and regional roadways provide access to the project study area:

Highway 1 is 4-lane freeway (that connects with State Route 17 and State Route 156) in the north-south direction. Within Capitola, Highway 1 travels in an east-west direction. Access to and from the project study area is provided by ramp terminals at Porter Street / Bay Avenue.

Bay Avenue is an arterial in the northwest-southeast direction between Highway 1 and Monterey Avenue, and the road is classified as a minor arterial per the City's General Plan. Class II bike lanes and sidewalks exist along both sides of the roadway. The posted speed limit is 25 miles per hour and provides direct access to commercial and residential land uses. Between Highway 1 and Center Street, Bay Avenue is a four-lane facility with a center two-way left-turn lane (TWLTL), and on-street parking is prohibited along this section. Between Center Street and Park Avenue, Bay Avenue is a two-lane facility, and on-street parking is allowed in marked areas next to commercial and residential uses.

Crossroads Loop is a private two-lane street in the east-west direction that provides direct driveway access to commercial uses at the Nob Hill plaza on the westside and at the Crossroads center on the eastside. The roadway provides sidewalks for pedestrians and on-street parking on the private road east of Bay Avenue. Crossroads Loop is located approximately 175-feet north of Hill Street.

Hill Street is a two-lane local street in the east-west direction that provides access to some retail and mostly residential land uses east of Bay Avenue. The roadway provides sidewalks between Bay Avenue and Crossroads Loop. Class II bike lanes are provided in the eastbound direction and Class III shared bike sharrows are provided in the westbound direction from Bay Avenue to Capitola Avenue.

Capitola Avenue is a two-lane street in the north-south direction that provides access to the project study area as well as various commercial and residential land uses between Soquel Drive and Monterey Avenue. The roadway provides sidewalks and Class III shared bike sharrows on both sides of the street. The posted speed limit is 25 miles per hour. Per the General Plan, the road is classified as a minor arterial south of Bay Street and a collector street north of Bay Street.

Monterey Avenue is a two-lane street in the north-south direction that provides access to the project study area as well as various commercial and residential land uses between Kennedy Drive and Esplanade. The roadway provides sidewalks, Class II bike lanes, and Class III shared bike sharrows on both sides of the street. The posted speed limit is 25 miles per hour. Per the General Plan, the road is classified as an arterial south of Bay Street and a collector street north of Bay Street.

Park Avenue is a two-lane street in the east-west direction that provides access to the project study area as well as residential land uses between Monterey Avenue and Soquel Drive. The roadway provides sidewalks and Class II bike lanes, and the posted speed limit is 25 miles per hour. Per the General Plan, the road is classified as an arterial.

2.3 Pedestrian and Bicycle Facilities

Pedestrian and bicycle activity within project vicinity are active along Bay Avenue, Capitola Avenue, and Monterey Avenue with an established pedestrian and bicycle infrastructure. Connected sidewalks at least four (4) feet wide are available on at least one side of all roadways in the study area with adequate lighting and signing. At the Highway 1 ramp signalized intersections, marked crosswalks, Americans with Disabilities Act (ADA) standard curb ramps, and count down pedestrian signals provide improved pedestrian visibility and safety.

Bicycle facilities in the area include Bay Avenue, Hill Street, and Monterey Avenue which consist of Class II bike lanes with buffered striping to separate the vehicle and bike travel way, and Capitola Avenue, which consists of Class III shared bike sharrows. Bay Avenue features green paint markings in potential conflict areas at the Highway 1 ramp signalized intersections. Bicycle parking in the area is limited to private commercial and industrial lots.

Overall, the existing pedestrian and bicycle facilities near the project have adequate connectivity and provide pedestrian and bicyclists with routes to the surrounding land uses. The City of Capitola Bicycle Transportation Plan 2011 does not indicate any future bicycle facilities planned within the study area.

A discussion of potential bike and pedestrian improvements along the Bay Avenue corridor are provided in Section 4.

2.4 Transit Facilities

Transit services in the study area include a bus route provided by the Santa Cruz Metro Transit District (SCMTD). Per the updated latest service schedule, the project study area is served by the following major transit route.

- Mid-County Bus Route 55
    - Capitola Mall Transit Center – Seascape Blvd/Via Pacifica
    - Mid-county service approximately every 60-100 minutes on weekdays and approximately every 4 to 5 hours on weekends
    - This bus route travels through the following study intersections:
        - Bay Avenue / Highway 1 NB Ramps
        - Bay Avenue / Highway 1 SB Ramps
        - Bay Avenue / Crossroads Loop
        - Bay Avenue / Hill Street

- Bay Avenue / Capitola Avenue

Several bus stops with a bench are located along the Bay Avenue corridor which include the intersections of Bay Avenue / Hill Street and Bay Avenue / Capitola Avenue.

2.5 Roadway Cross Section

The existing roadway cross section of Bay Avenue varies along the corridor with different lane configurations, widths, and multi-modal facilities**. Figures 4-8** summarize the typical roadway cross-section along Bay Avenue.

Figure 4: Existing Section – Highway 1 to Center St (80-ft ROW)

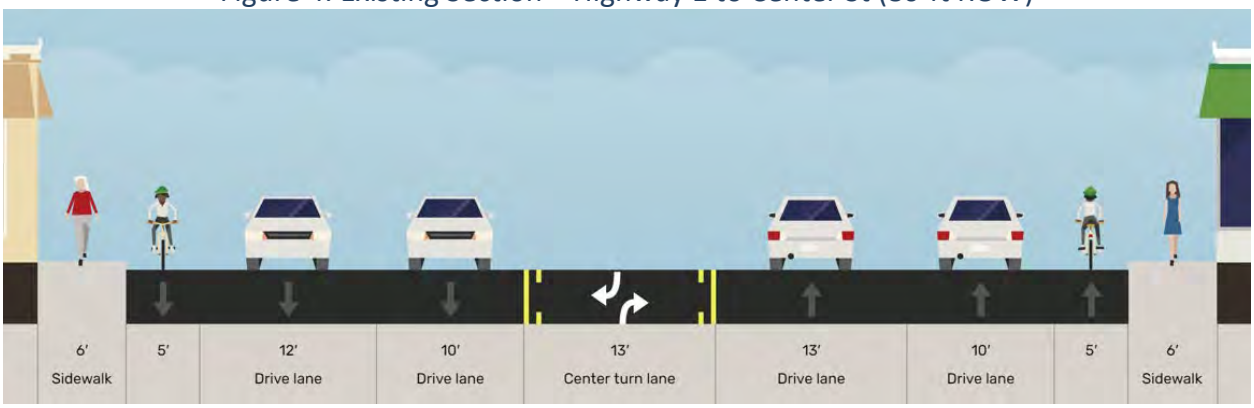


Figure 5: Existing Section – Center St to Capitola Ave (65-ft ROW)

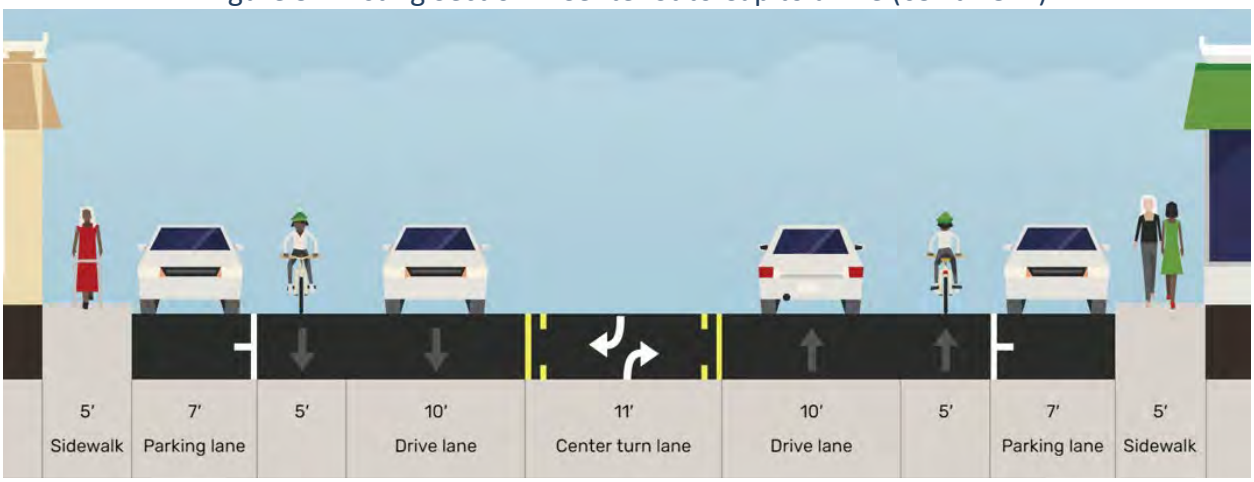


Figure 6: Existing Section – Capitola Ave to Burlingame Ave (56-ft ROW)

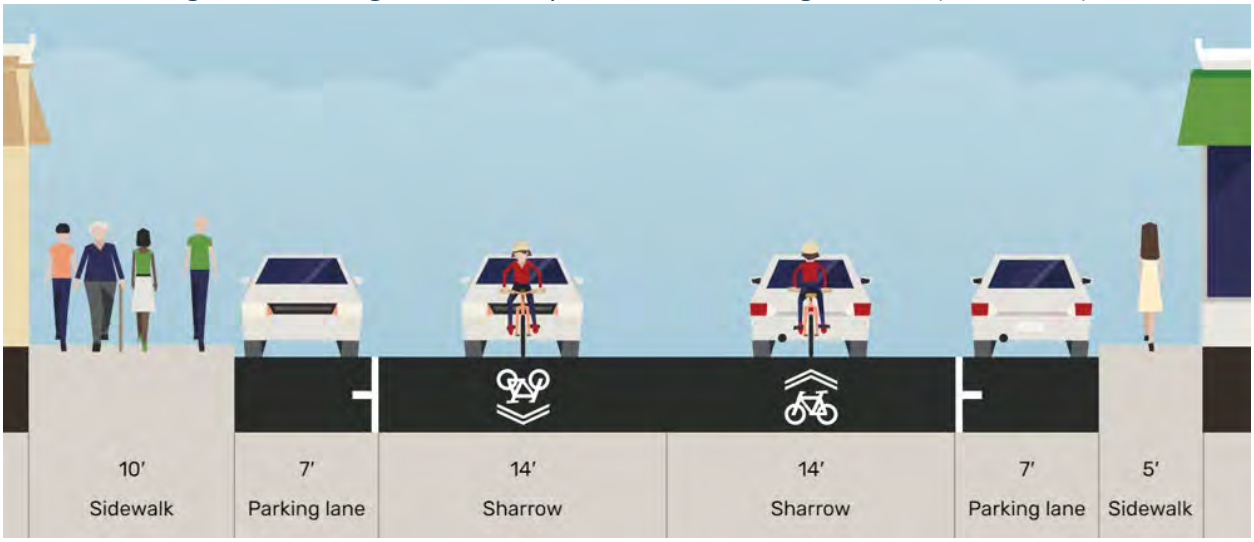


Figure 7: Existing Section – Burlingame Ave to Monterey Ave (56-ft ROW)

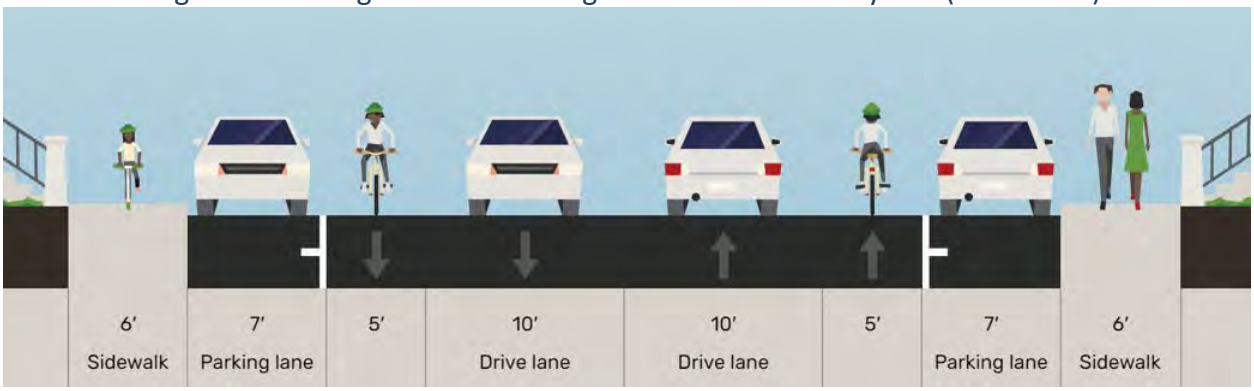
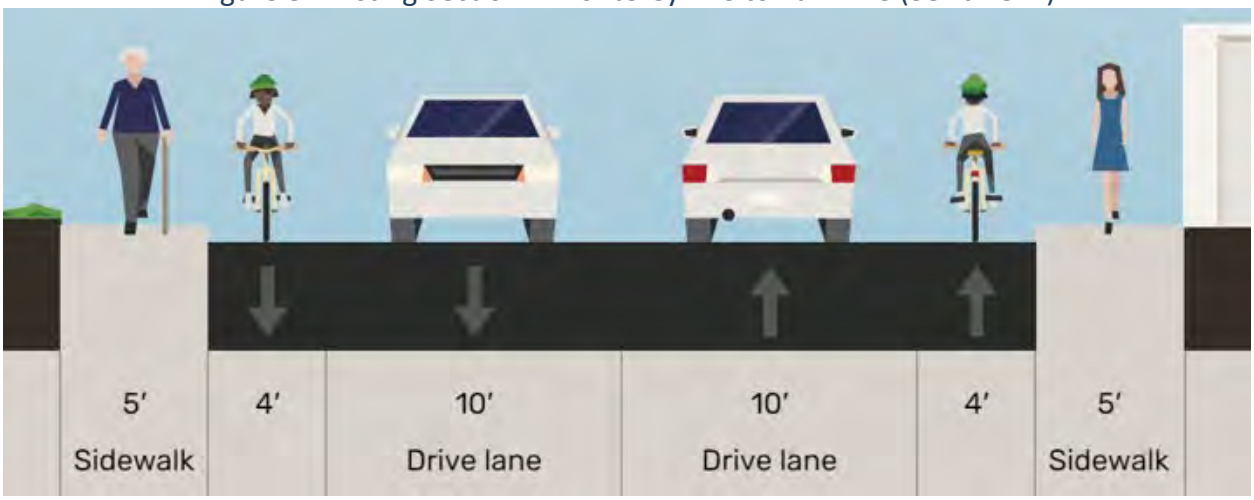


Figure 8: Existing Section – Monterey Ave to Park Ave (38-ft ROW)



3. Traffic Data Collection

3.1 Year 2024 Existing Intersection Volumes

Year 2024 existing turning movement counts during the 7-9 AM peak, 2-4 PM Midday peak, and 4-6 PM peak hours at the project study intersections were collected by Retkor / All Traffic Data Service. These traffic counts were collected on 3/7/2024 when school was in session and during favorable weather conditions. The collected intersection traffic volume data is provided in **Table 2** and **Attachment A**.

Table 2: Year 2024 Existing Intersection Volumes

ID	NB/SB Street	WB/EB Street	Peak Hour	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Bay Ave	Hwy 1 NB Ramps	7 AM	369	516	0	0	431	478	0	0	0	59	12	107
2	Bay Ave	Hwy 1 SB Ramps	7 AM	0	572	111	176	314	0	313	0	296	0	0	0
3	Bay Ave	Crossroads Loop	7 AM	1	616	9	39	462	109	53	0	21	0	1	14
4	Bay Ave	Hill St	7 AM	57	441	10	75	377	31	43	19	39	9	28	142
5	Bay Ave	Capitola Ave	7 AM	27	312	55	74	183	128	70	67	6	83	94	42
6	Bay Ave	Monterey Ave	7 AM	0	162	61	219	84	0	0	0	0	87	0	282
7	Monterey Ave	Park Ave	7 AM	1	123	225	41	126	4	0	9	1	418	3	100
1	Bay Ave	Hwy 1 NB Ramps	5 PM	290	401	0	0	642	316	0	0	0	107	1	195
2	Bay Ave	Hwy 1 SB Ramps	5 PM	0	457	91	276	473	0	234	208	347	0	0	0
3	Bay Ave	Crossroads Loop	5 PM	4	462	9	50	658	112	49	2	38	4	1	37
4	Bay Ave	Hill St	5 PM	46	307	21	146	505	49	92	45	84	18	33	76
5	Bay Ave	Capitola Ave	5 PM	29	200	23	56	337	124	72	84	8	61	72	31
6	Bay Ave	Monterey Ave	5 PM	0	124	85	304	141	0	0	0	0	35	0	104
7	Monterey Ave	Park Ave	5 PM	1	165	498	92	83	1	5	3	3	203	3	39

It should be noted that the during the morning and mid-day afternoon school drop off times, the Bay Avenue corridor experiences a period of congestion in the northbound and southbound directions from the influx of vehicles accessing the Soquel Elementary School and New Brighton Middle School. Field observations cite that during these times, the average vehicle delay increases, and vehicle queues are longer at the existing stop control intersections at Hill Street and Capitola Avenue.

3.2 Year 2045 Cumulative Intersection Volumes

Cumulative volumes in the study area were determined based on the SCCRTC Travel Demand Model, which was updated for 2019 “base year” conditions and 2045 “future year” condition. Land uses for the cumulative condition include reasonable growth consistent with the growth nodes in the Sustainable Santa Cruz County Plan (2014) and some major projects such as the proposed redevelopment of the Capitola Mall, the redevelopment of the Farmers Market site, and the expansion of the Dignity Healthcare Campus.

2045 future year condition roadway segment volumes from the SCCRTC Travel Demand Model were obtained for Cumulative traffic volume growth estimates. The same Model was used to plot bi-directional AM and PM peak-hour traffic volumes on each segment along roadways within the Project study area. The 2019 base year (2019) and future year (2045) forecast volumes were compared to

determine the annual incremental growth in traffic volumes at study intersection approach and departure links. 2045 future year turning movement volumes were calculated by adding the growth increment to the base year traffic count volumes to calculate the final adjusted roadway link forecast volume. Final adjusted forecast volumes were then converted to Cumulative intersection turning movement volumes using a process commonly referred to as the Furness Method. The Furness Method uses an iterative process to derive future turning movement volumes based on future year roadway link volumes and an initial estimate of turning percentages (obtained from the existing intersection turning movement counts). The Cumulative traffic volumes are a conservative estimate of future vehicle traffic, and the cumulative scenario traffic volume data is provided in **Table 3**.

Table 3: Year 2045 Cumulative Intersection Volumes

ID	NB/SB Street	WB/EB Street	Peak Hour	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Bay Ave	Hwy 1 NB Ramps	7 AM	321	392	0	0	436	536	0	0	0	161	12	379
2	Bay Ave	Hwy 1 SB Ramps	7 AM	0	465	61	251	346	0	248	0	586	0	0	0
3	Bay Ave	Crossroads Loop	7 AM	1	394	9	69	754	109	53	0	21	0	1	79
4	Bay Ave	Hill St	7 AM	57	293	4	75	669	31	43	19	39	13	28	68
5	Bay Ave	Capitola Ave	7 AM	27	312	55	74	183	128	78	67	6	83	94	42
6	Bay Ave	Monterey Ave	7 AM	0	162	61	219	239	0	0	0	0	87	0	282
7	Monterey Ave	Park Ave	7 AM	1	123	238	201	121	4	0	9	1	418	3	100
1	Bay Ave	Hwy 1 NB Ramps	5 PM	683	726	0	0	644	149	0	0	0	77	1	406
2	Bay Ave	Hwy 1 SB Ramps	5 PM	0	992	104	370	351	0	417	208	640	0	0	0
3	Bay Ave	Crossroads Loop	5 PM	4	988	9	92	787	112	49	2	38	4	1	59
4	Bay Ave	Hill St	5 PM	46	717	34	146	634	49	92	45	84	22	33	192
5	Bay Ave	Capitola Ave	5 PM	29	200	23	61	337	171	190	63	8	17	65	73
6	Bay Ave	Monterey Ave	5 PM	0	305	85	304	251	0	0	0	0	35	0	104
7	Monterey Ave	Park Ave	5 PM	1	148	619	202	83	1	5	3	3	203	3	237

3.3 Roadway Daily Traffic and Speed Data

Average daily traffic (ADT) and speed counts were collected along the Bay Avenue corridor and are summarized in **Table 4** and **Attachment A**.

Table 4: Bay Avenue ADT & Vehicle Speed Summary

Traffic Criteria	From Hill St to Capitola Ave		From Capitola Ave to Montrey Ave	
	3/7/2024		3/7/2024	
	Northbound	Southbound	Northbound	Southbound
Average Daily Traffic	4,801	5,415	3,145	3,182
Posted Speed Limit (mph)	25	25	25	25
50th Percentile Speed (mph)	26	26.7	25.5	27
85th Percentile Speed (mph)	29.6	30.6	29.4	30.7
95th Percentile Speed (mph)	32.2	33.3	32.1	33.4

As shown in the table above, the posted speed limit on Bay Avenue is 25 mph, and the 85th percentile (critical) speed is about 30 mph in both the northbound and southbound directions.

3.4 Collision Data

Collision data from 2013 to 2024 along Bay Avenue was obtained using the Transportation Injury Mapping System (TIMS). TIMS is a tool which geocodes, maps, and presents various types of statistical collision reports from the California Statewide Integrated Traffic Records System (SWITRS) database. A heat map showing the location of the reported collisions is shown in **Figure 9** and a summary of the collision types is shown in **Figure 10**. **Table 5** and **Attachment B** summarizes the reported traffic collisions along the study corridor.

Figure 9: Bay Avenue Collision Heat Map (2013 to 2024)

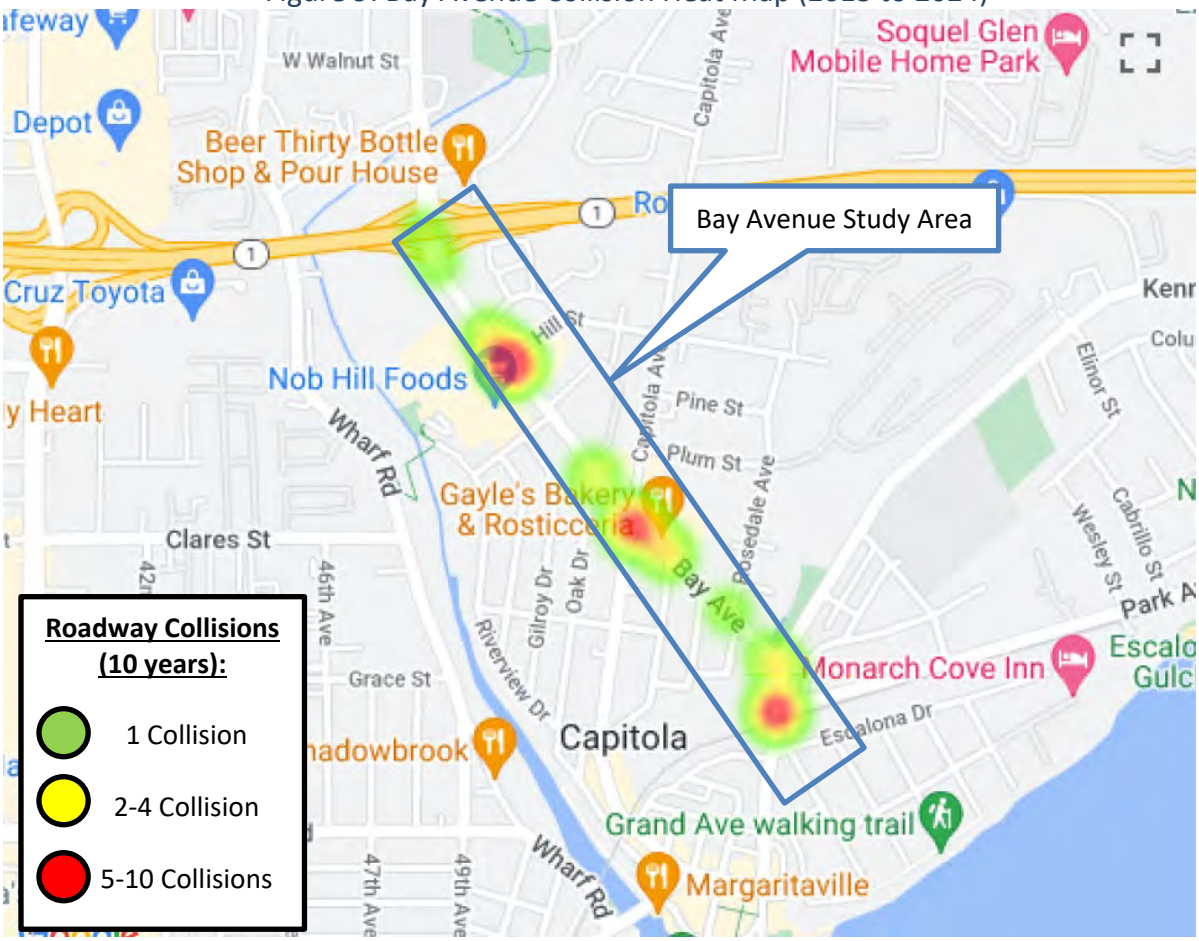
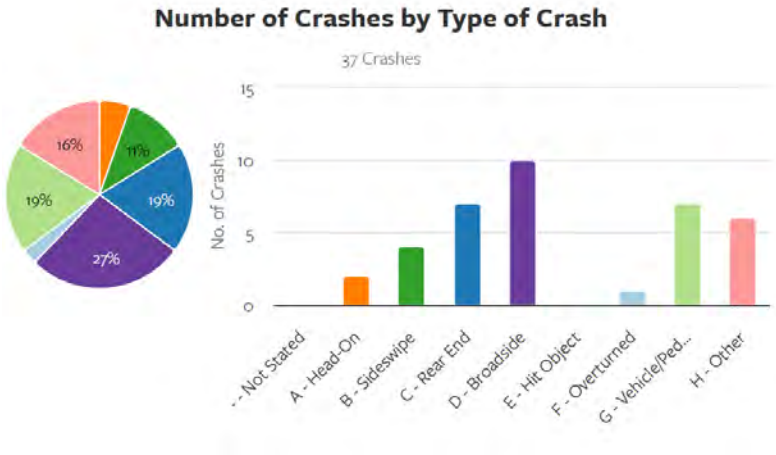


Figure 10: Bay Avenue Collision Types (2013 to 2024)



Type of Crash	Count	%
- - Not Stated	0	0.00%
A - Head-On	2	5.41%
B - Sideswipe	4	10.81%
C - Rear End	7	18.92%
D - Broadside	10	27.03%
E - Hit Object	0	0.00%
F - Overturned	1	2.70%
G - Vehicle/Pedestrian	7	18.92%
H - Other	6	16.22%

Between January 2013 and December 2024, there were 36 total reported collisions along the Bay Avenue study corridor which include ten (10) bicycle and eight (8) pedestrian recorded collisions. One (1) of the collisions was a fatal accident with a pedestrian and the remaining collisions resulted in injuries. Approximately ten (10) of the bike and pedestrian collisions along the Bay Avenue corridor occurred within an intersection. The most common primary crash factors (PCF) that caused the reported bike and pedestrian collisions include unsafe speed, improper turning, and right-of-way violation.

Table 5: Bay Avenue Collision Data (2013 to 2024)

#	Case ID	Date	Primary Road	Secondary Rd	Distance & Direction from Intersection	Bike Collision	Pedestrian Collision	Killed	Injured
1	5737844	5/25/2012	Bay Ave	Hill St	90ft South	No	No	0	1
2	5769463	7/30/2012	Capitola Ave	Bay Ave	80ft West	No	No	0	1
3	5926906	2/2/2013	Highway 1	Bay Ave	200ft North	No	No	0	1
4	6483008	4/24/2014	Bay Ave	Capitola Ave	At Intersection	No	Yes	0	1
5	6494114	4/30/2014	Bay Ave	Capitola Ave	At Intersection	No	No	0	1
6	6487930	5/6/2014	Oak Dr	Bay Ave	37ft South	Yes	No	0	1
7	6487941	5/9/2014	Bay Ave	Hill St	At Intersection	No	No	0	1
8	6511924	6/3/2014	Bay Ave	Hill St	At Intersection	No	Yes	0	1
9	6724062	11/17/2014	Bay Ave	Monterey Ave	26ft South	No	No	0	1
10	6748318	12/3/2014	Monterey Ave	Park Ave	18ft South	No	Yes	0	1
11	6864222	3/19/2015	Bay Ave	Capitola Ave	83ft East	No	Yes	0	1
12	6870050	3/19/2015	Monterey Ave	Park Ave	At Intersection	No	No	0	1
13	6889427	4/4/2015	Bay Ave	Bay Ave	At Intersection	Yes	No	0	1
14	6940786	6/7/2015	Monterey Ave	Bay Ave	At Intersection	No	No	0	1
15	7063888	7/20/2015	Monterey Ave	Park Ave	At Intersection	Yes	No	0	1
16	7075959	9/9/2015	Monterey Ave	Park Ave	At Intersection	No	No	0	1
17	8152095	10/7/2016	Bay Ave	Hill St	At Intersection	No	Yes	0	1
18	8339317	3/26/2017	Bay Ave	Burlingame Ave	90ft North	Yes	No	0	1
19	8373999	4/29/2017	Bay Ave	Hill St	At Intersection	No	No	0	1
20	8506493	11/25/2017	Bay Ave	Hill St	40ft North	No	No	0	1
21	8593314	2/13/2018	Bay Ave	Hill St	203ft North	No	No	0	1
22	90781844	7/21/2018	Bay Ave	Monterey Ave	100ft North	Yes	No	0	1
23	8701088	8/13/2018	Bay Ave	Hill St	213ft North	Yes	No	0	1
24	8648318	10/6/2018	Bay Ave	Highway 1	218ft South	No	Yes	1	0
25	9007558	11/22/2019	Monterey Ave	Park Ave	At Intersection	Yes	No	0	1
26	9174869	10/8/2020	Bay Ave	Hill St	At Intersection	No	No	0	1
27	9355886	9/24/2021	Bay Ave	Rosedale Ave	44ft North	No	No	0	1
28	9472209	5/5/2022	Bay Ave	Oak Dr	At Intersection	Yes	No	0	1
29	9472208	5/7/2022	Bay Ave	Hill St	At Intersection	No	No	0	1
30	9495729	8/1/2022	Monterey Ave	Park Ave	At Intersection	No	No	0	1
31	9495924	9/4/2022	Capitola Ave	Bay Ave	58ft South	Yes	No	0	1
32	9534052	12/9/2022	Bay Ave	Hill St	At Intersection	No	Yes	0	1
33	9549472	2/1/2023	Bay Ave	Burlingame Ave	At Intersection	Yes	No	0	1
34	9625429	8/11/2023	Monterey Ave	Park Ave	35ft South	No	No	0	1
35	9625425	8/24/2023	Bay Ave	Hill St	At Intersection	No	Yes	0	1
36	9646836	10/12/2023	Bay Ave	Burlingame Ave	47ft North	No	No	0	1
					Total	**10**	**8**	**1**	**35**

Note: Bicycle Collision = Green, Pedestrian Collision = Yellow

3.5 Signal Warrant Analysis

Chapter 4C of the California Manual on Uniform Traffic Control Devices (CAMUTCD) states that an engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location shall be performed to determine whether installation of a traffic control signal is justified at a particular location. The investigation of the need for a traffic control signal shall include an analysis of factors related to the existing operation and safety at the study location and the potential to improve these conditions using applicable factors contained in traffic signal warrants.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal. On local streets and highways, the engineering study should include consideration of a roundabout (yield control). If a roundabout is determined to provide a viable and practical solution, it should be studied in lieu of, or in addition to a traffic control signal.

For the purposes of this study and based on the collected traffic volumes, peak hour signal warrant #3 was evaluated for the Existing and Cumulative condition to determine if a signal is warranted for any of the Bay Avenue stop-controlled study intersections. To be warranted under Warrant #3, peak hour traffic volumes must plot above the corresponding threshold provided in **Figure 10**. The AM and PM peak hour volumes were analyzed using the following assumptions as shown in **Table 6** and **Table 7**.

Figure 11: CA MUTCD Signal Warrant 3

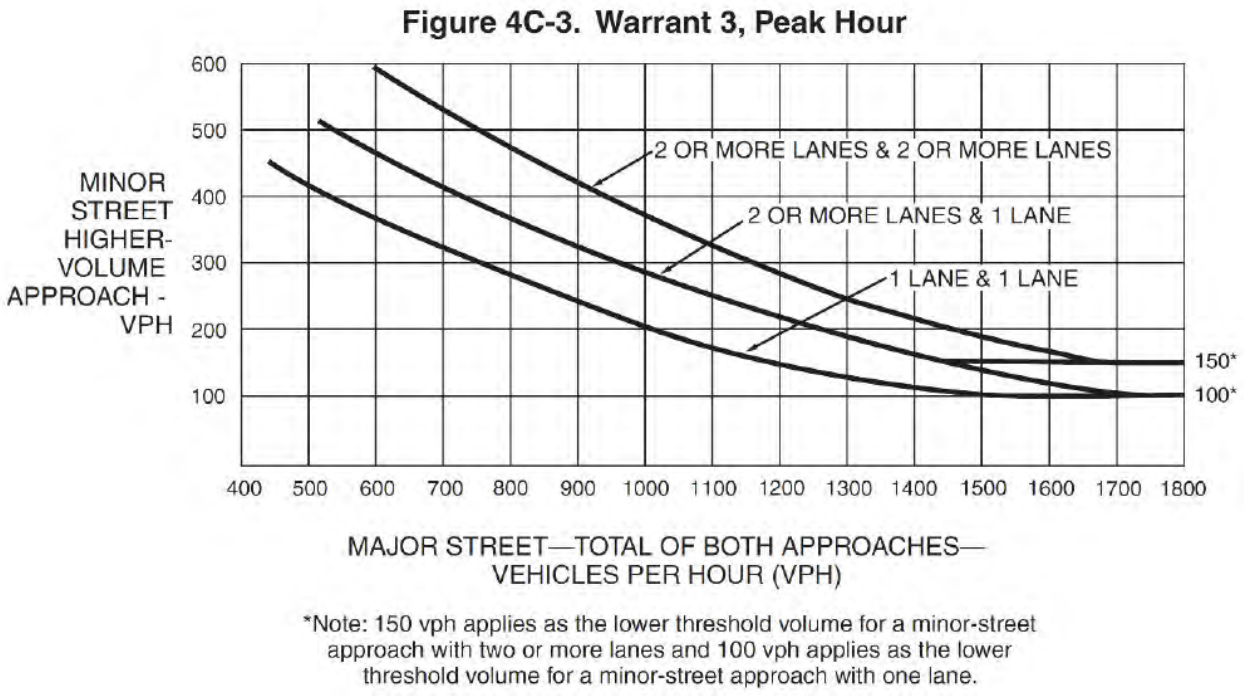


Table 6: CA MUTCD Signal Warrant #3 Assumptions – Year 2024 Existing Conditions

Major Street			Minor Street			
Street Name	# Lanes	Volume (Total of Both Approaches)	Street Name	# Lanes	Volume (Higher Volume Approach)	Meets MUTCD Warrant 3 Criteria?
AM Peak						
Bay Ave	2	1236	Crossroads Lp	1	109	No
Bay Ave	2	991	Hill St	1	179	No
Bay Ave	1	779	Capitola Ave	1	219	No
Bay Ave	1	526	Monterey Ave	1	369	No
Monterey Ave	1	520	Park Ave	1	521	Yes
PM Peak						
Bay Ave	2	1295	Crossroads Lp	1	89	No
Bay Ave	2	1074	Hill St	1	221	No
Bay Ave	1	769	Capitola Ave	1	164	No
Bay Ave	1	654	Monterey Ave	1	139	No
Monterey Ave	1	840	Park Ave	1	245	No

Table 7: CA MUTCD Signal Warrant #3 Assumptions – Year 2045 Cumulative Conditions

Major Street			Minor Street			
Street Name	# Lanes	Volume (Total of Both Approaches)	Street Name	# Lanes	Volume (Higher Volume Approach)	Meets MUTCD Warrant 3 Criteria?
AM Peak						
Bay Ave	2	1336	Crossroads Lp	1	80	No
Bay Ave	2	1129	Hill St	1	109	No
Bay Ave	1	779	Capitola Ave	1	219	No
Bay Ave	1	681	Monterey Ave	1	369	Yes
Monterey Ave	1	688	Park Ave	1	521	Yes
PM Peak						
Bay Ave	2	2002	Crossroads Lp	1	89	No
Bay Ave	2	1626	Hill St	1	247	Yes
Bay Ave	1	821	Capitola Ave	1	261	No
Bay Ave	1	945	Monterey Ave	1	139	No
Monterey Ave	1	1054	Park Ave	1	443	Yes

Under existing conditions, the Monterey/Park intersection would meet Warrant 3 volume criteria for the AM peak hour. Under cumulative conditions, the peak hour traffic volumes along Bay Avenue would meet the Warrant 3 volume criteria for the Bay/Hill, Bay/Monterey, and Monterey/Park intersections. These intersections were analyzed as a signal for the Alternative 3 layout. It should be noted that for existing and cumulative conditions, the Bay/Capitola intersection does not meet the Warrant 3 volume criteria for a signal; however for consistency and ICE comparison purposes, this intersection was analyzed as signal for the Alternative 3 layout.

4. Corridor Operations and Intersection Control Evaluation Results

4.1 Year 2024 Existing ICE Operations

Traffic operations and ICE analysis were evaluated at the study intersections under Existing conditions based on Existing conditions and utilizing roadway geometry and intersection traffic control from developed corridor concepts to enhance multimodal operations. Traffic operations for the study intersections with Synchro software between the various corridor alternatives are shown below in **Table 8** and **Table 9**. The LOS calculations are included in **Attachment C** and **Attachment D**.

Operations Summary

Under Existing conditions, most of the Bay Avenue corridor is anticipated to operate at acceptable LOS. Compared to the Alt 0 no build and Alt 1 stop configuration, the Alt 2 roundabout option at the Bay/Hill and Bay/Capitola intersections would operate with better LOS and reduced overall intersection delay during the peak periods. The Alt 3 signal layout would also yield acceptable intersection LOS with reduced intersection delay compared to the Alt 1 stop; however, the Alt 3 signal operates at similar LOS to the Alt 2 roundabout layout for the Bay/Hill and Bay/Capitola intersections.

Deficient Operations

- **Bay Avenue / Crossroads Loop (Intersection #3)**
  - TWSC operates at LOS E during the PM peak.
  - Alt 0 No Build, Alt 1 Stop, Alt 2 Roundabout, Alt 3 Signal
    - Vehicle queues spillback into the Crossroads Loop intersection and cause delay for the minor leg approach

- **Bay Avenue / Hill Street (Intersection #4)**
  - AWSC operates at LOS E during the PM peak.
  - Alt 1 Stop
    - Vehicle queues and delay on southbound approach spillback into the Crossroads Loop intersection and cause delay for the intersection

Table 8: Year 2024 Existing Intersection LOS – AM Peak

No.	Intersection	Alternative 0 No Build				Alternative 1 Stop & Road Diet				Alternative 2 Roundabout				Alternative 3 Signal			
		Control Type	Worst Mvmt or RDBT v/c	Delay (sec)	LOS	Control Type	Worst Mvmt or RDBT v/c	Delay (sec)	LOS	Control Type	Worst Mvmt or RDBT v/c	Delay (sec)	LOS	Control Type	Worst Mvmt or RDBT v/c	Delay (sec)	LOS
1	Bay Ave & Hwy 1 NB Ramps	Signal	-	25.2	C	Signal	-	26.8	C	Signal	-	26.8	C	Signal	-	21.0	C
2	Bay Ave & Hwy 1 SB Ramps	Signal	-	17.0	B	Signal	-	17.1	B	Signal	-	17.1	B	Signal	-	30.7	C
3	Bay Ave & Crossroads Loop	TWSC	EB	26.9	D	TWSC	EB	24.0	C	TWSC	EB	24.0	C	TWSC	EB	23.3	C
4	Bay Ave & Hill St	AWSC	-	18.2	C	AWSC	-	28.5	D	RAB	0.482	7.8	A	Signal	-	13.4	B
5	Bay Ave & Capitola Ave	AWSC	-	27.7	D	AWSC	-	27.7	D	RAB	0.407	7.4	A	Signal	-	7.6	A
6	Bay Ave & Monterey Ave	AWSC	-	19.7	C	AWSC	-	19.6	C	RAB	0.36	6.1	A	Signal	-	17.4	B
7	Monterey Ave & Park Ave	AWSC	-	25.1	D	AWSC	-	24.9	D	RAB	0.488	7.2	A	Signal	-	10.1	B

Note: TWSC delay is worst movement approach, AWSC, RAB, and Signal delay is overall average

Table 9: Year 2024 Existing Intersection LOS – PM Peak

No.	Intersection	Alternative 0 No Build				Alternative 1 Stop & Road Diet				Alternative 2 Roundabout				Alternative 3 Signal			
		Control Type	Worst Mvmt or RDBT v/c	Delay (sec)	LOS	Control Type	Worst Mvmt or RDBT v/c	Delay (sec)	LOS	Control Type	Worst Mvmt or RDBT v/c	Delay (sec)	LOS	Control Type	Worst Mvmt or RDBT v/c	Delay (sec)	LOS
1	Bay Ave & Hwy 1 NB Ramps	Signal	-	28.7	C	Signal	-	23.1	C	Signal	-	28.7	C	Signal	-	28.7	C
2	Bay Ave & Hwy 1 SB Ramps	Signal	-	20.4	C	Signal	-	22.7	C	Signal	-	20.4	C	Signal	-	20.4	C
3	Bay Ave & Crossroads Loop	TWSC	EB	39.7	E	TWSC	EB	35.3	E	TWSC	EB	35.3	E	TWSC	EB	33.0	D
4	Bay Ave & Hill St	AWSC	-	22.5	C	AWSC	-	44.2	E	RAB	0.634	10.1	B	Signal	-	14.1	B
5	Bay Ave & Capitola Ave	AWSC	-	20.5	C	AWSC	-	20.5	C	RAB	0.505	7.5	A	Signal	-	6.7	A
6	Bay Ave & Monterey Ave	AWSC	-	12.1	B	AWSC	-	11.9	B	RAB	0.376	5.9	A	Signal	-	6.4	A
7	Monterey Ave & Park Ave	AWSC	-	15.4	C	AWSC	-	15.4	C	RAB	0.604	8.5	A	Signal	-	7.7	A

Note: TWSC delay is worst movement approach, AWSC, RAB, and Signal delay is overall average

4.2 Year 2045 Cumulative ICE Operations

Traffic operations and ICE analysis were evaluated at the study intersections under Cumulative conditions based on roadway geometry and intersection traffic control from developed corridor concepts to enhance multimodal operations. Traffic operations for the study intersections with Synchro software between the various corridor alternatives are shown below in **Table 10** and **Table 11**. The LOS results are included in **Attachment C** and **Attachment D**.

Operations Summary

Under Cumulative conditions, several intersections along the Bay Avenue corridor are anticipated to operate at a level of service above the City's LOS threshold. Compared to the Alt 0 no build and Alt 1 stop configuration, the Alt 2 roundabout option at the Bay/Hill and Bay/Capitola intersections would operate with better LOS and reduced overall intersection delay during the peak periods. The Alt 3 signal layout would also yield acceptable intersection LOS with reduced intersection delay compared to the Alt 1 stop; however, the Alt 3 signal operates at similar LOS to the Alt 2 roundabout layout for the Bay/Hill and Bay/Capitola intersections.

Deficient Operations

- **Bay Avenue / Highway 1 NB Ramps (Intersection #1)**
  - Signal operates at LOS E during the AM and PM peak.
  - Alt 0 No Build, Alt 1 Stop, Alt 2 Roundabout, Alt 3 Signal
    - High traffic volumes from the Bay Avenue southbound approach creates delay and long queues with the signal control.
    - Delay and long queues for southbound vehicles wanting to access the Caltrans freeway on-ramp.

- **Bay Avenue / Crossroads Loop (Intersection #3)**
  - TWSC operates at LOS E during the AM and PM peak.
  - Alt 0 No Build, Alt 1 Stop, Alt 2 Roundabout, Alt 3 Signal
    - Vehicle queues spillback into the Crossroads Loop intersection and cause delay for the minor leg approach

- **Bay Avenue / Hill Street (Intersection #4)**
  - AWSC operates at LOS F during the AM and PM peak.
  - Alt 0 No Build, Alt 1 Stop
    - Vehicle queues and delay on southbound approach spillback into the Crossroads Loop intersection and cause delay for the intersection

- **Montrey Avenue / Park Avenue (Intersection #7)**
  - AWSC operates at LOS F during the PM peak.
  - Alt 0 No Build, Alt 1 Stop
    - For the AM peak, high traffic volumes from the Park Avenue westbound approach creates delay and long vehicle queues with the stop control.
    - For the PM peak, high right-turn traffic volumes from the Monterey Avenue NB approach creates delay and long vehicle queues with the stop control.

Table 10: Year 2045 Cumulative Intersection LOS – AM Peak

No.	Intersection	Alternative 0 No Build				Alternative 1 Stop & Road Diet				Alternative 2 Roundabout				Alternative 3 Signal			
		Control Type	Worst Mvmt or RDBT v/c	Delay (sec)	LOS	Control Type	Worst Mvmt or RDBT v/c	Delay (sec)	LOS	Control Type	Worst Mvmt or RDBT v/c	Delay (sec)	LOS	Control Type	Worst Mvmt or RDBT v/c	Delay (sec)	LOS
1	Bay Ave & Hwy 1 NB Ramps	Signal	-	71.2	E	Signal	-	71.2	E	Signal	-	71.2	E	Signal	-	71.2	E
2	Bay Ave & Hwy 1 SB Ramps	Signal	-	32.8	C	Signal	-	32.8	C	Signal	-	32.8	C	Signal	-	32.8	C
3	Bay Ave & Crossroads Loop	TWSC	EB	48.0	E	TWSC	EB	44.2	E	TWSC	EB	44.2	E	TWSC	EB	39.1	E
4	Bay Ave & Hill St	AWSC	-	22.2	C	AWSC	-	73.2	F	RAB	0.703	10.5	B	Signal	-	12.8	B
5	Bay Ave & Capitola Ave	AWSC	-	18.4	C	AWSC	-	18.4	C	RAB	0.41	7.4	A	Signal	-	6.9	A
6	Bay Ave & Monterey Ave	AWSC	-	18.2	C	AWSC	-	18.2	C	RAB	0.41	6.7	A	Signal	-	10.7	B
7	Monterey Ave & Park Ave	AWSC	-	33.0	D	AWSC	-	33.0	D	RAB	0.488	8.4	A	Signal	-	12.9	B

Note: TWSC delay is worst movement approach, AWSC, RAB, and Signal delay is overall average

Table 11: Year 2045 Cumulative Intersection LOS – PM Peak

No.	Intersection	Alternative 0 No Build				Alternative 1 Stop & Road Diet				Alternative 2 Roundabout				Alternative 3 Signal			
		Control Type	Worst Mvmt or RDBT v/c	Delay (sec)	LOS	Control Type	Worst Mvmt or RDBT v/c	Delay (sec)	LOS	Control Type	Worst Mvmt or RDBT v/c	Delay (sec)	LOS	Control Type	Worst Mvmt or RDBT v/c	Delay (sec)	LOS
1	Bay Ave & Hwy 1 NB Ramps	Signal	-	71.1	E	Signal	-	64.7	E	Signal	-	76.0	E	Signal	-	71.1	E
2	Bay Ave & Hwy 1 SB Ramps	Signal	-	46.5	D	Signal	-	34.7	C	Signal	-	34.6	C	Signal	-	46.5	D
3	Bay Ave & Crossroads Loop	TWSC	EB	65.9	F	TWSC	EB	63.4	F	TWSC	EB	63.4	F	TWSC	EB	119.1	F
4	Bay Ave & Hill St	AWSC	-	98.7	F	AWSC	-	109.6	F	RAB	0.893	21.0	C	Signal	-	26.5	C
5	Bay Ave & Capitola Ave	AWSC	-	21.7	C	AWSC	-	21.3	C	RAB	0.524	8.1	A	Signal	-	7.3	A
6	Bay Ave & Monterey Ave	AWSC	-	20.3	C	AWSC	-	24.4	C	RAB	0.469	7.8	A	Signal	-	7.1	A
7	Monterey Ave & Park Ave	AWSC	-	55.5	F	AWSC	-	60.8	F	RAB	0.792	13.1	B	Signal	-	22.7	C

Note: TWSC delay is worst movement approach, AWSC, RAB, and Signal delay is overall average

4.3 Intersection Queuing Analysis

A queuing analysis with the VISSIM and Synchro software was also performed along the Bay Avenue roadway corridor to determine the queuing effect for each of the alternative layouts. The micro-simulation was conducted to obtain the average and maximum vehicle queue on each approach during the AM and PM peak hour period. The results of the vehicles queues observed in the analysis for the existing and cumulative conditions are summarized in **Table 12, Table 13,** and **Attachment C** and **Attachment D**.

Table 12: Year 2024 Existing Intersection Queue Summary

ID	Intersection	Intersection Approaches with Max Queue that Exceeds Storage Capacity			
		Control Type	AM Peak		
			Alternative 1 Stop	Alternative 2 Roundabout	Alternative 3 Signal
1	Bay Ave / SR1 NB Ramps	Signal	NB, SB	NB, SB	NB, SB
2	Bay Ave / SR1 SB Ramps	Signal			
3	Bay Ave / Crossroads	TWSC			
4	Bay Ave / Hill St	Varies	SB	SB	SB, EB
5	Bay Ave / Capitola Ave	Varies			WB
6	Bay Ave / Monterey Ave	Varies			
7	Monterey Ave / Park Ave	Varies	WB	WB	NB, SB, WB

ID	Intersection	Intersection Approaches with Max Queue that Exceeds Storage Capacity			
		Control Type	PM Peak		
			Alternative 1 Stop	Alternative 2 Roundabout	Alternative 3 Signal
1	Bay Ave / SR1 NB Ramps	Signal	NB, SB	NB, SB	NB, SB
2	Bay Ave / SR1 SB Ramps	Signal			
3	Bay Ave / Crossroads	TWSC			
4	Bay Ave / Hill St	Varies	SB	SB	SB, EB
5	Bay Ave / Capitola Ave	Varies			WB
6	Bay Ave / Monterey Ave	Varies			
7	Monterey Ave / Park Ave	Varies	WB	WB	NB, SB, WB

Note: NB=northbound, SB=southbound, EB=eastbound, WB=westbound

Under existing conditions, each corridor layout option would generate maximum vehicle queues that exceed the storage capacity at several intersection approaches which include the SR1 Caltrans ramps, Hill Street, and Park Avenue. The Alternative 1 AWSC and Alternative 2 roundabout would have similar vehicle queues; however, the Alternative 3 signal would have additional queue impacts due to the nature of signal operations that generate longer queues for vehicles during the red signal phase.

Table 13: Year 2045 Cumulative Intersection Queue Summary

ID	Intersection	Intersection Approaches with Max Queue that Exceeds Storage Capacity			
		Control Type	AM Peak		
			Alternative 1 Stop	Alternative 2 Roundabout	Alternative 3 Signal
1	Bay Ave / SR1 NB Ramps	Signal	NB, SB	NB, SB	NB, SB
2	Bay Ave / SR1 SB Ramps	Signal	SB, EB	SB	EB
3	Bay Ave / Crossroads	TWSC	SB		SB
4	Bay Ave / Hill St	Varies	SB	SB	SB, EB
5	Bay Ave / Capitola Ave	Varies			
6	Bay Ave / Monterey Ave	Varies	SB		SB
7	Monterey Ave / Park Ave	Varies	WB		NB, SB, WB

ID	Intersection	Intersection Approaches with Max Queue that Exceeds Storage Capacity			
		Control Type	PM Peak		
			Alternative 1 Stop	Alternative 2 Roundabout	Alternative 3 Signal
1	Bay Ave / SR1 NB Ramps	Signal	NB, SB	NB, SB	NB, SB
2	Bay Ave / SR1 SB Ramps	Signal	NB, SB, EB	NB, SB, EB	NB, SB, EB
3	Bay Ave / Crossroads	TWSC	SB, WB	NB, SB	NB, SB, EB, WB
4	Bay Ave / Hill St	Varies	NB, SB, EB	SB, EB	NB, SB, EB
5	Bay Ave / Capitola Ave	Varies	SB	SB	NB, SB, EB, WB
6	Bay Ave / Monterey Ave	Varies	SB		SB, WB
7	Monterey Ave / Park Ave	Varies	NB, WB	NB	NB, SB, WB

Note: NB=northbound, SB=southbound, EB=eastbound, WB=westbound

Under cumulative conditions, each corridor layout option would generate maximum vehicle queues that exceed the storage capacity for at least one intersection approach for all the study intersections. The Alternative 1 AWSC and Alternative 2 roundabout would have similar vehicle queues; however, the Alternative 3 signal would have additional queue impacts due to the nature of signal operations that generate longer queues for vehicles during the red signal phase.

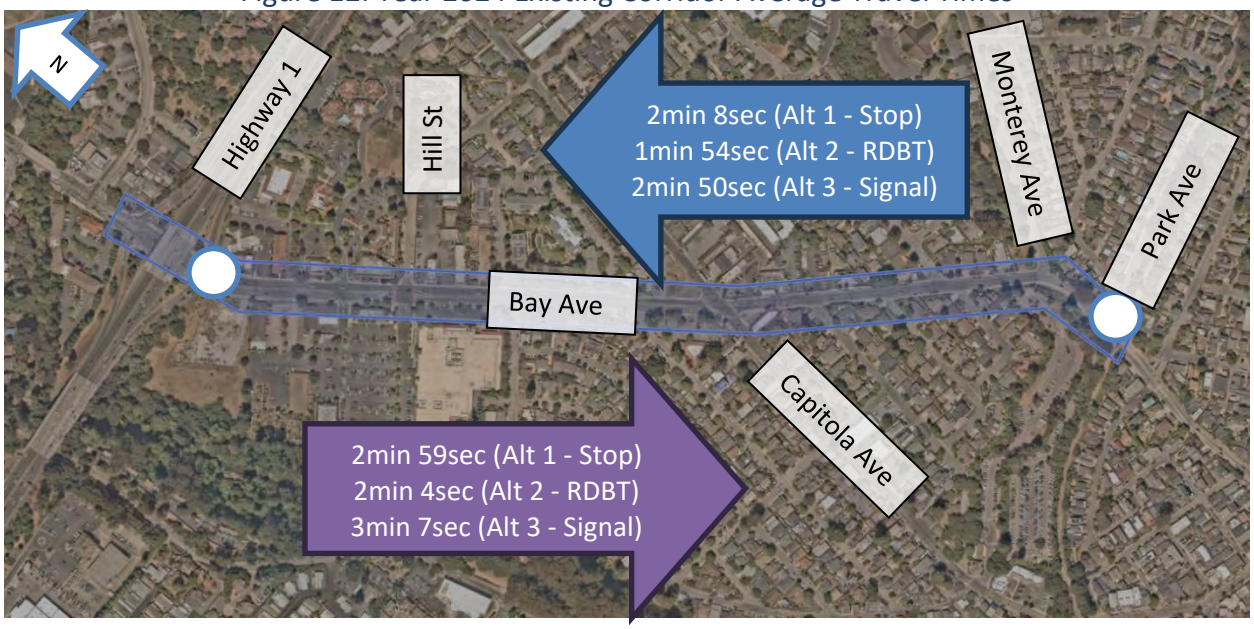
Overall, for the Existing and Cumulative scenarios, the Alternative 2 roundabout option would provide the most optimal intersection configuration to accommodate and minimize the anticipated peak hour vehicle queues along the Bay Avenue corridor.

4.4 Corridor Travel Time Summary

The VISSIM model (Alternative 1 and Alternative 2) and Synchro model (Alternative 3) performed an average travel time comparison for vehicles traveling through Bay Avenue between the Highway 1 SB Ramp and Park Avenue intersections. A summary of the average travel time, average speed, and annual vehicle hours traveled (VHT) results between the Alternative 1 AWSC and Alternative 2 Roundabout layouts is shown in **Figure 12, Figure 13, Table 14,** and **Table 15**.

Vehicle hours traveled (VHT) is a key metric in transportation planning that calculates the total travel time for all vehicles. Since time is a non-renewable resource and is the largest economic cost of traveling and shipping, VHT is used to measure the quality of travel service on a roadway facility. When comparing VHT results, a lower VHT indicates vehicles are traveling through the roadway facility more efficiently and the facility is experiencing less traffic congestion.

Figure 12: Year 2024 Existing Corridor Average Travel Times



Existing Conditions

Vehicles traveling northbound on the Alternative 1 Stop layout would have an average peak hour travel time of 2 minutes 9 seconds, and the estimated annual VHT from Park Avenue to SR1 is 62,501 vehicle-hours. The Alternative 2 Roundabout layout would have an average peak hour travel time of 1 minute 54 seconds and would have an annual VHT of 55,492 vehicle-hours. The Alternative 3 Signal layout would have an average peak hour travel time of 2 minute 50 seconds and would have an annual VHT of 82,726 vehicle-hours.

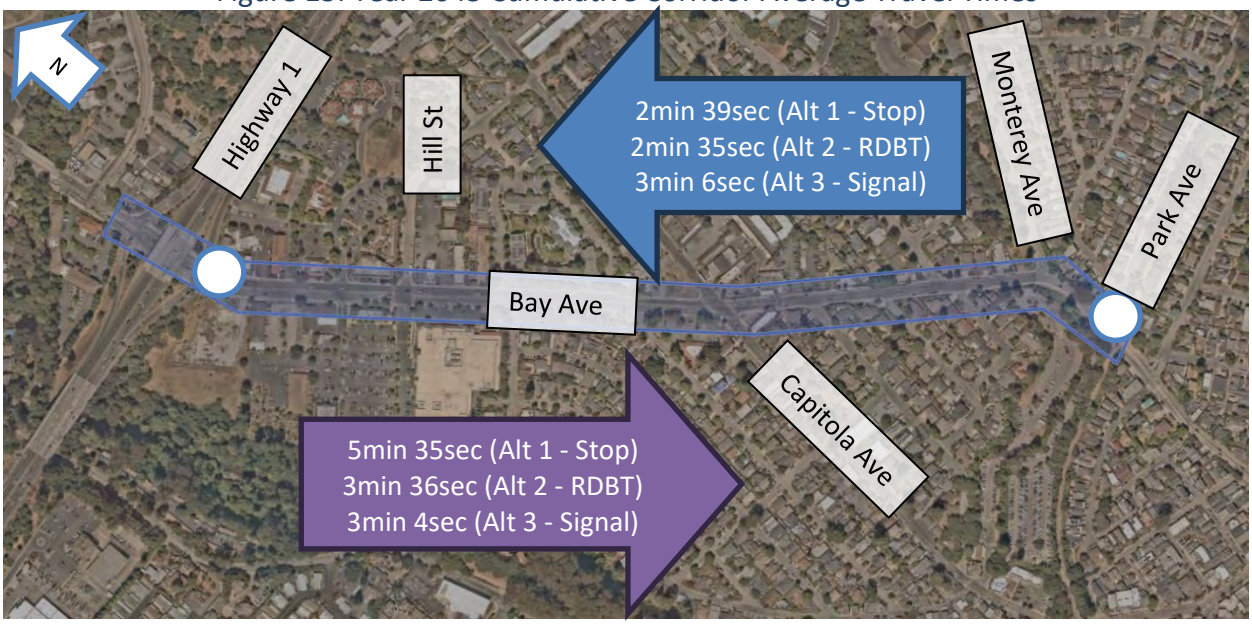
Similarly, vehicles traveling southbound on the Alternative 1 Stop layout would have an average peak hour travel time of 3 minutes 59 seconds, and the estimated annual VHT from SR1 to Park Avenue is 98,494 vehicle-hours. The Alternative 2 Roundabout layout would have an average peak hour travel time of 2 minute 4 seconds and would have an annual VHT of 68,188 vehicle-hours. The Alternative 3 Signal layout would have an average peak hour travel time of 3 minute 7 seconds and would have an annual VHT of 102,557 vehicle-hours.

For both travel directions, the Alternative 2 Roundabout layout would generate fewer VHT and provide a faster average travel time compared to the Alternative 1 Stop and Alternative 3 signal layout. This is because roundabouts are yield controlled and allow for faster continuous movement of vehicles compared to an all-way stop and signal control where vehicles are required to stop completely at the intersection approach.

Table 14: Year 2024 Existing Corridor Travel Times

Scenario	Analysis Criteria	Alternative 1 Stop & Road Diet [VISSIM]	Alternative 2 Roundabout [VISSIM]	Alternative 3 Signal [Synchro]
NB - N. of Park Ave to S. of Highway 1 SB Ramps		**0.62 Travel Distance (mi)**		
AM Peak	Avg Travel Time (sec)	136.2	114.6	174.8
	Avg Travel Time (min & sec)	2 min 16 sec	1 min 55 sec	2 min 55 sec
	Avg Travel Speed (mph)	16.3	19.5	12.3
PM Peak	Avg Travel Time (sec)	120.6	113.4	165.1
	Avg Travel Time (min & sec)	2 min 1 sec	1 min 53 sec	2 min 45 sec
	Avg Travel Speed (mph)	18.4	19.7	13.4
VHT Estimation	Avg Peak Hour Travel Time (sec)	128.4	114.0	170.0
	Avg Peak Hour Travel Time (min & sec)	2 min 8 sec	1 min 54 sec	2 min 50 sec
	Avg Daily Traffic (vehicles)	4801	4801	4801
	Vehicle Hours Traveled (veh-hr/year)	62,501	55,492	82,726
Scenario	**Analysis Criteria**	**Alternative 1 Stop & Road Diet [VISSIM]**	**Alternative 2 Roundabout [VISSIM]**	**Alternative 3 Signal [Synchro]**
SB - S. of Highway 1 SB Ramps to N. of Park Ave		**0.62 Travel Distance (mi)**		
AM Peak	Average Travel Time (sec)	126.6	113.4	191.2
	Average Travel Time (min & sec)	2 min 7 sec	1 min 53 sec	3 min 11 sec
	Average Travel Speed (mph)	17.7	20.0	10.9
PM Peak	Average Travel Time (sec)	232.2	135	182.4
	Average Travel Time (min & sec)	3 min 52 sec	2 min 15 sec	3 min 2 sec
	Average Travel Speed (mph)	9.6	16.7	12.0
VHT Estimation	Avg Peak Hour Travel Time (sec)	179.4	124.2	186.8
	Avg Peak Hour Travel Time (min & sec)	2 min 59 sec	2 min 4 sec	3 min 7 sec
	Avg Daily Traffic (vehicles)	5415	5415	5415
	Vehicle Hours Traveled (veh-hr/year)	98,494	68,188	102,557

Figure 13: Year 2045 Cumulative Corridor Average Travel Times



Cumulative Conditions

Vehicles traveling northbound on the Alternative 1 Stop layout would have an average peak hour travel time of 2 minutes 39 seconds, and the estimated annual VHT from Park Avenue to SR1 is 104,314 vehicle-hours. The Alternative 2 Roundabout layout would have an average peak hour travel time of 2 minute 35 seconds and would have an annual VHT of 101,948 vehicle-hours. The Alternative 3 Signal layout would have an average peak hour travel time of 3 minute 6 seconds and would have an annual VHT of 122,259 vehicle-hours.

For vehicles traveling southbound on the Alternative 1 Stop layout would have an average peak hour travel time of 5 minutes 35 seconds, and the estimated annual VHT from SR1 to Park Avenue is 271,317 vehicle-hours. The Alternative 2 Roundabout layout would have an average peak hour travel time of 3 minute 36 seconds and would have an annual VHT of 175,200 vehicle-hours. The Alternative 3 Signal layout would have an average peak hour travel time of 3 minute 4 seconds and would have an annual VHT of 149,285 vehicle-hours.

For vehicles traveling northbound on Bay Avenue, the Alternative 2 Roundabout layout would generate fewer VHT and provide a faster average travel time; however, for vehicles traveling southbound on Bay Avenue, the Alternative 3 Signal layout would generate fewer VHT and provide a faster average travel time.

Table 15: Year 2045 Cumulative Corridor Travel Times

Scenario	Analysis Criteria	Alternative 1 Stop & Road Diet [VISSIM]	Alternative 2 Roundabout [VISSIM]	Alternative 3 Signal [Synchro]
NB - N. of Park Ave to S. of Highway 1 SB Ramps		**0.62 Travel Distance (mi)**		
AM Peak	Avg Travel Time (sec)	125.4	112.8	162.4
	Avg Travel Time (min & sec)	2 min 5 sec	1 min 53 sec	2 min 42 sec
	Avg Travel Speed (mph)	17.6	19.8	15.6
PM Peak	Avg Travel Time (sec)	192	197.4	209.6
	Avg Travel Time (min & sec)	3 min 12 sec	3 min 17 sec	3 min 30 sec
	Avg Travel Speed (mph)	11.5	11.3	11.7
VHT Estimation	Avg Peak Hour Travel Time (sec)	158.70	155.10	186.00
	Avg Peak Hour Travel Time (min & sec)	2 min 39 sec	2 min 35 sec	3 min 6 sec
	Avg Daily Traffic (vehicles)	6483	6483	6483
	Vehicle Hours Traveled (veh-hr/year)	104,314	101,948	122,259
Scenario	**Analysis Criteria**	**Alternative 1 Stop & Road Diet [VISSIM]**	**Alternative 2 Roundabout [VISSIM]**	**Alternative 3 Signal [Synchro]**
SB - S. of Highway 1 SB Ramps to N. of Park Ave		**0.62 Travel Distance (mi)**		
AM Peak	Avg Travel Time (sec)	315.6	132.6	182.8
	Avg Travel Time (min & sec)	5 min 16 sec	2 min 13 sec	3 min 3 sec
	Avg Travel Speed (mph)	7.1	17.0	10.7
PM Peak	Avg Travel Time (sec)	353.4	299.4	185.3
	Avg Travel Time (min & sec)	5 min 53 sec	4 min 59 sec	3 min 5 sec
	Avg Travel Speed (mph)	6.3	7.5	10.3
VHT Estimation	Avg Peak Hour Travel Time (sec)	334.50	216.00	184.05
	Avg Peak Hour Travel Time (min & sec)	5 min 35 sec	3 min 36 sec	3 min 4 sec
	Avg Daily Traffic (vehicles)	8000	8000	8000
	Vehicle Hours Traveled (veh-hr/year)	271,317	175,200	149,285

Travel Time Impact to Driver Behavior, Transit Access, and Emergency Vehicle Response

Optimizing the travel time along Bay Avenue provides several benefits to multimodal access and safety. Long vehicle delays and queues at intersections typically increases driver frustration and increases risky driver behavior to rush towards their destination. This frustration and risky driver behavior can increase the likelihood and severity of a motor vehicle collision which can jeopardize the safety of vulnerable users such as bikes and pedestrians.

Roadway facilities with travel times optimized to the intended design speed also improves consistency and access of transit services and emergency vehicle response.

4.5 Driver Behavior & Drone Video Analysis at Bay/Capitola Intersection

The current all-way stop intersection of Bay Avenue / Capitola Avenue was evaluated using aerial video collection by drone and processed using video analytics to observe driver behavior and determine vehicle stopping rate, measured speeds, deceleration, and near miss collisions between vehicles, pedestrians, and bicyclists. The drone video collection was conducted by Kimley-Horn on Thursday May 16, 2024, when school was in session and during favorable weather conditions, and the data is representative of the AM peak, school mid-day peak, and PM peak commute times. The technical memo and results of the drone video analysis is provided in **Attachment E**.

The near-miss collision analysis was conducted by calculating the post encroachment time (PET) between vehicles which is the critical or minimum gap between the intersection point of two or more objects on their intended trajectory. For the study, a near-miss collision at the Bay/Capitola is recorded when the PET is equal or less than 1.5 seconds from where objects would collide. A total of 35 near miss-collisions were observed at the Bay/Capitola all-way stop controlled intersection with the most common near miss occurring on Bay Avenue between vehicles making a southbound left turn to access Capitola Avenue and the Gayles driveway and vehicles making a northbound through movement towards Highway 1.

Based on the observed driver behavior and near-miss collisions at the existing all-way stop controlled intersection at Bay/Capitola, the recommended measures to address these intersection challenges may include:

- Convert the intersection into a roundabout. Vehicles entering a roundabout all travel in one direction around a raised center island at a controlled lower speed which reduces the number of conflict points and the severity of potential collisions between vehicles, pedestrians, and bicyclists.
- Convert the intersection into a signal. Signal control provides clear right-of-way instructions to all users and improve driver certainty when traveling through the intersection.

4.6 Multimodal Safety and Access Improvements

This section provides an overview of the potential long-term roadway improvements that may be implemented along the Bay Avenue corridor to enhance multimodal safety and access. The intersection control investigated for each roadway alternative would introduce geometric changes that would benefit bicycle and pedestrian facilities.

Alternative 1: Stop Control and Road Diet

- Road Diet Transition: Converting Bay Avenue from a four-lane to a two-lane roadway reduces vehicle speeds and minimizes the number of lanes pedestrians and cyclists must cross.
- Enhanced Pedestrian Crossings: Installation of curb bulb-outs and enhanced pedestrian crossings shortens the crossing distance and increases visibility.
- Buffered Class IV Bike Facilities: Adding buffered bike lanes separates cyclists from vehicular traffic, enhancing safety and comfort.

Example road diet and traffic calming features implemented at the existing all-way stop at Bay/Hill (Capitola)

Alternative 2: Roundabout

- Reduced Conflict Points: Roundabouts reduce the number of conflict points compared to traditional intersections, lowering the likelihood of collisions.
- Slower Vehicle Speeds: Vehicles travel at lower speeds through roundabouts, reducing the severity of any potential collisions.
- Bike and Pedestrian Pathways: The design includes bike lane transitions and curb ramps onto Class I shared bike/ped pathways, providing a safer and more direct route for cyclists and pedestrians.
- Shorter and Protected Crossings: Pedestrians benefit from shorter crossing distances and protected refuge areas within the roundabout design.

Example bike and pedestrian facilities at a roundabout approach (Lafayette)

Alternative 3: Signal

- Signal Control: Traffic signals provide clear right-of-way instructions, thereby improving driver predictability and reducing confusion at intersections.
- Designated Crossing Times: Pedestrian signals provide designated crossing times, ensuring safe passage across intersections.
- Buffered Bike Lanes: Similar to Alternative 1, buffered bike lanes protect cyclists from the main traffic stream.
- Pedestrian Countdown Signals: These signals improve pedestrian safety by providing clear timing information for crossing.
- Protected Intersection Design: Installation of curb bulb-outs that separate travel areas and shorten the pedestrian and bicycle crossings improves multimodal safety and access.

Example protected intersection features for bikes and peds at a signalized intersection (Fremont)

Other Roadway Considerations and Enhancements

- Class IV protected bikeways: Where possible, restripe the existing Class II bike lanes on Bay Avenue with buffered bike lanes via striping and/or raised bollards to increase the physical separation between the vehicle and bicycle travel lanes. The added comfort and visibility of the bikeway improves bicycle safety along the roadway.
- Mid-block crossings: Where feasible and warranted, install mid-block crossings to enhance pedestrian connectivity and safety. Crossing augmented with median refuge areas, flashing signs, and high contrast striping provides shorter crossing distance and improves visibility to pedestrians crossing the street.
- Landscaped medians: Where feasible, implement raised medians with opportunities for landscaping to enhance the Bay Avenue streetscape in a way that improves the appearance of Bay Avenue, increases safety for bicyclists and pedestrians, and stimulates private investment within the area per the Capitola General Plan.


Example of mid-block crosswalk and buffered bike lanes

General Safety Enhancements:

- Traffic Calming Features: All alternatives incorporate traffic calming features like narrower lanes and improved intersection design, which inherently enhance safety for all road users.
- Visibility Improvements: Enhanced lighting, signage, and marked crosswalks improve visibility for pedestrians and cyclists, especially at night or during adverse weather conditions.
- Collision Mitigation: Historical collision data and near-miss analysis inform the design to specifically address risky driver behaviors and common collision types, further ensuring pedestrian and cyclist safety.

Summary of Safety Benefits:

- Reduced Vehicle Speeds: Slower travel speeds generally lead to decreased collision severity for vehicles, cyclists and pedestrians.
- Clear Right-of-Way: Signal and roundabout controls provide structured and predictable movement patterns.
- Protected Space: Buffered and clearly marked spaces for pedestrians and cyclists reduce the risk of conflicts with vehicles.
- Improved Crossings: Shorter and more visible crossing areas make it safer and easier for pedestrians to navigate intersections.
- Enhanced Visibility and Lighting: Increased visibility through better lighting and clear signage reduces the risk of accidents.

5. Corridor Study Conclusions and Recommendations

Table 16 provides a qualitative comparison of the proposed corridor alternatives from an economic, operations, and safety assessment. Based on the analysis results, the study recommends pursuing the roundabout configuration at key intersections for long-term benefits in traffic operations, safety, economic development, and multi-modal accessibility.

Operations

From an intersection operations perspective, the Alternative 2 roundabout configuration would provide the lowest average vehicle LOS delay and shortest average travel time along the Bay Avenue corridor. As a result, improved intersection operations benefit transit and emergency vehicle access. The introduction of roundabouts as a new traffic control in the City would require a longer adjustment period for drivers to adapt to the new infrastructure compared to existing signals or stop control.

The Alternative 1 stop configuration with road diet would result in the worst LOS, longest travel times, and vehicle queues operating similar to the Alternative 0 no build scenario. Forecasted traffic growth from the county travel demand model would cause operation deficiencies with the stop control alternative. With keeping the existing road condition, there is little driver adaptation time.

The Alternative 3 signal configuration would provide acceptable operations for average vehicle delay, queues, and travel time but not to the same level as the roundabout option. It is worth noting that while the LOS would be improved with a signal-controlled intersection, the typical delay for a vehicle to traverse through the intersection would actually increase compared to a roundabout option.

Multimodal Safety

As discussed in Section 4, each potential corridor alternative would introduce geometric changes that would benefit bicycle and pedestrian facilities for safety improvement and access. The Alternative 2 roundabout configuration would have the fewest vehicle conflict points for bikes and pedestrians crossing the street as well as shorter and protected crossings with the roundabout layout introducing raised medians and separated pathways. These features plus slower overall vehicle speeds through the intersection generates the lowest collision severity potential compared to the other alternatives. Based on the observed driver behavior and near-miss collision analysis at the Bay/Capitola all-way stop controlled intersection, a roundabout layout would improve overall safety at the skewed roadway approaches.

The Alternative 1 stop configuration would introduce curb bulb-outs at the stop intersections and road diet traffic calming effects that reduce the crossing distances and enhance visibility of bikes and peds crossing the vehicle conflict areas. These features help reduce the number of vehicle conflict points and provide a moderate safety improvement compared to the roundabout and signal alternatives.

The Alternative 3 signal configuration helps facilitate designated crossing phases for all transportation modes and the infrastructure can be designed with a protected intersection layout to separate and shorten the bike and pedestrian crossings at the corners. These features improve bike and pedestrian access, but the number of vehicle conflict points remains similar with the existing stop layout. For a signal during a green light, vehicles will typically travel at higher speeds than the stop and roundabout alternatives which increases the collision severity potential with more vulnerable users.

Economic Development

For the Alternative 2 roundabout layout to be feasible, substantial infrastructure and construction improvements would be required to convert the existing stop control into a roundabout throughout the corridor. Compared to the other alternatives, the roundabout would have the highest upfront capital costs and potential right-of-way impacts to implement due to the larger geometric footprint needed for designing acceptable operations and the multimodal features. Typical rough order of magnitude (ROM) costs for a single lane roundabout range between $2 to $3.5 million per location. Once constructed however, the roundabout would have lower long-term maintenance costs and better environmental benefits than a signal option due to no electrical equipment, lower vehicle emissions, and opportunities for art and landscaping within the intersection. Grant funding opportunities with roundabouts are also advantageous since many state and federal grant programs are focused on active transportation and improving safety for cyclists and pedestrians which are elements that roundabouts provide.

The Alternative 1 stop layout would have the lowest capital costs, right-of-way impact, and ongoing maintenance compared to the roundabout and signal alternatives. Typical ROM costs for a road diet and traffic calming improvements range between $100,00 to $500,000 per location. Depending on the traffic calming design, aesthetics can also be improved along the streetscape corridor with landscaping and decorative art. Grant funding opportunities with Alternative 1 are also good with the safety benefits to pedestrians and cyclists from the potential road diet and traffic calming features.

The Alternative 3 signal layout would have high capital costs and high ongoing maintenance costs to support the electrical and signal infrastructure compared to the roundabout and stop alternatives. Typical ROM costs for a signal varies based on the number of travel lanes and approaches and can range between $500,000 to $2 million per location.

Table 16: Qualitative Corridor Operations Summary Comparison

Criteria	Alternative 0 – No Build	Alternative 1 – Stop & Road Diet	Alternative 2 – Roundabout	Alternative 3 - Signal
Operations				
Vehicle Delay	High Stop control creates delay for intersection approaches	High Stop control creates delay for intersection approaches	Low Yield control reduces average delay	Moderate Signal control reduces average delay
Vehicle Travel Time	Long Stop control creates delay for intersection approaches	Long Stop control creates delay for intersection approaches	Short Yield control reduces average delay	Moderate Signal control reduces average delay
Vehicle Queue Length	Long Long queues and spillback into adjacent intersection	Long Long queues and spillback into adjacent intersection	Moderate Yield control generates average queues	Moderate Signal control generates average queues
Transit and Emergency Vehicle Access Improvement	Poor Slower average travel times and higher VHT	Poor Slower average travel times and higher VHT	Moderate Faster average travel times and lower VHT	Moderate Opportunity for emergency vehicle preemption

Criteria	Alternative 0 – No Build	Alternative 1 – Stop & Road Diet	Alternative 2 – Roundabout	Alternative 3 - Signal
Driver Adaptation Time	Low Existing conditions on corridor	Low Existing conditions on corridor	High New traffic control in City for users	Moderate Existing conditions on corridor
Safety				
Collision Severity Potential	Moderate Numerous conflict points with stop control at intersection	Moderate Numerous conflict points with stop control at intersection	Low Fewer conflict points and controlled lower speeds at intersection	High Higher vehicle speeds and numerous conflict points at intersection
Bicycle Access Improvement	Poor No Build scenario would not improve conditions	Moderate Buffered bike lanes and markings	Good Buffered bike lanes and markings. Shorter and protected crossings	Moderate Buffered bike lanes and markings. Designated crossing phases
Pedestrian Access Improvement	Poor No Build scenario would not improve conditions	Moderate Shorter crossings with traffic calming	Good Shorter and protected crossings	Moderate Designated crossing phases
Economic				
Capital Construction Cost	Low No Build scenario would not improve conditions	Low Updates to existing infrastructure	High New infrastructure and utility coordination	High New infrastructure and signal equipment
Right of Way Impact	Low No change to existing conditions	Low Updates to existing infrastructure	High Property impacts to accommodate design	Moderate New infrastructure and signal equipment
Operation & Maintenance Costs	Low No Build scenario would not improve conditions	Low Landscaping	Moderate Landscaping	High Signal equipment, electricity
Greenhouse Gas Emissions	Moderate Vehicle idling with stop traffic control	Moderate Vehicle idling with stop traffic control	Low Less vehicle idling with yield traffic control	Moderate Higher speeds & vehicle idling with signal traffic control
Aesthetics & Community Character Improvement	Poor No Build scenario would not improve conditions	Moderate Opportunities for art and landscaping with traffic calming	Good Opportunities for art and landscaping at intersection	Moderate Requires signal poles and cabinets
Grant Funding Opportunity	Poor No Build scenario would not improve conditions	Moderate Multimodal safety improvement	Good Multimodal safety improvement, traffic congestion reduction, environmental impact	Moderate Traffic congestion reduction

Criteria	Alternative 0 – No Build	Alternative 1 – Stop & Road Diet	Alternative 2 – Roundabout	Alternative 3 - Signal
General Benefits	• Lower initial capital cost and ongoing maintenance	• Improved driver certainty • Lower initial capital cost • Improved bike & ped safety	• Reduction collision severity • Improved bike & ped safety • Improved operations • Reduced GHG emissions	• Improved operations & capacity • Provides designated crossing times and driver certainty
General Challenges	• Decreased operations • Increased queues	• Decreased operations • Increased queues	• High initial capital cost and potential ROW impact • Driver adaptation to new traffic operations	• High capital and maintenance costs • Increased queues and collision severity potential

6. Appendix

- Attachment A – Year 2024 Existing Traffic Count Data
- Attachment B – Bike and Pedestrian Collision Data
- Attachment C – VISSIM & SIDRA LOS Results (Stop and Roundabout Alternatives)
- Attachment D – Synchro LOS Results (No Build, Stop, and Signal Alternatives)
- Attachment E – Existing Intersection Observed Driver Behavior at Bay/Capitola Technical Memo

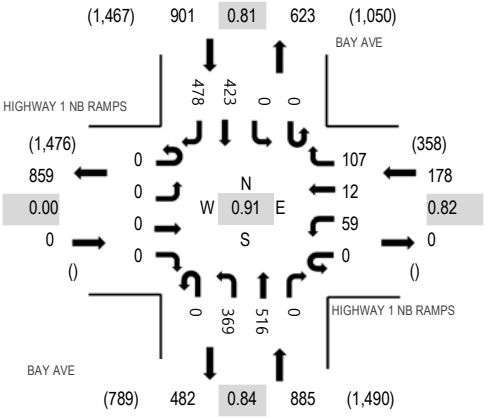
Attachment A – Year 2024 Existing Traffic Count Data

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 BAY AVE & HIGHWAY 1 NB RAMPS AM
Date: Thursday, March 7, 2024
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

Peak Hour

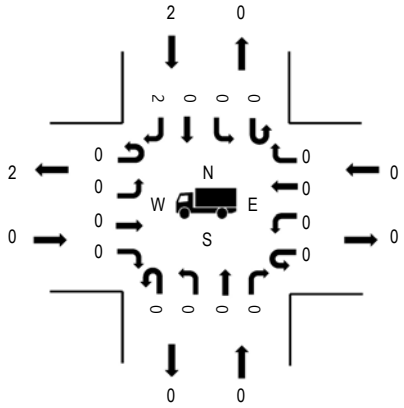
Motorized Vehicles



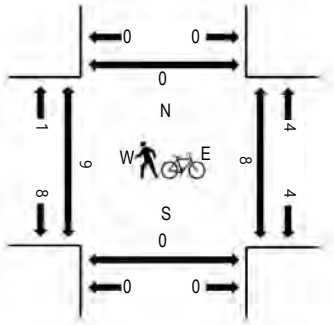
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	0.0%	0.82
NB	0.0%	0.84
SB	0.2%	0.81
All	0.1%	0.91

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	HIGHWAY 1 NB RAMPS Eastbound				HIGHWAY 1 NB RAMPS Westbound				BAY AVE Northbound				BAY AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	0	0	0	0	20	0	25	0	43	56	0	0	0	52	38	234	1,351
7:15 AM	0	0	0	0	0	15	0	40	0	69	68	0	0	0	52	87	331	1,639
7:30 AM	0	0	0	0	0	17	0	30	0	91	77	0	0	0	80	99	394	1,848
7:45 AM	0	0	0	0	0	7	5	21	0	91	110	0	0	0	64	94	392	1,892
8:00 AM	0	0	0	0	0	14	4	23	0	105	158	0	0	0	104	114	522	1,964
8:15 AM	0	0	0	0	0	12	4	24	0	90	132	0	0	0	147	131	540	
8:30 AM	0	0	0	0	0	13	1	33	0	87	102	0	0	0	89	113	438	
8:45 AM	0	0	0	0	0	20	3	27	0	87	124	0	0	0	83	120	464	
Count Total	0	0	0	0	0	118	17	223	0	663	827	0	0	0	671	796	3,315	
Peak Hour	0	0	0	0	0	59	12	107	0	369	516	0	0	0	423	478	1,964	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

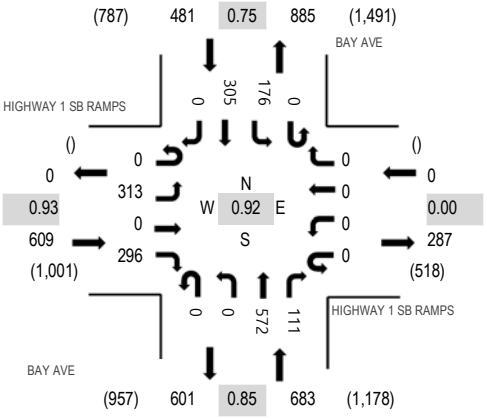
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	1	0	1	2	7:00 AM	0	0	0	1	1	7:00 AM	2	0	1	0	3
7:15 AM	0	1	1	0	2	7:15 AM	0	0	0	0	0	7:15 AM	0	0	3	0	3
7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0	7:30 AM	3	0	0	0	3
7:45 AM	0	1	0	1	2	7:45 AM	0	0	0	2	2	7:45 AM	2	0	1	0	3
8:00 AM	0	0	0	1	1	8:00 AM	0	2	0	4	6	8:00 AM	4	0	1	0	5
8:15 AM	0	0	0	0	0	8:15 AM	0	2	0	8	10	8:15 AM	4	0	2	0	6
8:30 AM	0	0	0	0	0	8:30 AM	0	1	0	0	1	8:30 AM	1	0	4	0	5
8:45 AM	0	0	0	1	1	8:45 AM	0	1	0	0	1	8:45 AM	0	0	1	0	1
Count Total	0	3	1	4	8	Count Total	0	6	0	15	21	Count Total	16	0	13	0	29
Peak Hour	0	0	0	2	2	Peak Hour	0	6	0	12	18	Peak Hour	9	0	8	0	17

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 BAY AVE & HIGHWAY 1 SB RAMPS AM
Date: Thursday, March 7, 2024
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

Peak Hour

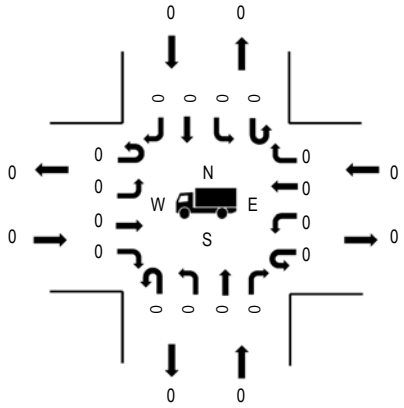
Motorized Vehicles



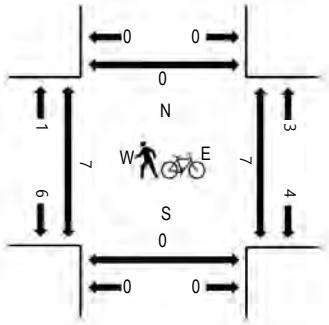
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.93
WB	0.0%	0.00
NB	0.0%	0.85
SB	0.0%	0.75
All	0.0%	0.92

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	HIGHWAY 1 SB RAMPS Eastbound				HIGHWAY 1 SB RAMPS Westbound				BAY AVE Northbound				BAY AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	36	0	39	0	0	0	0	0	0	65	12	1	32	35	0	220	1,193
7:15 AM	0	50	0	49	0	0	0	0	0	0	92	18	0	34	35	0	278	1,455
7:30 AM	0	42	0	49	0	0	0	0	0	0	124	31	0	38	58	0	342	1,655
7:45 AM	0	71	0	56	0	0	0	0	0	0	125	28	0	38	35	0	353	1,713
8:00 AM	0	96	0	68	0	0	0	0	0	0	167	35	0	41	75	0	482	1,773
8:15 AM	0	81	0	75	0	0	0	0	0	0	141	21	0	56	104	0	478	
8:30 AM	0	55	0	73	0	0	0	0	0	0	139	30	0	33	70	0	400	
8:45 AM	0	81	0	80	0	0	0	0	0	0	125	25	0	46	56	0	413	
Count Total	0	512	0	489	0	0	0	0	0	0	978	200	1	318	468	0	2,966	
Peak Hour	0	313	0	296	0	0	0	0	0	0	572	111	0	176	305	0	1,773	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

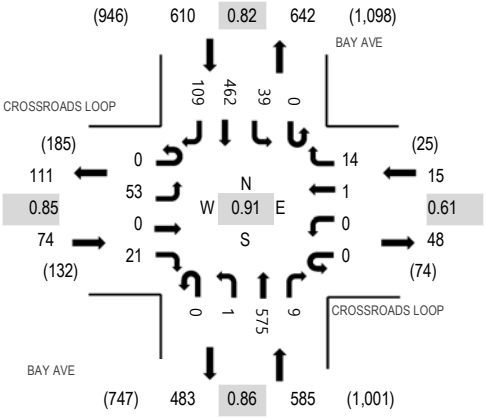
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	1	0	0	0	1	7:00 AM	0	0	0	1	1	7:00 AM	2	0	1	0	3
7:15 AM	0	1	0	0	1	7:15 AM	0	0	0	0	0	7:15 AM	1	0	1	0	2
7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0	7:30 AM	2	0	0	0	2
7:45 AM	0	1	0	0	1	7:45 AM	0	0	0	2	2	7:45 AM	2	0	1	0	3
8:00 AM	0	0	0	0	0	8:00 AM	0	2	0	4	6	8:00 AM	3	0	2	0	5
8:15 AM	0	0	0	0	0	8:15 AM	0	2	0	8	10	8:15 AM	4	0	2	0	6
8:30 AM	0	0	0	0	0	8:30 AM	0	1	0	0	1	8:30 AM	0	0	3	0	3
8:45 AM	0	0	0	0	0	8:45 AM	0	1	0	0	1	8:45 AM	0	0	0	0	0
Count Total	1	2	0	0	3	Count Total	0	6	0	15	21	Count Total	14	0	10	0	24
Peak Hour	0	0	0	0	0	Peak Hour	0	6	0	12	18	Peak Hour	7	0	7	0	14

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 BAY AVE & CROSSROADS LOOP AM
Date: Thursday, March 7, 2024
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

Peak Hour

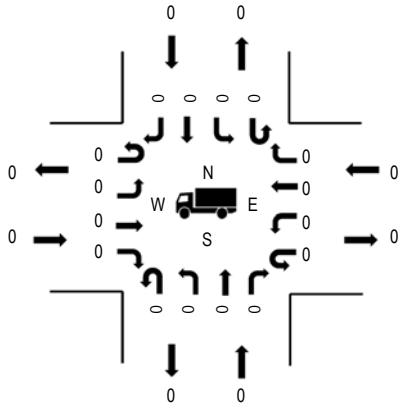
Motorized Vehicles



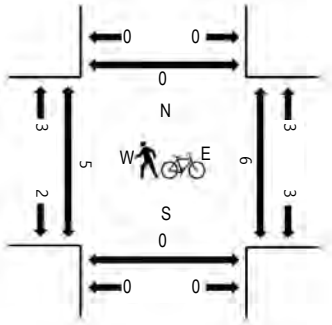
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.85
WB	0.0%	0.61
NB	0.0%	0.86
SB	0.0%	0.82
All	0.0%	0.91

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	CROSSROADS LOOP Eastbound				CROSSROADS LOOP Westbound				BAY AVE Northbound				BAY AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	7	0	1	0	0	0	0	0	3	61	0	0	2	44	12	130	820
7:15 AM	0	8	0	6	0	1	0	3	0	0	90	1	0	10	60	18	197	1,033
7:30 AM	0	8	0	5	0	0	0	3	0	0	136	1	0	5	64	26	248	1,187
7:45 AM	0	15	0	8	0	0	0	3	0	1	122	1	0	6	75	14	245	1,248
8:00 AM	0	9	0	2	0	0	0	7	0	0	167	3	0	8	116	31	343	1,284
8:15 AM	0	13	0	10	0	0	0	2	0	0	137	2	0	6	155	26	351	
8:30 AM	0	15	0	6	0	0	1	4	0	1	147	2	0	10	94	29	309	
8:45 AM	0	16	0	3	0	0	0	1	0	0	124	2	0	15	97	23	281	
Count Total	0	91	0	41	0	1	1	23	0	5	984	12	0	62	705	179	2,104	
Peak Hour	0	53	0	21	0	0	1	14	0	1	575	9	0	39	462	109	1,284	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

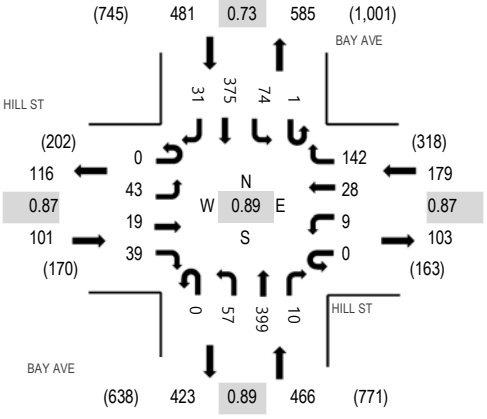
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	1	1	7:00 AM	2	1	0	0	3
7:15 AM	0	1	0	0	1	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0	7:30 AM	1	0	0	0	1
7:45 AM	0	1	0	0	1	7:45 AM	0	0	0	2	2	7:45 AM	2	0	1	0	3
8:00 AM	0	0	0	0	0	8:00 AM	0	2	0	4	6	8:00 AM	1	0	1	0	2
8:15 AM	0	0	0	0	0	8:15 AM	0	2	0	8	10	8:15 AM	1	0	2	0	3
8:30 AM	0	0	0	0	0	8:30 AM	0	1	0	0	1	8:30 AM	1	0	3	0	4
8:45 AM	0	0	0	0	0	8:45 AM	0	1	0	0	1	8:45 AM	2	0	0	0	2
Count Total	0	2	0	0	2	Count Total	0	6	0	15	21	Count Total	10	1	7	0	18
Peak Hour	0	0	0	0	0	Peak Hour	0	6	0	12	18	Peak Hour	5	0	6	0	11

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 4 BAY AVE & HILL ST AM
Date: Thursday, March 7, 2024
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

Peak Hour

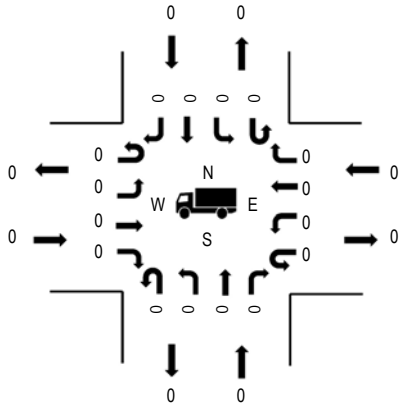
Motorized Vehicles



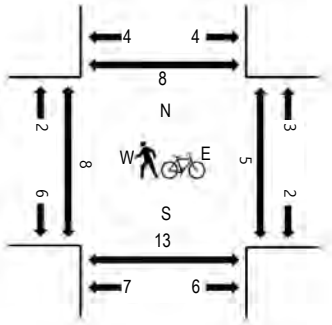
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.87
WB	0.0%	0.87
NB	0.0%	0.89
SB	0.0%	0.73
All	0.0%	0.89

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	HILL ST Eastbound				HILL ST Westbound				BAY AVE Northbound				BAY AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	10	3	1	0	0	6	18	0	5	37	0	0	10	31	6	127	777
7:15 AM	0	7	2	5	0	2	6	28	0	6	56	0	0	14	42	11	179	976
7:30 AM	0	11	4	5	0	3	5	30	0	11	95	1	0	9	53	3	230	1,141
7:45 AM	0	11	2	8	0	1	7	33	0	12	80	2	0	13	64	8	241	1,209
8:00 AM	0	12	4	10	0	0	11	42	0	13	116	2	0	16	96	4	326	1,227
8:15 AM	0	12	6	9	0	3	5	34	0	15	92	4	1	19	137	7	344	
8:30 AM	0	10	2	7	0	1	8	40	0	17	106	3	0	14	81	9	298	
8:45 AM	0	9	7	13	0	5	4	26	0	12	85	1	0	25	61	11	259	
Count Total	0	82	30	58	0	15	52	251	0	91	667	13	1	120	565	59	2,004	
Peak Hour	0	43	19	39	0	9	28	142	0	57	399	10	1	74	375	31	1,227	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	1	0	0	1	2	7:00 AM	3	2	1	1	7
7:15 AM	0	1	0	0	1	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0	7:30 AM	0	1	0	0	1
7:45 AM	0	1	0	0	1	7:45 AM	0	0	0	2	2	7:45 AM	2	0	1	1	4
8:00 AM	0	0	0	0	0	8:00 AM	0	2	0	4	6	8:00 AM	3	2	0	2	7
8:15 AM	0	0	0	0	0	8:15 AM	1	1	0	8	10	8:15 AM	0	3	2	2	7
8:30 AM	0	0	0	0	0	8:30 AM	0	1	1	0	2	8:30 AM	1	4	1	3	9
8:45 AM	0	0	0	0	0	8:45 AM	0	0	1	0	1	8:45 AM	4	4	2	1	11
Count Total	0	2	0	0	2	Count Total	2	4	2	15	23	Count Total	13	16	7	10	46
Peak Hour	0	0	0	0	0	Peak Hour	1	4	2	12	19	Peak Hour	8	13	5	8	34

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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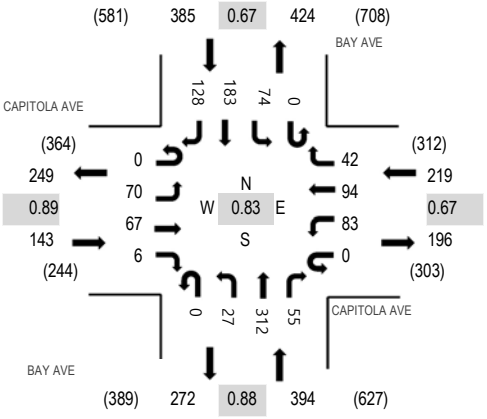
Location: 5 BAY AVE & CAPITOLA AVE AM
Date: Thursday, March 7, 2024
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

Peak Hour

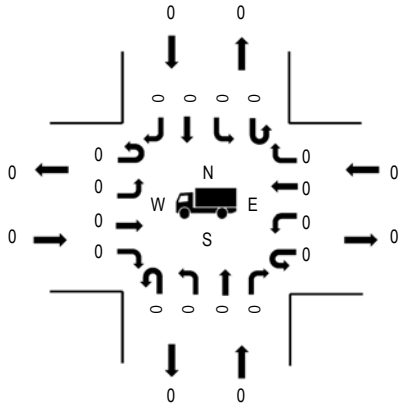
Motorized Vehicles



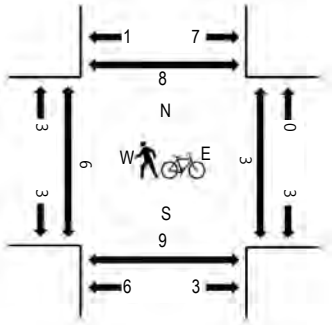
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.89
WB	0.0%	0.67
NB	0.0%	0.88
SB	0.0%	0.67
All	0.0%	0.83

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	CAPITOLA AVE Eastbound				CAPITOLA AVE Westbound				BAY AVE Northbound				BAY AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	12	8	1	0	2	4	5	0	0	18	4	0	10	7	11	82	623
7:15 AM	0	17	10	1	0	2	7	4	0	4	37	8	0	7	24	12	133	821
7:30 AM	0	18	11	0	0	7	13	9	0	0	78	2	0	8	33	15	194	1,032
7:45 AM	0	10	12	1	0	6	24	10	0	6	66	10	0	17	33	19	214	1,118
8:00 AM	0	21	12	4	0	18	21	15	0	3	82	15	0	18	47	24	280	1,141
8:15 AM	0	12	15	1	0	45	26	12	0	5	71	12	0	17	85	43	344	
8:30 AM	0	18	20	0	0	15	26	6	0	7	91	14	0	15	36	32	280	
8:45 AM	0	19	20	1	0	5	21	9	0	12	68	14	0	24	15	29	237	
Count Total	0	127	108	9	0	100	142	70	0	37	511	79	0	116	280	185	1,764	
Peak Hour	0	70	67	6	0	83	94	42	0	27	312	55	0	74	183	128	1,141	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

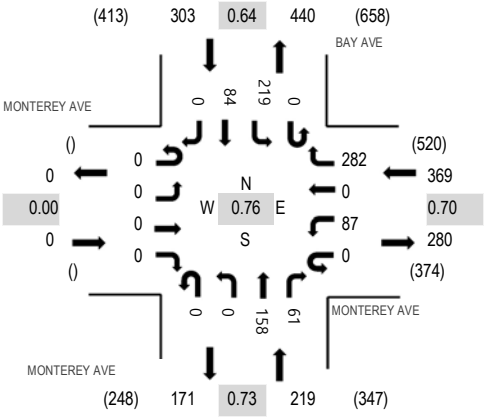
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	1	0	0	1	7:00 AM	1	0	0	1	2
7:15 AM	0	0	0	0	0	7:15 AM	0	0	1	1	2	7:15 AM	2	2	1	3	8
7:30 AM	0	0	0	0	0	7:30 AM	0	0	1	2	3	7:30 AM	0	1	0	1	2
7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	4	4	7:45 AM	0	3	0	0	3
8:00 AM	0	0	0	0	0	8:00 AM	2	0	1	4	7	8:00 AM	1	3	0	1	5
8:15 AM	0	0	0	0	0	8:15 AM	1	2	1	12	16	8:15 AM	0	1	1	2	4
8:30 AM	0	0	0	0	0	8:30 AM	0	0	1	2	3	8:30 AM	3	4	1	4	12
8:45 AM	0	0	0	0	0	8:45 AM	1	0	0	0	1	8:45 AM	2	1	1	1	5
Count Total	0	0	0	0	0	Count Total	4	3	5	25	37	Count Total	9	15	4	13	41
Peak Hour	0	0	0	0	0	Peak Hour	4	2	3	18	27	Peak Hour	6	9	3	8	26

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 6 MONTEREY AVE & MONTEREY AVE AM
Date: Thursday, March 7, 2024
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

Peak Hour

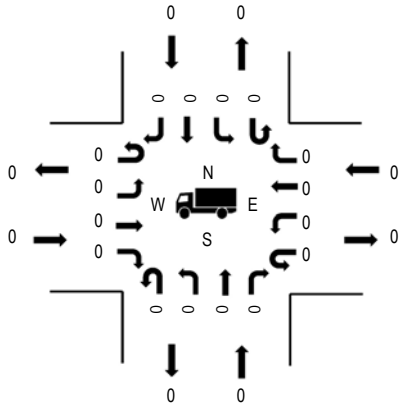
Motorized Vehicles



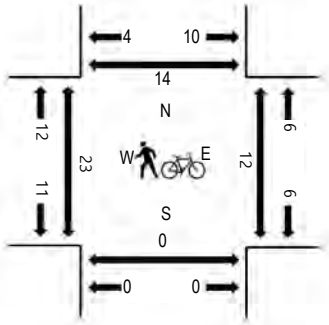
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	0.0%	0.70
NB	0.0%	0.73
SB	0.0%	0.64
All	0.0%	0.76

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	MONTEREY AVE Eastbound				MONTEREY AVE Westbound				MONTEREY AVE Northbound				BAY AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	0	0	0	0	6	0	8	0	0	16	5	0	5	5	0	45	412
7:15 AM	0	0	0	0	0	8	0	28	0	0	22	4	0	18	5	0	85	560
7:30 AM	0	0	0	0	0	17	0	43	0	0	26	7	0	34	10	0	137	768
7:45 AM	0	0	0	0	0	16	0	45	0	0	38	6	0	23	17	0	145	891
8:00 AM	0	0	0	0	0	12	0	65	0	0	38	9	0	45	24	0	193	868
8:15 AM	0	0	0	0	0	25	0	74	0	0	45	31	0	97	21	0	293	
8:30 AM	0	0	0	0	0	34	0	98	0	0	37	15	0	54	22	0	260	
8:45 AM	0	0	0	0	0	8	0	33	0	0	42	6	0	15	18	0	122	
Count Total	0	0	0	0	0	126	0	394	0	0	264	83	0	291	122	0	1,280	
Peak Hour	0	0	0	0	0	87	0	282	0	0	158	61	0	219	84	0	891	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

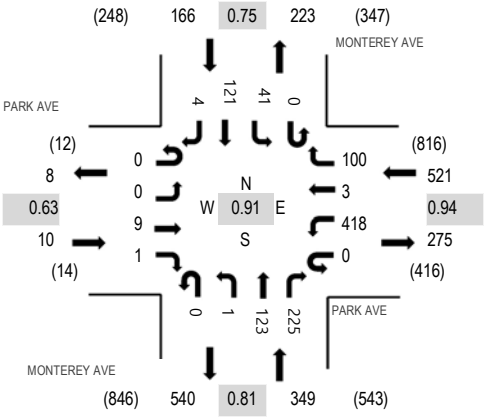
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	1	1	7:00 AM	3	0	1	1	5
7:15 AM	0	0	0	0	0	7:15 AM	0	1	2	0	3	7:15 AM	5	0	0	3	8
7:30 AM	0	0	0	0	0	7:30 AM	0	0	1	2	3	7:30 AM	2	0	2	0	4
7:45 AM	0	0	0	0	0	7:45 AM	0	2	1	5	8	7:45 AM	6	0	2	1	9
8:00 AM	0	0	0	0	0	8:00 AM	0	1	1	6	8	8:00 AM	6	0	2	5	13
8:15 AM	0	0	0	0	0	8:15 AM	0	3	3	15	21	8:15 AM	4	0	5	4	13
8:30 AM	0	0	0	0	0	8:30 AM	0	1	2	4	7	8:30 AM	7	0	3	4	14
8:45 AM	0	0	0	0	0	8:45 AM	0	0	1	1	2	8:45 AM	8	0	5	6	19
Count Total	0	0	0	0	0	Count Total	0	8	11	34	53	Count Total	41	0	20	24	85
Peak Hour	0	0	0	0	0	Peak Hour	0	7	7	30	44	Peak Hour	23	0	12	14	49

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 7 MONTEREY AVE & PARK AVE AM
Date: Thursday, March 7, 2024
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

Peak Hour

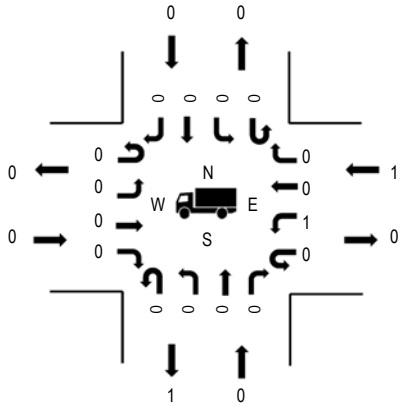
Motorized Vehicles



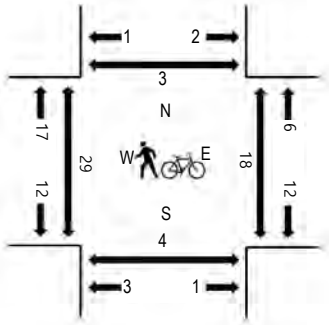
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.63
WB	0.2%	0.94
NB	0.0%	0.81
SB	0.0%	0.75
All	0.1%	0.91

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	PARK AVE Eastbound				PARK AVE Westbound				MONTEREY AVE Northbound				MONTEREY AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	0	0	0	0	35	0	8	0	0	13	10	0	0	10	0	76	575
7:15 AM	0	1	0	0	0	46	1	12	0	1	13	26	0	1	13	0	114	739
7:30 AM	0	0	1	1	0	71	1	14	0	0	19	34	0	2	24	0	167	912
7:45 AM	0	1	0	0	0	83	1	23	0	0	20	58	0	9	23	0	218	1,028
8:00 AM	0	0	0	0	0	94	2	27	0	1	22	57	0	11	25	1	240	1,046
8:15 AM	0	0	4	0	0	101	0	28	0	0	46	63	0	13	32	0	287	
8:30 AM	0	0	3	0	0	116	0	22	0	0	30	55	0	12	44	1	283	
8:45 AM	0	0	2	1	0	107	1	23	0	0	25	50	0	5	20	2	236	
Count Total	0	2	10	2	0	653	6	157	0	2	188	353	0	53	191	4	1,621	
Peak Hour	0	0	9	1	0	418	3	100	0	1	123	225	0	41	121	4	1,046	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	1	1	2	7:00 AM	5	1	1	0	7
7:15 AM	0	0	0	0	0	7:15 AM	0	0	2	1	3	7:15 AM	6	1	3	1	11
7:30 AM	0	0	0	0	0	7:30 AM	0	5	2	0	7	7:30 AM	3	1	4	2	10
7:45 AM	0	0	0	0	0	7:45 AM	0	2	2	1	5	7:45 AM	7	2	2	3	14
8:00 AM	0	0	0	0	0	8:00 AM	0	6	2	3	11	8:00 AM	7	2	2	0	11
8:15 AM	0	0	0	0	0	8:15 AM	0	4	6	1	11	8:15 AM	4	1	8	0	13
8:30 AM	0	0	1	0	1	8:30 AM	0	4	2	0	6	8:30 AM	8	0	4	2	14
8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	1	1	8:45 AM	10	1	4	1	16
Count Total	0	0	1	0	1	Count Total	0	21	17	8	46	Count Total	50	9	28	9	96
Peak Hour	0	0	1	0	1	Peak Hour	0	14	10	5	29	Peak Hour	29	4	18	3	54

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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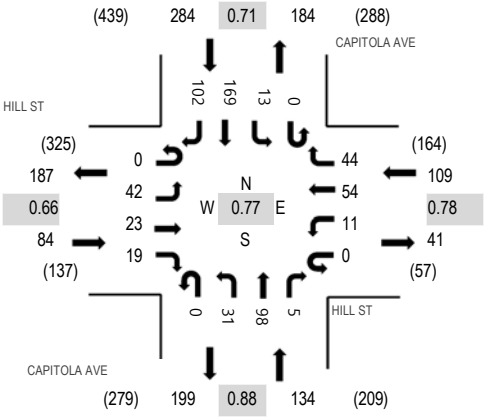
Location: 8 CAPITOLA AVE & HILL ST AM
Date: Thursday, March 7, 2024
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

Peak Hour

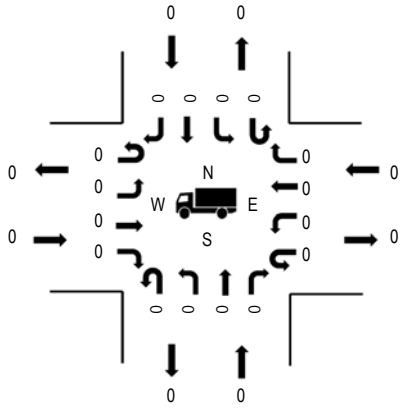
Motorized Vehicles



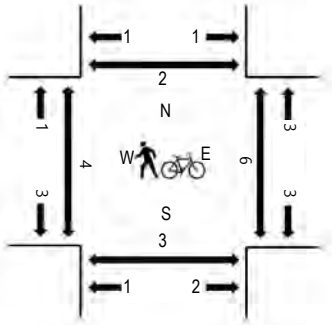
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.66
WB	0.0%	0.78
NB	0.0%	0.88
SB	0.0%	0.71
All	0.0%	0.77

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	HILL ST Eastbound				HILL ST Westbound				CAPITOLA AVE Northbound				CAPITOLA AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	9	0	3	0	0	3	4	0	2	8	0	0	2	9	18	58	338
7:15 AM	0	10	3	1	0	0	11	3	0	6	14	1	0	2	13	19	83	428
7:30 AM	0	8	4	0	0	1	12	3	0	8	10	1	0	0	20	21	88	543
7:45 AM	0	12	2	1	0	1	13	4	0	6	19	0	0	1	31	19	109	605
8:00 AM	0	7	6	4	0	3	19	14	0	9	18	1	0	0	37	30	148	611
8:15 AM	0	13	12	7	0	5	9	13	0	11	27	0	0	10	75	16	198	
8:30 AM	0	12	1	3	0	1	17	14	0	4	27	3	0	2	33	33	150	
8:45 AM	0	10	4	5	0	2	9	3	0	7	26	1	0	1	24	23	115	
Count Total	0	81	32	24	0	13	93	58	0	53	149	7	0	18	242	179	949	
Peak Hour	0	42	23	19	0	11	54	44	0	31	98	5	0	13	169	102	611	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

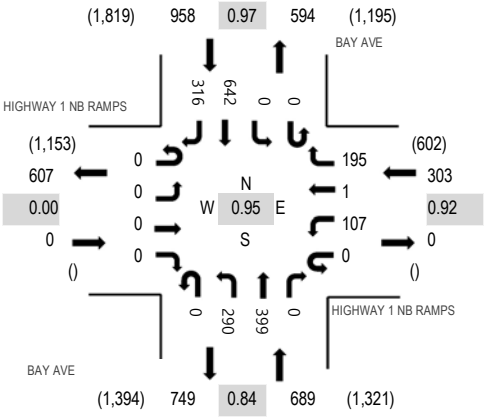
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0	7:00 AM	1	0	3	2	6
7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	1	1	7:15 AM	0	2	2	1	5
7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	1	1	7:30 AM	0	0	3	0	3
7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0	7:45 AM	0	0	7	0	7
8:00 AM	0	0	0	0	0	8:00 AM	1	1	1	2	5	8:00 AM	3	1	1	1	6
8:15 AM	0	0	0	0	0	8:15 AM	1	1	0	4	6	8:15 AM	0	2	3	1	6
8:30 AM	0	0	0	0	0	8:30 AM	0	0	1	2	3	8:30 AM	1	0	0	0	1
8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	1	1	8:45 AM	0	0	2	0	2
Count Total	0	0	0	0	0	Count Total	2	2	2	11	17	Count Total	5	5	21	5	36
Peak Hour	0	0	0	0	0	Peak Hour	2	2	2	9	15	Peak Hour	4	3	6	2	15

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 BAY AVE & HIGHWAY 1 NB RAMPS PM
Date: Thursday, March 7, 2024
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour

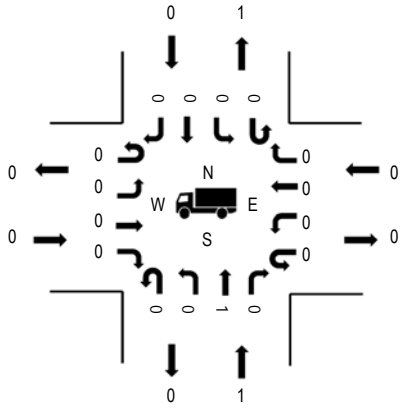
Motorized Vehicles



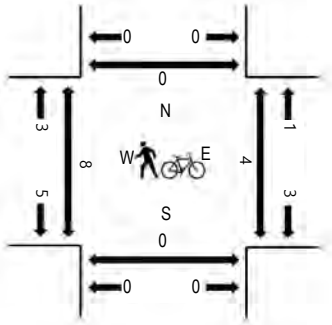
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	0.0%	0.92
NB	0.1%	0.84
SB	0.0%	0.97
All	0.1%	0.95

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	HIGHWAY 1 NB RAMPS Eastbound				HIGHWAY 1 NB RAMPS Westbound				BAY AVE Northbound				BAY AVE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	0	0	32	0	51	0	88	116	0	0	0	154	70	511	1,950
4:15 PM	0	0	0	0	0	23	1	48	0	69	100	0	0	0	169	84	494	1,948
4:30 PM	0	0	0	0	0	23	0	43	0	64	82	0	0	0	157	83	452	1,935
4:45 PM	0	0	0	0	0	29	0	53	0	69	101	0	0	0	162	79	493	1,883
5:00 PM	0	0	0	0	0	25	0	58	0	73	103	0	0	0	167	83	509	1,792
5:15 PM	0	0	0	0	0	19	0	68	0	50	102	0	0	0	170	72	481	
5:30 PM	0	0	0	0	0	20	0	47	0	65	83	0	0	0	117	68	400	
5:45 PM	0	0	0	0	0	19	0	43	0	59	97	0	0	0	108	76	402	
Count Total	0	0	0	0	0	190	1	411	0	537	784	0	0	0	1,204	615	3,742	
Peak Hour	0	0	0	0	0	107	1	195	0	290	399	0	0	0	642	316	1,950	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

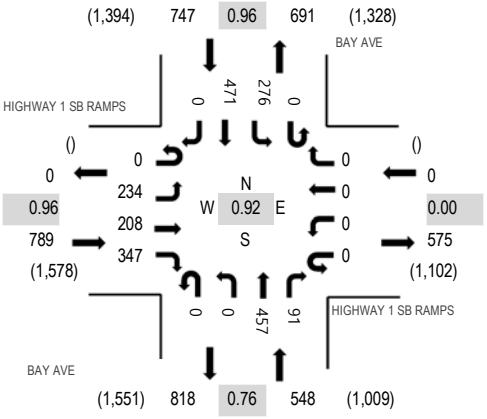
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	1	0	0	1	4:00 PM	0	0	0	2	2	4:00 PM	1	0	3	0	4
4:15 PM	0	0	0	0	0	4:15 PM	0	1	0	2	3	4:15 PM	5	0	0	0	5
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	3	3	4:30 PM	1	0	1	0	2
4:45 PM	0	0	0	0	0	4:45 PM	0	3	0	1	4	4:45 PM	1	0	0	0	1
5:00 PM	0	0	0	1	1	5:00 PM	0	2	0	1	3	5:00 PM	1	0	2	0	3
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	2	2	5:15 PM	0	0	6	0	6
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	1	0	0	0	1
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	4	4	5:45 PM	0	0	2	0	2
Count Total	0	1	0	1	2	Count Total	0	6	0	15	21	Count Total	10	0	14	0	24
Peak Hour	0	1	0	0	1	Peak Hour	0	4	0	8	12	Peak Hour	8	0	4	0	12

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 BAY AVE & HIGHWAY 1 SB RAMPS PM
Date: Thursday, March 7, 2024
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour

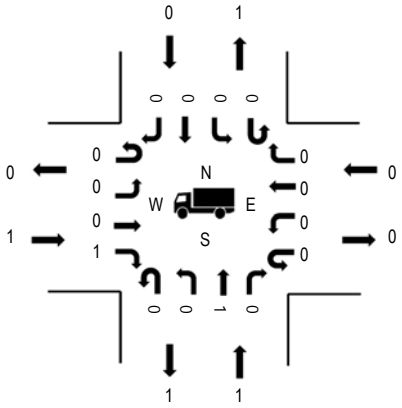
Motorized Vehicles



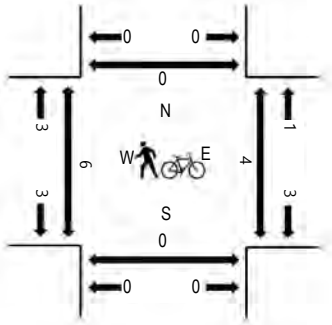
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.1%	0.96
WB	0.0%	0.00
NB	0.2%	0.76
SB	0.0%	0.96
All	0.1%	0.92

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	HIGHWAY 1 SB RAMPS Eastbound				HIGHWAY 1 SB RAMPS Westbound				BAY AVE Northbound				BAY AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	56	57	83	0	0	0	0	0	0	151	30	0	58	132	0	567	2,084
4:15 PM	0	52	52	86	0	0	0	0	0	0	119	19	0	71	120	0	519	2,048
4:30 PM	0	53	57	82	0	0	0	0	0	0	88	25	0	74	109	0	488	2,034
4:45 PM	0	73	42	96	0	0	0	0	0	0	99	17	0	73	110	0	510	1,998
5:00 PM	0	60	53	80	0	0	0	0	0	0	114	27	0	72	125	0	531	1,897
5:15 PM	0	67	53	92	0	0	0	0	0	0	90	20	0	83	100	0	505	
5:30 PM	0	49	56	97	0	0	0	0	0	0	94	13	0	52	91	0	452	
5:45 PM	0	75	40	67	0	0	0	0	0	0	88	15	0	43	81	0	409	
Count Total	0	485	410	683	0	0	0	0	0	0	843	166	0	526	868	0	3,981	
Peak Hour	0	234	208	347	0	0	0	0	0	0	457	91	0	276	471	0	2,084	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

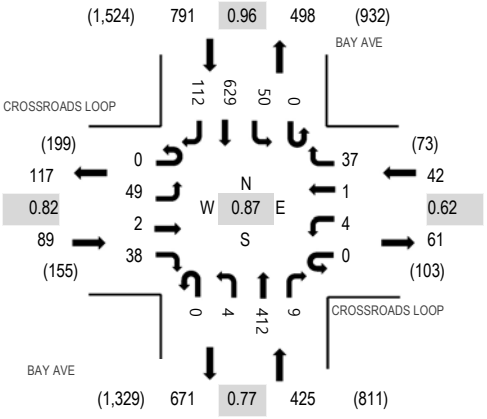
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	1	0	0	1	4:00 PM	0	0	0	2	2	4:00 PM	0	0	2	0	2
4:15 PM	1	0	0	0	1	4:15 PM	0	1	0	2	3	4:15 PM	4	0	1	0	5
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	3	3	4:30 PM	1	0	1	0	2
4:45 PM	0	0	0	0	0	4:45 PM	0	3	0	1	4	4:45 PM	1	0	0	0	1
5:00 PM	0	0	0	1	1	5:00 PM	0	2	0	1	3	5:00 PM	1	0	2	0	3
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	2	2	5:15 PM	0	0	5	0	5
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	1	0	0	0	1
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	4	4	5:45 PM	0	0	2	0	2
Count Total	1	1	0	1	3	Count Total	0	6	0	15	21	Count Total	8	0	13	0	21
Peak Hour	1	1	0	0	2	Peak Hour	0	4	0	8	12	Peak Hour	6	0	4	0	10

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 BAY AVE & CROSSROADS LOOP PM
Date: Thursday, March 7, 2024
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour

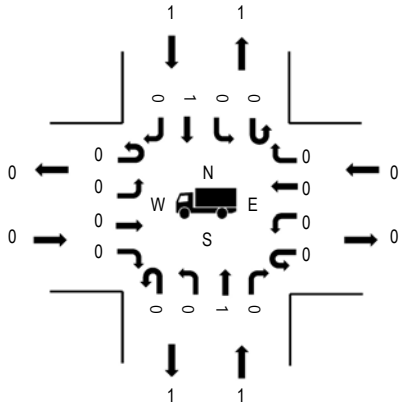
Motorized Vehicles



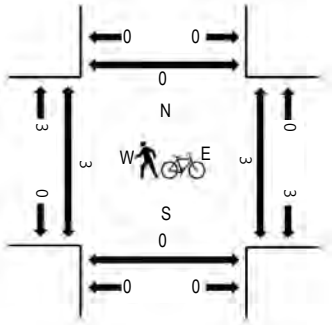
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.82
WB	0.0%	0.62
NB	0.2%	0.77
SB	0.1%	0.96
All	0.1%	0.87

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	CROSSROADS LOOP Eastbound				CROSSROADS LOOP Westbound				BAY AVE Northbound				BAY AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	14	1	10	0	1	1	15	0	0	135	3	0	11	151	43	385	1,347
4:15 PM	0	15	1	11	0	2	0	8	0	1	91	0	0	13	165	25	332	1,306
4:30 PM	0	9	0	8	0	1	0	7	0	0	93	5	0	13	140	30	306	1,286
4:45 PM	0	11	0	9	0	0	0	7	0	3	93	1	0	13	173	14	324	1,287
5:00 PM	0	16	0	7	0	0	0	12	0	1	100	3	0	8	170	27	344	1,216
5:15 PM	0	11	0	8	0	3	0	3	0	1	87	2	0	10	175	12	312	
5:30 PM	0	6	0	10	0	4	0	4	0	1	94	2	0	10	160	16	307	
5:45 PM	0	7	0	1	0	1	1	3	0	2	91	2	0	5	119	21	253	
Count Total	0	89	2	64	0	12	2	59	0	9	784	18	0	83	1,253	188	2,563	
Peak Hour	0	49	2	38	0	4	1	37	0	4	412	9	0	50	629	112	1,347	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	1	0	0	1	4:00 PM	0	0	1	2	3	4:00 PM	0	0	1	0	1
4:15 PM	0	0	0	1	1	4:15 PM	1	0	0	2	3	4:15 PM	0	0	1	0	1
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	3	3	4:30 PM	2	0	1	0	3
4:45 PM	0	0	0	0	0	4:45 PM	0	4	0	1	5	4:45 PM	1	0	0	0	1
5:00 PM	0	0	0	0	0	5:00 PM	0	2	0	1	3	5:00 PM	0	0	3	0	3
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	2	2	5:15 PM	0	0	5	0	5
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	3	0	0	0	3
5:45 PM	0	0	0	0	0	5:45 PM	0	0	1	4	5	5:45 PM	0	0	2	0	2
Count Total	0	1	0	1	2	Count Total	1	6	2	15	24	Count Total	6	0	13	0	19
Peak Hour	0	1	0	1	2	Peak Hour	1	4	1	8	14	Peak Hour	3	0	3	0	6

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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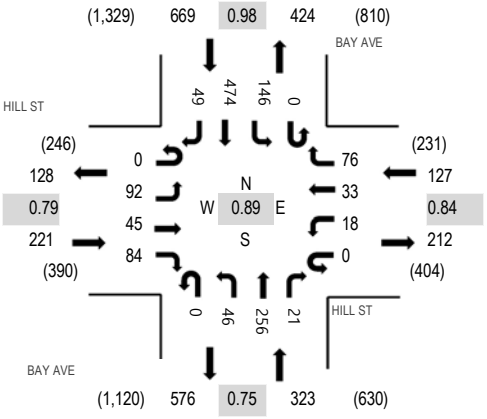
Location: 4 BAY AVE & HILL ST PM
Date: Thursday, March 7, 2024
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour

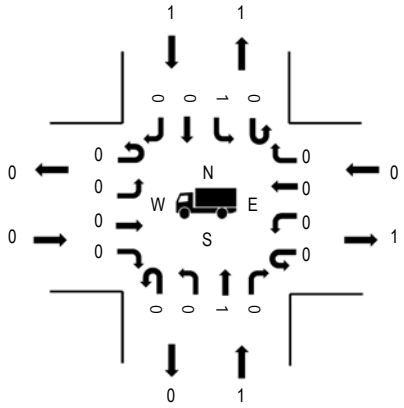
Motorized Vehicles



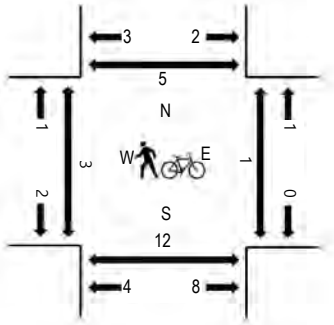
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.79
WB	0.0%	0.84
NB	0.3%	0.75
SB	0.1%	0.98
All	0.1%	0.89

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	HILL ST Eastbound				HILL ST Westbound				BAY AVE Northbound				BAY AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	30	12	28	0	5	11	22	0	16	85	7	0	35	113	12	376	1,340
4:15 PM	0	19	12	19	0	4	11	17	0	6	57	6	0	37	129	14	331	1,293
4:30 PM	0	20	11	20	0	5	7	25	0	12	52	4	0	35	101	12	304	1,278
4:45 PM	0	23	10	17	0	4	4	12	0	12	62	4	0	39	131	11	329	1,289
5:00 PM	0	24	7	18	0	2	6	15	0	10	69	0	0	43	122	13	329	1,240
5:15 PM	0	18	5	23	0	3	6	14	0	13	53	1	1	44	128	7	316	
5:30 PM	0	11	10	12	0	2	7	19	0	13	68	2	0	35	127	9	315	
5:45 PM	0	15	11	15	0	4	11	15	0	12	64	2	0	32	88	11	280	
Count Total	0	160	78	152	0	29	63	139	0	94	510	26	1	300	939	89	2,580	
Peak Hour	0	92	45	84	0	18	33	76	0	46	256	21	0	146	474	49	1,340	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	1	0	0	1	4:00 PM	0	0	0	2	2	4:00 PM	0	6	0	2	8
4:15 PM	0	0	0	1	1	4:15 PM	0	0	0	2	2	4:15 PM	1	1	0	1	3
4:30 PM	0	0	0	0	0	4:30 PM	1	0	0	3	4	4:30 PM	1	2	1	2	6
4:45 PM	0	0	0	0	0	4:45 PM	2	2	2	1	7	4:45 PM	1	3	0	0	4
5:00 PM	0	0	0	0	0	5:00 PM	0	3	0	1	4	5:00 PM	0	4	7	0	11
5:15 PM	0	0	0	0	0	5:15 PM	1	0	0	2	3	5:15 PM	1	7	2	2	12
5:30 PM	0	0	0	0	0	5:30 PM	3	0	1	0	4	5:30 PM	1	0	1	2	4
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	4	4	5:45 PM	0	4	1	0	5
Count Total	0	1	0	1	2	Count Total	7	5	3	15	30	Count Total	5	27	12	9	53
Peak Hour	0	1	0	1	2	Peak Hour	3	2	2	8	15	Peak Hour	3	12	1	5	21

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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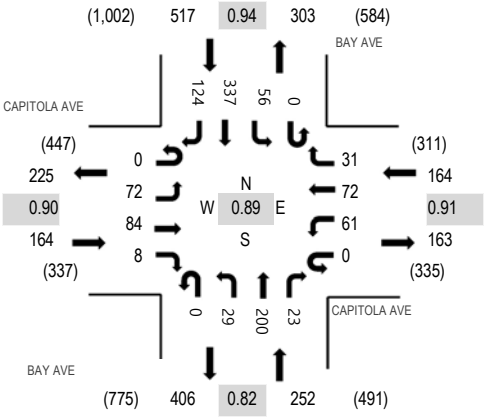
Location: 5 BAY AVE & CAPITOLA AVE PM
Date: Thursday, March 7, 2024
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour

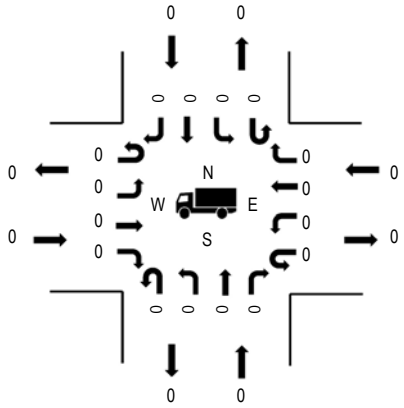
Motorized Vehicles



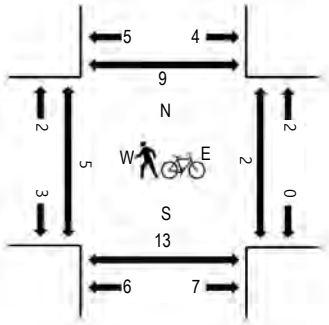
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.90
WB	0.0%	0.91
NB	0.0%	0.82
SB	0.0%	0.94
All	0.0%	0.89

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	CAPITOLA AVE Eastbound				CAPITOLA AVE Westbound				BAY AVE Northbound				BAY AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	28	23	4	0	19	14	12	0	6	66	5	0	18	80	34	309	1,097
4:15 PM	0	16	19	1	0	16	21	4	0	9	40	11	0	13	91	29	270	1,064
4:30 PM	0	11	19	1	0	13	21	10	0	6	45	2	0	13	71	29	241	1,063
4:45 PM	0	17	23	2	0	13	16	5	0	8	49	5	0	12	95	32	277	1,090
5:00 PM	0	22	14	6	0	14	26	5	0	7	47	11	0	19	74	31	276	1,044
5:15 PM	0	14	24	5	0	13	19	7	0	8	42	5	0	22	83	27	269	
5:30 PM	0	19	18	3	0	12	18	6	0	6	51	5	0	12	86	32	268	
5:45 PM	0	24	22	2	0	4	16	7	0	9	37	11	0	9	67	23	231	
Count Total	0	151	162	24	0	104	151	56	0	59	377	55	0	118	647	237	2,141	
Peak Hour	0	72	84	8	0	61	72	31	0	29	200	23	0	56	337	124	1,097	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	2	5	0	1	8	4:00 PM	0	3	2	4	9
4:15 PM	0	0	0	0	0	4:15 PM	0	3	2	1	6	4:15 PM	2	2	0	1	5
4:30 PM	0	0	0	0	0	4:30 PM	0	0	1	4	5	4:30 PM	2	7	0	2	11
4:45 PM	0	0	0	0	0	4:45 PM	0	2	1	2	5	4:45 PM	1	1	0	2	4
5:00 PM	0	0	0	0	0	5:00 PM	0	2	1	2	5	5:00 PM	4	4	2	2	12
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	2	2	5:15 PM	2	5	1	3	11
5:30 PM	0	0	0	0	0	5:30 PM	0	0	1	0	1	5:30 PM	2	2	2	2	8
5:45 PM	0	0	0	0	0	5:45 PM	0	0	1	5	6	5:45 PM	2	3	4	1	10
Count Total	0	0	0	0	0	Count Total	2	12	7	17	38	Count Total	15	27	11	17	70
Peak Hour	0	0	0	0	0	Peak Hour	2	10	4	8	24	Peak Hour	5	13	2	9	29

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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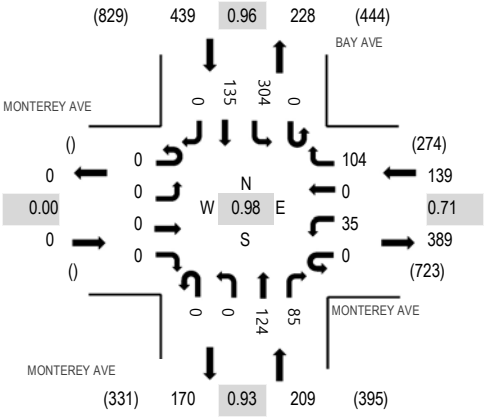
Location: 6 MONTEREY AVE & MONTEREY AVE PM
Date: Thursday, March 7, 2024
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour

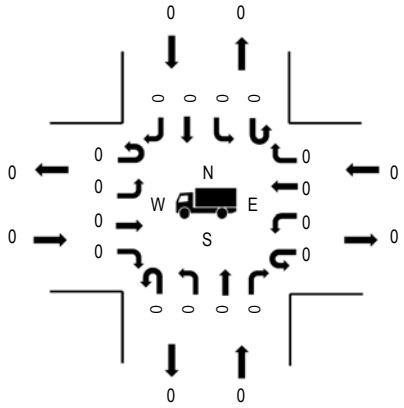
Motorized Vehicles



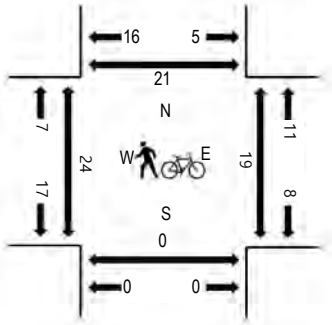
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	0.0%	0.71
NB	0.0%	0.93
SB	0.0%	0.96
All	0.0%	0.98

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	MONTEREY AVE Eastbound				MONTEREY AVE Westbound				MONTEREY AVE Northbound				BAY AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	0	0	0	0	16	0	40	0	0	26	17	0	63	39	0	201	753
4:15 PM	0	0	0	0	0	6	0	26	0	0	32	15	0	78	43	0	200	753
4:30 PM	0	0	0	0	0	5	0	18	0	0	24	21	0	63	27	0	158	748
4:45 PM	0	0	0	0	0	7	0	17	0	0	33	23	0	78	36	0	194	787
5:00 PM	0	0	0	0	0	13	0	36	0	0	28	17	0	81	26	0	201	745
5:15 PM	0	0	0	0	0	6	0	22	0	0	31	24	0	70	42	0	195	
5:30 PM	0	0	0	0	0	9	0	29	0	0	32	21	0	75	31	0	197	
5:45 PM	0	0	0	0	0	4	0	20	0	0	30	21	0	56	21	0	152	
Count Total	0	0	0	0	0	66	0	208	0	0	236	159	0	564	265	0	1,498	
Peak Hour	0	0	0	0	0	35	0	104	0	0	124	85	0	304	135	0	787	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	0	7	2	9	4:00 PM	7	0	3	5	15
4:15 PM	0	0	0	0	0	4:15 PM	0	0	6	1	7	4:15 PM	3	0	6	2	11
4:30 PM	0	0	0	0	0	4:30 PM	0	1	0	4	5	4:30 PM	6	0	0	2	8
4:45 PM	0	0	0	0	0	4:45 PM	0	1	3	2	6	4:45 PM	3	0	5	3	11
5:00 PM	0	0	0	0	0	5:00 PM	0	1	1	1	3	5:00 PM	7	0	5	3	15
5:15 PM	0	0	0	0	0	5:15 PM	0	1	2	2	5	5:15 PM	10	0	8	11	29
5:30 PM	0	0	0	0	0	5:30 PM	0	0	3	1	4	5:30 PM	4	0	1	4	9
5:45 PM	0	0	0	0	0	5:45 PM	0	1	0	2	3	5:45 PM	7	1	1	4	13
Count Total	0	0	0	0	0	Count Total	0	5	22	15	42	Count Total	47	1	29	34	111
Peak Hour	0	0	0	0	0	Peak Hour	0	3	9	6	18	Peak Hour	24	0	19	21	64

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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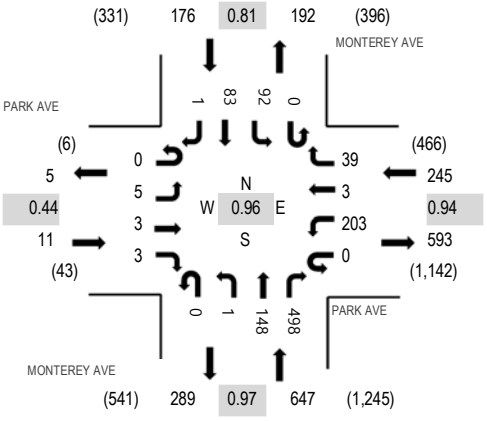
Location: 7 MONTEREY AVE & PARK AVE PM
Date: Thursday, March 7, 2024
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour

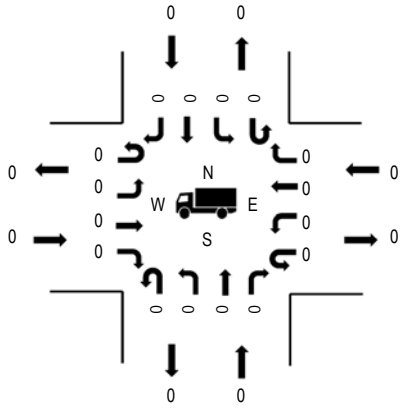
Motorized Vehicles



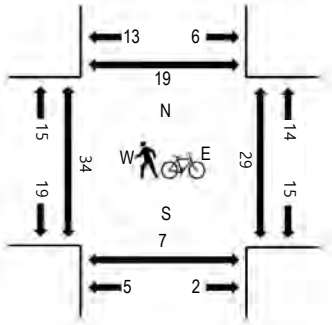
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.44
WB	0.0%	0.94
NB	0.0%	0.97
SB	0.0%	0.81
All	0.0%	0.96

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	PARK AVE Eastbound				PARK AVE Westbound				MONTEREY AVE Northbound				MONTEREY AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	4	1	0	0	51	0	6	0	0	34	128	0	22	31	1	278	1,079
4:15 PM	0	0	0	3	0	57	0	10	0	0	37	122	0	27	24	0	280	1,063
4:30 PM	0	0	2	0	0	47	3	7	0	0	37	130	0	20	11	0	257	1,040
4:45 PM	0	1	0	0	0	48	0	16	0	1	40	118	0	23	17	0	264	1,036
5:00 PM	0	7	9	2	0	53	0	10	0	0	27	116	0	19	19	0	262	1,006
5:15 PM	0	2	5	1	0	41	0	12	0	0	42	108	0	27	19	0	257	
5:30 PM	0	0	5	0	0	40	0	10	0	0	42	114	0	21	20	1	253	
5:45 PM	0	0	1	0	0	42	0	13	0	0	39	110	0	14	15	0	234	
Count Total	0	14	23	6	0	379	3	84	0	1	298	946	0	173	156	2	2,085	
Peak Hour	0	5	3	3	0	203	3	39	0	1	148	498	0	92	83	1	1,079	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

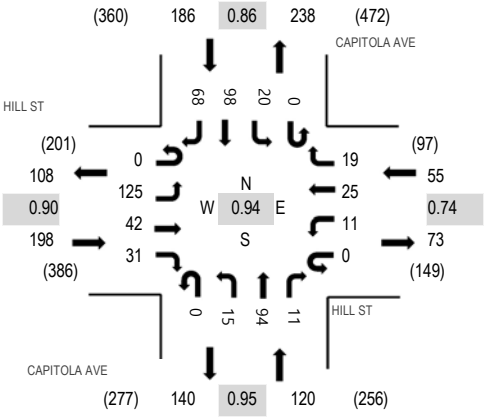
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	2	2	2	6	4:00 PM	7	1	4	2	14
4:15 PM	0	0	0	0	0	4:15 PM	0	1	1	2	4	4:15 PM	5	0	10	3	18
4:30 PM	0	0	0	0	0	4:30 PM	0	1	2	3	6	4:30 PM	12	6	7	7	32
4:45 PM	0	0	0	0	0	4:45 PM	0	6	0	3	9	4:45 PM	10	0	8	7	25
5:00 PM	0	0	0	0	0	5:00 PM	0	3	2	1	6	5:00 PM	6	2	16	2	26
5:15 PM	0	0	0	0	0	5:15 PM	0	2	5	1	8	5:15 PM	5	3	9	0	17
5:30 PM	0	0	0	0	0	5:30 PM	0	4	1	2	7	5:30 PM	11	1	0	7	19
5:45 PM	0	0	0	0	0	5:45 PM	1	1	1	0	3	5:45 PM	10	0	3	5	18
Count Total	0	0	0	0	0	Count Total	1	20	14	14	49	Count Total	66	13	57	33	169
Peak Hour	0	0	0	0	0	Peak Hour	0	10	5	10	25	Peak Hour	34	7	29	19	89

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 8 CAPITOLA AVE & HILL ST PM
Date: Thursday, March 7, 2024
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour

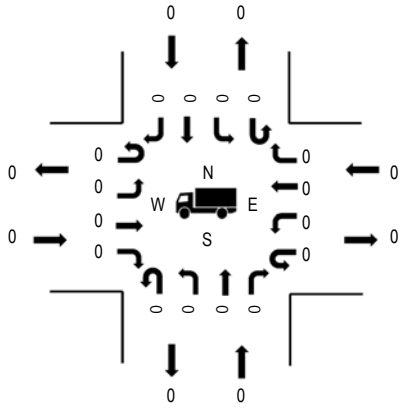
Motorized Vehicles



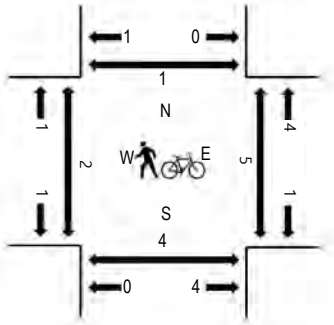
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.90
WB	0.0%	0.74
NB	0.0%	0.95
SB	0.0%	0.86
All	0.0%	0.94

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	HILL ST Eastbound				HILL ST Westbound				CAPITOLA AVE Northbound				CAPITOLA AVE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	38	8	6	0	3	3	3	0	8	26	1	0	5	25	19	145	559
4:15 PM	0	29	11	11	0	0	9	6	0	1	24	4	0	4	29	21	149	551
4:30 PM	0	30	10	6	0	3	7	2	0	2	18	1	0	2	28	16	125	547
4:45 PM	0	28	13	8	0	5	6	8	0	4	26	5	0	9	16	12	140	559
5:00 PM	0	22	15	13	0	1	5	4	0	7	25	2	1	4	28	10	137	540
5:15 PM	0	35	17	4	0	2	6	2	0	4	28	2	0	5	29	11	145	
5:30 PM	0	28	11	2	0	1	5	4	0	3	32	2	0	3	28	18	137	
5:45 PM	0	23	12	6	0	3	7	2	0	1	28	2	0	1	20	16	121	
Count Total	0	233	97	56	0	18	48	31	0	30	207	19	1	33	203	123	1,099	
Peak Hour	0	125	42	31	0	11	25	19	0	15	94	11	0	20	98	68	559	

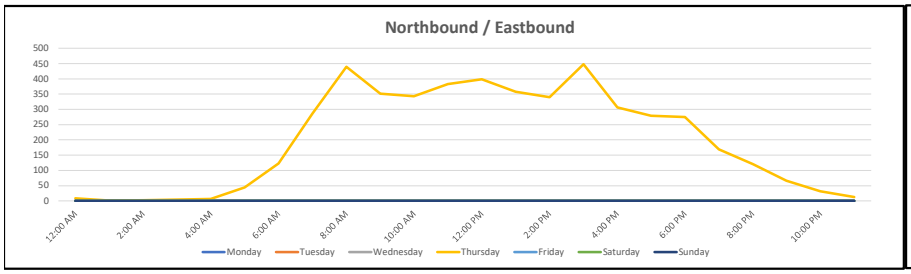
Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

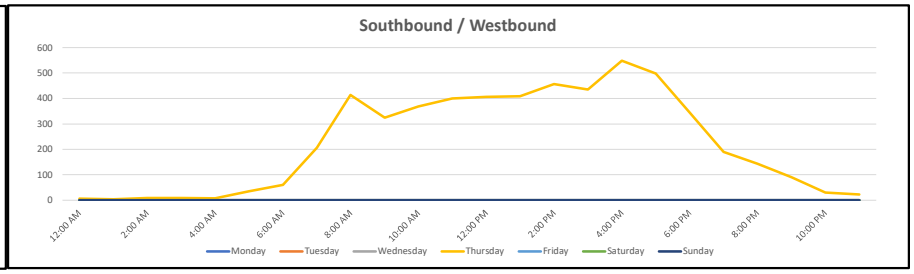
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	1	1	4:00 PM	0	2	1	0	3
4:15 PM	0	0	0	0	0	4:15 PM	0	2	0	3	5	4:15 PM	0	0	2	0	2
4:30 PM	0	0	0	0	0	4:30 PM	0	1	0	1	2	4:30 PM	1	1	1	0	3
4:45 PM	0	0	0	0	0	4:45 PM	0	0	2	1	3	4:45 PM	1	1	1	1	4
5:00 PM	0	0	0	0	0	5:00 PM	0	2	0	2	4	5:00 PM	0	3	2	1	6
5:15 PM	0	0	0	0	0	5:15 PM	1	0	0	0	1	5:15 PM	0	4	4	2	10
5:30 PM	0	0	0	0	0	5:30 PM	3	0	0	2	5	5:30 PM	0	2	0	0	2
5:45 PM	0	0	0	0	0	5:45 PM	0	2	0	1	3	5:45 PM	0	2	3	0	5
Count Total	0	0	0	0	0	Count Total	4	7	2	11	24	Count Total	2	15	14	4	35
Peak Hour	0	0	0	0	0	Peak Hour	0	3	2	6	11	Peak Hour	2	4	5	1	12

Vehicle Volume Report - Hourly

Site Description: Bay Ave S.O Center St
Site Number: 14
Start Date: 03/07/2024
End Date: 03/07/2024

Time	Monday 3/11/24			Tuesday 3/12/24			Wednesday 3/13/24			Thursday 3/7/24			Friday 3/8/24			Saturday 3/9/24			Sunday 3/10/24			3 Day Avg Tue-Thu		5 Day Avg Mon-Fri		7 Day Avg Mon-Sun	
	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	NB	SB	NB	SB
12:00 AM	-	-	-	-	-	-	-	-	-	9	6	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1:00 AM	-	-	-	-	-	-	-	-	-	1	4	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 AM	-	-	-	-	-	-	-	-	-	2	8	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 AM	-	-	-	-	-	-	-	-	-	5	8	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 AM	-	-	-	-	-	-	-	-	-	6	7	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5:00 AM	-	-	-	-	-	-	-	-	-	44	35	79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 AM	-	-	-	-	-	-	-	-	-	123	60	183	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	-	-	-	-	-	-	-	-	-	286	207	493	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:00 AM	-	-	-	-	-	-	-	-	-	440	414	854	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9:00 AM	-	-	-	-	-	-	-	-	-	352	325	677	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00 AM	-	-	-	-	-	-	-	-	-	343	368	711	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	-	-	-	-	-	-	-	-	-	383	400	783	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	-	-	-	-	-	-	-	-	-	399	406	805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1:00 PM	-	-	-	-	-	-	-	-	-	358	409	767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	-	-	-	-	-	-	-	-	-	340	457	797	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	-	-	-	-	-	-	-	-	-	448	435	883	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	-	-	-	-	-	-	-	-	-	307	548	855	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5:00 PM	-	-	-	-	-	-	-	-	-	279	498	777	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 PM	-	-	-	-	-	-	-	-	-	275	344	619	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 PM	-	-	-	-	-	-	-	-	-	169	190	359	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:00 PM	-	-	-	-	-	-	-	-	-	121	143	264	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9:00 PM	-	-	-	-	-	-	-	-	-	66	90	156	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00 PM	-	-	-	-	-	-	-	-	-	32	30	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 PM	-	-	-	-	-	-	-	-	-	13	23	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 AM - 9:00 AM	-	-	-	-	-	-	-	-	-	**849**	**681**	**1530**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM - 6:00 PM	-	-	-	-	-	-	-	-	-	**1034**	**1481**	**2515**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 AM - 7:00 PM	-	-	-	-	-	-	-	-	-	**4333**	**4871**	**9204**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 AM - 12:00 AM	-	-	-	-	-	-	-	-	-	**4801**	**5415**	**10216**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percent	-	-	-	-	-	-	-	-	-	***47.0%***	***53.0%***	***100.0%***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AM Peak	-	-		-	-		-	-		**8:00 AM**	**9:00 AM**		-	-		-	-		-	-							
PM Peak	-	-		-	-		-	-		**3:00 PM**	**4:00 PM**		-	-		-	-		-	-							





Vehicle Speed Report - Hourly

Site Description: Bay Ave S.O Center St
Site Number: 14
Start Date: 03/07/2024
End Date: 03/07/2024

Total Study Speed Summary		
	Northbound	**Southbound**
Average Speed	25.9 mph	26.5 mph
50th Percentile	26.0 mph	26.7 mph
85th Percentile	29.6 mph	30.6 mph
95th Percentile	32.2 mph	33.3 mph

Speed Range (MPH) - Total Study																					
	Total	**0-10**	**10-15**	**15-20**	**20-25**	**25-30**	**30-35**	**35-40**	**40-45**	**45-50**	**50-55**	**55-60**	**60-65**	**65-70**	**70-75**	**75-80**	**80-85**	**85-90**	**90-95**	**95-100**	**100+**
Northbound	4801	22	52	183	1617	2314	544	60	6	3	0	0	0	0	0	0	0	0	0	0	0
Percent	*100.0%*	*0.5%*	*1.1%*	*3.8%*	*33.7%*	*48.2%*	*11.3%*	*1.2%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Southbound	5415	51	59	210	1446	2657	878	103	10	1	0	0	0	0	0	0	0	0	0	0	0
Percent	*100.0%*	*0.9%*	*1.1%*	*3.9%*	*26.7%*	*49.1%*	*16.2%*	*1.9%*	*0.2%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Total	10216	73	111	393	3063	4971	1422	163	16	4	0	0	0	0	0	0	0	0	0	0	0
Percent	*100.0%*	*0.7%*	*1.1%*	*3.8%*	*30.0%*	*48.7%*	*13.9%*	*1.6%*	*0.2%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*

Site Description: Bay Ave S.O Center St
Site Number: 14
Start Date: 03/07/2024
End Date: 03/07/2024

Vehicle Speed Report (Northbound - 03/07/2024)

Thursday	Northbound																				
3/7/24	Total	0-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100	100+
12:00 AM	9	1	0	1	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	5	0	0	0	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	6	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	44	0	0	1	11	19	9	4	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	123	0	0	2	41	55	23	2	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	286	1	2	6	86	161	27	3	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	440	1	4	12	157	225	38	3	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	352	0	2	16	137	163	32	2	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	343	1	1	5	77	156	77	20	3	3	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	383	2	8	16	117	197	39	4	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	399	2	4	24	139	186	41	3	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	358	3	6	11	138	165	32	3	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	340	2	5	15	134	140	39	5	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	448	0	5	20	178	205	39	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	307	1	4	18	80	159	40	5	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	279	2	4	9	79	148	36	1	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	275	1	4	16	105	126	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	169	1	0	5	67	84	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	121	3	0	3	38	58	15	3	1	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	66	1	1	1	18	35	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	32	0	1	2	5	18	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	13	0	1	0	4	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM - 9:00 AM	**849**	**2**	**6**	**20**	**284**	**441**	**88**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
3:00 PM - 6:00 PM	**1034**	**3**	**13**	**47**	**337**	**512**	**115**	**6**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
6:00 AM - 7:00 PM	**4333**	**16**	**49**	**170**	**1468**	**2086**	**486**	**51**	**4**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
12:00 AM - 12:00 AM	**4801**	**22**	**52**	**183**	**1617**	**2314**	**544**	**60**	**6**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Percent	***100%***	***0.5%***	***1.1%***	***3.8%***	***33.7%***	***48.2%***	***11.3%***	***1.2%***	***0.1%***	***0.1%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***
50th Percentile	**26.0 mph**																				
85th Percentile	**29.6 mph**																				
95th Percentile	**32.2 mph**																				

Site Description: Bay Ave S.O Center St
Site Number: 14
Start Date: 03/07/2024
End Date: 03/07/2024

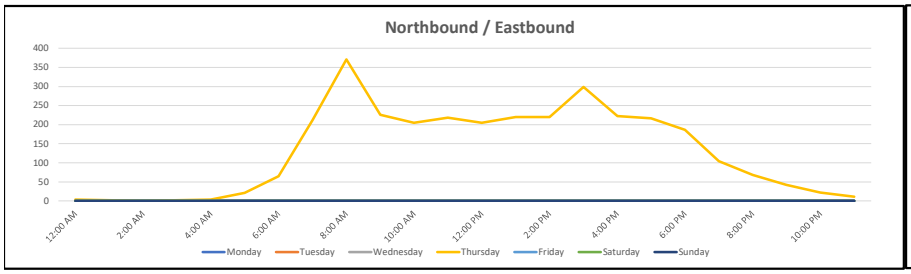
Vehicle Speed Report (Southbound - 03/07/2024)

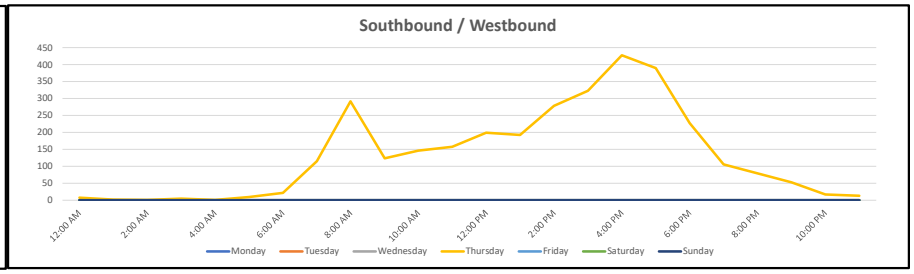
Thursday		Southbound																			
3/7/24	Total	0-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100	100+
12:00 AM	6	0	0	0	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	4	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	8	0	0	0	3	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	8	0	0	0	2	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	7	0	0	0	0	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	35	0	0	2	8	14	8	3	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	60	0	0	0	7	34	13	6	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	207	0	1	5	47	98	51	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	414	4	9	43	124	186	44	4	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	325	1	1	11	99	151	59	3	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	368	0	1	14	52	150	116	29	6	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	400	2	3	14	95	218	61	6	1	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	406	1	6	15	100	209	69	6	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	409	2	2	6	85	232	73	7	2	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	457	3	6	18	146	225	55	4	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	435	2	2	15	109	244	62	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	548	10	11	29	172	257	64	5	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	498	22	9	23	162	213	61	7	1	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	344	2	2	4	100	181	48	7	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	190	1	1	4	52	103	27	2	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	143	1	3	3	48	63	23	1	0	1	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	90	0	0	4	27	43	13	3	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	30	0	0	0	5	14	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	23	0	2	0	2	10	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM - 9:00 AM	**681**	**4**	**10**	**48**	**178**	**318**	**108**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
3:00 PM - 6:00 PM	**1481**	**34**	**22**	**67**	**443**	**714**	**187**	**13**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
6:00 AM - 7:00 PM	**4871**	**49**	**53**	**197**	**1298**	**2398**	**776**	**90**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
12:00 AM - 12:00 AM	**5415**	**51**	**59**	**210**	**1446**	**2657**	**878**	**103**	**10**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Percent	***100%***	***0.9%***	***1.1%***	***3.9%***	***26.7%***	***49.1%***	***16.2%***	***1.9%***	***0.2%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***
50th Percentile	**26.7 mph**																				
85th Percentile	**30.6 mph**																				
95th Percentile	**33.3 mph**																				

Vehicle Volume Report - Hourly

Site Description: Bay Ave N.O Del Monte Ave
Site Number: 15
Start Date: 03/07/2024
End Date: 03/07/2024

Time	Monday 3/11/24			Tuesday 3/12/24			Wednesday 3/13/24			Thursday 3/7/24			Friday 3/8/24			Saturday 3/9/24			Sunday 3/10/24			3 Day Avg Tue-Thu		5 Day Avg Mon-Fri		7 Day Avg Mon-Sun	
	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	NB	SB	NB	SB
12:00 AM	-	-	-	-	-	-	-	-	-	3	7	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1:00 AM	-	-	-	-	-	-	-	-	-	2	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 AM	-	-	-	-	-	-	-	-	-	0	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 AM	-	-	-	-	-	-	-	-	-	2	4	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 AM	-	-	-	-	-	-	-	-	-	4	1	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5:00 AM	-	-	-	-	-	-	-	-	-	21	9	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 AM	-	-	-	-	-	-	-	-	-	65	22	87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	-	-	-	-	-	-	-	-	-	212	115	327	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:00 AM	-	-	-	-	-	-	-	-	-	371	292	663	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9:00 AM	-	-	-	-	-	-	-	-	-	226	123	349	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00 AM	-	-	-	-	-	-	-	-	-	205	146	351	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	-	-	-	-	-	-	-	-	-	218	157	375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	-	-	-	-	-	-	-	-	-	205	199	404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1:00 PM	-	-	-	-	-	-	-	-	-	220	192	412	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	-	-	-	-	-	-	-	-	-	220	278	498	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	-	-	-	-	-	-	-	-	-	299	323	622	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	-	-	-	-	-	-	-	-	-	222	427	649	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5:00 PM	-	-	-	-	-	-	-	-	-	217	390	607	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 PM	-	-	-	-	-	-	-	-	-	186	227	413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 PM	-	-	-	-	-	-	-	-	-	104	105	209	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:00 PM	-	-	-	-	-	-	-	-	-	68	79	147	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9:00 PM	-	-	-	-	-	-	-	-	-	42	53	95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00 PM	-	-	-	-	-	-	-	-	-	22	17	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 PM	-	-	-	-	-	-	-	-	-	11	13	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 AM - 9:00 AM	-	-	-	-	-	-	-	-	-	**648**	**429**	**1077**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM - 6:00 PM	-	-	-	-	-	-	-	-	-	**738**	**1140**	**1878**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 AM - 7:00 PM	-	-	-	-	-	-	-	-	-	**2866**	**2891**	**5757**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 AM - 12:00 AM	-	-	-	-	-	-	-	-	-	**3145**	**3182**	**6327**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Percent	-	-	-	-	-	-	-	-	-	***49.7%***	***50.3%***	***100.0%***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AM Peak	-	-		-	-		-	-		**8:00 AM**	**9:00 AM**		-	-		-	-		-	-							
PM Peak	-	-		-	-		-	-		**4:00 PM**	**5:00 PM**		-	-		-	-		-	-							





Vehicle Speed Report - Hourly

Site Description: Bay Ave N.O Del Monte Ave
Site Number: 15
Start Date: 03/07/2024
End Date: 03/07/2024

Total Study Speed Summary		
	Northbound	**Southbound**
Average Speed	25.2 mph	26.7 mph
50th Percentile	25.5 mph	27.0 mph
85th Percentile	29.4 mph	30.7 mph
95th Percentile	32.1 mph	33.4 mph

Speed Range (MPH) - Total Study																					
	Total	**0-10**	**10-15**	**15-20**	**20-25**	**25-30**	**30-35**	**35-40**	**40-45**	**45-50**	**50-55**	**55-60**	**60-65**	**65-70**	**70-75**	**75-80**	**80-85**	**85-90**	**90-95**	**95-100**	**100+**
Northbound	3145	66	39	179	1108	1372	345	30	3	3	0	0	0	0	0	0	0	0	0	0	0
Percent	*100.0%*	*2.1%*	*1.2%*	*5.7%*	*35.2%*	*43.6%*	*11.0%*	*1.0%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Southbound	3182	39	35	100	759	1630	552	56	8	3	0	0	0	0	0	0	0	0	0	0	0
Percent	*100.0%*	*1.2%*	*1.1%*	*3.1%*	*23.9%*	*51.2%*	*17.3%*	*1.8%*	*0.3%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Total	6327	105	74	279	1867	3002	897	86	11	6	0	0	0	0	0	0	0	0	0	0	0
Percent	*100.0%*	*1.7%*	*1.2%*	*4.4%*	*29.5%*	*47.4%*	*14.2%*	*1.4%*	*0.2%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*

Site Description: Bay Ave N.O Del Monte Ave
Site Number: 15
Start Date: 03/07/2024
End Date: 03/07/2024

Vehicle Speed Report (Northbound - 03/07/2024)

Thursday	Northbound																				
3/7/24	Total	0-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100	100+
12:00 AM	3	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	4	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	21	0	0	0	1	9	7	3	0	1	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	65	0	1	3	14	35	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	212	0	2	6	66	107	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	371	5	7	38	186	111	22	1	0	1	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	226	0	1	10	101	94	18	2	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	205	0	2	10	77	89	24	2	1	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	218	0	2	11	92	91	21	1	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	205	0	4	24	76	87	13	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	220	0	3	18	66	113	15	5	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	220	1	1	6	82	105	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	299	59	14	25	89	83	27	2	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	222	0	2	10	48	119	40	2	1	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	217	1	0	5	61	112	37	0	0	1	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	186	0	0	7	71	87	19	1	1	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	104	0	0	3	38	51	9	3	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	68	0	0	1	15	37	12	3	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	42	0	0	0	15	22	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	22	0	0	0	5	11	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	11	0	0	0	2	5	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM - 9:00 AM	**648**	**5**	**10**	**47**	**266**	**253**	**65**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
3:00 PM - 6:00 PM	**738**	**60**	**16**	**40**	**198**	**314**	**104**	**4**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
6:00 AM - 7:00 PM	**2866**	**66**	**39**	**173**	**1029**	**1233**	**304**	**17**	**3**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
12:00 AM - 12:00 AM	**3145**	**66**	**39**	**179**	**1108**	**1372**	**345**	**30**	**3**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Percent	***100%***	***2.1%***	***1.2%***	***5.7%***	***35.2%***	***43.6%***	***11.0%***	***1.0%***	***0.1%***	***0.1%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***
50th Percentile	**25.5 mph**																				
85th Percentile	**29.4 mph**																				
95th Percentile	**32.1 mph**																				

Site Description: Bay Ave N.O Del Monte Ave
Site Number: 15
Start Date: 03/07/2024
End Date: 03/07/2024

Vehicle Speed Report (Southbound - 03/07/2024)

Thursday	Southbound																				
3/7/24	Total	0-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100	100+
12:00 AM	7	0	0	0	1	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	4	0	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	9	0	0	0	1	6	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	22	0	0	1	3	11	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	115	0	2	2	19	64	26	1	1	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	292	32	10	22	75	132	17	2	0	2	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	123	0	1	6	33	67	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	146	1	1	2	36	84	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	157	0	3	3	35	96	18	2	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	199	2	1	11	53	101	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	192	0	1	6	41	103	34	6	1	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	278	0	4	6	94	134	38	2	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	323	4	4	13	91	144	61	5	1	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	427	0	2	9	76	230	100	9	1	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	390	0	3	6	71	209	81	16	3	1	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	227	0	0	10	58	107	47	5	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	105	0	1	1	29	58	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	79	0	0	0	24	37	15	2	1	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	53	0	0	1	13	29	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	17	0	0	1	4	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	13	0	0	0	1	6	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM - 9:00 AM	**429**	**32**	**12**	**25**	**97**	**207**	**49**	**4**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
3:00 PM - 6:00 PM	**1140**	**4**	**9**	**28**	**238**	**583**	**242**	**30**	**5**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
6:00 AM - 7:00 PM	**2891**	**39**	**32**	**97**	**685**	**1482**	**497**	**49**	**7**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
12:00 AM - 12:00 AM	**3182**	**39**	**35**	**100**	**759**	**1630**	**552**	**56**	**8**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Percent	***100%***	***1.2%***	***1.1%***	***3.1%***	***23.9%***	***51.2%***	***17.3%***	***1.8%***	***0.3%***	***0.1%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***
50th Percentile	**27.0 mph**																				
85th Percentile	**30.7 mph**																				
95th Percentile	**33.4 mph**																				

Attachment B – Bike and Pedestrian Collision Data

TIMS | SWITRS Crash Summary & Map

August 1, 2024

Overview

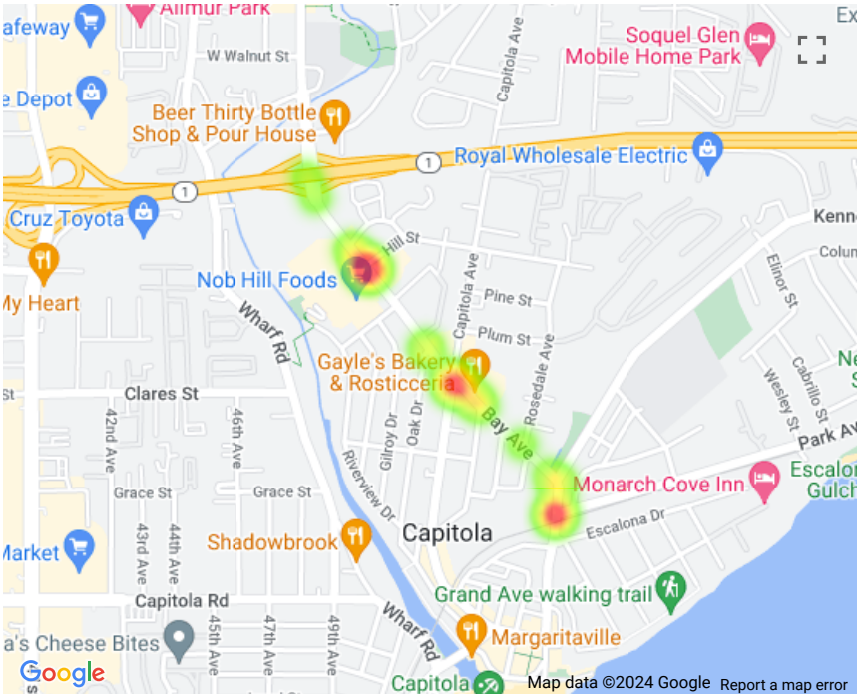
This report was created with the help of The Transportation Injury Mapping System (TIMS). TIMS has been developed by UC Berkeley SafeTREC to provide quick, easy and free access to California crash data, the Statewide Integrated Traffic Records System (SWITRS), that has been geo-coded by SafeTREC to make it easy to map crashes.

Query by Case ID(s)

User Entered SWITRS Case ID(s)

Result

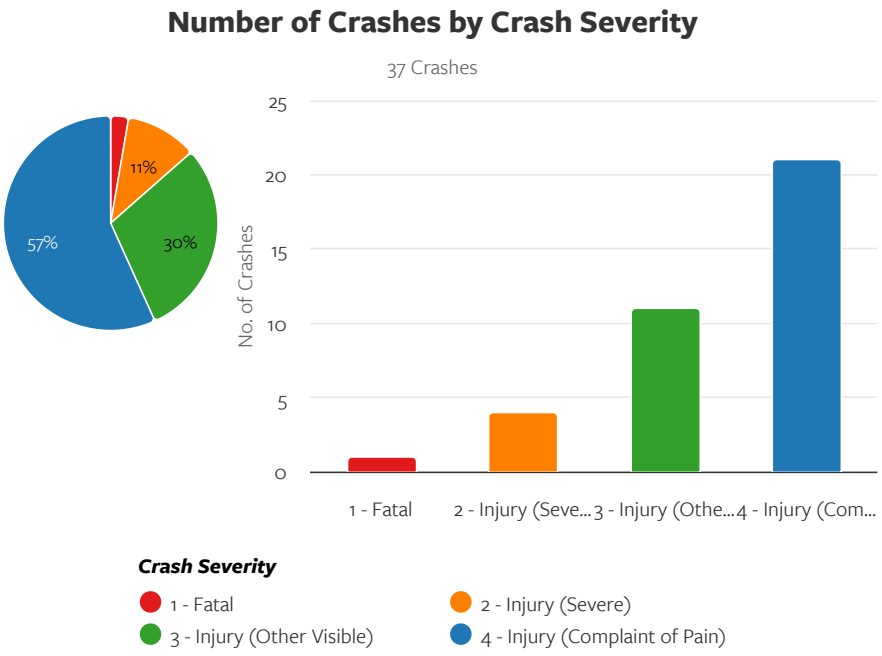
Total Crashes	37
Total Victims	1 Killed & 38 Injured
State Highway	1 (2.7%)
Ped Involved	8 (21.6%)
Bike Involved	11 (29.7%)
Motorcycle Involved	1 (2.7%)



37 of 37 (100%) Crashes are geocoded and mapped.

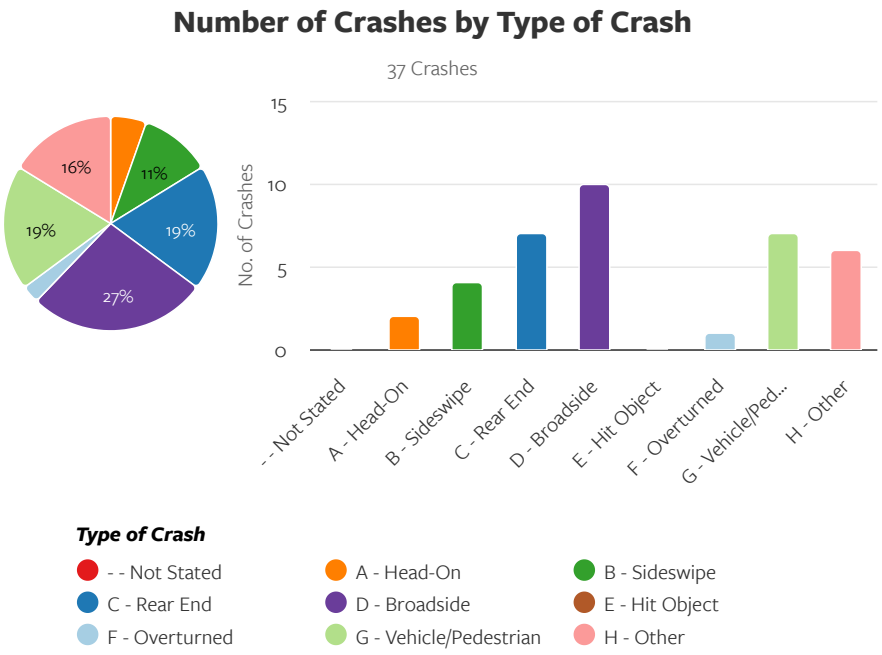
Crash Summary

By Crash Severity



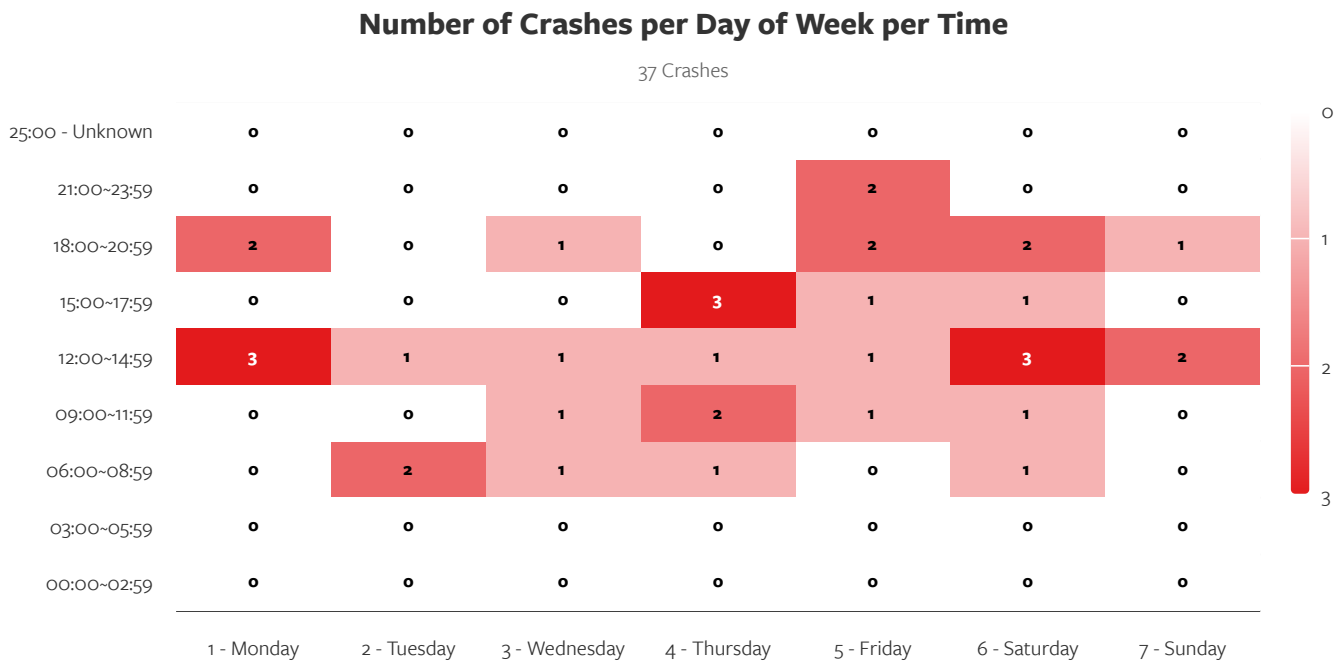
Crash Severity	Count	%
1 - Fatal	1	2.70%
2 - Injury (Severe)	4	10.81%
3 - Injury (Other Visible)	11	29.73%
4 - Injury (Complaint of Pain)	21	56.76%

By Crash Type

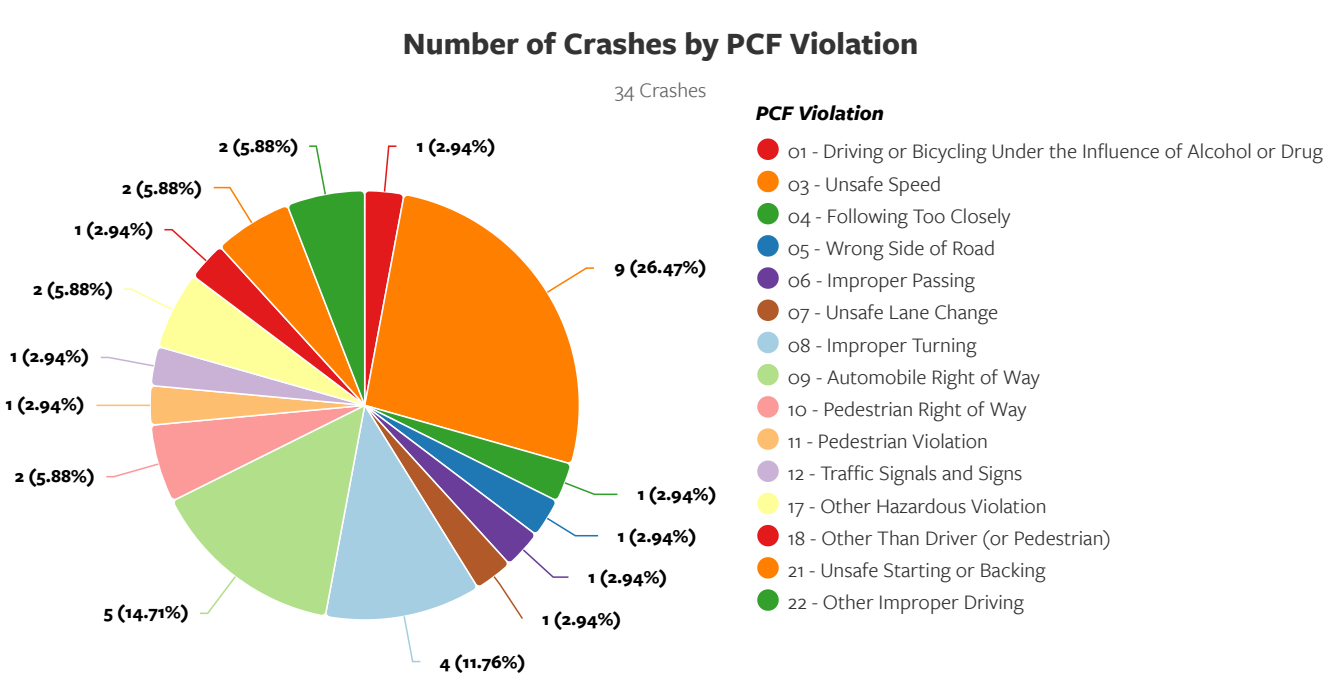


Type of Crash	Count	%
- - Not Stated	0	0.00%
A - Head-On	2	5.41%
B - Sideswipe	4	10.81%
C - Rear End	7	18.92%
D - Broadside	10	27.03%
E - Hit Object	0	0.00%
F - Overturned	1	2.70%
G - Vehicle/Pedestrian	7	18.92%
H - Other	6	16.22%

By Day of Week and Time

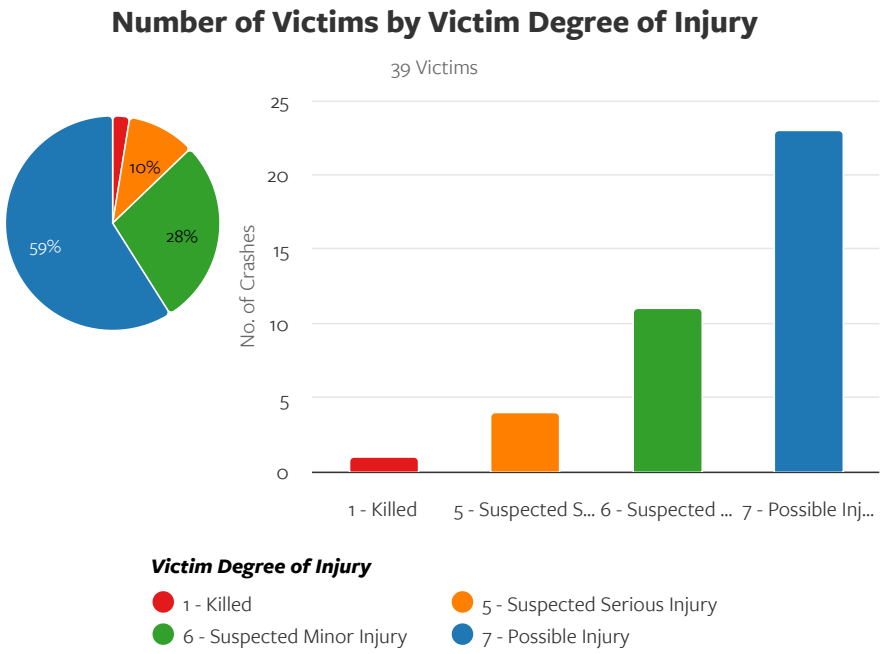


By Primary Crash Factor (PCF) Violation



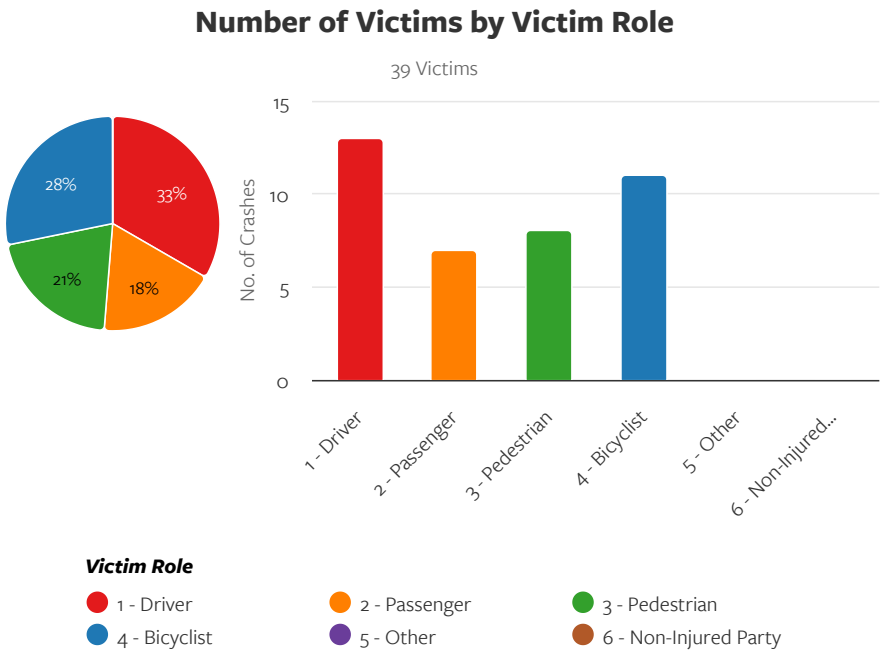
Victim Summary

By Victim Degree of Injury



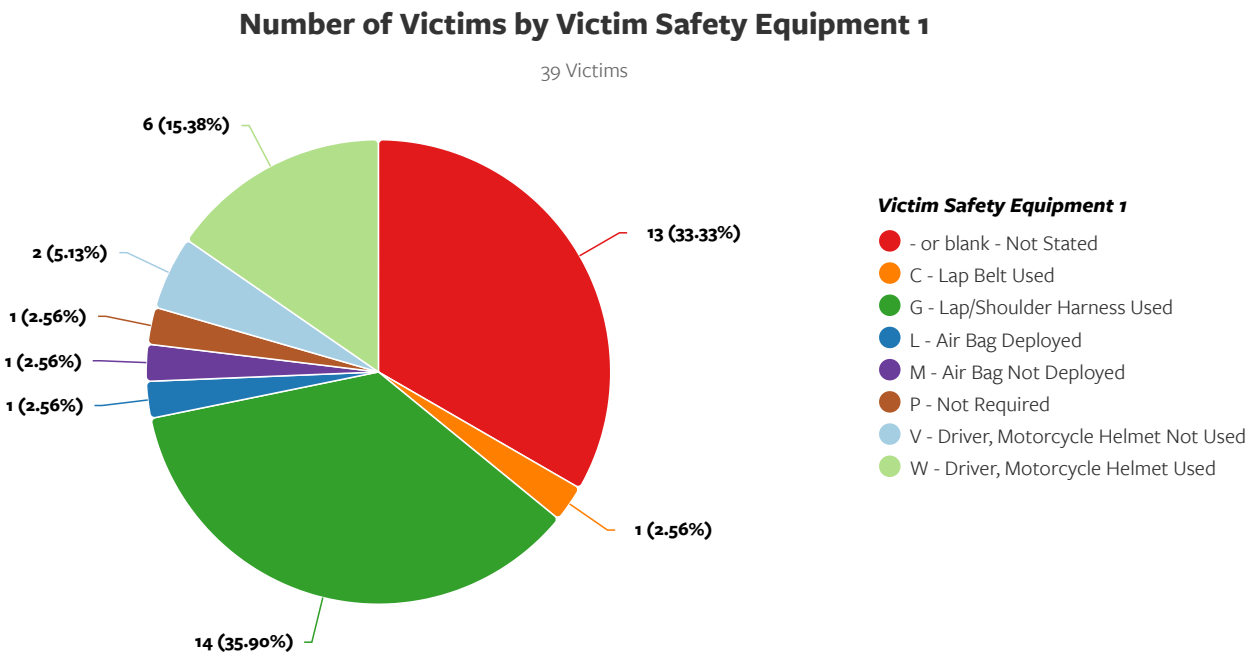
Victim Degree of Injury	Count	%
1 - Killed	1	2.56%
5 - Suspected Serious Injury	4	10.26%
6 - Suspected Minor Injury	11	28.21%
7 - Possible Injury	23	58.97%

By Victim Role

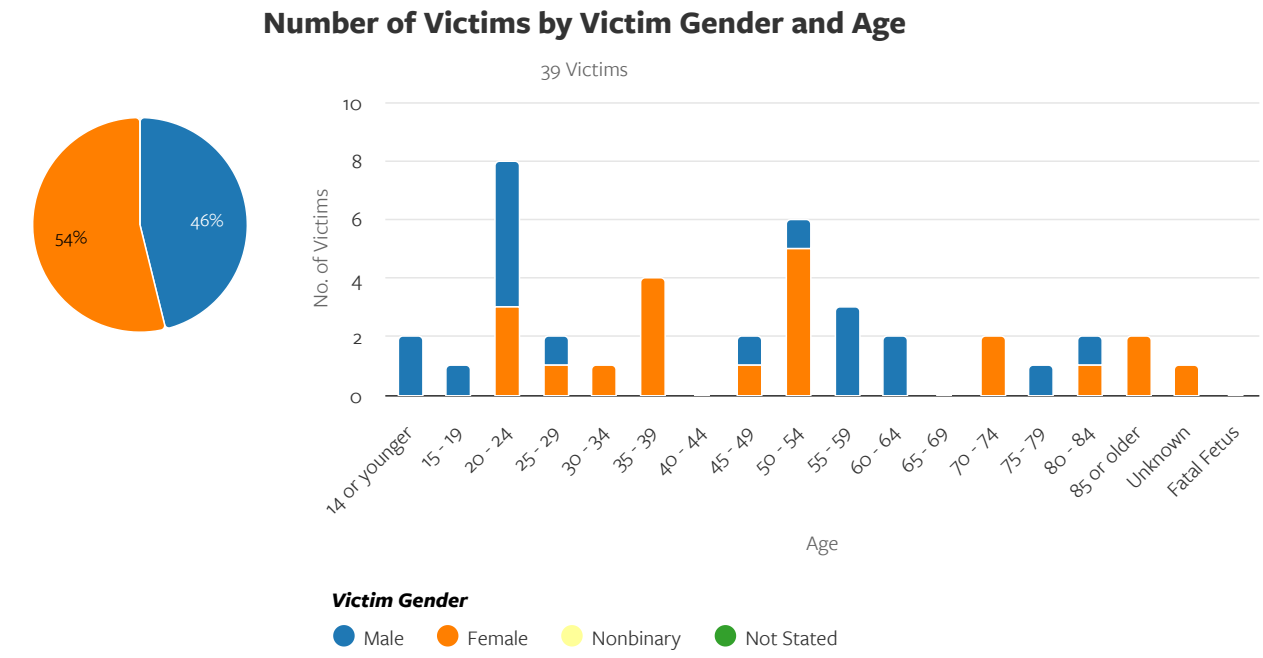


Victim Role	Count	%
1 - Driver	13	33.33%
2 - Passenger	7	17.95%
3 - Pedestrian	8	20.51%
4 - Bicyclist	11	28.21%
5 - Other	0	0.00%
6 - Non-Injured Party	0	0.00%

By Victim Safety Equipment 1



By Victim Gender and Age

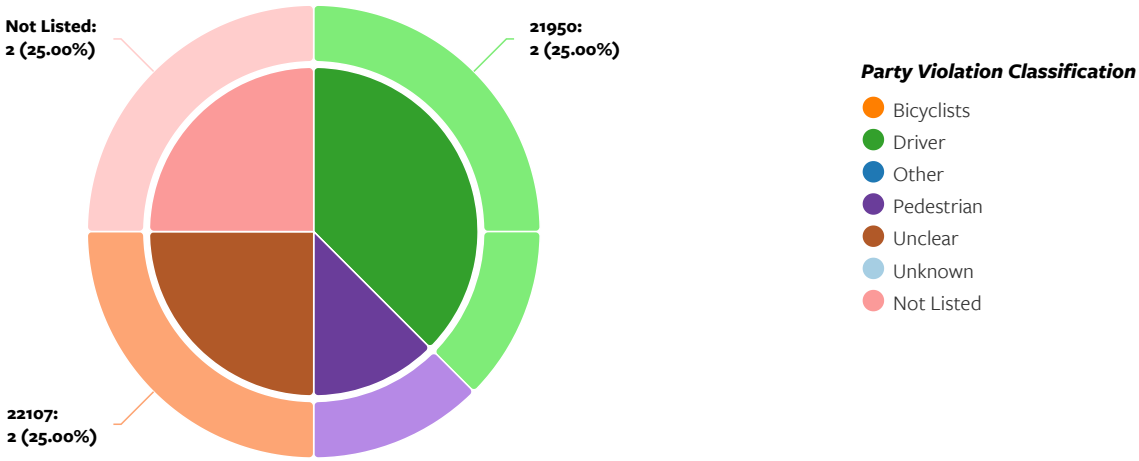


Ped Crash Summary

By Type of Violation

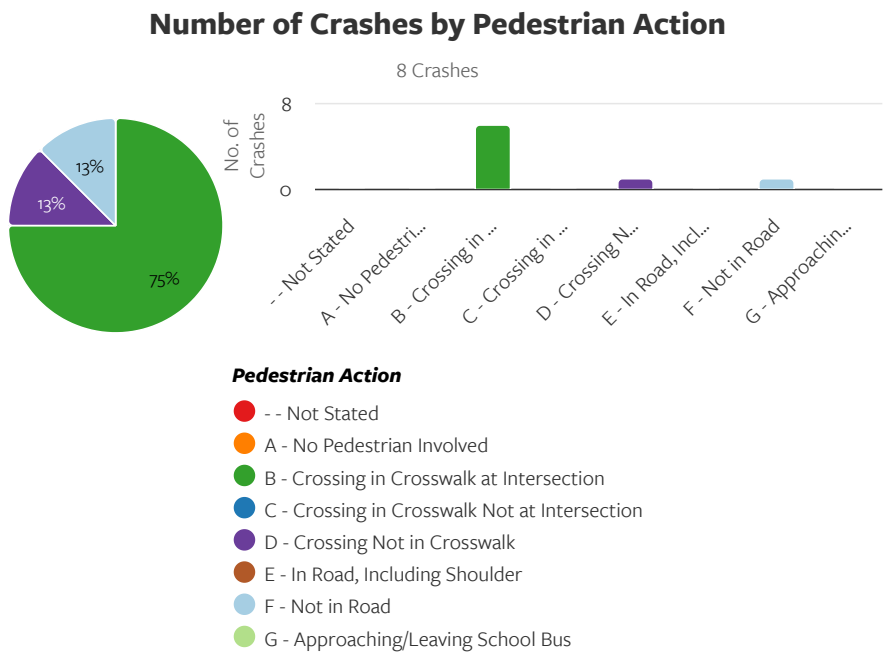
Number of Crashes by Type of Violation

8 Crashes



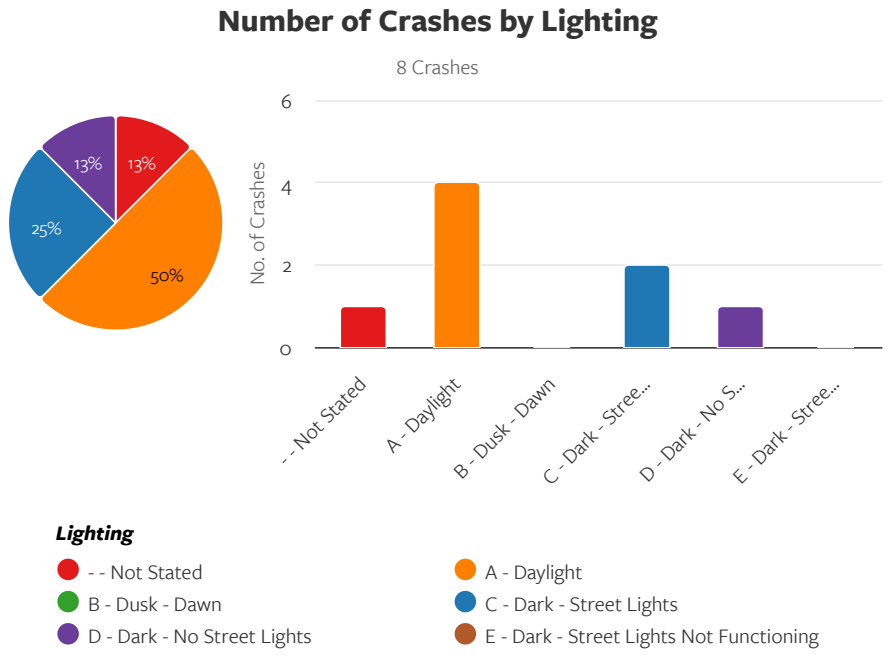
Party Violation Classification	Type of Violation	Description	Count	%
Driver	21950	Driver failure to yield right-of-way to pedestrians at a marked or unmarked crosswalk	2	25.00%
Unclear	22107	Unsafe turning or moving right or left on a roadway Turning without signaling	2	25.00%
Not Listed	Not Listed	Violation code was not included in the crash	2	25.00%
Driver	22106	Unsafe starting or backing of a vehicle on a highway	1	12.50%
Pedestrian	21954	Pedestrian failure to yield right-of-way to vehicles when crossing outside of a marked or unmarked crosswalk	1	12.50%

By Pedestrian Action



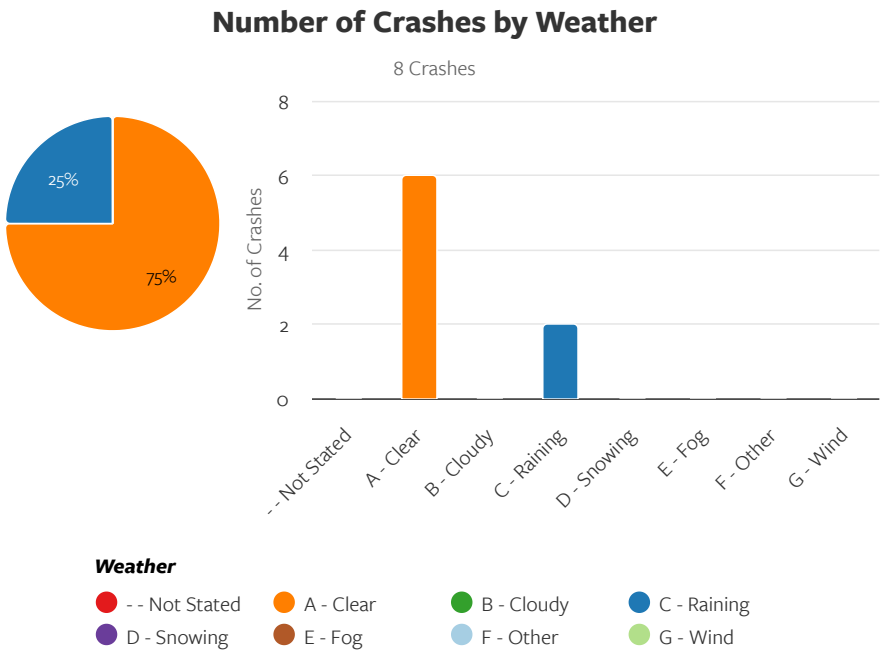
Pedestrian Action	Count	%
- - Not Stated	0	0.00%
A - No Pedestrian Involved	0	0.00%
B - Crossing in Crosswalk at Intersection	6	75.00%
C - Crossing in Crosswalk Not at Intersection	0	0.00%
D - Crossing Not in Crosswalk	1	12.50%
E - In Road, Including Shoulder	0	0.00%
F - Not in Road	1	12.50%
G - Approaching/Leaving School Bus	0	0.00%

By Lighting



Lighting	Count	%
- - Not Stated	1	12.50%
A - Daylight	4	50.00%
B - Dusk - Dawn	0	0.00%
C - Dark - Street Lights	2	25.00%
D - Dark - No Street Lights	1	12.50%
E - Dark - Street Lights Not Functioning	0	0.00%

By Weather



Weather	Count	%
- - Not Stated	0	0.00%
A - Clear	6	75.00%
B - Cloudy	0	0.00%
C - Raining	2	25.00%
D - Snowing	0	0.00%
E - Fog	0	0.00%
F - Other	0	0.00%
G - Wind	0	0.00%

BerkeleySafeTREC

Crash Details for: Case ID 5737844

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	05/25/2012 10:01
Location (Intersection)	Bay Av & Hill St
Dist. & Dir. from Intersection	90.00 ft South
State Highway	No
Geocoded Location	36.9809602, -121.9553731

Type of Crash	H - Other
Motor Vehicle Involved With	J - Other Object
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	22 - Other Improper Driving
Weather	B - Cloudy
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 1

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	-	K - Parking Maneuver

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	2 - Passenger	F - Female	88	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 5769463

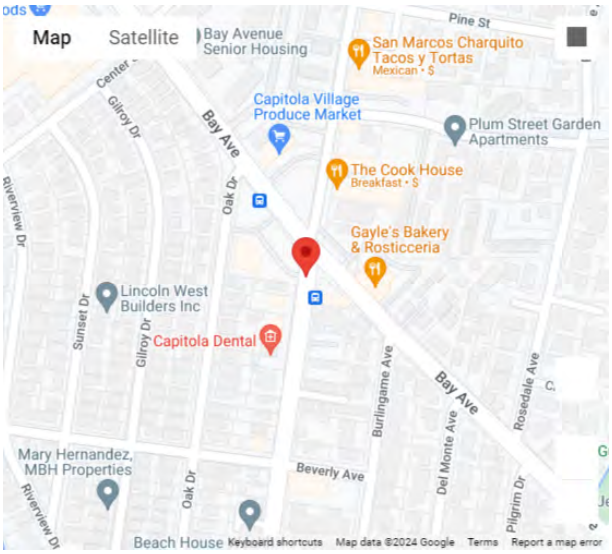
Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	07/30/2012 12:40
Location (Intersection)	Capitola Av & Bay Av
Dist. & Dir. from Intersection	80.00 ft West
State Highway	No
Geocoded Location	36.9784681, -121.9531876

Type of Crash	C - Rear End
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	01 - Driving or Bicycling Under the Influence of Alcohol or Drug
Weather	A - Clear
Alcohol Involved	Yes

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View

Parties: 3

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	D - Pickup or Panel Truck	Yes	East	B - Proceeding Straight
2	1 - Driver (including Hit and Run)	D - Pickup or Panel Truck	No	East	A - Stopped
3	1 - Driver (including Hit and Run)	D - Pickup or Panel Truck	No	-	A - Stopped

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	1 - Driver	F - Female	23	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 5926906

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	02/02/2013 14:01
Location (Intersection)	Rt 1 & Bay Av
Dist. & Dir. from Intersection	200.00 ft North
State Highway Info	Route Number 1 Side of Hwy S Postmile 13.230 Location Type H - Highway
Geocoded Location	36.983175, -121.957233

Type of Crash	C - Rear End
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	04 - Following Too Closely
Weather	B - Cloudy
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	South	B - Proceeding Straight
2	1 - Driver (including Hit and Run)	D - Pickup or Panel Truck	No	South	H - Slowing/Stopping

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	1 - Driver	F - Female	23	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 6487941

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	05/09/2014 20:40
Location (Intersection)	Bay Av & Hill St
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.9811, -121.95551

Type of Crash	D - Broadside
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	12 - Traffic Signals and Signs
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	South	B - Proceeding Straight
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	West	E - Making Left Turn

Victims: 2

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	2 - Passenger	M - Male	20	7 - Possible Injury
2	2 - Passenger	M - Male	6	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 6494114

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	04/30/2014 12:20
Location (Intersection)	Bay Av & Capitola Av
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.97867, -121.9531299

Type of Crash	C - Rear End
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	2 - Injury (Severe)
PCF Violation Category	18 - Other Than Driver (or Pedestrian)
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	Yes

Map View

Street View

Parties: 3

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	D - Pickup or Panel Truck	No	East	B - Proceeding Straight
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	East	B - Proceeding Straight
3	3 - Parked Vehicle	F - Truck or Truck Tractor	No	-	O - Parked

Victims: 2

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	1 - Driver	M - Male	82	5 - Suspected Serious Injury
2	1 - Driver	F - Female	36	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 6940786

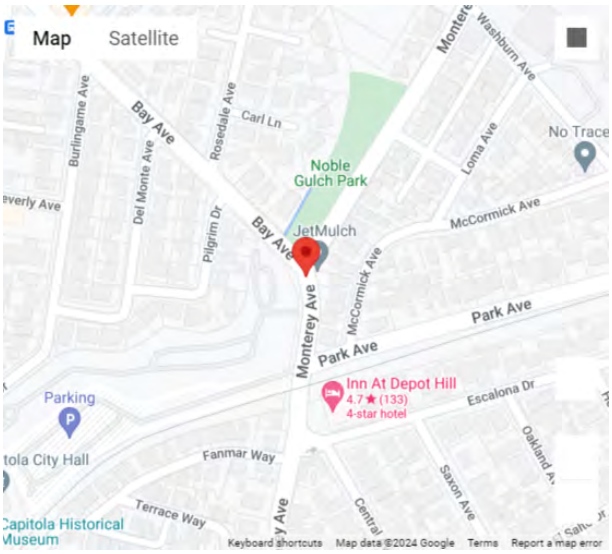
Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	06/07/2015 12:39
Location (Intersection)	Monterey Av & Bay Av
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.97634, -121.9502099

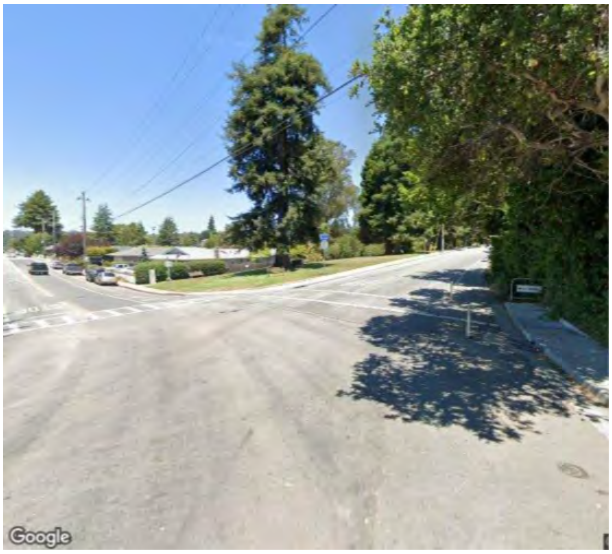
Type of Crash	D - Broadside
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	3 - Injury (Other Visible)
PCF Violation Category	09 - Automobile Right of Way
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View



Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	West	D - Making Right Turn
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	North	B - Proceeding Straight

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	1 - Driver	F - Female	82	6 - Suspected Minor Injury

BerkeleySafeTREC

Crash Details for: Case ID 7075959

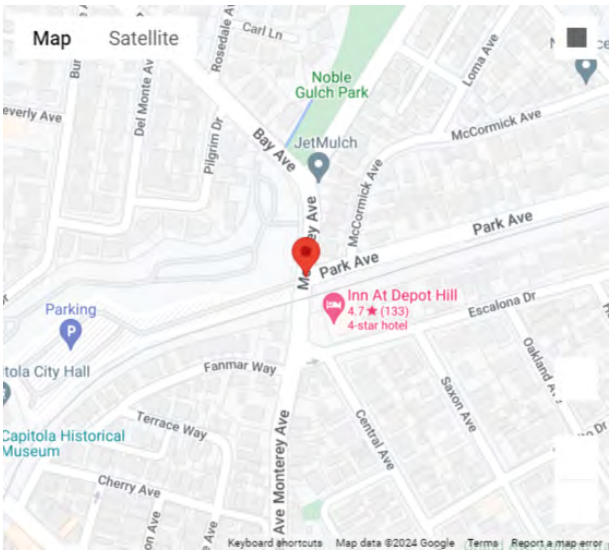
Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	09/09/2015 20:08
Location (Intersection)	Monterey Av & Park Av
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.97564, -121.95022

Type of Crash	A - Head-On
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	09 - Automobile Right of Way
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	South	E - Making Left Turn
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	North	B - Proceeding Straight

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	1 - Driver	F - Female	52	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 8373999

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	04/29/2017 18:10
Location (Intersection)	Bay Av & Hill St
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.9811, -121.95551

Type of Crash	G - Vehicle/Pedestrian
Motor Vehicle Involved With	B - Pedestrian
Crash Severity	3 - Injury (Other Visible)
PCF Violation Category	- - Not Stated
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 1

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	South	B - Proceeding Straight

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	2 - Passenger	M - Male	18	6 - Suspected Minor Injury

BerkeleySafeTREC

Crash Details for: Case ID 8506493

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	11/25/2017 12:01
Location (Intersection)	Bay Av & Hill St
Dist. & Dir. from Intersection	40.00 ft North
State Highway	No
Geocoded Location	36.9811865, -121.9555946

Type of Crash	C - Rear End
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	03 - Unsafe Speed
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	South	H - Slowing/Stopping
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	South	A - Stopped

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	1 - Driver	F - Female	20	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 8593314

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	02/13/2018 07:50
Location (Intersection)	Bay Av & Hill St
Dist. & Dir. from Intersection	203.00 ft North
State Highway	No
Geocoded Location	36.9815369, -121.9559402

Type of Crash	D - Broadside
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	09 - Automobile Right of Way
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	D - Pickup or Panel Truck	Yes	South	L - Entering Traffic
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	South	B - Proceeding Straight

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	1 - Driver	F - Female	39	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 9174869

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	10/08/2020 16:00
Location (Intersection)	Bay Av & Hill St
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.9810982, -121.955513

Type of Crash	D - Broadside
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	03 - Unsafe Speed
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	West	B - Proceeding Straight
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	North	B - Proceeding Straight

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	2 - Passenger	F - Female	32	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 9355886

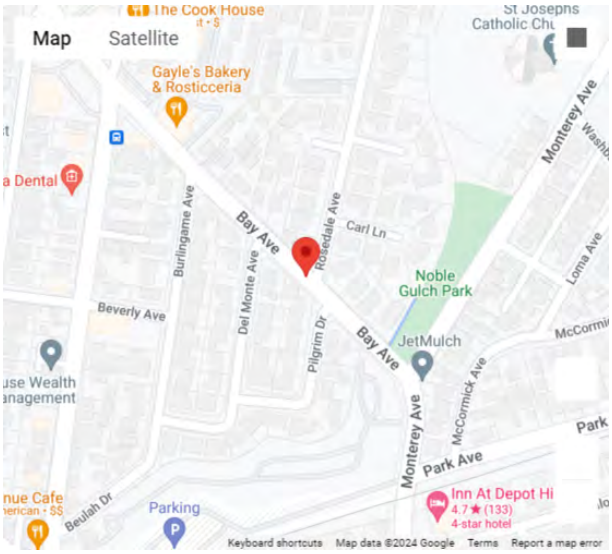
Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	09/24/2021 22:16
Location (Intersection)	Bay Av & Rosedale Av
Dist. & Dir. from Intersection	44.00 ft North
State Highway	No
Geocoded Location	36.9772072, -121.9512329

Type of Crash	B - Sideswipe
Motor Vehicle Involved With	E - Parked Motor Vehicle
Crash Severity	3 - Injury (Other Visible)
PCF Violation Category	07 - Unsafe Lane Change
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	North	M - Other Unsafe Turning
2	3 - Parked Vehicle	A - Passenger Car/Station Wagon	No	-	O - Parked

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	2 - Passenger	M - Male	28	6 - Suspected Minor Injury

BerkeleySafeTREC

Crash Details for: Case ID 9472208

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	05/07/2022 10:04
Location (Intersection)	Bay Av & Hill St
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.9810982, -121.9555054

Type of Crash	B - Sideswipe
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	09 - Automobile Right of Way
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	North	B - Proceeding Straight
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	North	E - Making Left Turn

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	1 - Driver	F - Female	52	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 9495729

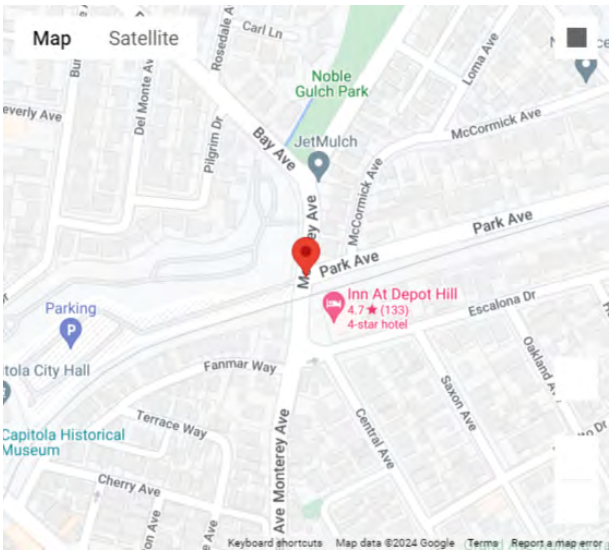
Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	08/01/2022 13:16
Location (Intersection)	Monterey Av & Park Av
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.9756355, -121.9502182

Type of Crash	A - Head-On
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	03 - Unsafe Speed
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	South	E - Making Left Turn
2	1 - Driver (including Hit and Run)	D - Pickup or Panel Truck	No	North	A - Stopped

Victims: 3

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	2 - Passenger	M - Male	22	0 - No Injury
1	2 - Passenger	F - Female	19	0 - No Injury
2	1 - Driver	M - Male	59	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 9625429

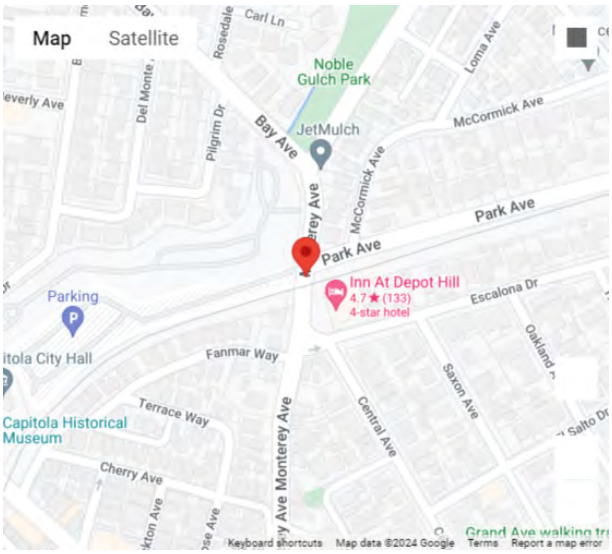
Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	08/11/2023 15:10
Location (Intersection)	Monterey Av & Park Av
Dist. & Dir. from Intersection	35.00 ft South
State Highway	No
Geocoded Location	36.975544, -121.9502335

Type of Crash	C - Rear End
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	03 - Unsafe Speed
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	D - Pickup or Panel Truck	Yes	North	B - Proceeding Straight
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	North	A - Stopped

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	1 - Driver	F - Female	26	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 9646836

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	10/12/2023 15:11
Location (Intersection)	Bay Av & Burlingame Av
Dist. & Dir. from Intersection	47.00 ft North
State Highway	No
Geocoded Location	36.978157, -121.9524689

Type of Crash	D - Broadside
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	09 - Automobile Right of Way
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 3

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	South	E - Making Left Turn
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	South	B - Proceeding Straight
3	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	North	A - Stopped

Victims: 7

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	2 - Passenger	M - Male	1	0 - No Injury

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	2 - Passenger	M - Male	5	0 - No Injury
1	2 - Passenger	F - Female	12	0 - No Injury
1	2 - Passenger	M - Male	36	0 - No Injury
1	1 - Driver	F - Female	37	7 - Possible Injury
2	2 - Passenger	F - Female	6	0 - No Injury
3	2 - Passenger	M - Male	13	0 - No Injury

Crash List

CASE ID	Date	Time	Primary Rd	Secondary Rd	Dist & Dir from Int.	Bike	Ped	Killed	Injured	
6483008	04/24/2014	11:00	Bay Av	Capitola Av	At Int	No	Yes		0	1
6487930	05/06/2014	07:21	Oak Dr	Bay Av	37 ft South	Yes	No		0	1
6511924	06/03/2014	14:04	Bay Av	Hill St	At Int	No	Yes		0	1
6748318	12/03/2014	10:41	Monterey Av	Park Av	18 ft South	No	Yes		0	1
6864222	03/19/2015	12:43	Bay Av	Capitola Av	83 ft East	No	Yes		0	1
6889427	04/04/2015	12:50	Bay Av	Bay Av 504	At Int	Yes	No		0	1
7063888	07/20/2015	19:19	Monterey Av	Park Pl	At Int	Yes	No		0	1
8152095	10/07/2016	21:28	Bay Av	Hill St	At Int	No	Yes		0	1
8339317	03/26/2017	12:07	Bay Av	Burlingame Av	90 ft North	Yes	No		0	1
90781844	07/21/2018	16:05	Bay Ave	Monterey Ave	100 ft North	Yes	No		0	1
8701088	08/13/2018	20:13	Bay Av	Hill Av	213 ft North	Yes	No		0	1
8648318	10/06/2018	19:46	Bay Av	Rt 1	218 ft South	No	Yes		1	0
9007558	11/22/2019	13:57	Monterey Av	Park Av	At Int	Yes	No		0	1
9472209	05/05/2022	17:48	Bay Av	Oak Dr	At Int	Yes	No		0	1
9495924	09/04/2022	20:42	Capitola Av	Bay Av	58 ft South	Yes	No		0	1
9534052	12/09/2022	18:24	Bay Av	Hill St	At Int	No	Yes		0	1
9549472	02/01/2023	08:15	Bay Av	Burlingame Av	At Int	Yes	No		0	1
9625425	08/24/2023	08:40	Bay Av	Hill St	At Int	No	Yes		0	1

TIMS SWITRS Crash Summary & Map

June 6, 2024

Overview

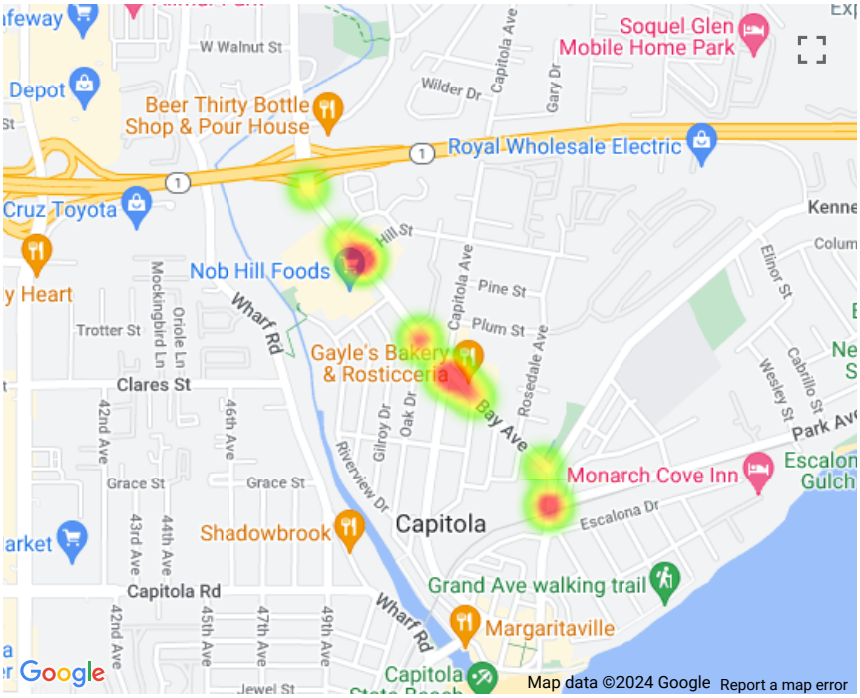
This report was created with the help of The Transportation Injury Mapping System (TIMS). TIMS has been developed by UC Berkeley SafeTREC to provide quick, easy and free access to California crash data, the Statewide Integrated Traffic Records System (SWITRS), that has been geo-coded by SafeTREC to make it easy to map crashes.

Query by Case ID(s)

User Entered SWITRS Case ID(s)

Result

Total Crashes
18
Total Victims
1 Killed & 17 Injured
State Highway
None
Ped Involved
8 (44.4%)
Bike Involved
10 (55.6%)
Motorcycle Involved
None



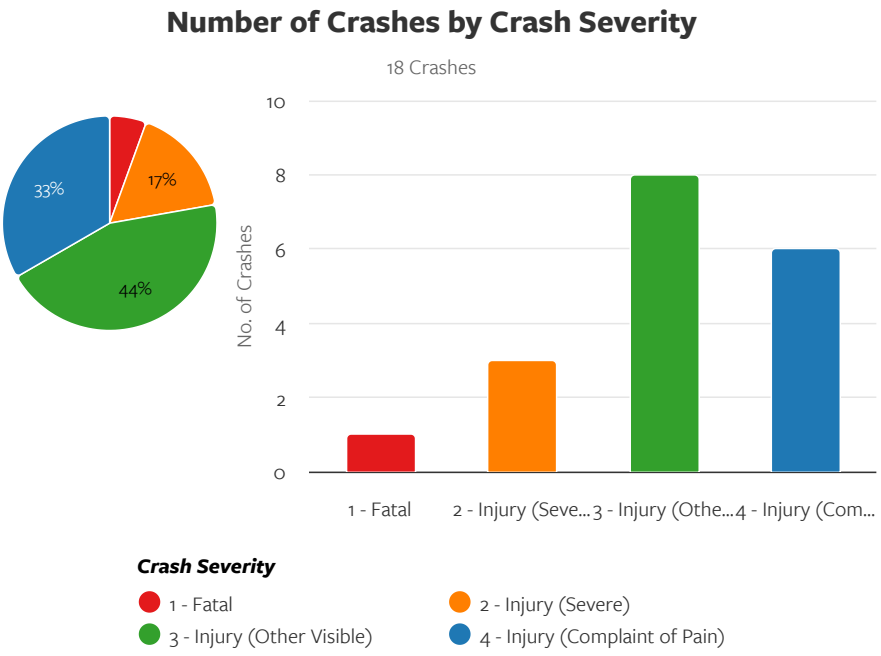
18 of 18 (100%) Crashes are geocoded and mapped.

TIMS SWITRS Crash Summary & Map

June 6, 2024

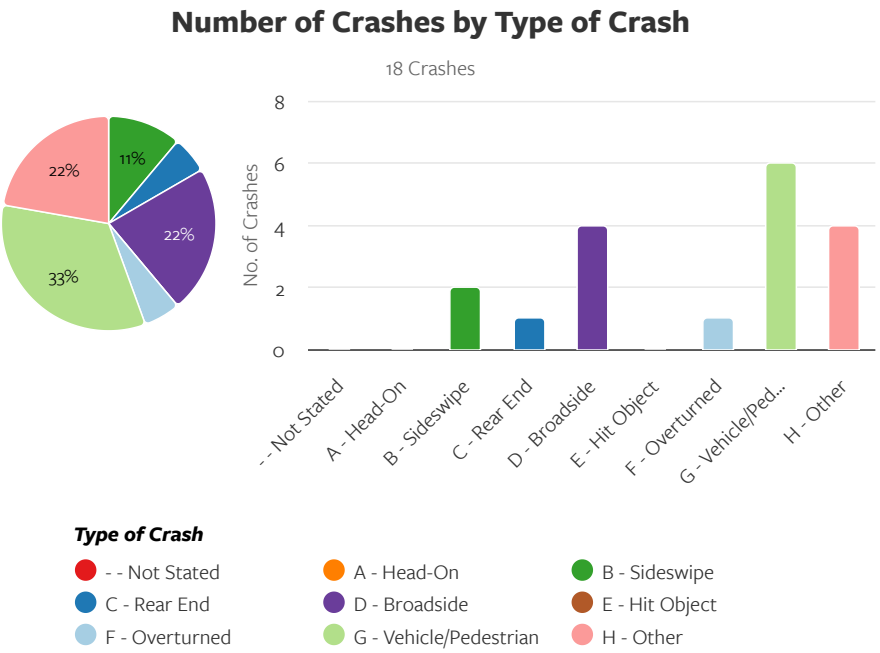
Crash Summary

By Crash Severity



Crash Severity	Count	%
1 - Fatal	1	5.56%
2 - Injury (Severe)	3	16.67%
3 - Injury (Other Visible)	8	44.44%
4 - Injury (Complaint of Pain)	6	33.33%

By Crash Type

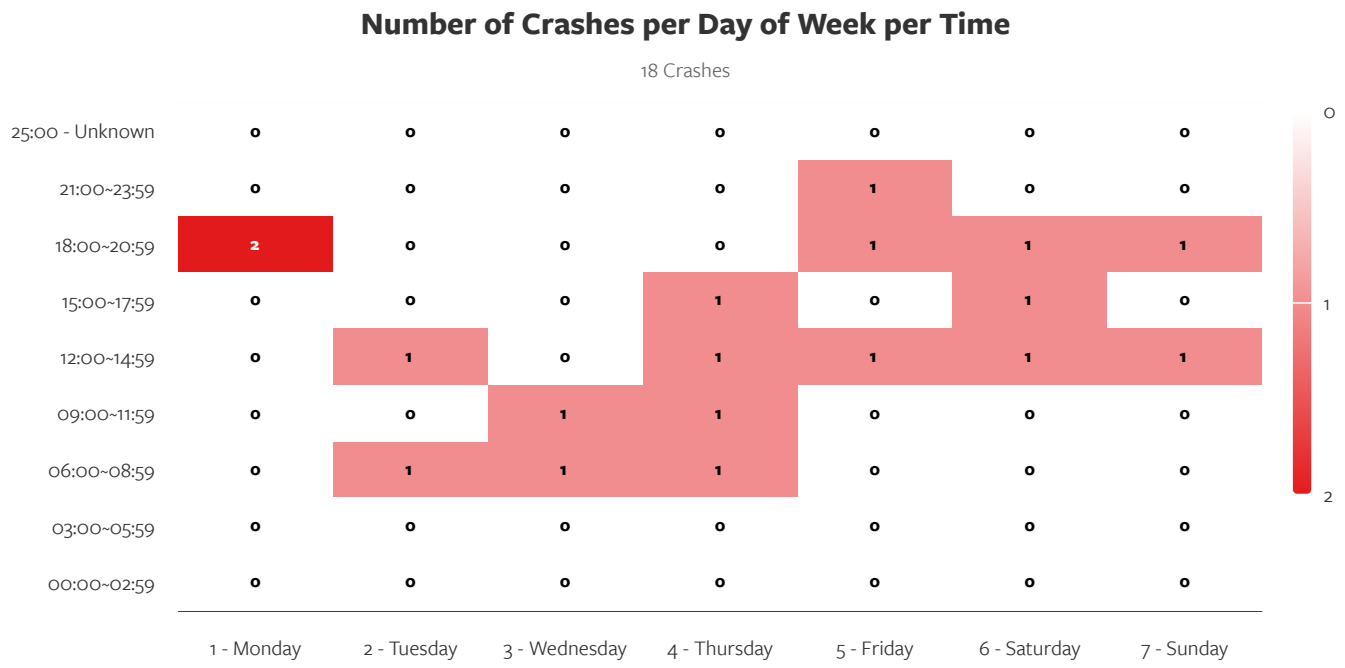


Type of Crash	Count	%
- - Not Stated	0	0.00%
A - Head-On	0	0.00%
B - Sideswipe	2	11.11%
C - Rear End	1	5.56%
D - Broadside	4	22.22%
E - Hit Object	0	0.00%
F - Overturned	1	5.56%
G - Vehicle/Pedestrian	6	33.33%
H - Other	4	22.22%

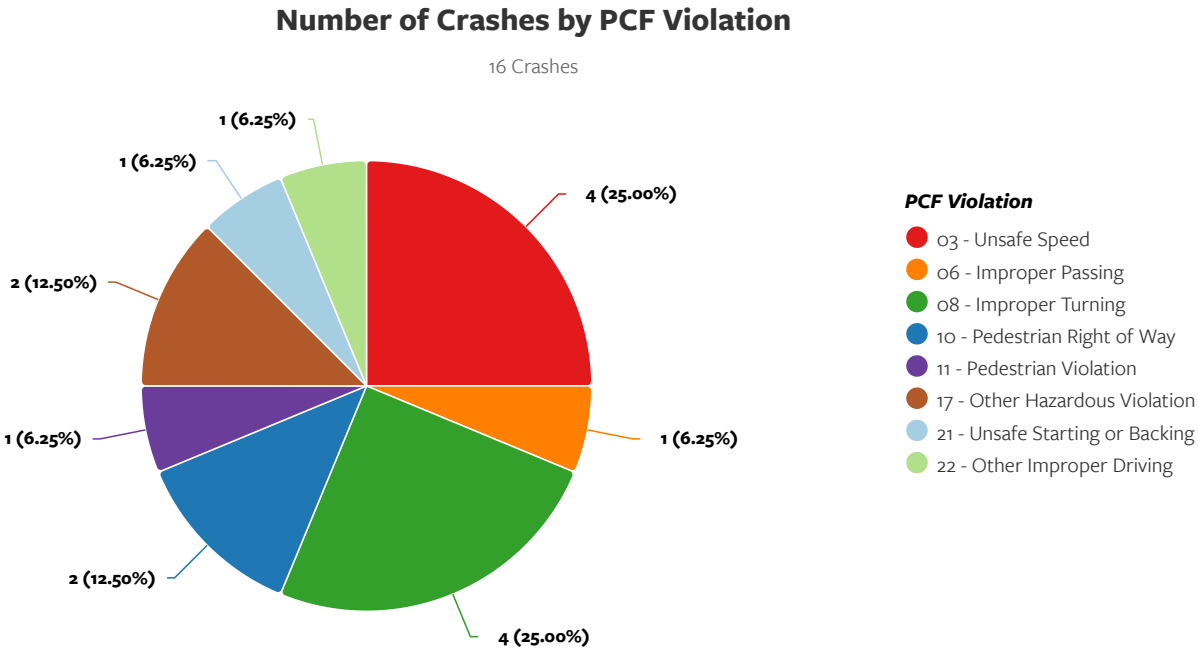
TIMS SWITRS Crash Summary & Map

June 6, 2024

By Day of Week and Time

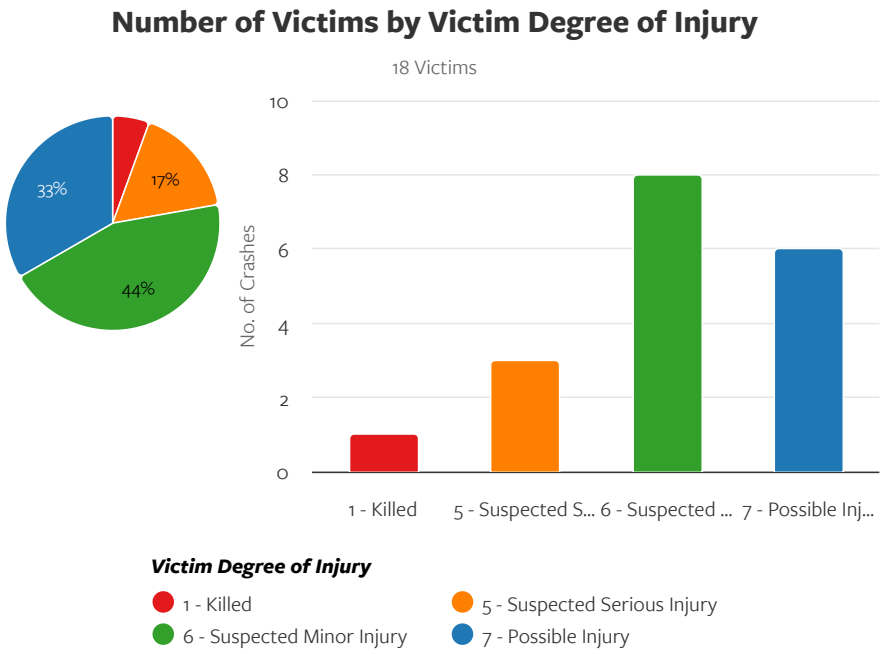


By Primary Crash Factor (PCF) Violation



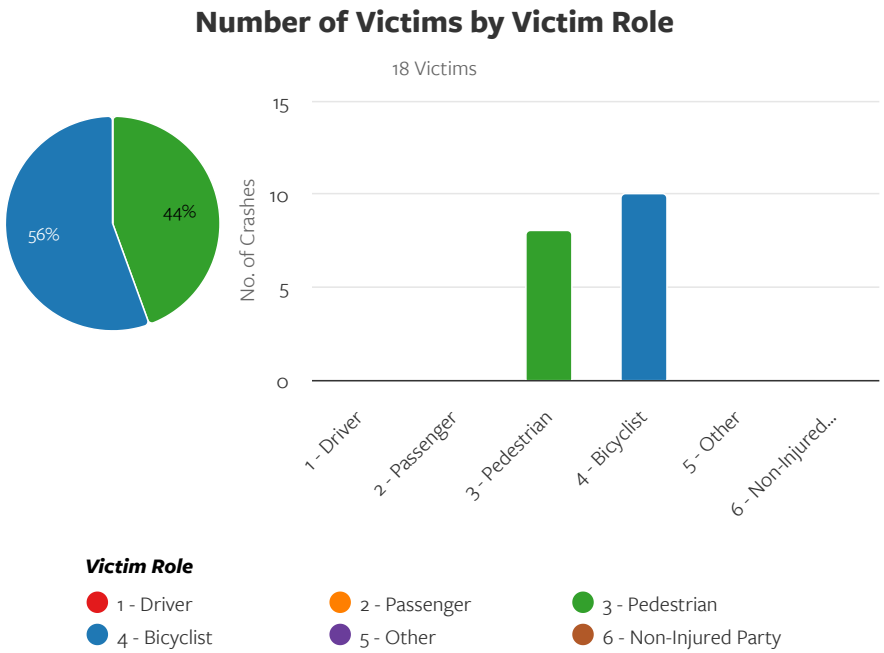
Victim Summary

By Victim Degree of Injury



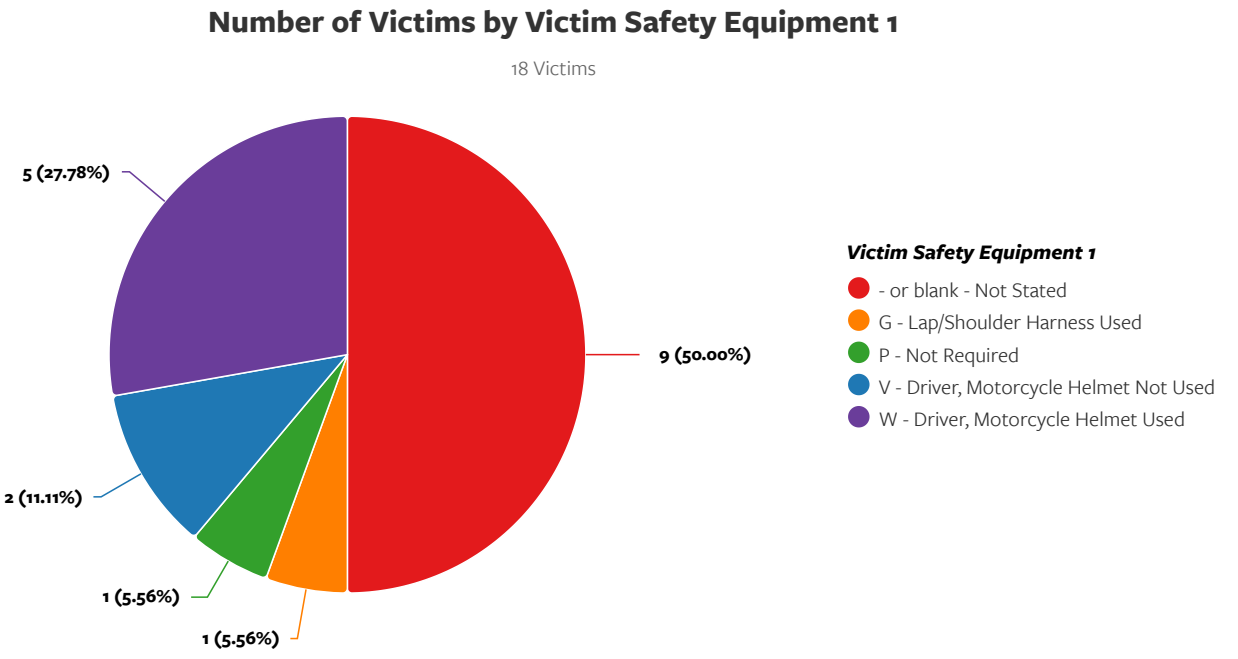
Victim Degree of Injury	Count	%
1 - Killed	1	5.56%
5 - Suspected Serious Injury	3	16.67%
6 - Suspected Minor Injury	8	44.44%
7 - Possible Injury	6	33.33%

By Victim Role

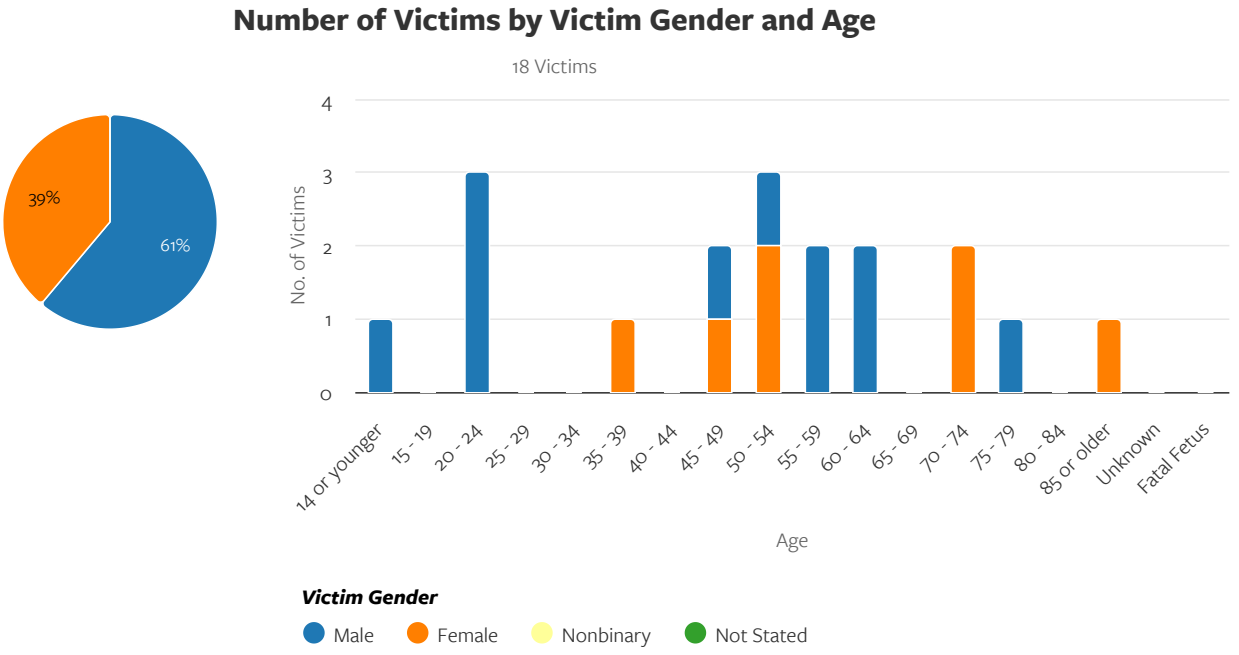


Victim Role	Count	%
1 - Driver	0	0.00%
2 - Passenger	0	0.00%
3 - Pedestrian	8	44.44%
4 - Bicyclist	10	55.56%
5 - Other	0	0.00%
6 - Non-Injured Party	0	0.00%

By Victim Safety Equipment 1



By Victim Gender and Age

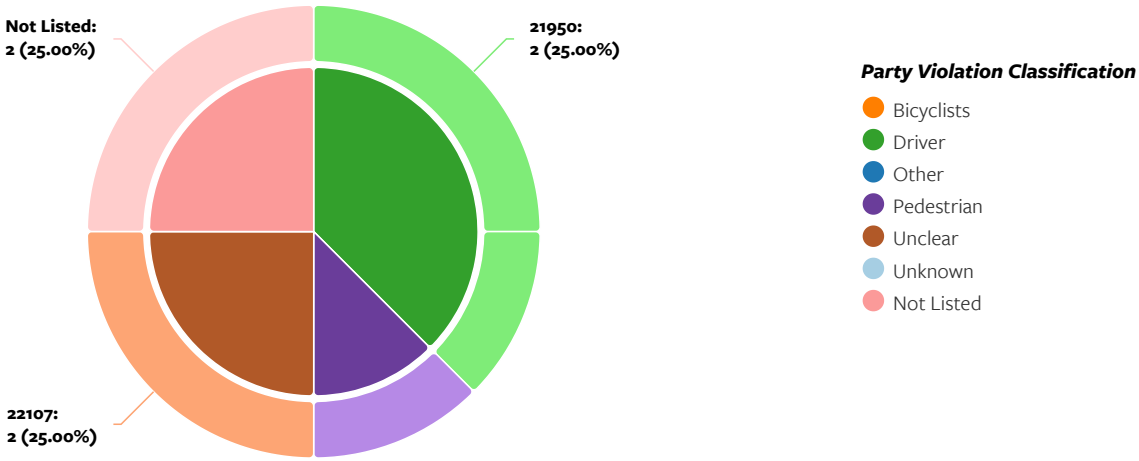


Ped Crash Summary

By Type of Violation

Number of Crashes by Type of Violation

8 Crashes

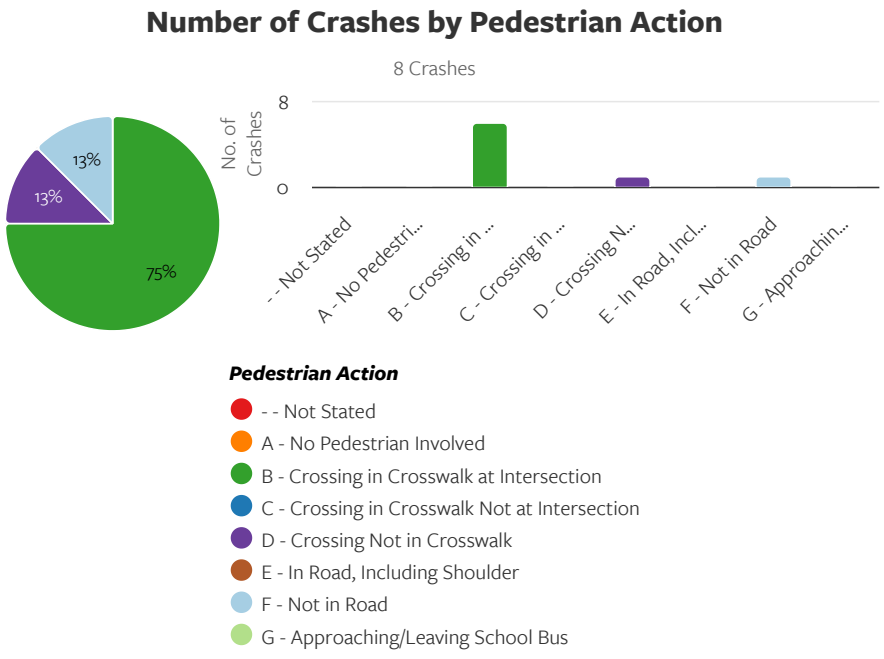


Party Violation Classification	Type of Violation	Description	Count	%
Driver	21950	Driver failure to yield right-of-way to pedestrians at a marked or unmarked crosswalk	2	25.00%
Unclear	22107	Unsafe turning or moving right or left on a roadway Turning without signaling	2	25.00%
Not Listed	Not Listed	Violation code was not included in the crash	2	25.00%
Driver	22106	Unsafe starting or backing of a vehicle on a highway	1	12.50%
Pedestrian	21954	Pedestrian failure to yield right-of-way to vehicles when crossing outside of a marked or unmarked crosswalk	1	12.50%

TIMS SWITRS Crash Summary & Map

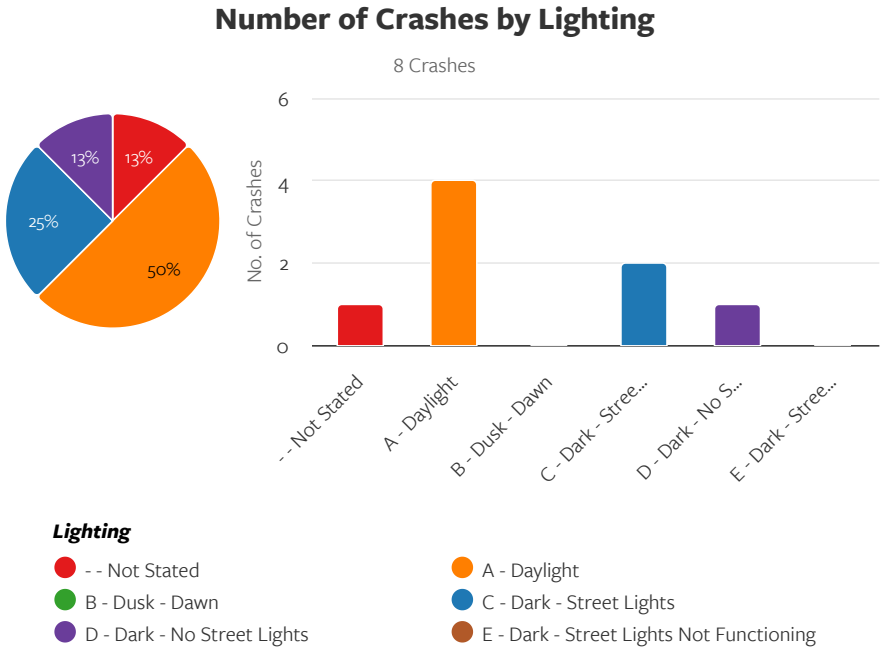
June 6, 2024

By Pedestrian Action



Pedestrian Action	Count	%
- - Not Stated	0	0.00%
A - No Pedestrian Involved	0	0.00%
B - Crossing in Crosswalk at Intersection	6	75.00%
C - Crossing in Crosswalk Not at Intersection	0	0.00%
D - Crossing Not in Crosswalk	1	12.50%
E - In Road, Including Shoulder	0	0.00%
F - Not in Road	1	12.50%
G - Approaching/Leaving School Bus	0	0.00%

By Lighting

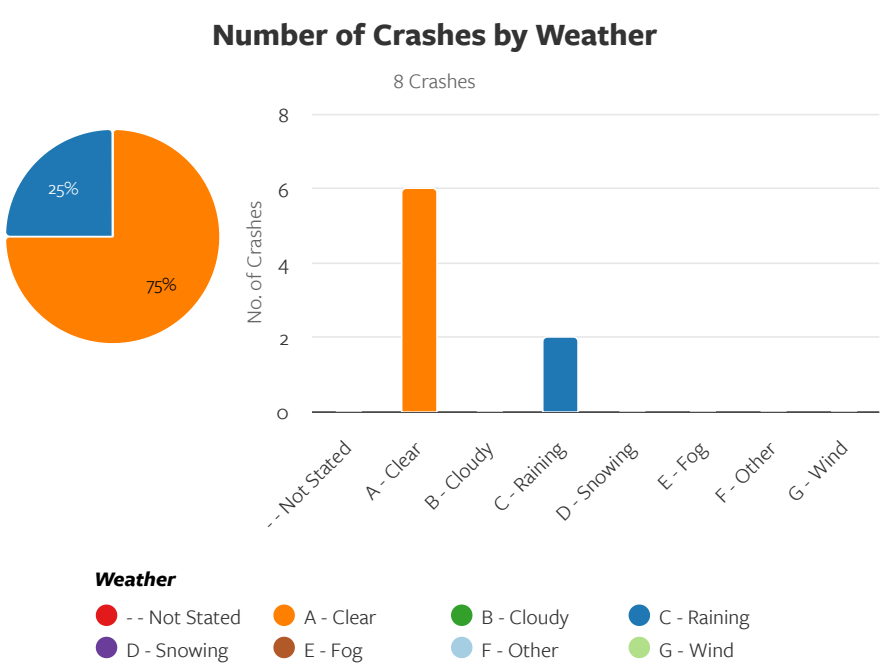


Lighting	Count	%
- - Not Stated	1	12.50%
A - Daylight	4	50.00%
B - Dusk - Dawn	0	0.00%
C - Dark - Street Lights	2	25.00%
D - Dark - No Street Lights	1	12.50%
E - Dark - Street Lights Not Functioning	0	0.00%

TIMS SWITRS Crash Summary & Map

June 6, 2024

By Weather



Weather	Count	%
- - Not Stated	0	0.00%
A - Clear	6	75.00%
B - Cloudy	0	0.00%
C - Raining	2	25.00%
D - Snowing	0	0.00%
E - Fog	0	0.00%
F - Other	0	0.00%
G - Wind	0	0.00%

Crash Diagram

Primary Street:

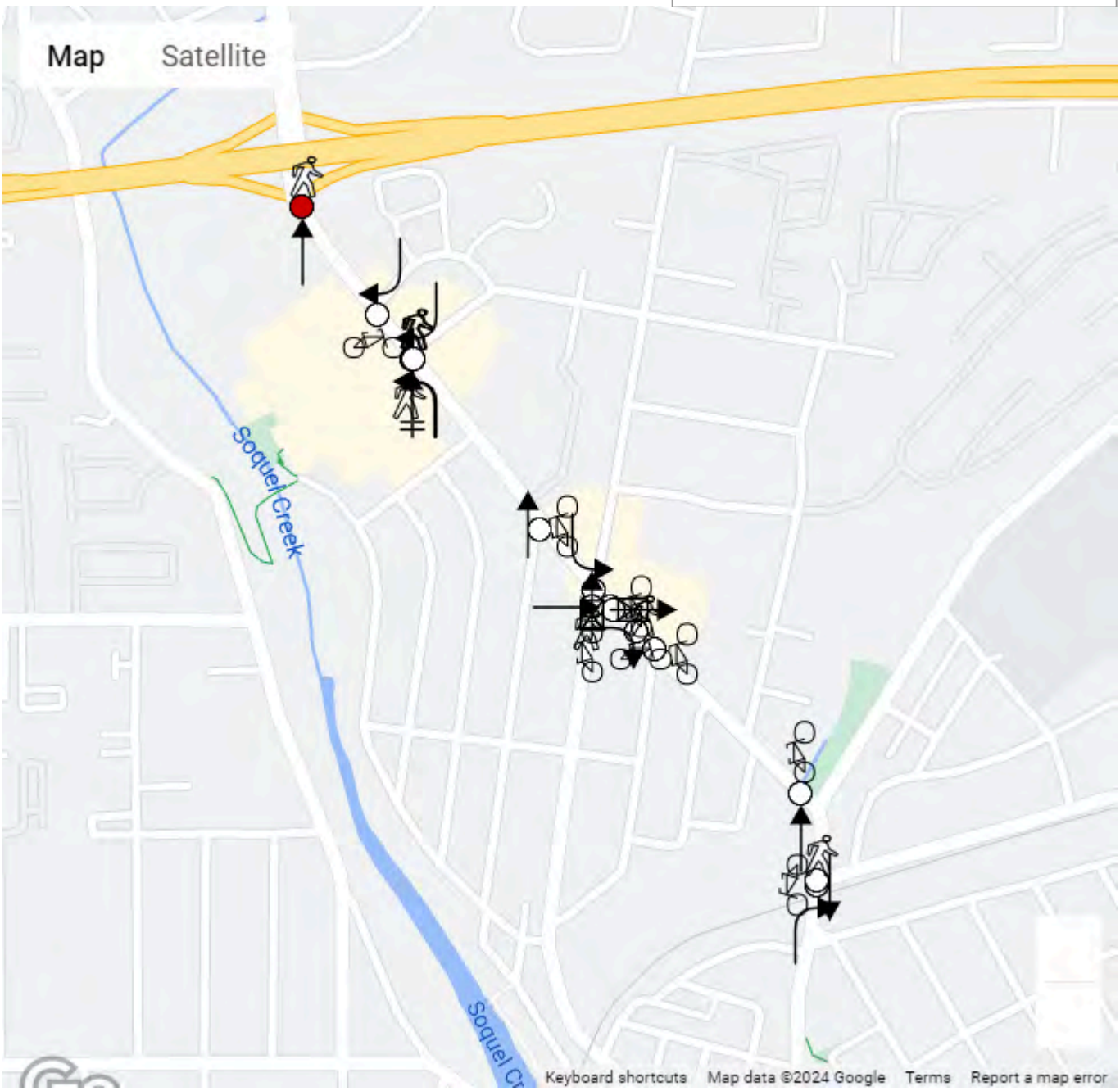
Secondary Street:

Time Period:

Agency Name:

Mapping Summary:	
Fatal Crash	1
Injury Crash	15
Mapped	16
Not Drawn	2
Total	18

- Straight
- Left Turn
- Right Turn
- U-Turn
- Overturned
- Ran Off Road
- Stopped
- Parked
- Pedestrian
- Bicycle
- Object
- Fatal Crash
- Injury Crash



Date Created: 06/06/2024

BerkeleySafeTREC

Crash Details for: Case ID 6483008

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	04/24/2014 11:00
Location (Intersection)	Bay Av & Capitola Av
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.97867, -121.9531299

Type of Crash	G - Vehicle/Pedestrian
Motor Vehicle Involved With	B - Pedestrian
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	- - Not Stated
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	Yes	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	South	E - Making Left Turn
2	2 - Pedestrian	N - Pedestrian	No	South	R - Other

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	3 - Pedestrian	F - Female	70	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 6487930

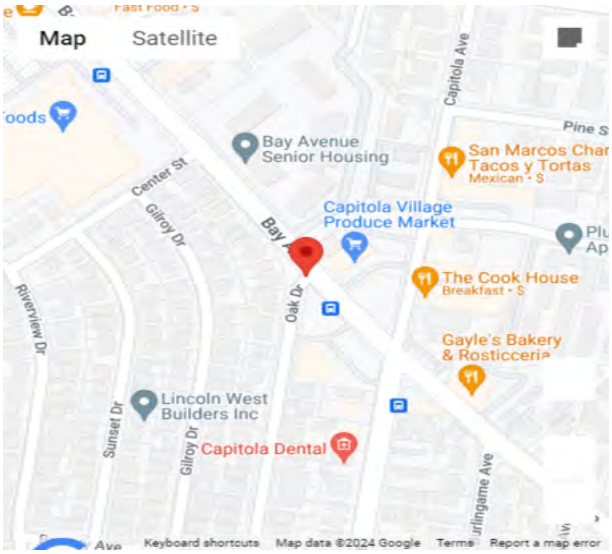
Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	05/06/2014 07:21
Location (Intersection)	Oak Dr & Bay Av
Dist. & Dir. from Intersection	37.00 ft South
State Highway	No
Geocoded Location	36.9793094, -121.9538479

Type of Crash	B - Sideswipe
Motor Vehicle Involved With	G - Bicycle
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	06 - Improper Passing
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	Yes
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	North	I - Passing Other Vehicle
2	4 - Bicyclist	L - Bicycle	No	North	B - Proceeding Straight

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	4 - Bicyclist	M - Male	54	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 6511924

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	06/03/2014 14:04
Location (Intersection)	Bay Av & Hill St
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.9811, -121.95551

Type of Crash	G - Vehicle/Pedestrian
Motor Vehicle Involved With	B - Pedestrian
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	- - Not Stated
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	Yes	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	North	A - Stopped
2	2 - Pedestrian	N - Pedestrian	No	-	- - Not Stated

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	3 - Pedestrian	F - Female	36	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 6748318

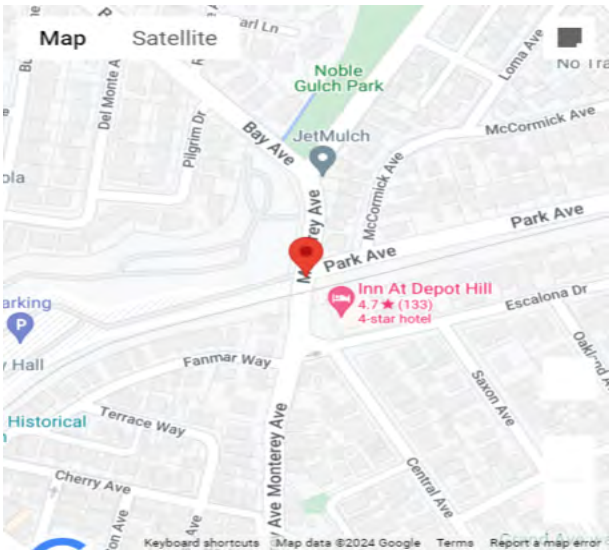
Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	12/03/2014 10:41
Location (Intersection)	Monterey Av & Park Av
Dist. & Dir. from Intersection	18.00 ft South
State Highway	No
Geocoded Location	36.9755907, -121.9502255

Type of Crash	G - Vehicle/Pedestrian
Motor Vehicle Involved With	B - Pedestrian
Crash Severity	3 - Injury (Other Visible)
PCF Violation Category	10 - Pedestrian Right of Way
Weather	C - Raining
Alcohol Involved	No

Pedestrian Crash	Yes	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	North	D - Making Right Turn
2	2 - Pedestrian	N - Pedestrian	No	-	A - Stopped

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	3 - Pedestrian	F - Female	53	6 - Suspected Minor Injury

BerkeleySafeTREC

Crash Details for: Case ID 6864222

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	03/19/2015 12:43
Location (Intersection)	Bay Av & Capitola Av
Dist. & Dir. from Intersection	83.00 ft East
State Highway	No
Geocoded Location	36.9785132, -121.9529236

Type of Crash	G - Vehicle/Pedestrian
Motor Vehicle Involved With	B - Pedestrian
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	21 - Unsafe Starting or Backing
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	Yes	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	North	G - Backing
2	2 - Pedestrian	N - Pedestrian	No	East	B - Proceeding Straight

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	3 - Pedestrian	M - Male	62	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 6889427

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	04/04/2015 12:50
Location (Intersection)	Bay Av & Bay Av 504
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.9784767, -121.9528824

Type of Crash	H - Other
Motor Vehicle Involved With	G - Bicycle
Crash Severity	2 - Injury (Severe)
PCF Violation Category	17 - Other Hazardous Violation
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	Yes
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	3 - Parked Vehicle	A - Passenger Car/Station Wagon	Yes	North	O - Parked
2	4 - Bicyclist	L - Bicycle	No	North	B - Proceeding Straight

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	4 - Bicyclist	M - Male	21	5 - Suspected Serious Injury

BerkeleySafeTREC

Crash Details for: Case ID 7063888

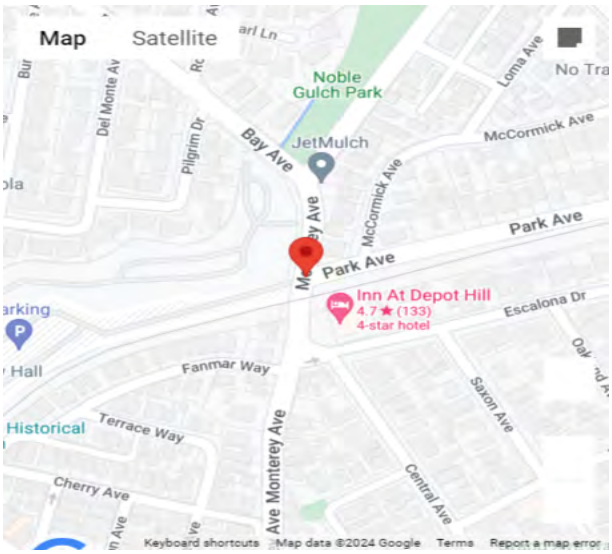
Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	07/20/2015 19:19
Location (Intersection)	Monterey Av & Park Pl
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.97564, -121.95022

Type of Crash	H - Other
Motor Vehicle Involved With	G - Bicycle
Crash Severity	3 - Injury (Other Visible)
PCF Violation Category	17 - Other Hazardous Violation
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	Yes
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	3 - Parked Vehicle	A - Passenger Car/Station Wagon	Yes	-	O - Parked
2	4 - Bicyclist	L - Bicycle	No	-	B - Proceeding Straight

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	4 - Bicyclist	M - Male	46	6 - Suspected Minor Injury

BerkeleySafeTREC

Crash Details for: Case ID 8152095

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	10/07/2016 21:28
Location (Intersection)	Bay Av & Hill St
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.9811, -121.95551

Type of Crash	D - Broadside
Motor Vehicle Involved With	B - Pedestrian
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	08 - Improper Turning
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	Yes	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	North	E - Making Left Turn
2	2 - Pedestrian	N - Pedestrian	No	West	B - Proceeding Straight

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	3 - Pedestrian	F - Female	53	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 8339317

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	03/26/2017 12:07
Location (Intersection)	Bay Av & Burlingame Av
Dist. & Dir. from Intersection	90.00 ft North
State Highway	No
Geocoded Location	36.9782415, -121.952572

Type of Crash	H - Other
Motor Vehicle Involved With	G - Bicycle
Crash Severity	3 - Injury (Other Visible)
PCF Violation Category	22 - Other Improper Driving
Weather	B - Cloudy
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	Yes
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	East	O - Parked
2	4 - Bicyclist	L - Bicycle	No	East	- - Not Stated

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	4 - Bicyclist	M - Male	61	6 - Suspected Minor Injury

Crash Details for: Case ID 90781844

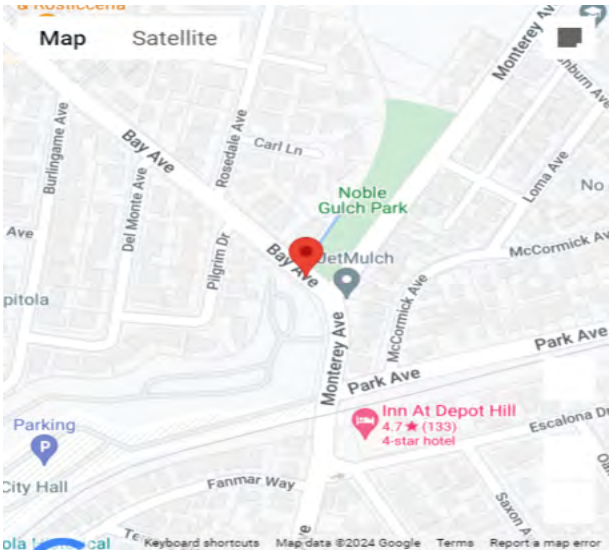
Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	07/21/2018 16:05
Location (Intersection)	Bay Ave & Monterey Ave
Dist. & Dir. from Intersection	100.00 ft North
State Highway	No
Geocoded Location	36.9765549, -121.9504242

Type of Crash	C - Rear End
Motor Vehicle Involved With	G - Bicycle
Crash Severity	3 - Injury (Other Visible)
PCF Violation Category	03 - Unsafe Speed
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	Yes
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	4 - Bicyclist	L - Bicycle	Yes	North	B - Proceeding Straight
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	North	H - Slowing/Stopping

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	4 - Bicyclist	M - Male	23	6 - Suspected Minor Injury

BerkeleySafeTREC

Crash Details for: Case ID 8701088

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	08/13/2018 20:13
Location (Intersection)	Bay Av & Hill Av
Dist. & Dir. from Intersection	213.00 ft North
State Highway	No
Geocoded Location	36.9815598, -121.9559631

Type of Crash	D - Broadside
Motor Vehicle Involved With	G - Bicycle
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	08 - Improper Turning
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	Yes
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	South	D - Making Right Turn
2	4 - Bicyclist	L - Bicycle	No	South	B - Proceeding Straight

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	4 - Bicyclist	M - Male	22	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 8648318

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	10/06/2018 19:46
Location (Intersection)	Bay Av & Rt 1
Dist. & Dir. from Intersection	218.00 ft South
State Highway	No
Geocoded Location	36.9826889, -121.9569473

Type of Crash	G - Vehicle/Pedestrian
Motor Vehicle Involved With	B - Pedestrian
Crash Severity	1 - Fatal
PCF Violation Category	11 - Pedestrian Violation
Weather	A - Clear
Alcohol Involved	Yes

Pedestrian Crash	Yes	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	2 - Pedestrian	N - Pedestrian	Yes	-	R - Other
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	North	B - Proceeding Straight

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	3 - Pedestrian	M - Male	59	1 - Killed

BerkeleySafeTREC

Crash Details for: Case ID 9007558

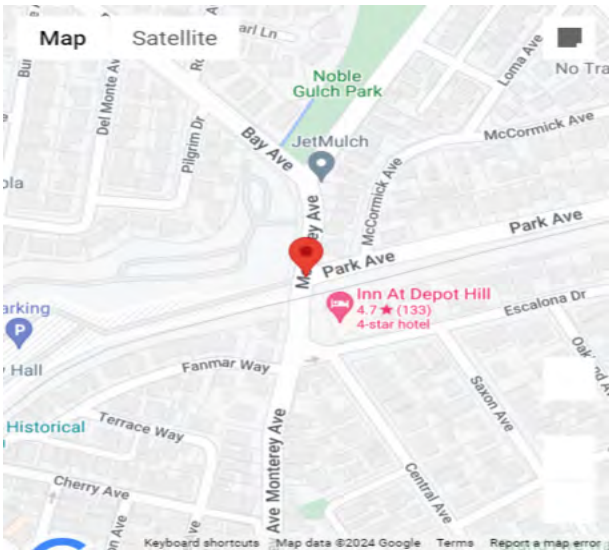
Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	11/22/2019 13:57
Location (Intersection)	Monterey Av & Park Av
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.9756393, -121.9502182

Type of Crash	B - Sideswipe
Motor Vehicle Involved With	G - Bicycle
Crash Severity	3 - Injury (Other Visible)
PCF Violation Category	08 - Improper Turning
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	Yes
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	4 - Bicyclist	L - Bicycle	Yes	South	E - Making Left Turn
2	1 - Driver (including Hit and Run)	D - Pickup or Panel Truck	No	South	B - Proceeding Straight

Victims: 2

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	4 - Bicyclist	M - Male	77	6 - Suspected Minor Injury
2	2 - Passenger	F - Female	0	0 - No Injury

BerkeleySafeTREC

Crash Details for: Case ID 9472209

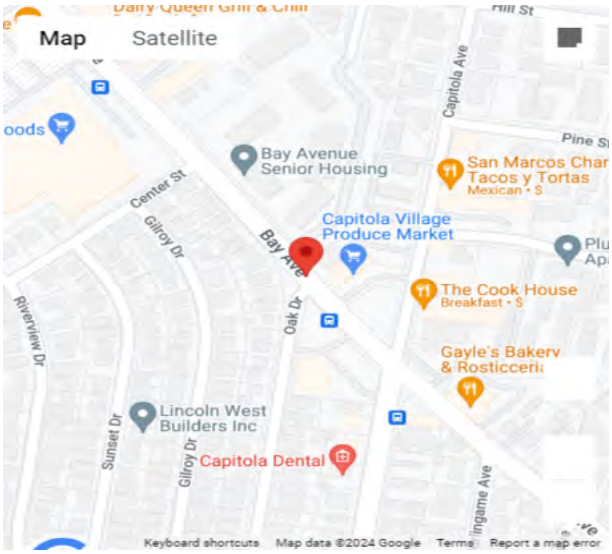
Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	05/05/2022 17:48
Location (Intersection)	Bay Av & Oak Dr
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.9794083, -121.9538269

Type of Crash	H - Other
Motor Vehicle Involved With	- - Not Stated
Crash Severity	2 - Injury (Severe)
PCF Violation Category	03 - Unsafe Speed
Weather	A - Clear
Alcohol Involved	Yes

Pedestrian Crash	No	**Bicycle Crash**	Yes
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View

Parties: 1

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	4 - Bicyclist	L - Bicycle	Yes	South	B - Proceeding Straight

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	4 - Bicyclist	M - Male	59	5 - Suspected Serious Injury

BerkeleySafeTREC

Crash Details for: Case ID 9495924

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	09/04/2022 20:42
Location (Intersection)	Capitola Av & Bay Av
Dist. & Dir. from Intersection	58.00 ft South
State Highway	No
Geocoded Location	36.9785118, -121.9531555

Type of Crash	F - Overturned
Motor Vehicle Involved With	A - Non-Collision
Crash Severity	3 - Injury (Other Visible)
PCF Violation Category	03 - Unsafe Speed
Weather	A - Clear
Alcohol Involved	Yes

Pedestrian Crash	No	**Bicycle Crash**	Yes
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 1

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	4 - Bicyclist	L - Bicycle	Yes	North	B - Proceeding Straight

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	4 - Bicyclist	F - Female	45	6 - Suspected Minor Injury

BerkeleySafeTREC

Crash Details for: Case ID 9534052

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	12/09/2022 18:24
Location (Intersection)	Bay Av & Hill St
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.9810982, -121.9555054

Type of Crash	G - Vehicle/Pedestrian
Motor Vehicle Involved With	B - Pedestrian
Crash Severity	2 - Injury (Severe)
PCF Violation Category	08 - Improper Turning
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	Yes	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	D - Pickup or Panel Truck	Yes	South	D - Making Right Turn
2	2 - Pedestrian	N - Pedestrian	No	East	B - Proceeding Straight

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	3 - Pedestrian	F - Female	74	5 - Suspected Serious Injury

BerkeleySafeTREC

Crash Details for: Case ID 9549472

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	02/01/2023 08:15
Location (Intersection)	Bay Av & Burlingame Av
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.9780655, -121.9523468

Type of Crash	D - Broadside
Motor Vehicle Involved With	G - Bicycle
Crash Severity	3 - Injury (Other Visible)
PCF Violation Category	03 - Unsafe Speed
Weather	A - Clear
Alcohol Involved	Yes

Pedestrian Crash	No	**Bicycle Crash**	Yes
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	East	D - Making Right Turn
2	4 - Bicyclist	L - Bicycle	No	East	B - Proceeding Straight

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	4 - Bicyclist	M - Male	0	6 - Suspected Minor Injury

BerkeleySafeTREC

Crash Details for: Case ID 9625425

Crash Information

County	Santa Cruz
City	Capitola
Date & Time (M/D/Y)	08/24/2023 08:40
Location (Intersection)	Bay Av & Hill St
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	36.9810982, -121.9555054

Type of Crash	D - Broadside
Motor Vehicle Involved With	B - Pedestrian
Crash Severity	3 - Injury (Other Visible)
PCF Violation Category	10 - Pedestrian Right of Way
Weather	C - Raining
Alcohol Involved	No

Pedestrian Crash	Yes	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View

Street View

Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	North	E - Making Left Turn
2	2 - Pedestrian	N - Pedestrian	No	-	- - Not Stated

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	3 - Pedestrian	F - Female	86	6 - Suspected Minor Injury

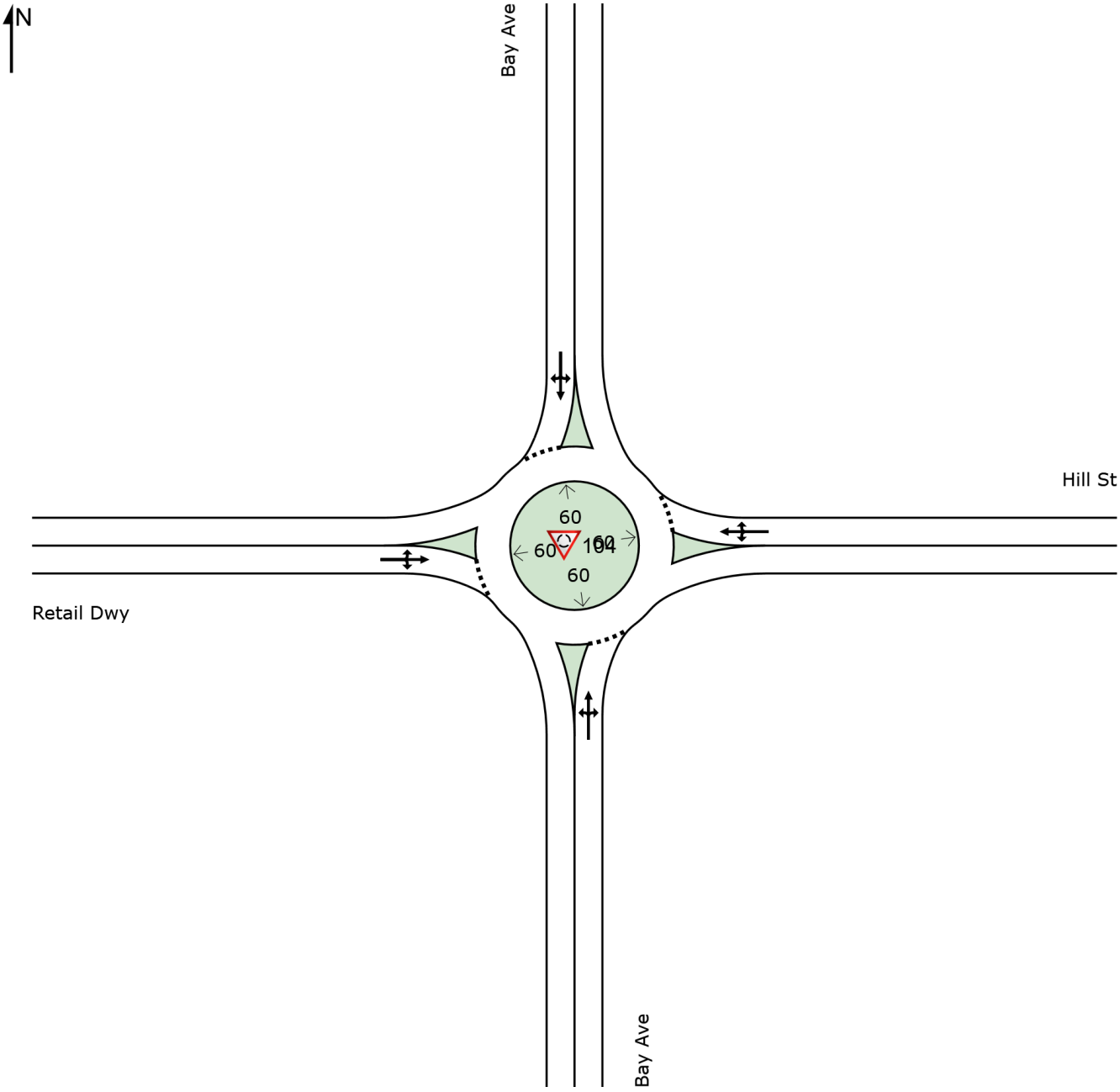
Attachment C – VISSIM and SIDRA LOS Results (Stop and Roundabout Alternatives)

SITE LAYOUT

Site: 104 [Bay/Hill (Site Folder: 2024 Existing AM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.

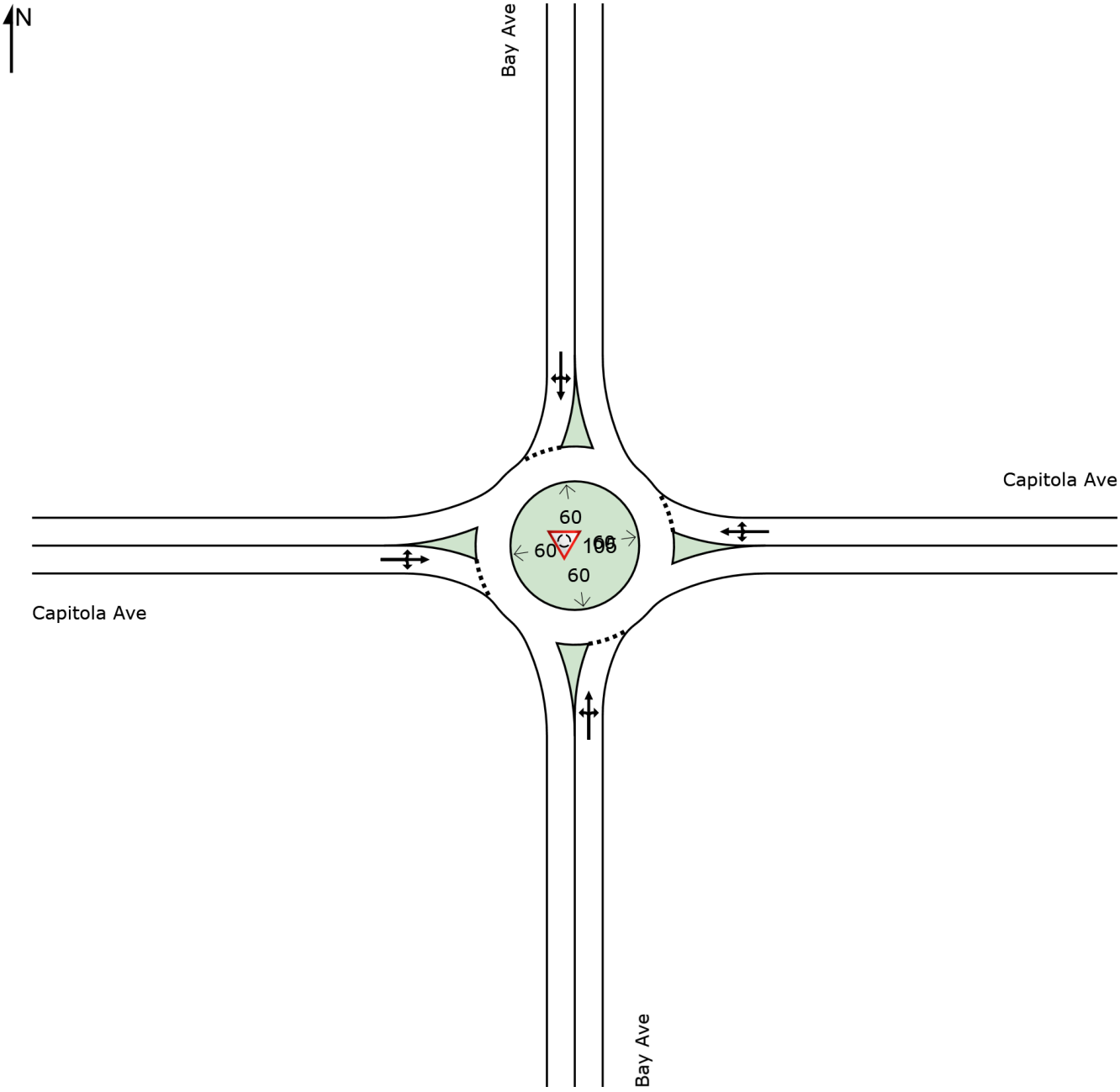


SITE LAYOUT

Site: 105 [Bay/Capitola (Site Folder: 2024 Existing AM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.

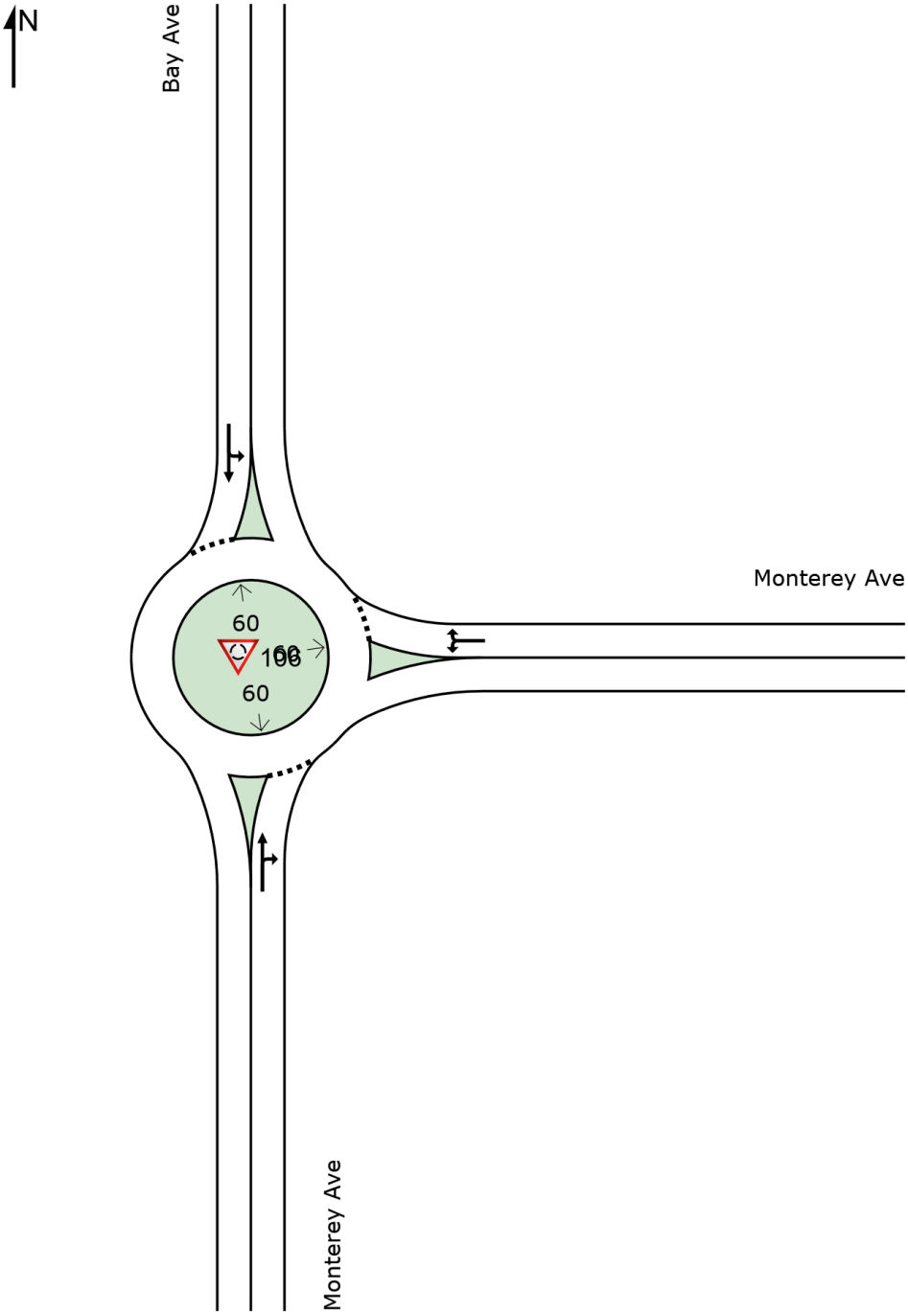


SITE LAYOUT

Site: 106 [Bay/Monterey (Site Folder: 2024 Existing AM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.

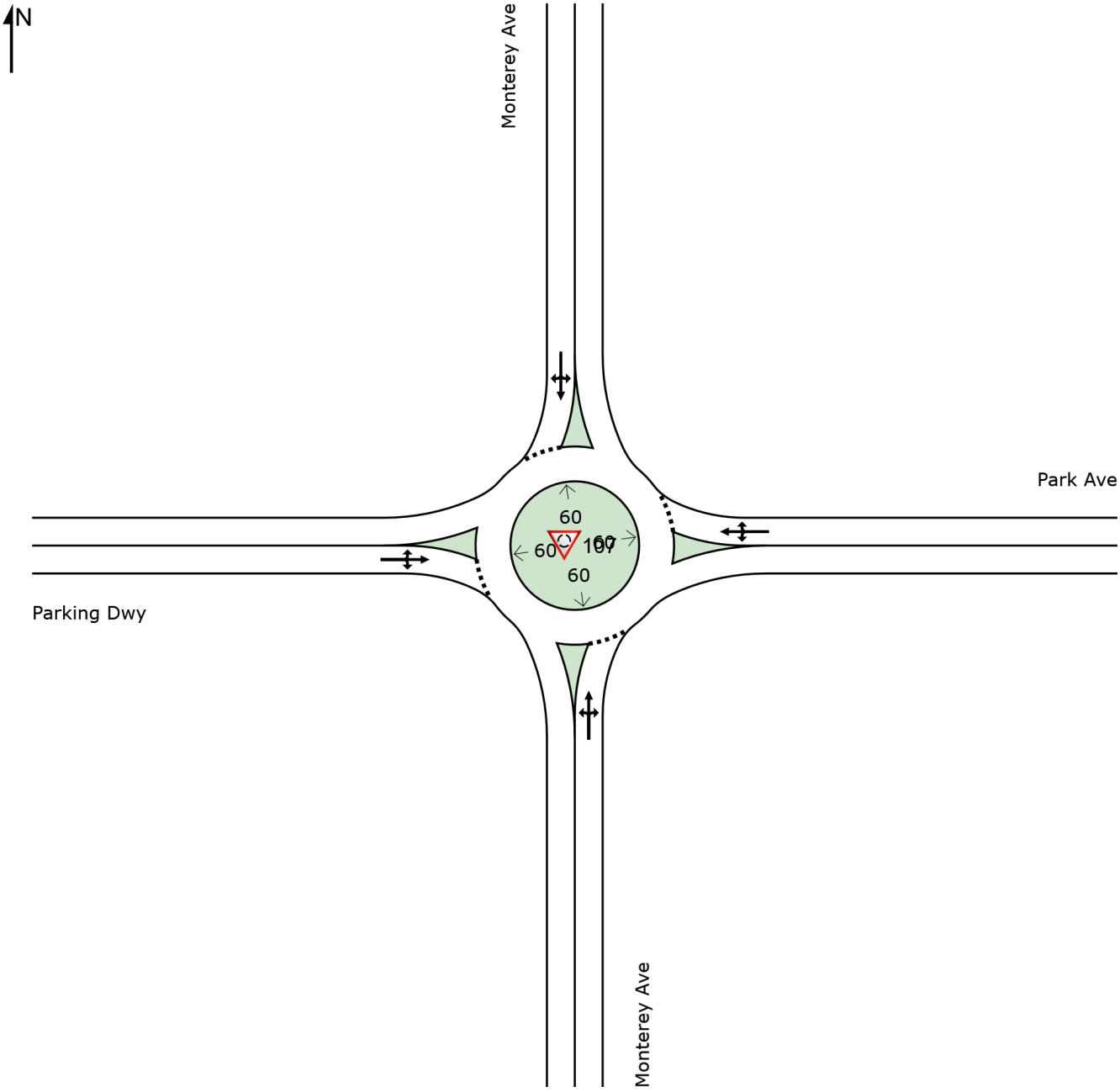


SITE LAYOUT

Site: 107 [Monterey/Park (Site Folder: 2024 Existing AM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 104 [Bay/Hill (Site Folder: 2024 Existing AM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Bay Ave														
3	L2	57	3.0	62	3.0	0.482	8.4	LOS A	3.2	81.9	0.46	0.30	0.46	32.0
8	T1	441	3.0	479	3.0	0.482	8.4	LOS A	3.2	81.9	0.46	0.30	0.46	23.9
18	R2	10	3.0	11	3.0	0.482	8.4	LOS A	3.2	81.9	0.46	0.30	0.46	31.5
Approach		508	3.0	552	3.0	0.482	8.4	LOS A	3.2	81.9	0.46	0.30	0.46	25.3
East: Hill St														
1	L2	9	3.0	10	3.0	0.269	8.2	LOS A	1.2	29.8	0.63	0.63	0.63	32.3
6	T1	28	3.0	30	3.0	0.269	8.2	LOS A	1.2	29.8	0.63	0.63	0.63	32.4
16	R2	142	3.0	154	3.0	0.269	8.2	LOS A	1.2	29.8	0.63	0.63	0.63	24.9
Approach		179	3.0	195	3.0	0.269	8.2	LOS A	1.2	29.8	0.63	0.63	0.63	26.9
North: Bay Ave														
7	L2	75	3.0	82	3.0	0.436	7.5	LOS A	2.8	72.3	0.36	0.20	0.36	29.3
4	T1	377	3.0	410	3.0	0.436	7.5	LOS A	2.8	72.3	0.36	0.20	0.36	29.6
14	R2	31	3.0	34	3.0	0.436	7.5	LOS A	2.8	72.3	0.36	0.20	0.36	28.6
Approach		483	3.0	525	3.0	0.436	7.5	LOS A	2.8	72.3	0.36	0.20	0.36	29.5
West: Retail Dwy														
5	L2	43	3.0	47	3.0	0.139	6.0	LOS A	0.6	14.5	0.55	0.49	0.55	24.2
2	T1	19	3.0	21	3.0	0.139	6.0	LOS A	0.6	14.5	0.55	0.49	0.55	32.7
12	R2	39	3.0	42	3.0	0.139	6.0	LOS A	0.6	14.5	0.55	0.49	0.55	32.0
Approach		101	3.0	110	3.0	0.139	6.0	LOS A	0.6	14.5	0.55	0.49	0.55	29.3
All Vehicles		1271	3.0	1382	3.0	0.482	7.8	LOS A	3.2	81.9	0.46	0.33	0.46	27.3

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 Sign Control.
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: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 105 [Bay/Capitola (Site Folder: 2024 Existing AM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Bay Ave														
3	L2	27	3.0	29	3.0	0.407	7.8	LOS A	2.3	59.4	0.51	0.38	0.51	32.4
8	T1	312	3.0	339	3.0	0.407	7.8	LOS A	2.3	59.4	0.51	0.38	0.51	32.5
18	R2	55	3.0	60	3.0	0.407	7.8	LOS A	2.3	59.4	0.51	0.38	0.51	31.9
Approach		394	3.0	428	3.0	0.407	7.8	LOS A	2.3	59.4	0.51	0.38	0.51	32.4
East: Capitola Ave														
1	L2	83	3.0	90	3.0	0.283	7.4	LOS A	1.3	33.3	0.58	0.53	0.58	32.0
6	T1	94	3.0	102	3.0	0.283	7.4	LOS A	1.3	33.3	0.58	0.53	0.58	32.1
16	R2	42	3.0	46	3.0	0.283	7.4	LOS A	1.3	33.3	0.58	0.53	0.58	31.4
Approach		219	3.0	238	3.0	0.283	7.4	LOS A	1.3	33.3	0.58	0.53	0.58	31.9
North: Bay Ave														
7	L2	74	3.0	80	3.0	0.394	7.6	LOS A	2.2	57.0	0.49	0.36	0.49	32.3
4	T1	183	3.0	199	3.0	0.394	7.6	LOS A	2.2	57.0	0.49	0.36	0.49	32.4
14	R2	128	3.0	139	3.0	0.394	7.6	LOS A	2.2	57.0	0.49	0.36	0.49	31.7
Approach		385	3.0	418	3.0	0.394	7.6	LOS A	2.2	57.0	0.49	0.36	0.49	32.1
West: Capitola Ave														
5	L2	70	3.0	76	3.0	0.171	5.6	LOS A	0.7	19.0	0.50	0.41	0.50	32.6
2	T1	67	3.0	73	3.0	0.171	5.6	LOS A	0.7	19.0	0.50	0.41	0.50	32.7
12	R2	6	3.0	7	3.0	0.171	5.6	LOS A	0.7	19.0	0.50	0.41	0.50	32.0
Approach		143	3.0	155	3.0	0.171	5.6	LOS A	0.7	19.0	0.50	0.41	0.50	32.6
All Vehicles		1141	3.0	1240	3.0	0.407	7.4	LOS A	2.3	59.4	0.52	0.41	0.52	32.3

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 Sign Control.
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: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 106 [Bay/Monterey (Site Folder: 2024 Existing AM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Monterey Ave														
8	T1	162	3.0	176	3.0	0.232	5.7	LOS A	1.1	28.3	0.43	0.31	0.43	31.2
18	R2	61	3.0	66	3.0	0.232	5.7	LOS A	1.1	28.3	0.43	0.31	0.43	30.1
Approach		223	3.0	242	3.0	0.232	5.7	LOS A	1.1	28.3	0.43	0.31	0.43	30.9
East: Monterey Ave														
1	L2	87	3.0	95	3.0	0.360	6.8	LOS A	2.0	51.5	0.43	0.29	0.43	27.2
16	R2	282	3.0	307	3.0	0.360	6.8	LOS A	2.0	51.5	0.43	0.29	0.43	32.0
Approach		369	3.0	401	3.0	0.360	6.8	LOS A	2.0	51.5	0.43	0.29	0.43	31.1
North: Bay Ave														
7	L2	219	3.0	238	3.0	0.271	5.4	LOS A	1.4	36.7	0.28	0.15	0.28	32.2
4	T1	84	3.0	91	3.0	0.271	5.4	LOS A	1.4	36.7	0.28	0.15	0.28	27.6
Approach		303	3.0	329	3.0	0.271	5.4	LOS A	1.4	36.7	0.28	0.15	0.28	31.2
All Vehicles		895	3.0	973	3.0	0.360	6.1	LOS A	2.0	51.5	0.38	0.25	0.38	31.1

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 Sign Control.
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: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 107 [Monterey/Park (Site Folder: 2024 Existing AM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Monterey Ave														
3	L2	1	3.0	1	3.0	0.300	5.6	LOS A	1.7	42.8	0.22	0.09	0.22	31.1
8	T1	123	3.0	134	3.0	0.300	5.6	LOS A	1.7	42.8	0.22	0.09	0.22	12.9
18	R2	225	3.0	245	3.0	0.300	5.6	LOS A	1.7	42.8	0.22	0.09	0.22	30.2
Approach		349	3.0	379	3.0	0.300	5.6	LOS A	1.7	42.8	0.22	0.09	0.22	26.0
East: Park Ave														
1	L2	418	3.0	454	3.0	0.488	8.4	LOS A	3.3	84.5	0.45	0.28	0.45	25.2
6	T1	3	3.0	3	3.0	0.488	8.4	LOS A	3.3	84.5	0.45	0.28	0.45	30.9
16	R2	100	3.0	109	3.0	0.488	8.4	LOS A	3.3	84.5	0.45	0.28	0.45	25.5
Approach		521	3.0	566	3.0	0.488	8.4	LOS A	3.3	84.5	0.45	0.28	0.45	25.3
North: Monterey Ave														
7	L2	41	3.0	45	3.0	0.225	6.7	LOS A	1.0	25.2	0.56	0.51	0.56	29.5
4	T1	126	3.0	137	3.0	0.225	6.7	LOS A	1.0	25.2	0.56	0.51	0.56	16.3
14	R2	4	3.0	4	3.0	0.225	6.7	LOS A	1.0	25.2	0.56	0.51	0.56	28.8
Approach		171	3.0	186	3.0	0.225	6.7	LOS A	1.0	25.2	0.56	0.51	0.56	21.9
West: Parking Dwy														
5	L2	1	3.0	1	3.0	0.017	5.4	LOS A	0.1	1.7	0.56	0.44	0.56	25.2
2	T1	9	3.0	10	3.0	0.017	5.4	LOS A	0.1	1.7	0.56	0.44	0.56	33.6
12	R2	1	3.0	1	3.0	0.017	5.4	LOS A	0.1	1.7	0.56	0.44	0.56	28.9
Approach		11	3.0	12	3.0	0.017	5.4	LOS A	0.1	1.7	0.56	0.44	0.56	32.7
All Vehicles		1052	3.0	1143	3.0	0.488	7.2	LOS A	3.3	84.5	0.39	0.26	0.39	25.3

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 Sign Control.
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: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 104 [Bay/Hill (Site Folder: 2024 Existing PM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Bay Ave														
3	L2	46	3.0	50	3.0	0.419	8.5	LOS A	2.3	59.1	0.57	0.48	0.57	32.0
8	T1	307	3.0	334	3.0	0.419	8.5	LOS A	2.3	59.1	0.57	0.48	0.57	23.9
18	R2	21	3.0	23	3.0	0.419	8.5	LOS A	2.3	59.1	0.57	0.48	0.57	31.4
Approach		374	3.0	407	3.0	0.419	8.5	LOS A	2.3	59.1	0.57	0.48	0.57	25.7
East: Hill St														
1	L2	18	3.0	20	3.0	0.171	6.2	LOS A	0.7	18.4	0.55	0.50	0.55	33.0
6	T1	33	3.0	36	3.0	0.171	6.2	LOS A	0.7	18.4	0.55	0.50	0.55	33.1
16	R2	76	3.0	83	3.0	0.171	6.2	LOS A	0.7	18.4	0.55	0.50	0.55	25.8
Approach		127	3.0	138	3.0	0.171	6.2	LOS A	0.7	18.4	0.55	0.50	0.55	29.3
North: Bay Ave														
7	L2	146	3.0	159	3.0	0.634	11.2	LOS B	5.7	145.2	0.51	0.30	0.51	26.9
4	T1	505	3.0	549	3.0	0.634	11.2	LOS B	5.7	145.2	0.51	0.30	0.51	27.1
14	R2	49	3.0	53	3.0	0.634	11.2	LOS B	5.7	145.2	0.51	0.30	0.51	26.2
Approach		700	3.0	761	3.0	0.634	11.2	LOS B	5.7	145.2	0.51	0.30	0.51	27.0
West: Retail Dwy														
5	L2	92	3.0	100	3.0	0.385	11.3	LOS B	1.9	49.0	0.71	0.76	0.88	22.0
2	T1	45	3.0	49	3.0	0.385	11.3	LOS B	1.9	49.0	0.71	0.76	0.88	30.4
12	R2	84	3.0	91	3.0	0.385	11.3	LOS B	1.9	49.0	0.71	0.76	0.88	29.8
Approach		221	3.0	240	3.0	0.385	11.3	LOS B	1.9	49.0	0.71	0.76	0.88	27.1
All Vehicles		1422	3.0	1546	3.0	0.634	10.1	LOS B	5.7	145.2	0.56	0.44	0.59	26.9

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 Sign Control.
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: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 105 [Bay/Capitola (Site Folder: 2024 Existing PM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Bay Ave														
3	L2	29	3.0	32	3.0	0.260	5.9	LOS A	1.3	32.7	0.44	0.31	0.44	33.2
8	T1	200	3.0	217	3.0	0.260	5.9	LOS A	1.3	32.7	0.44	0.31	0.44	33.3
18	R2	23	3.0	25	3.0	0.260	5.9	LOS A	1.3	32.7	0.44	0.31	0.44	32.6
Approach		252	3.0	274	3.0	0.260	5.9	LOS A	1.3	32.7	0.44	0.31	0.44	33.3
East: Capitola Ave														
1	L2	61	3.0	66	3.0	0.188	5.6	LOS A	0.8	21.3	0.48	0.38	0.48	32.8
6	T1	72	3.0	78	3.0	0.188	5.6	LOS A	0.8	21.3	0.48	0.38	0.48	33.0
16	R2	31	3.0	34	3.0	0.188	5.6	LOS A	0.8	21.3	0.48	0.38	0.48	32.3
Approach		164	3.0	178	3.0	0.188	5.6	LOS A	0.8	21.3	0.48	0.38	0.48	32.8
North: Bay Ave														
7	L2	56	3.0	61	3.0	0.505	9.0	LOS A	3.4	86.4	0.51	0.36	0.51	31.8
4	T1	337	3.0	366	3.0	0.505	9.0	LOS A	3.4	86.4	0.51	0.36	0.51	31.9
14	R2	124	3.0	135	3.0	0.505	9.0	LOS A	3.4	86.4	0.51	0.36	0.51	31.2
Approach		517	3.0	562	3.0	0.505	9.0	LOS A	3.4	86.4	0.51	0.36	0.51	31.7
West: Capitola Ave														
5	L2	72	3.0	78	3.0	0.223	6.9	LOS A	1.0	24.7	0.58	0.54	0.58	32.1
2	T1	84	3.0	91	3.0	0.223	6.9	LOS A	1.0	24.7	0.58	0.54	0.58	32.2
12	R2	8	3.0	9	3.0	0.223	6.9	LOS A	1.0	24.7	0.58	0.54	0.58	31.5
Approach		164	3.0	178	3.0	0.223	6.9	LOS A	1.0	24.7	0.58	0.54	0.58	32.1
All Vehicles		1097	3.0	1192	3.0	0.505	7.5	LOS A	3.4	86.4	0.50	0.38	0.50	32.3

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 Sign Control.
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: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 106 [Bay/Monterey (Site Folder: 2024 Existing PM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Monterey Ave														
8	T1	124	3.0	135	3.0	0.240	6.2	LOS A	1.1	28.4	0.50	0.41	0.50	30.8
18	R2	85	3.0	92	3.0	0.240	6.2	LOS A	1.1	28.4	0.50	0.41	0.50	29.7
Approach		209	3.0	227	3.0	0.240	6.2	LOS A	1.1	28.4	0.50	0.41	0.50	30.4
East: Monterey Ave														
1	L2	35	3.0	38	3.0	0.130	4.2	LOS A	0.6	14.9	0.30	0.16	0.30	28.8
16	R2	104	3.0	113	3.0	0.130	4.2	LOS A	0.6	14.9	0.30	0.16	0.30	33.2
Approach		139	3.0	151	3.0	0.130	4.2	LOS A	0.6	14.9	0.30	0.16	0.30	32.4
North: Bay Ave														
7	L2	304	3.0	330	3.0	0.376	6.3	LOS A	2.3	60.0	0.20	0.07	0.20	31.9
4	T1	141	3.0	153	3.0	0.376	6.3	LOS A	2.3	60.0	0.20	0.07	0.20	27.2
Approach		445	3.0	484	3.0	0.376	6.3	LOS A	2.3	60.0	0.20	0.07	0.20	30.7
All Vehicles		793	3.0	862	3.0	0.376	5.9	LOS A	2.3	60.0	0.29	0.18	0.29	31.0

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 Sign Control.
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: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 107 [Monterey/Park (Site Folder: 2024 Existing PM)]

Alt 3 Roundabout
Site Category: Base Year
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Monterey Ave														
3	L2	1	3.0	1	3.0	0.604	10.5	LOS B	5.1	129.9	0.49	0.29	0.49	27.7
8	T1	165	3.0	179	3.0	0.604	10.5	LOS B	5.1	129.9	0.49	0.29	0.49	10.6
18	R2	498	3.0	541	3.0	0.604	10.5	LOS B	5.1	129.9	0.49	0.29	0.49	27.0
Approach		664	3.0	722	3.0	0.604	10.5	LOS B	5.1	129.9	0.49	0.29	0.49	24.2
East: Park Ave														
1	L2	203	3.0	221	3.0	0.242	5.5	LOS A	1.2	30.3	0.39	0.26	0.39	26.7
6	T1	3	3.0	3	3.0	0.242	5.5	LOS A	1.2	30.3	0.39	0.26	0.39	32.1
16	R2	39	3.0	42	3.0	0.242	5.5	LOS A	1.2	30.3	0.39	0.26	0.39	27.0
Approach		245	3.0	266	3.0	0.242	5.5	LOS A	1.2	30.3	0.39	0.26	0.39	26.8
North: Monterey Ave														
7	L2	92	3.0	100	3.0	0.181	5.1	LOS A	0.8	21.1	0.40	0.28	0.40	29.9
4	T1	83	3.0	90	3.0	0.181	5.1	LOS A	0.8	21.1	0.40	0.28	0.40	16.9
14	R2	1	3.0	1	3.0	0.181	5.1	LOS A	0.8	21.1	0.40	0.28	0.40	29.1
Approach		176	3.0	191	3.0	0.181	5.1	LOS A	0.8	21.1	0.40	0.28	0.40	26.0
West: Parking Dwy														
5	L2	5	3.0	5	3.0	0.014	4.3	LOS A	0.1	1.4	0.47	0.31	0.47	25.1
2	T1	3	3.0	3	3.0	0.014	4.3	LOS A	0.1	1.4	0.47	0.31	0.47	33.5
12	R2	3	3.0	3	3.0	0.014	4.3	LOS A	0.1	1.4	0.47	0.31	0.47	28.6
Approach		11	3.0	12	3.0	0.014	4.3	LOS A	0.1	1.4	0.47	0.31	0.47	28.7
All Vehicles		1096	3.0	1191	3.0	0.604	8.5	LOS A	5.1	129.9	0.45	0.28	0.45	25.2

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 Sign Control.
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: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 104 [Bay/Hill (Site Folder: 2045 Cumulative AM)]

Alt 3 Roundabout
Site Category: Future Conditions 1
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Bay Ave														
3	L2	57	3.0	62	3.0	0.336	6.4	LOS A	1.9	47.5	0.39	0.24	0.39	32.9
8	T1	293	3.0	318	3.0	0.336	6.4	LOS A	1.9	47.5	0.39	0.24	0.39	24.8
18	R2	4	3.0	4	3.0	0.336	6.4	LOS A	1.9	47.5	0.39	0.24	0.39	32.3
Approach		354	3.0	385	3.0	0.336	6.4	LOS A	1.9	47.5	0.39	0.24	0.39	26.5
East: Hill St														
1	L2	13	3.0	14	3.0	0.139	5.6	LOS A	0.6	14.8	0.52	0.44	0.52	33.4
6	T1	28	3.0	30	3.0	0.139	5.6	LOS A	0.6	14.8	0.52	0.44	0.52	33.5
16	R2	68	3.0	74	3.0	0.139	5.6	LOS A	0.6	14.8	0.52	0.44	0.52	26.2
Approach		109	3.0	118	3.0	0.139	5.6	LOS A	0.6	14.8	0.52	0.44	0.52	29.5
North: Bay Ave														
7	L2	75	3.0	82	3.0	0.703	13.3	LOS B	7.2	185.3	0.59	0.35	0.59	26.0
4	T1	669	3.0	727	3.0	0.703	13.3	LOS B	7.2	185.3	0.59	0.35	0.59	26.1
14	R2	31	3.0	34	3.0	0.703	13.3	LOS B	7.2	185.3	0.59	0.35	0.59	25.3
Approach		775	3.0	842	3.0	0.703	13.3	LOS B	7.2	185.3	0.59	0.35	0.59	26.1
West: Retail Dwy														
5	L2	43	3.0	47	3.0	0.195	8.9	LOS A	0.8	19.3	0.66	0.66	0.66	22.9
2	T1	19	3.0	21	3.0	0.195	8.9	LOS A	0.8	19.3	0.66	0.66	0.66	31.4
12	R2	39	3.0	42	3.0	0.195	8.9	LOS A	0.8	19.3	0.66	0.66	0.66	30.7
Approach		101	3.0	110	3.0	0.195	8.9	LOS A	0.8	19.3	0.66	0.66	0.66	28.0
All Vehicles		1339	3.0	1455	3.0	0.703	10.5	LOS B	7.2	185.3	0.54	0.35	0.54	26.7

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 Sign Control.
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: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 105 [Bay/Capitola (Site Folder: 2045 Cumulative AM)]

Alt 3 Roundabout
Site Category: Future Conditions 1
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Bay Ave														
3	L2	27	3.0	29	3.0	0.410	7.9	LOS A	2.3	59.8	0.52	0.39	0.52	32.3
8	T1	312	3.0	339	3.0	0.410	7.9	LOS A	2.3	59.8	0.52	0.39	0.52	32.5
18	R2	55	3.0	60	3.0	0.410	7.9	LOS A	2.3	59.8	0.52	0.39	0.52	31.8
Approach		394	3.0	428	3.0	0.410	7.9	LOS A	2.3	59.8	0.52	0.39	0.52	32.4
East: Capitola Ave														
1	L2	83	3.0	90	3.0	0.286	7.5	LOS A	1.3	33.5	0.59	0.54	0.59	31.9
6	T1	94	3.0	102	3.0	0.286	7.5	LOS A	1.3	33.5	0.59	0.54	0.59	32.1
16	R2	42	3.0	46	3.0	0.286	7.5	LOS A	1.3	33.5	0.59	0.54	0.59	31.4
Approach		219	3.0	238	3.0	0.286	7.5	LOS A	1.3	33.5	0.59	0.54	0.59	31.9
North: Bay Ave														
7	L2	74	3.0	80	3.0	0.394	7.6	LOS A	2.2	57.0	0.49	0.36	0.49	32.3
4	T1	183	3.0	199	3.0	0.394	7.6	LOS A	2.2	57.0	0.49	0.36	0.49	32.4
14	R2	128	3.0	139	3.0	0.394	7.6	LOS A	2.2	57.0	0.49	0.36	0.49	31.7
Approach		385	3.0	418	3.0	0.394	7.6	LOS A	2.2	57.0	0.49	0.36	0.49	32.1
West: Capitola Ave														
5	L2	78	3.0	85	3.0	0.181	5.7	LOS A	0.8	20.2	0.50	0.41	0.50	32.5
2	T1	67	3.0	73	3.0	0.181	5.7	LOS A	0.8	20.2	0.50	0.41	0.50	32.6
12	R2	6	3.0	7	3.0	0.181	5.7	LOS A	0.8	20.2	0.50	0.41	0.50	31.9
Approach		151	3.0	164	3.0	0.181	5.7	LOS A	0.8	20.2	0.50	0.41	0.50	32.5
All Vehicles		1149	3.0	1249	3.0	0.410	7.4	LOS A	2.3	59.8	0.52	0.41	0.52	32.2

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 Sign Control.
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: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 106 [Bay/Monterey (Site Folder: 2045 Cumulative AM)]

Alt 3 Roundabout
Site Category: Future Conditions 1
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Monterey Ave														
8	T1	162	3.0	176	3.0	0.232	5.7	LOS A	1.1	28.3	0.43	0.31	0.43	31.2
18	R2	61	3.0	66	3.0	0.232	5.7	LOS A	1.1	28.3	0.43	0.31	0.43	30.1
Approach		223	3.0	242	3.0	0.232	5.7	LOS A	1.1	28.3	0.43	0.31	0.43	30.9
East: Monterey Ave														
1	L2	87	3.0	95	3.0	0.360	6.8	LOS A	2.0	51.5	0.43	0.29	0.43	27.2
16	R2	282	3.0	307	3.0	0.360	6.8	LOS A	2.0	51.5	0.43	0.29	0.43	32.0
Approach		369	3.0	401	3.0	0.360	6.8	LOS A	2.0	51.5	0.43	0.29	0.43	31.1
North: Bay Ave														
7	L2	219	3.0	238	3.0	0.410	7.1	LOS A	2.6	66.0	0.34	0.18	0.34	31.9
4	T1	239	3.0	260	3.0	0.410	7.1	LOS A	2.6	66.0	0.34	0.18	0.34	27.2
Approach		458	3.0	498	3.0	0.410	7.1	LOS A	2.6	66.0	0.34	0.18	0.34	29.9
All Vehicles		1050	3.0	1141	3.0	0.410	6.7	LOS A	2.6	66.0	0.39	0.25	0.39	30.6

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 Sign Control.
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: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 107 [Monterey/Park (Site Folder: 2045 Cumulative AM)]

Alt 3 Roundabout
Site Category: Future Conditions 1
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Monterey Ave														
3	L2	1	3.0	1	3.0	0.374	7.3	LOS A	2.1	52.6	0.49	0.36	0.49	29.8
8	T1	123	3.0	134	3.0	0.374	7.3	LOS A	2.1	52.6	0.49	0.36	0.49	12.0
18	R2	238	3.0	259	3.0	0.374	7.3	LOS A	2.1	52.6	0.49	0.36	0.49	29.0
Approach		362	3.0	393	3.0	0.374	7.3	LOS A	2.1	52.6	0.49	0.36	0.49	25.0
East: Park Ave														
1	L2	418	3.0	454	3.0	0.488	8.4	LOS A	3.3	84.5	0.45	0.28	0.45	25.2
6	T1	3	3.0	3	3.0	0.488	8.4	LOS A	3.3	84.5	0.45	0.28	0.45	30.9
16	R2	100	3.0	109	3.0	0.488	8.4	LOS A	3.3	84.5	0.45	0.28	0.45	25.5
Approach		521	3.0	566	3.0	0.488	8.4	LOS A	3.3	84.5	0.45	0.28	0.45	25.3
North: Monterey Ave														
7	L2	201	3.0	218	3.0	0.428	9.7	LOS A	2.5	63.3	0.66	0.67	0.76	26.8
4	T1	121	3.0	132	3.0	0.428	9.7	LOS A	2.5	63.3	0.66	0.67	0.76	13.7
14	R2	4	3.0	4	3.0	0.428	9.7	LOS A	2.5	63.3	0.66	0.67	0.76	26.2
Approach		326	3.0	354	3.0	0.428	9.7	LOS A	2.5	63.3	0.66	0.67	0.76	23.7
West: Parking Dwy														
5	L2	1	3.0	1	3.0	0.021	6.5	LOS A	0.1	1.9	0.61	0.52	0.61	24.7
2	T1	9	3.0	10	3.0	0.021	6.5	LOS A	0.1	1.9	0.61	0.52	0.61	33.1
12	R2	1	3.0	1	3.0	0.021	6.5	LOS A	0.1	1.9	0.61	0.52	0.61	28.2
Approach		11	3.0	12	3.0	0.021	6.5	LOS A	0.1	1.9	0.61	0.52	0.61	32.2
All Vehicles		1220	3.0	1326	3.0	0.488	8.4	LOS A	3.3	84.5	0.52	0.41	0.55	24.9

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 Sign Control.
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: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 104 [Bay/Hill (Site Folder: 2045 Cumulative PM)]

Alt 3 Roundabout
Site Category: Future Conditions 1
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Bay Ave														
3	L2	46	3.0	50	3.0	0.893	29.6	LOS D	28.3	725.6	1.00	1.60	2.56	24.6
8	T1	717	3.0	779	3.0	0.893	29.6	LOS D	28.3	725.6	1.00	1.60	2.56	17.1
18	R2	34	3.0	37	3.0	0.893	29.6	LOS D	28.3	725.6	1.00	1.60	2.56	24.3
Approach		797	3.0	866	3.0	0.893	29.6	LOS D	28.3	725.6	1.00	1.60	2.56	18.0
East: Hill St														
1	L2	22	3.0	24	3.0	0.532	17.6	LOS C	3.0	77.9	0.79	0.93	1.26	28.3
6	T1	33	3.0	36	3.0	0.532	17.6	LOS C	3.0	77.9	0.79	0.93	1.26	28.4
16	R2	192	3.0	209	3.0	0.532	17.6	LOS C	3.0	77.9	0.79	0.93	1.26	20.9
Approach		247	3.0	268	3.0	0.532	17.6	LOS C	3.0	77.9	0.79	0.93	1.26	22.9
North: Bay Ave														
7	L2	146	3.0	159	3.0	0.755	15.4	LOS C	8.7	223.1	0.68	0.41	0.68	24.7
4	T1	634	3.0	689	3.0	0.755	15.4	LOS C	8.7	223.1	0.68	0.41	0.68	24.9
14	R2	49	3.0	53	3.0	0.755	15.4	LOS C	8.7	223.1	0.68	0.41	0.68	24.2
Approach		829	3.0	901	3.0	0.755	15.4	LOS C	8.7	223.1	0.68	0.41	0.68	24.8
West: Retail Dwy														
5	L2	92	3.0	100	3.0	0.448	14.3	LOS B	2.3	59.8	0.75	0.85	1.07	20.9
2	T1	45	3.0	49	3.0	0.448	14.3	LOS B	2.3	59.8	0.75	0.85	1.07	29.2
12	R2	84	3.0	91	3.0	0.448	14.3	LOS B	2.3	59.8	0.75	0.85	1.07	28.6
Approach		221	3.0	240	3.0	0.448	14.3	LOS B	2.3	59.8	0.75	0.85	1.07	26.0
All Vehicles		2094	3.0	2276	3.0	0.893	21.0	LOS C	28.3	725.6	0.82	0.97	1.50	21.7

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 Sign Control.
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: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 105 [Bay/Capitola (Site Folder: 2045 Cumulative PM)]

Alt 3 Roundabout
Site Category: Future Conditions 1
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Bay Ave														
3	L2	29	3.0	32	3.0	0.293	6.9	LOS A	1.4	36.1	0.53	0.45	0.53	32.7
8	T1	200	3.0	217	3.0	0.293	6.9	LOS A	1.4	36.1	0.53	0.45	0.53	32.9
18	R2	23	3.0	25	3.0	0.293	6.9	LOS A	1.4	36.1	0.53	0.45	0.53	32.2
Approach		252	3.0	274	3.0	0.293	6.9	LOS A	1.4	36.1	0.53	0.45	0.53	32.8
East: Capitola Ave														
1	L2	17	3.0	18	3.0	0.203	6.5	LOS A	0.9	22.4	0.55	0.50	0.55	33.0
6	T1	65	3.0	71	3.0	0.203	6.5	LOS A	0.9	22.4	0.55	0.50	0.55	33.1
16	R2	73	3.0	79	3.0	0.203	6.5	LOS A	0.9	22.4	0.55	0.50	0.55	32.4
Approach		155	3.0	168	3.0	0.203	6.5	LOS A	0.9	22.4	0.55	0.50	0.55	32.7
North: Bay Ave														
7	L2	61	3.0	66	3.0	0.524	9.0	LOS A	3.8	97.2	0.45	0.27	0.45	31.8
4	T1	337	3.0	366	3.0	0.524	9.0	LOS A	3.8	97.2	0.45	0.27	0.45	31.9
14	R2	171	3.0	186	3.0	0.524	9.0	LOS A	3.8	97.2	0.45	0.27	0.45	31.2
Approach		569	3.0	618	3.0	0.524	9.0	LOS A	3.8	97.2	0.45	0.27	0.45	31.7
West: Capitola Ave														
5	L2	190	3.0	207	3.0	0.340	8.2	LOS A	1.6	41.6	0.61	0.57	0.61	31.0
2	T1	63	3.0	68	3.0	0.340	8.2	LOS A	1.6	41.6	0.61	0.57	0.61	31.1
12	R2	8	3.0	9	3.0	0.340	8.2	LOS A	1.6	41.6	0.61	0.57	0.61	30.5
Approach		261	3.0	284	3.0	0.340	8.2	LOS A	1.6	41.6	0.61	0.57	0.61	31.0
All Vehicles		1237	3.0	1345	3.0	0.524	8.1	LOS A	3.8	97.2	0.51	0.40	0.51	31.9

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 Sign Control.
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: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 106 [Bay/Monterey (Site Folder: 2045 Cumulative PM)]

Alt 3 Roundabout
Site Category: Future Conditions 1
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Monterey Ave														
8	T1	305	3.0	332	3.0	0.448	9.1	LOS A	2.5	64.2	0.61	0.52	0.61	28.8
18	R2	85	3.0	92	3.0	0.448	9.1	LOS A	2.5	64.2	0.61	0.52	0.61	27.9
Approach		390	3.0	424	3.0	0.448	9.1	LOS A	2.5	64.2	0.61	0.52	0.61	28.6
East: Monterey Ave														
1	L2	35	3.0	38	3.0	0.160	5.3	LOS A	0.7	17.8	0.47	0.37	0.47	28.1
16	R2	104	3.0	113	3.0	0.160	5.3	LOS A	0.7	17.8	0.47	0.37	0.47	32.6
Approach		139	3.0	151	3.0	0.160	5.3	LOS A	0.7	17.8	0.47	0.37	0.47	31.8
North: Bay Ave														
7	L2	304	3.0	330	3.0	0.469	7.6	LOS A	3.4	86.4	0.23	0.09	0.23	31.6
4	T1	251	3.0	273	3.0	0.469	7.6	LOS A	3.4	86.4	0.23	0.09	0.23	26.8
Approach		555	3.0	603	3.0	0.469	7.6	LOS A	3.4	86.4	0.23	0.09	0.23	29.8
All Vehicles		1084	3.0	1178	3.0	0.469	7.8	LOS A	3.4	86.4	0.39	0.28	0.40	29.8

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 Sign Control.
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: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 107 [Monterey/Park (Site Folder: 2045 Cumulative PM)]

Alt 3 Roundabout
Site Category: Future Conditions 1
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Monterey Ave														
3	L2	1	3.0	1	3.0	0.792	18.9	LOS C	18.9	483.9	0.88	1.07	1.60	23.4
8	T1	148	3.0	161	3.0	0.792	18.9	LOS C	18.9	483.9	0.88	1.07	1.60	8.2
18	R2	619	3.0	673	3.0	0.792	18.9	LOS C	18.9	483.9	0.88	1.07	1.60	22.9
Approach		768	3.0	835	3.0	0.792	18.9	LOS C	18.9	483.9	0.88	1.07	1.60	20.8
East: Park Ave														
1	L2	203	3.0	221	3.0	0.428	7.7	LOS A	2.6	66.9	0.45	0.31	0.45	26.2
6	T1	3	3.0	3	3.0	0.428	7.7	LOS A	2.6	66.9	0.45	0.31	0.45	31.8
16	R2	237	3.0	258	3.0	0.428	7.7	LOS A	2.6	66.9	0.45	0.31	0.45	26.6
Approach		443	3.0	482	3.0	0.428	7.7	LOS A	2.6	66.9	0.45	0.31	0.45	26.5
North: Monterey Ave														
7	L2	202	3.0	220	3.0	0.294	6.3	LOS A	1.5	38.2	0.45	0.32	0.45	28.6
4	T1	83	3.0	90	3.0	0.294	6.3	LOS A	1.5	38.2	0.45	0.32	0.45	15.7
14	R2	1	3.0	1	3.0	0.294	6.3	LOS A	1.5	38.2	0.45	0.32	0.45	27.9
Approach		286	3.0	311	3.0	0.294	6.3	LOS A	1.5	38.2	0.45	0.32	0.45	26.4
West: Parking Dwy														
5	L2	5	3.0	5	3.0	0.016	4.8	LOS A	0.1	1.5	0.52	0.38	0.52	24.8
2	T1	3	3.0	3	3.0	0.016	4.8	LOS A	0.1	1.5	0.52	0.38	0.52	33.2
12	R2	3	3.0	3	3.0	0.016	4.8	LOS A	0.1	1.5	0.52	0.38	0.52	28.3
Approach		11	3.0	12	3.0	0.016	4.8	LOS A	0.1	1.5	0.52	0.38	0.52	28.4
All Vehicles		1508	3.0	1639	3.0	0.792	13.1	LOS B	18.9	483.9	0.67	0.70	1.04	23.4

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 Sign Control.
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: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Bay Avenue Corridor Improvement Project

Existing 2024 VISSIM Results: Bay Ave Peak Hour Intersection Results

No.	Intersection	Movement	Alternative 1 AM AWSC							Alternative 2 AM RAB						
			Volume (vph)			Avg. Delay (sec)	LOS	Avg. Queue (ft)	Max. Queue (ft)	Volume (vph)			Avg. Delay (sec)	LOS	Avg. Queue (ft)	Max. Queue (ft)
			Count	Served						Count	Served					
1	Bay Ave & Hwy 1 NB Ramps	NBL	369	377	2%	17.0	B	33	220	369	379	3%	17.9	B	35	218
		NBT	516	518	0%	0.9	A	33	219	516	518	0%	1.0	A	35	218
		SBT	431	435	1%	13.0	B	41	258	431	435	1%	13.0	B	41	264
		SBR	478	478	0%	13.3	B	43	262	478	478	0%	13.2	B	43	268
		WBL	59	59	0%	27.8	C	8	72	59	59	0%	27.9	C	8	72
		WBT	12	13	8%	28.1	C	4	82	12	13	8%	28.1	C	4	84
		WBR	107	108	1%	8.0	A	5	82	107	108	1%	7.9	A	5	84
		Overall	**1972**	**1988**	**1%**	**10.9**	**B**			**1972**	**1990**	**1%**	**11.1**	**B**		
2	Bay Ave & Hwy 1 SB Ramps	NBT	572	585	2%	17.4	B	45	252	572	586	2%	18.1	B	47	259
		NBR	111	112	1%	7.4	A	46	255	111	113	2%	8.0	A	48	262
		SBL	176	178	1%	34.6	C	36	170	176	177	1%	34.4	C	36	156
		SBT	314	317	1%	8.9	A	36	171	314	316	1%	8.8	A	36	157
		EBL	313	312	0%	26.4	C	29	139	313	311	-1%	26.7	C	29	135
		EBT	0	0	-	0.0	A	29	139	0	0	-	0.0	A	29	135
		EBR	296	300	1%	10.4	B	29	139	296	299	1%	10.4	B	29	135
		Overall	**1782**	**1804**	**1%**	**17.4**	**B**			**1782**	**1802**	**1%**	**17.7**	**B**		
3	Bay Ave & Crossroads Loop	NBL	1	1	0%	6.5	A	0	26	1	1	0%	3.5	A	0	23
		NBT	616	625	1%	0.1	A	0	14	616	625	1%	0.2	A	0	7
		NBR	9	8	-11%	0.8	A	0	10	9	8	-11%	1.0	A	0	10
		SBL	39	39	0%	5.7	A	1	36	39	39	0%	5.9	A	1	40
		SBT	462	469	2%	2.8	A	5	164	462	469	2%	0.9	A	0	35
		SBR	109	109	0%	1.2	A	4	162	109	109	0%	1.2	A	0	71
		EBL	53	55	4%	11.1	B	0	41	53	55	4%	12.6	B	0	42
		EBT	0	0	-	0.0	A	0	41	0	0	-	0.0	A	0	42
		EBR	21	23	10%	9.3	A	0	27	21	23	10%	8.4	A	0	27
		WBL	0	0	-	0.0	A	0	33	0	0	-	0.0	A	0	34
		WBT	1	1	0%	15.5	C	0	33	1	1	0%	23.9	C	0	34
		WBR	14	17	21%	8.0	A	0	33	14	17	21%	8.0	A	0	34
		Overall	**1325**	**1347**	**2%**	**15.5**	**C**			**1325**	**1347**	**2%**	**23.9**	**C**		
4	Bay Ave & Hill St	NBL	57	59	4%	9.4	A	1	45	57	59	4%	2.1	A	4	148
		NBT	441	446	1%	18.5	C	51	252	441	446	1%	2.2	A	4	148
		NBR	10	10	0%	19.0	C	47	252	10	10	0%	1.8	A	4	148
		SBL	75	77	3%	8.9	A	2	83	75	77	3%	1.9	A	3	189
		SBT	377	383	2%	15.9	C	36	216	377	383	2%	2.2	A	3	189
		SBR	31	31	0%	14.8	B	34	216	31	31	0%	1.8	A	3	189
		EBL	43	43	0%	10.2	B	2	61	43	43	0%	5.6	A	1	58
		EBT	19	20	5%	12.2	B	1	62	19	20	5%	5.0	A	1	58
		EBR	39	40	3%	9.5	A	1	62	39	40	3%	7.0	A	1	58
		WBL	9	9	0%	13.2	B	3	95	9	9	0%	9.4	A	6	130
		WBT	28	27	-4%	12.9	B	3	95	28	27	-4%	8.4	A	6	130
		WBR	142	145	2%	11.0	B	5	95	142	145	2%	8.4	A	6	130
		Overall	**1271**	**1290**	**1%**	**15.0**	**B**			**1271**	**1290**	**1%**	**9.4**	**A**		
5	Bay Ave & Capitola Ave	NBL	27	27	0%	8.8	A	1	38	27	27	0%	2.7	A	1	62
		NBT	312	311	0%	14.7	B	25	174	312	311	0%	2.9	A	1	62
		NBR	55	56	2%	12.2	B	22	173	55	56	2%	2.6	A	1	62
		SBL	74	78	5%	9.3	A	5	95	74	78	5%	2.6	A	3	167
		SBT	183	179	-2%	9.3	A	6	95	183	180	-2%	2.7	A	3	167
		SBR	128	134	5%	6.3	A	2	68	128	134	5%	2.3	A	3	167
		EBL	70	69	-1%	11.7	B	3	65	70	69	-1%	3.9	A	1	71
		EBT	67	69	3%	11.7	B	3	65	67	69	3%	3.7	A	1	71
		EBR	6	6	0%	8.0	A	0	28	6	6	0%	2.7	A	0	28
		WBL	83	83	0%	13.0	B	7	105	83	82	-1%	4.2	A	2	94
		WBT	94	96	2%	13.9	B	7	105	94	96	2%	4.1	A	2	94
		WBR	42	45	7%	10.9	B	4	97	42	45	7%	3.2	A	0	70
		Overall	**1141**	**1153**	**1%**	**11.5**	**B**			**1141**	**1153**	**1%**	**4.2**	**A**		
6	Bay Ave & Monterey Ave	NBT	162	160	-1%	8.8	A	4	61	162	160	-1%	9.0	A	4	67
		NBR	61	63	3%	2.2	A	3	61	61	64	5%	2.4	A	3	67
		SBL	219	222	1%	11.6	B	16	151	219	223	2%	13.4	B	21	194
		SBT	84	82	-2%	11.9	B	15	151	84	82	-2%	13.9	B	20	194
		WBL	87	85	-2%	21.3	C	36	236	87	85	-2%	20.6	C	35	220
		WBR	282	287	2%	18.1	C	37	236	282	286	1%	17.7	C	36	220
		Overall	**895**	**899**	**0%**	**13.5**	**B**			**895**	**900**	**1%**	**13.9**	**B**		
7	Monterey Ave & Park Ave	NBL	1	1	0%	9.0	A	1	62	1	1	0%	8.0	A	1	68
		NBT	123	127	3%	10.2	B	3	61	123	127	3%	10.1	B	3	68
		NBR	225	221	-2%	8.5	A	7	154	225	221	-2%	8.6	A	7	156
		SBL	41	41	0%	8.6	A	3	74	41	41	0%	8.4	A	3	78
		SBT	126	123	-2%	8.7	A	4	71	126	123	-2%	8.5	A	4	81
		SBR	4	3	-25%	5.2	A	0	18	4	3	-25%	5.3	A	0	18
		EBL	0	0	-	0.0	A	0	10	0	0	-	0.0	A	0	10
		EBT	9	11	22%	12.4	B	0	26	9	11	22%	12.2	B	0	26
		EBR	1	1	0%	8.7	A	0	8	1	1	0%	8.3	A	0	8
		WBL	418	426	2%	60.6	F	222	518	418	426	2%	56.7	F	207	472
		WBT	3	4	33%	61.5	F	222	518	3	4	33%	59.8	F	206	472
		WBR	100	97	-3%	58.5	F	222	518	100	97	-3%	54.3	F	206	472
		Overall	**1051**	**1055**	**0%**	**34.6**	**D**			**1051**	**1055**	**0%**	**32.6**	**D**		

No.	Intersection	Movement	Alternative 1 PM AWSC							Alternative 2 PM RAB						
			Volume (vph)			Avg. Delay (sec)	LOS	Avg. Queue (ft)	Max. Queue (ft)	Volume (vph)			Avg. Delay (sec)	LOS	Avg. Queue (ft)	Max. Queue (ft)
			Count	Served						Count	Served					
1	Bay Ave & Hwy 1 NB Ramps	NBL	290	291	0%	18.6	B	28	184	290	290	0%	18.7	B	29	200
		NBT	401	407	1%	0.9	A	28	184	401	408	2%	1.0	A	29	200
		SBT	642	646	1%	14.3	B	40	255	642	646	1%	14.2	B	40	252
		SBR	316	315	0%	10.3	B	39	259	316	315	0%	10.1	B	39	256
		WBL	107	108	1%	28.4	C	15	110	107	108	1%	28.1	C	15	108
		WBT	1	1	0%	26.1	C	4	103	1	1	0%	26.5	C	4	97
		WBR	195	197	1%	7.3	A	5	103	195	197	1%	7.3	A	5	97
		Overall	**1952**	**1965**	**1%**	**11.6**	**B**			**1952**	**1965**	**1%**	**11.5**	**B**		
2	Bay Ave & Hwy 1 SB Ramps	NBT	457	458	0%	18.0	B	36	201	457	457	0%	17.9	B	35	204
		NBR	91	89	-2%	8.1	A	38	203	91	89	-2%	8.1	A	37	207
		SBL	276	274	-1%	35.2	D	60	251	276	274	-1%	34.9	C	58	259
		SBT	473	480	1%	13.6	B	60	250	473	480	1%	9.7	A	59	259
		EBL	234	239	2%	40.6	D	140	704	234	240	3%	29.7	C	66	385
		EBT	208	206	-1%	55.6	E	140	704	208	208	0%	40.7	D	66	385
		EBR	347	341	-2%	30.0	C	140	704	347	345	-1%	17.7	B	66	385
		Overall	**2086**	**2087**	**0%**	**27.1**	**C**			**2086**	**2093**	**0%**	**21.4**	**C**		
3	Bay Ave & Crossroads Loop	NBL	4	3	-25%	16.5	C	1	57	4	4	0%	13.4	B	0	60
		NBT	462	457	-1%	0.1	A	0	5	462	457	-1%	0.2	A	0	0
		NBR	9	8	-11%	0.8	A	0	6	9	8	-11%	0.9	A	0	3
		SBL	50	49	-2%	69.6	F	23	234	50	50	0%	4.4	A	1	40
		SBT	658	654	-1%	79.6	F	289	547	658	665	1%	1.8	A	2	124
		SBR	112	108	-4%	58.2	F	288	545	112	110	-2%	1.4	A	2	121
		EBL	49	51	4%	11.3	B	1	43	49	51	4%	17.2	C	1	45
		EBT	2	2	0%	13.8	B	1	43	2	2	0%	19.7	C	1	45
		EBR	38	37	-3%	9.9	A	0	35	38	37	-3%	12.1	B	0	43
		WBL	4	3	-25%	41.2	E	2	48	4	4	0%	17.2	C	1	44
		WBT	1	1	0%	17.8	C	2	48	1	1	0%	20.9	C	1	44
		WBR	37	37	0%	8.1	A	2	48	37	37	0%	7.8	A	1	43
		Overall	**1426**	**1410**	**-1%**	**79.6**	**F**			**1426**	**1426**	**0%**	**20.9**	**C**		
4	Bay Ave & Hill St	NBL	46	50	9%	7.2	A	1	44	46	49	7%	3.2	A	6	150
		NBT	307	302	-2%	10.5	B	13	129	307	302	-2%	3.5	A	6	150
		NBR	21	20	-5%	9.3	A	9	129	21	21	0%	3.1	A	6	150
		SBL	146	148	1%	17.1	C	7	210	146	150	3%	2.7	A	8	203
		SBT	505	498	-1%	29.6	D	121	228	505	505	0%	2.8	A	8	203
		SBR	49	48	-2%	27.7	D	120	228	49	49	0%	2.4	A	8	203
		EBL	92	92	0%	12.1	B	7	102	92	92	0%	10.3	B	9	143
		EBT	45	44	-2%	14.4	B	6	102	45	44	-2%	10.1	B	9	143
		EBR	84	86	2%	11.4	B	7	102	84	86	2%	12.4	B	9	143
		WBL	18	17	-6%	10.9	B	2	66	18	18	0%	6.6	A	2	83
		WBT	33	34	3%	12.1	B	2	66	33	34	3%	5.3	A	2	83
		WBR	76	75	-1%	10.4	B	2	66	76	75	-1%	6.0	A	2	83
		Overall	**1422**	**1414**	**-1%**	**18.7**	**C**			**1422**	**1425**	**0%**	**12.4**	**B**		
5	Bay Ave & Capitola Ave	NBL	29	30	3%	8.7	A	1	39	29	30	3%	2.3	A	0	36
		NBT	200	196	-2%	9.5	A	6	84	200	196	-2%	2.1	A	0	36
		NBR	23	24	4%	7.5	A	4	84	23	24	4%	2.4	A	0	36
		SBL	56	56	0%	11.1	B	14	166	56	56	0%	2.3	A	4	168
		SBT	337	333	-1%	11.8	B	18	166	337	337	0%	2.4	A	4	168
		SBR	124	126	2%	6.6	A	2	53	124	129	4%	2.5	A	4	168
		EBL	72	72	0%	12.2	B	4	80	72	72	0%	4.2	A	2	92
		EBT	84	88	5%	12.2	B	4	80	84	88	5%	4.4	A	2	92
		EBR	8	8	0%	8.2	A	0	22	8	8	0%	2.4	A	0	19
		WBL	61	60	-2%	11.9	B	4	89	61	60	-2%	2.9	A	1	68
		WBT	72	77	7%	12.6	B	4	89	72	77	7%	2.7	A	1	68
		WBR	31	31	0%	9.4	A	2	81	31	31	0%	2.5	A	0	52
		Overall	**1097**	**1101**	**0%**	**10.6**	**B**			**1097**	**1108**	**1%**	**4.4**	**A**		
6	Bay Ave & Monterey Ave	NBT	124	123	-1%	8.2	A	2	58	124	123	-1%	8.2	A	2	54
		NBR	85	85	0%	1.6	A	2	58	85	85	0%	1.6	A	2	54
		SBL	304	303	0%	24.2	C	68	270	304	305	0%	34.4	D	104	385
		SBT	141	141	0%	25.0	C	67	270	141	141	0%	35.0	E	104	385
		WBL	35	36	3%	11.5	B	3	71	35	36	3%	11.4	B	3	73
		WBR	104	102	-2%	9.0	A	4	71	104	102	-2%	9.0	A	4	73
		Overall	**793**	**790**	**0%**	**16.8**	**C**			**793**	**792**	**0%**	**22.6**	**C**		
7	Monterey Ave & Park Ave	NBL	1	1	0%	25.5	D	9	252	1	1	0%	23.9	C	16	280
		NBT	165	167	1%	32.6	D	11	252	165	167	1%	33.1	D	18	279
		NBR	498	503	1%	40.7	E	183	609	498	504	1%	41.8	E	186	626
		SBL	92	93	1%	9.2	A	4	84	92	93	1%	9.4	A	5	98
		SBT	83	83	0%	8.9	A	3	84	83	84	1%	9.3	A	4	97
		SBR	1	1	0%	5.3	A	0	13	1	1	0%	7.0	A	0	15
		EBL	5	5	0%	9.4	A	0	26	5	5	0%	9.4	A	0	28
		EBT	3	4	33%	12.3	B	0	28	3	4	33%	12.6	B	0	30
		EBR	3	3	0%	8.1	A	0	12	3	3	0%	8.2	A	0	15
		WBL	203	210	3%	10.2	B	9	114	203	210	3%	10.0	B	9	109
		WBT	3	2	-33%	12.4	B	7	114	3	2	-33%	13.1	B	7	109
		WBR	39	35	-10%	8.4	A	7	114	39	36	-8%	8.3	A	7	109
		Overall	**1096**	**1107**	**1%**	**27.2**	**D**			**1096**	**1110**	**1%**	**27.8**	**D**		

Bay Avenue Corridor Improvement Project

Existing 2024 VISSIM Results: Bay Ave AM Peak Hour Travel Time Summary

Scenario	Segment	Distance *(mi)*	Free Flow *Speed*	Simulation *Car*
NB - N. of Park Ave to S. of Highway 1 SB Ramps				
Alternative 1 AWSC	Average Travel Time (mins)	0.62	1.5	2.27
	Average Travel Speed (mph)		*25*	*16*
Alternative 2 Roundabout	Average Travel Time (mins)	0.62	1.5	1.91
	Average Travel Speed (mph)		*25*	*20*
SB - S. of Highway 1 SB Ramps to N. of Park Ave				
Alternative 1 AWSC	Average Travel Time (mins)	0.62	1.5	2.11
	Average Travel Speed (mph)		*25*	*18*
Alternative 2 Roundabout	Average Travel Time (mins)	0.63	1.5	1.89
	Average Travel Speed (mph)		*25*	*20*

Existing 2024 VISSIM Results: Bay Ave PM Peak Hour Travel Time Summary

Alternative	Segment	Distance *(mi)*	Free Flow *Speed*	Simulation *Car*
NB - N. of Park Ave to S. of Highway 1 SB Ramps				
Alternative 1 AWSC	Average Travel Time (mins)	0.62	1.5	2.01
	Average Travel Speed (mph)		*25*	*18*
Alternative 2 Roundabout	Average Travel Time (mins)	0.62	1.5	1.89
	Average Travel Speed (mph)		*25*	*20*
SB - S. of Highway 1 SB Ramps to N. of Park Ave				
Alternative 1 AWSC	Average Travel Time (mins)	0.62	1.5	3.87
	Average Travel Speed (mph)		*25*	*10*
Alternative 2 Roundabout	Average Travel Time (mins)	0.63	1.5	2.25
	Average Travel Speed (mph)		*25*	*17*

Bay Avenue Corridor Improvement Project

Existing 2024 VISSIM Results: Bay Ave Peak Hour Queueing Summary

No.	Intersection	Movement	AM Peak Hour									PM Peak Hour								
			Alternative 1 AWSC (VISSIM)			Alternative 2 Roundabout (VISSIM)			Alternative 3 Signal (Synchro)			Alternative 1 AWSC (VISSIM)			Alternative 2 Roundabout (VISSIM)			Alternative 3 Signal (Synchro)		
			Capacity (ft)	Avg Queue *(ft)*	Max Queue *(ft)*	Capacity (ft)	Avg Queue *(ft)*	Max Queue *(ft)*	Capacity (ft)	Avg Queue *(ft)*	Max Queue *(ft)*	Capacity (ft)	Avg Queue *(ft)*	Max Queue *(ft)*	Capacity (ft)	Avg Queue *(ft)*	Max Queue *(ft)*	Capacity (ft)	Avg Queue *(ft)*	Max Queue *(ft)*
1	Bay Ave & Hwy 1 NB Ramps	NBL	200	33	220	200	35	218	200	182	261	200	28	184	200	29	200	200	129	258
		NBT	200	33	219	200	35	218	200	23	68	200	28	184	200	29	200	200	25	70
		SBT	130	41	258	130	41	264	130	141	484	130	40	255	130	40	252	130	151	480
		SBR	130	43	262	130	43	268	130	252	496	130	39	259	130	39	256	130	262	496
		WBL	220	8	72	220	8	72	220	31	70	220	15	110	220	15	108	220	59	152
		WBT	730	4	82	730	4	84	730	40	173	730	4	103	730	4	97	730	40	86
		WBR	730	5	82	730	5	84	730	40	173	730	5	103	730	5	97	730	40	86
2	Bay Ave & Hwy 1 SB Ramps	NBT	450	45	252	450	47	259	450	105	228	450	36	201	450	35	204	450	76	156
		NBR	450	46	255	450	48	262	450	136	244	450	38	203	450	37	207	450	104	181
		SBL	200	36	170	200	36	156	200	74	116	200	60	251	200	58	259	200	111	218
		SBT	200	36	171	200	36	157	200	65	152	200	60	250	200	59	259	200	103	161
		EBL	200	29	139	200	29	135	200	130	175	200	140	704	200	66	385	200	138	175
		EBT	360	29	139	360	29	135	360	249	358	360	140	704	360	66	385	360	346	387
		EBR	360	29	139	360	29	135	360	249	358	360	140	704	360	66	385	360	346	387
3	Bay Ave & Crossroads Loop	NBL	60	0	26	60	0	23	60	0	16	60	1	57	60	0	60	60	3	29
		NBT	145	0	14	145	0	7	145	0	16	145	0	5	145	0	0	145	1	16
		NBR	145	0	10	145	0	10	145	0	16	145	0	6	145	0	3	145	1	16
		SBL	60	1	36	60	1	40	60	13	45	60	23	234	60	1	40	60	15	74
		SBT	450	5	164	450	0	35	450	6	45	450	289	547	450	2	124	450	24	172
		SBR	450	4	162	450	0	71	450	6	45	450	288	545	450	2	121	450	24	172
		EBL	80	0	41	80	0	42	80	30	73	80	1	43	80	1	45	80	29	72
		EBT	80	0	41	80	0	42	80	30	73	80	1	43	80	1	45	80	29	72
		EBR	80	0	27	80	0	27	80	13	26	80	0	35	80	0	43	80	20	48
		WBL	100	0	33	100	0	34	100	15	29	100	2	48	100	1	44	100	21	50
		WBT	100	0	33	100	0	34	100	15	29	100	2	48	100	1	44	100	21	50
		WBR	100	0	33	100	0	34	100	15	29	100	2	48	100	1	43	100	21	50
4	Bay Ave & Hill St	NBL	100	1	45	340	4	148	100	48	85	100	1	44	340	6	150	340	37	85
		NBT	340	51	252	340	4	148	340	106	226	340	13	129	340	6	150	340	89	208
		NBR	340	47	252	340	4	148	340	106	226	340	9	129	340	6	150	340	89	208
		SBL	100	2	83	160	3	189	100	47	80	100	7	210	160	8	203	160	64	80
		SBT	160	36	216	160	3	189	160	99	162	160	121	228	160	8	203	160	125	165
		SBR	160	34	216	160	3	189	160	99	162	160	120	228	160	8	203	160	125	165
		EBL	100	2	61	100	1	58	100	51	111	100	7	102	100	9	143	100	63	164
		EBT	100	1	62	100	1	58	100	51	111	100	6	102	100	9	143	100	63	164
		EBR	100	1	62	100	1	58	100	51	111	100	7	102	100	9	143	100	63	164
		WBL	340	3	95	340	6	130	340	51	115	340	2	66	340	2	83	340	37	71
		WBT	340	3	95	340	6	130	340	51	115	340	2	66	340	2	83	340	37	71
		WBR	340	5	95	340	6	130	340	51	115	340	2	66	340	2	83	340	37	71
5	Bay Ave & Capitola Ave	NBL	90	1	38	260	1	62	90	9	54	90	1	39	260	0	36	260	10	44
		NBT	220	25	174	260	1	62	220	51	150	220	6	84	260	0	36	260	18	68
		NBR	220	22	173	220	1	62	220	51	150	220	4	84	220	0	36	220	18	68
		SBL	230	5	95	170	3	167	230	59	220	230	14	166	170	4	168	170	73	173
		SBT	230	6	95	170	3	167	230	59	220	230	18	166	170	4	168	170	73	173
		SBR	130	2	68	170	3	167	130	21	95	130	2	53	170	4	168	170	17	95
		EBL	200	3	65	230	1	71	200	33	63	200	4	80	230	2	92	230	45	89
		EBT	200	3	65	230	1	71	200	33	63	200	4	80	230	2	92	230	45	89
		EBR	60	0	28	150	0	28	60	3	28	60	0	22	150	0	19	150	5	28
		WBL	180	7	105	180	2	94	180	64	227	180	4	89	180	1	68	180	39	89
		WBT	180	7	105	180	2	94	180	64	227	180	4	89	180	1	68	180	39	89
		WBR	180	4	97	180	0	70	180	64	227	180	2	81	180	0	52	180	39	89
6	Bay Ave & Monterey Ave	NBT	215	4	61	215	4	67	215	46	120	215	2	58	215	2	54	215	28	56
		NBR	215	3	61	215	3	67	215	46	120	215	2	58	215	2	54	215	28	56
		SBL	240	16	151	240	21	194	240	76	194	240	68	270	240	104	385	240	69	140
		SBT	240	15	151	240	20	194	240	76	194	240	67	270	240	104	385	240	69	140
		WBL	400	36	236	400	35	220	400	78	167	400	3	71	400	3	73	400	43	72
		WBR	400	37	236	400	36	220	400	78	167	400	4	71	400	4	73	400	43	72
7	Monterey Ave & Park Ave	NBL	90	1	62	90	1	68	90	69	188	90	9	252	90	16	280	90	93	194
		NBT	90	3	61	90	3	68	90	69	188	90	11	252	90	18	279	90	93	194
		NBR	180	7	154	180	7	156	180	69	188	180	183	609	180	186	626	180	93	194
		SBL	215	3	74	215	3	78	215	59	111	215	4	84	215	5	98	215	84	238
		SBT	215	4	71	215	4	81	215	59	111	215	3	84	215	4	97	215	84	238
		SBR	50	0	18	50	0	18	50	59	111	50	0	13	50	0	15	50	84	238
		EBL	250	0	10	250	0	10	250	9	28	250	0	26	250	0	28	250	9	28
		EBT	250	0	26	250	0	26	250	9	28	250	0	28	250	0	30	250	9	28
		EBR	250	0	8	250	0	8	250	9	28	250	0	12	250	0	15	250	9	28
		WBL	85	222	518	85	207	472	85	134	268	85	9	114	85	9	109	85	79	182
		WBT	85	222	518	85	206	472	85	134	268	85	7	114	85	7	109	85	79	182
		WBR	85	222	518	85	206	472	85	134	268	85	7	114	85	7	109	85	79	182

* Red = Queue exceeds capacity

Bay Avenue Corridor Improvement Project

Cumulative 2040 VISSIM Results: Bay Ave Peak Hour Intersection Results

No.	Intersection	Movement	Alternative 1 AM AWSC							Alternative 2 AM RAB							Alternative 1 PM AWSC							Alternative 2 PM RAB						
			Volume (vph)			Avg. Delay (sec)	LOS	Avg. Queue (ft)	Max. Queue (ft)	Volume (vph)			Avg. Delay (sec)	LOS	Avg. Queue (ft)	Max. Queue (ft)	Volume (vph)			Avg. Delay (sec)	LOS	Avg. Queue (ft)	Max. Queue (ft)	Volume (vph)			Avg. Delay (sec)	LOS	Avg. Queue (ft)	Max. Queue (ft)
			Count	Served						Count	Served						Count	Served						Count	Served					
1	Bay Ave & Hwy 1 NB Ramps	NBL	321	315	-2%	19.9	B	33	208	321	315	-2%	17.7	B	29	210	683	567	-17%	21.5	C	60	270	683	563	-18%	20.3	C	55	283
		NBT	392	307	-22%	1.3	A	33	207	392	398	2%	1.1	A	29	209	726	598	-18%	2.4	A	60	281	726	636	-12%	3.9	A	55	283
		SBT	436	436	0%	17.7	B	70	328	436	435	0%	17.1	B	69	325	644	648	1%	50.0	D	151	401	644	644	0%	49.4	D	146	419
		SBR	536	538	0%	19.4	B	73	333	536	538	0%	19.1	B	72	329	149	144	-3%	22.4	C	152	406	149	147	-1%	23.1	C	148	424
		WBL	161	165	2%	29.1	C	24	168	161	165	2%	27.7	C	22	159	77	81	5%	32.8	C	13	117	77	82	6%	33.8	C	13	112
		WBT	12	11	-8%	30.5	C	21	240	12	11	-8%	30.6	C	23	247	1	1	0%	31.2	C	30	238	1	1	0%	34.5	C	26	209
		WBR	379	376	-1%	12.1	B	22	240	379	376	-1%	12.6	B	24	247	406	396	-2%	14.1	B	31	238	406	394	-3%	14.2	B	27	210
		Overall	**2237**	**2148**	-4%	**16.1**	**B**			**2237**	**2238**	0%	**14.9**	**B**			**2686**	**2435**	-9%	**23.6**	**C**			**2686**	**2467**	-8%	**23.3**	**C**		
2	Bay Ave & Hwy 1 SB Ramps	NBT	465	460	-1%	18.5	B	37	219	465	460	-1%	16.7	B	34	215	992	770	-22%	47.6	D	171	480	992	769	-22%	92.9	F	302	518
		NBR	61	59	-3%	6.5	A	39	221	61	59	-3%	6.1	A	35	217	104	85	-18%	31.2	C	173	482	104	82	-21%	61.5	E	304	520
		SBL	251	251	0%	33.8	C	55	235	251	251	0%	33.9	C	49	224	370	369	0%	49.9	D	109	261	370	375	1%	50.9	D	119	285
		SBT	346	349	1%	21.8	C	56	236	346	349	1%	6.0	A	50	224	351	359	2%	18.9	B	109	261	351	349	-1%	14.8	B	119	285
		EBL	248	163	-34%	515.0	F	3156	3423	248	254	2%	26.3	C	30	153	417	394	-6%	139.8	F	1582	2743	417	430	3%	64.6	E	509	1664
		EBT	0	0	-	0.0	A	3156	3423	0	0	-	0.0	A	30	153	208	188	-10%	160.6	F	1582	2743	208	206	-1%	73.3	E	509	1664
		EBR	586	389	-34%	578.9	F	3156	3423	586	582	-1%	11.5	B	30	153	640	468	-27%	134.5	F	1582	2743	640	503	-21%	52.3	D	509	1664
		Overall	**1957**	**1671**	-15%	**200.0**	**F**			**1957**	**1955**	0%	**16.4**	**B**			**3082**	**2633**	-15%	**80.8**	**F**			**3082**	**2714**	-12%	**62.6**	**E**		
3	Bay Ave & Crossroads Loop	NBL	1	1	0%	11.3	B	0	22	1	1	0%	3.0	A	0	18	4	5	25%	8.7	A	0	58	4	5	25%	13.8	B	1	120
		NBT	394	392	-1%	0.1	A	0	0	394	391	-1%	0.2	A	0	0	988	751	-24%	1.9	A	3	113	988	749	-24%	5.8	A	15	239
		NBR	9	9	0%	0.8	A	0	4	9	9	0%	1.0	A	0	5	9	8	-11%	1.8	A	3	124	9	8	-11%	4.0	A	13	226
		SBL	69	55	-20%	144.5	F	174	299	69	68	-1%	3.5	A	1	51	92	73	-21%	95.8	F	87	498	92	78	-15%	7.7	A	2	79
		SBT	754	599	-21%	159.5	F	517	578	754	755	0%	1.3	A	1	101	787	645	-18%	96.4	F	354	572	787	666	-15%	2.1	A	4	168
		SBR	109	85	-22%	143.9	F	515	576	109	106	-3%	1.0	A	1	134	112	102	-9%	68.4	F	352	570	112	109	-3%	1.5	A	3	165
		EBL	53	52	-2%	12.0	B	0	41	53	52	-2%	14.4	B	0	41	49	47	-4%	13.8	B	0	40	49	47	-4%	21.3	C	1	57
		EBT	0	0	-	0.0	A	0	41	0	0	-	0.0	A	0	41	2	1	-50%	13.8	B	0	40	2	1	-50%	26.6	D	1	57
		EBR	21	20	-5%	44.0	E	0	33	21	20	-5%	11.5	B	0	26	38	36	-5%	8.0	A	0	41	38	36	-5%	13.1	B	1	52
		WBL	0	0	-	0.0	A	2	53	0	0	-	0.0	A	2	51	4	3	-25%	157.5	F	13	127	4	3	-25%	21.7	C	5	63
		WBT	1	1	0%	15.9	C	2	53	1	1	0%	16.7	C	2	51	1	1	0%	74.6	F	13	127	1	1	0%	21.0	C	5	63
		WBR	79	78	-1%	7.8	A	2	53	79	78	-1%	7.9	A	2	51	59	56	-5%	38.4	E	13	127	59	55	-7%	19.5	C	5	62
		Overall	**1490**	**1292**	-13%	**159.5**	**F**			**1490**	**1481**	-1%	**16.7**	**C**			**2145**	**1728**	-19%	**157.5**	**F**			**2145**	**1758**	-18%	**26.6**	**D**		
4	Bay Ave & Hill St	NBL	57	57	0%	6.9	A	1	48	57	58	2%	1.7	A	2	94	46	43	-7%	24.8	C	1	46	46	45	-2%	5.6	A	17	268
		NBT	293	291	-1%	8.9	A	9	92	293	291	-1%	1.7	A	2	94	717	484	-32%	39.6	E	166	529	717	482	-33%	6.0	A	17	268
		NBR	4	4	0%	7.6	A	4	92	4	4	0%	1.4	A	2	94	34	29	-15%	39.4	E	165	529	34	29	-15%	5.2	A	17	268
		SBL	75	61	-19%	18.3	C	2	149	75	77	3%	2.8	A	9	240	146	142	-3%	15.8	C	5	163	146	147	1%	3.1	A	9	220
		SBT	669	532	-20%	33.1	D	144	227	669	666	0%	3.1	A	9	240	634	493	-22%	27.8	D	102	222	634	510	-20%	2.9	A	9	220
		SBR	31	26	-16%	32.0	D	144	227	31	31	0%	2.7	A	9	240	49	48	-2%	26.3	D	102	223	49	49	0%	2.5	A	9	220
		EBL	43	43	0%	10.4	B	2	62	43	43	0%	14.5	B	6	90	92	90	-2%	12.2	B	6	100	92	89	-3%	11.0	B	9	133
		EBT	19	20	5%	12.3	B	1	62	19	20	5%	14.3	B	6	90	45	43	-4%	14.4	B	6	101	45	46	2%	10.0	B	9	133
		EBR	39	40	3%	10.0	A	2	63	39	40	3%	17.4	C	6	91	84	82	-2%	11.3	B	6	101	84	81	-4%	12.9	B	9	134
		WBL	13	14	8%	11.8	B	1	63	13	14	8%	5.4	A	1	75	22	22	0%	13.9	B	8	121	22	22	0%	8.7	A	9	135
		WBT	28	27	-4%	11.6	B	1	63	28	27	-4%	4.6	A	1	75	33	34	3%	15.0	C	8	120	33	34	3%	7.2	A	9	135
		WBR	68	68	0%	10.0	A	2	63	68	68	0%	4.9	A	1	75	192	191	-1%	13.1	B	10	120	192	191	-1%	7.3	A	9	135
		Overall	**1339**	**1183**	-12%	**21.0**	**C**			**1339**	**1339**	0%	**17.4**	**C**			**2094**	**1701**	-19%	**26.2**	**D**			**2094**	**1725**	-18%	**12.9**	**B**		
5	Bay Ave & Capitola Ave	NBL	27	27	0%	8.6	A	1	36	27	27	0%	2.6	A	0	58	29	28	-3%	9.5	A	1	38	29	29	0%	4.0	A	0	32
		NBT	312	310	-1%	14.5	B	24	172	312	311	0%	2.7	A	0	58	200	184	-8%	9.7	A	6	86	200	185	-8%	2.9	A	0	32
		NBR	55	56	2%	11.9	B	21	171	55	56	2%	2.8	A	0	58	23	22	-4%	7.1	A	3	85	23	21	-9%	3.3	A	0	32
		SBL	74	63	-15%	8.2	A	3	72	74	76	3%	2.5	A	3	129	61	53	-13%	16.6	C	57	305	61	56	-8%	5.2	A	16	335
		SBT	183	144	-21%	8.4	A	4	71	183	178	-3%	2.6	A	3	129	337	319	-5%	16.9	C	59	305	337	324	-4%	9.7	A	16	335
		SBR	128	108	-16%	6.2	A	2	52	128	131	2%	2.3	A	3	129	171	134	-22%	9.0	A	3	76	171	143	-16%	5.1	A	16	335
		EBL	78	76	-3%	11.8	B	3	78	78	76	-3%	4.0	A	1	73	190	186	-2%	15.2	C	13	131	190	184	-3%	7.0	A	8	156
		EBT	67	68	1%	11.6	B	3	78	67	68	1%	3.7	A	1	73	63	63	0%	15.8	C	11	131	63	64	2%	7.4	A	8	156
		EBR	6	6	0%	7.8	A	0	28	6	6	0%	2.3	A	0	13	8	8	0%	9.3	A	0	26	8	8	0%	11.8	B	1	44
		WBL	83	83	0%	12.8	B	7	109	83	82	-1%	4.4	A	2	93	17	16	-6%	12.8	B	2	87	17	18	6%	11.4	B	1	51
		WBT	94	96	2%	13.7	B	7	109	94	96	2%	4.3	A	2	93	65	67	3%	13.4	B	3	87	65	64	-2%	4.7	A	1	51
		WBR	42	45	7%	10.8	B	4	102	42	45	7%	3.6	A	0	75	73	67	-8%	10.1	B	3	79	73	68	-7%	2.7	A	0	51
		Overall	**1149**	**1082**	-6%	**11.4**	**B**			**1149**	**1152**	0%	**4.4**	**A**			**1237**	**1147**	-7%	**13.4**	**B**			**1237**	**1164**	-6%	**11.8**	**B**		
6	Bay Ave & Monterey Ave	NBT	162	160	-1%	9.0	A	4	77	162	160	-1%	9.0	A	4	71	305	282	-8%	9.8	A	9	112	305	280	-8%	9.8	A	9	106
		NBR	61	63	3%	2.2	A	3	77	61	63	3%	2.1	A	2	72	85	77	-9%	3.5	A	7	112	85	75	-12%	3.5	A	7	106
		SBL	219	207	-5%	24.7	C	65	316	219	223	2%	25.9	D	75	344	304	295	-3%	89.3	F	486	841	304	289	-5%	111.7	F	753	1228
		SBT	239	220	-8%	24.5	C	65	316	239	236	-1%	27.0	D	75	344	251	232	-8%	90.3	F	486	841	251	238	-5%	112.3	F	753	1228
		WBL	87	85	-2%	21.1	C	36	227	87	85	-2%	19.3	C	30	205	35	35	0%	12.0	B	3	76	35	36	3%	12.0	B	3	75
		WBR	282	287	2%	18.0	C	36	227	282	286	1%	16.2	C	30	206	104	104	0%	9.1	A	4	76	104	103	-1%	9.3	A	4	75
		Overall	**1050**	**1022**	-3%	**18.6**	**C**			**1050**	**1053**	0%	**19.0**	**C**			**1084**	**1025**	-5%	**50.4**	**F**			**1084**	**1021**	-6%	**62.1**	**F**		
7	Monterey Ave & Park Ave	NBL	1	1	0%	9.6	A	2	72	1	1	0%	11.5	B	2	69	1	1	0%	229.3	F	711	877	1	1	0%	247.6	F	615	888
		NBT	123	127	3%	10.7	B	4	72	123	127	3%	10.7	B	4	68	148	125	-16%	242.2	F	712	877	148	123	-17%	249.6	F	616	888
		NBR	238	233	-2%	9.5	A	9	159	238	233	-2%	9.4	A	9	158	619	528	-15%	251.6	F	1340	1417	619	514	-17%	260.1	F	1345	1418
		SBL	201	191	-5%	11.7	B	15	135	201	199	-1%	13.0	B	19	159	202	188	-7%	10.4	B	9	104	202	195	-3%	10.9	B	11	104
		SBT	121	112	-7%	12.2	B	14	134	121	118	-2%	13.1	B	18	159	83	78	-6%	9.8	A	7	103	83	78	-6%	10.8	B	9	104
		SBR	4	3	-25%	6.8	A	0	20	4	4	0%	6.2	A	0	22	1	1	0%	6.2	A	0	12	1	1	0%	8.5	A	0	8
		EBL	0	0	-	0.0	A	0	14	0	0	-	0.0	A	0	14	5	2	-60%	9.3	A	0	20	5	3	-40%	9.6	A	0	20
		EBT	9	11	22%	12.7	B	0	28	9	11	22%	13.1	B	0	28	3	2	-33%	12.6	B	0	18	3	2	-33%	12.5	B	0	20
		EBR	1	1	0%	8.0	A	0	12	1	1	0%	7.9	A	0	12	3	2	-33%	8.6	A	0	4	3	1	-67%	8.8	A	0	6
		WBL	418	419	0%	102.3	F	389	700	418	422	1%	95.8	F	363	650	203	205	1%	20.6	C	48	255	203	209	3%	20.4	C	49	256
		WBT	3	4	33%	105.8	F	389	700	3	4	33%	97.1	F	363	650	3	3	0%	23.1	C	47	256	3	4	33%	23.2	C	47	256
		WBR	100	96	-4%	100.4	F	389	700	100	96	-4%	94.0	F	363	650	237	230	-3%	19.1	C	48	255	237	227	-4%	18.7	C	49	256
		Overall	**1219**	**1198**	-2%	**50.3**	**F**			**1219**	**1216**	0%	**47.5**	**E**			**1508**	**1365**	-9%	**128.1**	**F**			**1508**	**1358**	-10%	**129.8**	**F**		

Bay Avenue Corridor Improvement Project

Cumulative 2040 VISSIM Results: Bay Ave AM Peak Hour Travel Time Summary

Scenario	Segment	Distance *(mi)*	Free Flow *Speed*	Simulation *Car*
NB - N. of Park Ave to S. of Highway 1 SB Ramps				
Alternative 1 AWSC	Average Travel Time (mins)	0.62	1.5	2.09
	Average Travel Speed (mph)		*25*	*18*
Alternative 2 Roundabout	Segment	0.62	1.5	1.88
	Average Travel Speed (mph)		*25*	*20*
SB - S. of Highway 1 SB Ramps to N. of Park Ave				
Alternative 1 AWSC	Average Travel Time (mins)	0.62	1.5	5.26
	Average Travel Speed (mph)		*25*	*7*
Alternative 2 Roundabout	Average Travel Time (mins)	0.63	1.5	2.21
	Average Travel Speed (mph)		*25*	*17*

Cumulative 2040 VISSIM Results: Bay Ave PM Peak Hour Travel Time Summary

Alternative	Segment	Distance *(mi)*	Free Flow *Speed*	Simulation *Car*
NB - N. of Park Ave to S. of Highway 1 SB Ramps				
Alternative 1 AWSC	Average Travel Time (mins)	0.62	1.5	3.20
	Average Travel Speed (mph)		*25*	*12*
Alternative 2 Roundabout	Average Travel Time (mins)	0.62	1.5	3.29
	Average Travel Speed (mph)		*25*	*11*
SB - S. of Highway 1 SB Ramps to N. of Park Ave				
Alternative 1 AWSC	Average Travel Time (mins)	0.62	1.5	5.89
	Average Travel Speed (mph)		*25*	*6*
Alternative 2 Roundabout	Average Travel Time (mins)	0.63	1.5	4.99
	Average Travel Speed (mph)		*25*	*8*

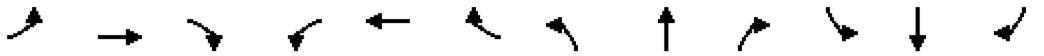
Bay Avenue Corridor Improvement Project

Cumulative 2040 VISSIM Results: Bay Ave Peak Hour Queueing Summary

No.	Intersection	Movement	AM Peak Hour									PM Peak Hour								
			Alternative 1 AWSC (VISSIM)			Alternative 2 Roundabout (VISSIM)			Alternative 3 Signal (Synchro)			Alternative 1 AWSC (VISSIM)			Alternative 2 Roundabout (VISSIM)			Alternative 3 Signal (Synchro)		
			Capacity (ft)	Avg Queue (ft)	Max Queue (ft)	Capacity (ft)	Avg Queue (ft)	Max Queue (ft)	Capacity (ft)	Avg Queue (ft)	Max Queue (ft)	Capacity (ft)	Avg Queue (ft)	Max Queue (ft)	Capacity (ft)	Avg Queue (ft)	Max Queue (ft)	Capacity (ft)	Avg Queue (ft)	Max Queue (ft)
1	Bay Ave & Hwy 1 NB Ramps	NBL	200	33	208	200	29	210	200	159	242	200	60	270	200	55	283	200	244	252
		NBT	200	33	207	200	29	209	200	26	73	200	60	281	200	55	283	200	25	50
		SBT	130	70	328	130	69	325	130	336	544	130	151	401	130	146	419	130	340	520
		SBR	130	73	333	130	72	329	130	413	533	130	152	406	130	148	424	130	356	515
		WBL	220	24	168	220	22	159	220	89	204	220	13	117	220	13	112	220	54	149
		WBT	730	21	240	730	23	247	730	101	295	730	30	238	730	26	209	730	86	173
		WBR	730	22	240	730	24	247	730	101	295	730	31	238	730	27	210	730	86	173
2	Bay Ave & Hwy 1 SB Ramps	NBT	450	37	219	450	34	215	450	86	151	450	171	480	450	302	518	450	417	452
		NBR	450	39	221	450	35	217	450	126	224	450	173	482	450	304	520	450	421	469
		SBL	200	55	235	200	49	224	200	100	184	200	109	261	200	119	285	200	246	269
		SBT	200	56	236	200	50	224	200	66	118	200	109	261	200	119	285	200	38	205
		EBL	200	3156	3423	200	30	153	200	166	175	200	1582	2743	200	509	1664	200	130	175
		EBT	360	3156	3423	360	30	153	360	348	376	360	1582	2743	360	509	1664	360	343	376
		EBR	360	3156	3423	360	30	153	360	348	376	360	1582	2743	360	509	1664	360	343	376
3	Bay Ave & Crossroads Loop	NBL	60	0	22	60	0	18	60	0	0	60	0	58	60	1	120	60	6	75
		NBT	145	0	0	145	0	0	145	0	0	145	3	113	145	15	239	145	162	193
		NBR	145	0	4	145	0	5	145	0	0	145	3	124	145	13	226	145	169	202
		SBL	60	174	299	60	1	51	60	12	74	60	87	498	60	2	79	60	21	74
		SBT	450	517	578	450	1	101	450	30	215	450	354	572	450	4	168	450	92	344
		SBR	450	515	576	450	1	134	450	30	215	450	352	570	450	3	165	450	92	344
		EBL	80	0	41	80	0	41	80	41	76	80	0	40	80	1	57	80	223	236
		EBT	80	0	41	80	0	41	80	41	76	80	0	40	80	1	57	80	165	236
		EBR	80	0	33	80	0	26	80	15	26	80	0	41	80	1	52	80	165	236
		WBL	100	2	53	100	2	51	100	35	73	100	13	127	100	5	63	100	337	482
		WBT	100	2	53	100	2	51	100	35	73	100	13	127	100	5	63	100	337	482
		WBR	100	2	53	100	2	51	100	35	73	100	13	127	100	5	62	100	337	482
4	Bay Ave & Hill St	NBL	100	1	48	340	2	94	100	38	84	100	1	46	340	17	268	340	37	84
		NBT	340	9	92	340	2	94	340	69	144	340	166	529	340	17	268	340	393	433
		NBR	340	4	92	340	2	94	340	69	144	340	165	529	340	17	268	340	393	433
		SBL	100	2	149	160	9	240	100	53	80	100	5	163	160	9	220	160	65	80
		SBT	160	144	227	160	9	240	160	124	163	160	102	222	160	9	220	160	127	163
		SBR	160	144	227	160	9	240	160	124	163	160	102	223	160	9	220	160	127	163
		EBL	100	2	62	100	6	90	100	48	114	100	6	100	100	9	133	100	171	202
		EBT	100	1	62	100	6	90	100	48	114	100	6	101	100	9	133	100	171	202
		EBR	100	2	63	100	6	91	100	48	114	100	6	101	100	9	134	100	171	202
		WBL	340	1	63	340	1	75	340	38	93	340	8	121	340	9	135	340	183	290
		WBT	340	1	63	340	1	75	340	38	93	340	8	120	340	9	135	340	183	290
		WBR	340	2	63	340	1	75	340	38	93	340	10	120	340	9	135	340	183	290
5	Bay Ave & Capitola Ave	NBL	90	1	36	260	0	58	90	10	54	90	1	38	260	0	32	260	22	55
		NBT	220	24	172	260	0	58	220	51	154	220	6	86	260	0	32	260	186	697
		NBR	220	21	171	220	0	58	220	51	154	220	3	85	220	0	32	220	186	697
		SBL	230	3	72	170	3	129	230	60	204	230	57	305	170	16	335	170	58	188
		SBT	230	4	71	170	3	129	230	26	95	230	59	305	170	16	335	170	58	188
		SBR	130	2	52	170	3	129	130	26	95	130	3	76	170	16	335	170	24	95
		EBL	200	3	78	230	1	73	200	50	85	200	13	131	230	8	156	230	206	786
		EBT	200	3	78	230	1	73	200	50	85	200	11	131	230	8	156	230	206	786
		EBR	60	0	28	150	0	13	60	3	28	60	0	26	150	1	44	150	4	79
		WBL	180	7	109	180	2	93	180	57	131	180	2	87	180	1	51	180	64	277
		WBT	180	7	109	180	2	93	180	57	131	180	3	87	180	1	51	180	64	277
		WBR	180	4	102	180	0	75	180	57	131	180	3	79	180	0	51	180	64	277
6	Bay Ave & Monterey Ave	NBT	215	4	77	215	4	71	215	61	186	215	9	112	215	9	106	215	77	158
		NBR	215	3	77	215	2	72	215	61	186	215	7	112	215	7	106	215	77	158
		SBL	240	65	316	240	75	344	240	105	261	240	486	841	240	753	1228	240	601	1065
		SBT	240	65	316	240	75	344	240	105	261	240	486	841	240	753	1228	240	601	1065
		WBL	400	36	227	400	30	205	400	88	159	400	3	76	400	3	75	400	185	451
		WBR	400	36	227	400	30	206	400	88	159	400	4	76	400	4	75	400	185	451
7	Monterey Ave & Park Ave	NBL	90	2	72	90	2	69	90	84	237	90	711	877	90	615	888	90	155	269
		NBT	90	4	72	90	4	68	90	84	237	90	712	877	90	616	888	90	155	269
		NBR	180	9	159	180	9	158	180	84	237	180	1340	1417	180	1345	1418	180	155	269
		SBL	215	15	135	215	19	159	215	136	244	215	9	104	215	11	104	215	169	427
		SBT	215	14	134	215	18	159	215	136	244	215	7	103	215	9	104	215	169	427
		SBR	50	0	20	50	0	22	50	136	244	50	0	12	50	0	8	50	169	427
		EBL	250	0	14	250	0	14	250	4	28	250	0	20	250	0	20	250	2	27
		EBT	250	0	28	250	0	28	250	4	28	250	0	18	250	0	20	250	2	27
		EBR	250	0	12	250	0	12	250	4	28	250	0	4	250	0	6	250	2	27
		WBL	85	389	700	85	363	650	85	131	269	85	48	255	85	49	256	85	155	269
		WBT	85	389	700	85	363	650	85	131	269	85	47	256	85	47	256	85	155	269
		WBR	85	389	700	85	363	650	85	131	269	85	48	255	85	49	256	85	155	269

* Red = Queue exceeds capacity

Attachment D – Synchro LOS Results (No Build, Stop, and Signal Alternatives)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	59	12	107	369	516	0	0	431	478
Future Volume (veh/h)	0	0	0	59	12	107	369	516	0	0	431	478
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.94
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				1826	1900	1885	1885	1856	0	0	1870	1885
Adj Flow Rate, veh/h				65	13	118	405	567	0	0	474	525
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				5	0	1	1	3	0	0	2	1
Cap, veh/h				164	15	139	535	2628	0	0	646	545
Arrive On Green				0.09	0.09	0.09	0.30	0.75	0.00	0.00	0.36	0.36
Sat Flow, veh/h				1739	162	1473	1795	3618	0	0	1870	1498
Grp Volume(v), veh/h				65	0	131	405	567	0	0	474	525
Grp Sat Flow(s),veh/h/ln				1739	0	1635	1795	1763	0	0	1777	1498
Q Serve(g_s), s				1.9	0.0	4.3	11.2	2.7	0.0	0.0	12.7	18.9
Cycle Q Clear(g_c), s				1.9	0.0	4.3	11.2	2.7	0.0	0.0	12.7	18.9
Prop In Lane				1.00		0.90	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				164	0	155	535	2628	0	0	646	545
V/C Ratio(X)				0.40	0.00	0.85	0.76	0.22	0.00	0.00	0.73	0.96
Avail Cap(c_a), veh/h				164	0	155	565	2628	0	0	646	545
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.82	0.82	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				23.4	0.0	24.5	17.5	2.1	0.0	0.0	15.2	17.1
Incr Delay (d2), s/veh				0.6	0.0	31.8	4.0	0.2	0.0	0.0	7.2	30.6
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				0.7	0.0	2.9	4.8	0.5	0.0	0.0	5.9	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				24.0	0.0	56.3	21.5	2.3	0.0	0.0	22.4	47.8
LnGrp LOS				C		E	C	A			C	D
Approach Vol, veh/h					196			972			999	
Approach Delay, s/veh					45.6			10.3			35.7	
Approach LOS					D			B			D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	21.0	24.6		9.4		45.6						
Change Period (Y+Rc), s	4.6	* 4.6		4.2		4.6						
Max Green Setting (Gmax), s	17.3	* 20		5.2		41.0						
Max Q Clear Time (g_c+I1), s	13.2	20.9		6.3		4.7						
Green Ext Time (p_c), s	0.1	0.0		0.0		1.7						

Intersection Summary	
HCM 7th Control Delay, s/veh	25.2
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	313	0	296	0	0	0	0	572	111	176	314	0
Future Volume (veh/h)	313	0	296	0	0	0	0	572	111	176	314	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				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	1826	1900	1856				0	1885	1856	1870	1856	0
Adj Flow Rate, veh/h	440	0	215				0	622	121	191	341	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	0	3				0	1	3	2	3	0
Cap, veh/h	613	0	277				0	1035	201	370	2283	0
Arrive On Green	0.18	0.00	0.18				0.00	0.35	0.35	0.21	0.65	0.00
Sat Flow, veh/h	3478	0	1572				0	3069	577	1781	3618	0
Grp Volume(v), veh/h	440	0	215				0	374	369	191	341	0
Grp Sat Flow(s),veh/h/ln	1739	0	1572				0	1791	1762	1781	1763	0
Q Serve(g_s), s	6.0	0.0	6.5				0.0	8.6	8.6	4.8	1.9	0.0
Cycle Q Clear(g_c), s	6.0	0.0	6.5				0.0	8.6	8.6	4.8	1.9	0.0
Prop In Lane	1.00		1.00				0.00		0.33	1.00		0.00
Lane Grp Cap(c), veh/h	613	0	277				0	623	613	370	2283	0
V/C Ratio(X)	0.72	0.00	0.78				0.00	0.60	0.60	0.52	0.15	0.00
Avail Cap(c_a), veh/h	751	0	340				0	623	613	370	2283	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.70	0.70	0.00
Uniform Delay (d), s/veh	19.4	0.0	19.6				0.0	13.4	13.4	17.6	3.4	0.0
Incr Delay (d2), s/veh	1.7	0.0	6.8				0.0	4.2	4.3	0.4	0.1	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	2.2	0.0	2.6				0.0	3.7	3.7	1.8	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.2	0.0	26.5				0.0	17.7	17.8	18.0	3.5	0.0
LnGrp LOS	C		C					B	B	B	A	
Approach Vol, veh/h		655						743			532	
Approach Delay, s/veh		22.9						17.7			8.7	
Approach LOS		C						B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	37.0		15.0	22.0		13.0
Change Period (Y+Rc), s	4.6		4.6	* 4.6		4.2
Max Green Setting (Gmax), s	30.4		9.3	* 17		10.8
Max Q Clear Time (g_c+I1), s	3.9		6.8	10.6		8.5
Green Ext Time (p_c), s	0.9		0.0	1.3		0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	17.0
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

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	53	0	21	0	1	14	1	616	9	39	462	109
Future Vol, veh/h	53	0	21	0	1	14	1	616	9	39	462	109
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	50	-	-	50	-	-
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	58	0	23	0	1	15	1	677	10	43	508	120

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	995	1342	314	1024	1397	343	627	0	0	687	0	0
Stage 1	653	653	-	684	684	-	-	-	-	-	-	-
Stage 2	341	689	-	340	713	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
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	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	199	151	682	190	140	653	950	-	-	903	-	-
Stage 1	422	462	-	405	447	-	-	-	-	-	-	-
Stage 2	647	445	-	649	433	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	184	144	682	174	133	653	950	-	-	903	-	-
Mov Cap-2 Maneuver	184	144	-	174	133	-	-	-	-	-	-	-
Stage 1	402	440	-	404	446	-	-	-	-	-	-	-
Stage 2	630	444	-	597	413	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	26.93	12.18	0.01	0.59
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	950	-	-	184	682	518	903	-	-
HCM Lane V/C Ratio	0.001	-	-	0.317	0.034	0.032	0.047	-	-
HCM Control Delay (s/veh)	8.8	-	-	33.5	10.5	12.2	9.2	-	-
HCM Lane LOS	A	-	-	D	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.3	0.1	0.1	0.1	-	-

Intersection	
Intersection Delay, s/veh	18.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	19	39	9	28	142	57	441	10	75	377	31
Future Vol, veh/h	43	19	39	9	28	142	57	441	10	75	377	31
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	6	0	0	0	3	1	2	1	9	0	3	3
Mvmt Flow	48	21	44	10	31	160	64	496	11	84	424	35
Number of Lanes	0	1	1	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	2
HCM Control Delay, s/veh	13.2	16.7	20.3	17.5
HCM LOS	B	C	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	69%	0%	5%	100%	0%	0%
Vol Thru, %	0%	100%	94%	31%	0%	16%	0%	100%	80%
Vol Right, %	0%	0%	6%	0%	100%	79%	0%	0%	20%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	57	294	157	62	39	179	75	251	157
LT Vol	57	0	0	43	0	9	75	0	0
Through Vol	0	294	147	19	0	28	0	251	126
RT Vol	0	0	10	0	39	142	0	0	31
Lane Flow Rate	64	330	176	70	44	201	84	282	176
Geometry Grp	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.142	0.683	0.369	0.179	0.098	0.439	0.188	0.593	0.362
Departure Headway (Hd)	7.976	7.447	7.54	9.257	8.084	7.849	8.014	7.554	7.412
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	448	486	476	386	441	457	447	477	484
Service Time	5.744	5.215	5.308	7.051	5.876	5.624	5.781	5.321	5.179
HCM Lane V/C Ratio	0.143	0.679	0.37	0.181	0.1	0.44	0.188	0.591	0.364
HCM Control Delay, s/veh	12.1	24.9	14.7	14.1	11.8	16.7	12.6	20.8	14.4
HCM Lane LOS	B	C	B	B	B	C	B	C	B
HCM 95th-tile Q	0.5	5.1	1.7	0.6	0.3	2.2	0.7	3.8	1.6

Intersection	
Intersection Delay, s/veh	27.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	67	6	83	94	42	27	312	55	74	183	128
Future Vol, veh/h	70	67	6	83	94	42	27	312	55	74	183	128
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	81	7	100	113	51	33	376	66	89	220	154
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay, s/veh	16.8	22.6	41.7	20.2
HCM LOS	C	C	E	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	51%	0%	38%	29%	0%
Vol Thru, %	0%	85%	49%	0%	43%	71%	0%
Vol Right, %	0%	15%	0%	100%	19%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	367	137	6	219	257	128
LT Vol	27	0	70	0	83	74	0
Through Vol	0	312	67	0	94	183	0
RT Vol	0	55	0	6	42	0	128
Lane Flow Rate	33	442	165	7	264	310	154
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.071	0.884	0.399	0.015	0.598	0.661	0.292
Departure Headway (Hd)	7.949	7.327	8.703	7.714	8.153	7.687	6.816
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	453	500	414	465	446	471	529
Service Time	5.649	5.027	6.435	5.445	6.168	5.409	4.538
HCM Lane V/C Ratio	0.073	0.884	0.399	0.015	0.592	0.658	0.291
HCM Control Delay, s/veh	11.3	43.9	17.1	10.6	22.6	24.2	12.3
HCM Lane LOS	B	E	C	B	C	C	B
HCM 95th-tile Q	0.2	9.7	1.9	0	3.8	4.7	1.2

Intersection	
Intersection Delay, s/veh	19.7
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	87	282	162	61	219	84
Future Vol, veh/h	87	282	162	61	219	84
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	371	213	80	288	111
Number of Lanes	1	0	1	0	0	1

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	22.4	14.4	20.3
HCM LOS	C	B	C

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	24%	72%
Vol Thru, %	73%	0%	28%
Vol Right, %	27%	76%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	223	369	303
LT Vol	0	87	219
Through Vol	162	0	84
RT Vol	61	282	0
Lane Flow Rate	293	486	399
Geometry Grp	1	1	1
Degree of Util (X)	0.48	0.737	0.665
Departure Headway (Hd)	5.895	5.462	6.007
Convergence, Y/N	Yes	Yes	Yes
Cap	607	655	598
Service Time	3.983	3.534	4.086
HCM Lane V/C Ratio	0.483	0.742	0.667
HCM Control Delay, s/veh	14.4	22.4	20.3
HCM Lane LOS	B	C	C
HCM 95th-tile Q	2.6	6.5	5

Intersection	
Intersection Delay, s/veh	25.1
Intersection LOS	D

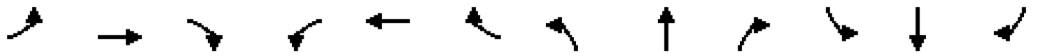
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	9	1	418	3	100	1	123	225	41	126	4
Future Vol, veh/h	0	9	1	418	3	100	1	123	225	41	126	4
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	1	459	3	110	1	135	247	45	138	4
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	10	37.6	12.5	13.8
HCM LOS	A	E	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	0%	80%	25%	0%
Vol Thru, %	99%	0%	90%	1%	75%	0%
Vol Right, %	0%	100%	10%	19%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	124	225	10	521	167	4
LT Vol	1	0	0	418	41	0
Through Vol	123	0	9	3	126	0
RT Vol	0	225	1	100	0	4
Lane Flow Rate	136	247	11	573	184	4
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.254	0.411	0.021	0.89	0.361	0.008
Departure Headway (Hd)	6.702	5.982	6.816	5.598	7.083	6.238
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	533	598	528	647	505	569
Service Time	4.482	3.761	4.816	3.656	4.871	4.026
HCM Lane V/C Ratio	0.255	0.413	0.021	0.886	0.364	0.007
HCM Control Delay, s/veh	11.8	12.9	10	37.6	13.9	9.1
HCM Lane LOS	B	B	A	E	B	A
HCM 95th-tile Q	1	2	0.1	10.8	1.6	0

HCM 7th Signalized Intersection Summary
1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	107	1	195	290	401	0	0	642	316
Future Volume (veh/h)	0	0	0	107	1	195	290	401	0	0	642	316
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.94
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				1826	1900	1885	1885	1856	0	0	1870	1885
Adj Flow Rate, veh/h				113	1	205	305	422	0	0	676	333
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				5	0	1	1	3	0	0	2	1
Cap, veh/h				209	1	192	415	2413	0	0	792	390
Arrive On Green				0.12	0.12	0.12	0.23	0.68	0.00	0.00	0.35	0.35
Sat Flow, veh/h				1739	8	1604	1795	3618	0	0	2351	1112
Grp Volume(v), veh/h				113	0	206	305	422	0	0	532	477
Grp Sat Flow(s),veh/h/ln				1739	0	1611	1795	1763	0	0	1777	1592
Q Serve(g_s), s				2.8	0.0	5.4	7.1	1.9	0.0	0.0	12.5	12.5
Cycle Q Clear(g_c), s				2.8	0.0	5.4	7.1	1.9	0.0	0.0	12.5	12.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.70
Lane Grp Cap(c), veh/h				209	0	193	415	2413	0	0	624	559
V/C Ratio(X)				0.54	0.00	1.07	0.74	0.17	0.00	0.00	0.85	0.85
Avail Cap(c_a), veh/h				209	0	193	451	2413	0	0	624	559
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.82	0.82	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				18.6	0.0	19.8	16.0	2.5	0.0	0.0	13.5	13.5
Incr Delay (d2), s/veh				1.6	0.0	83.1	3.9	0.1	0.0	0.0	13.8	15.2
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.0	0.0	6.2	3.0	0.4	0.0	0.0	6.5	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				20.2	0.0	102.9	19.9	2.7	0.0	0.0	27.4	28.7
LnGrp LOS				C		F	B	A			C	C
Approach Vol, veh/h					319			727			1009	
Approach Delay, s/veh					73.6			9.9			28.0	
Approach LOS					E			A			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	15.0	20.4		9.6		35.4						
Change Period (Y+Rc), s	4.6	* 4.6		4.2		4.6						
Max Green Setting (Gmax), s	11.3	* 16		5.4		30.8						
Max Q Clear Time (g_c+I1), s	9.1	14.5		7.4		3.9						
Green Ext Time (p_c), s	0.0	0.5		0.0		1.2						

Intersection Summary		
HCM 7th Control Delay, s/veh	28.7	
HCM 7th LOS	C	

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	208	347	0	0	0	0	457	91	276	473	0
Future Volume (veh/h)	234	208	347	0	0	0	0	457	91	276	473	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				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	1826	1900	1856				0	1885	1856	1870	1856	0
Adj Flow Rate, veh/h	245	305	306				0	497	99	300	514	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	0	3				0	1	3	2	3	0
Cap, veh/h	396	433	358				0	879	174	449	2205	0
Arrive On Green	0.23	0.23	0.23				0.00	0.30	0.30	0.25	0.63	0.00
Sat Flow, veh/h	1739	1900	1572				0	3057	587	1781	3618	0
Grp Volume(v), veh/h	245	305	306				0	299	297	300	514	0
Grp Sat Flow(s),veh/h/ln	1739	1900	1572				0	1791	1759	1781	1763	0
Q Serve(g_s), s	7.6	8.9	11.2				0.0	8.5	8.6	9.1	3.8	0.0
Cycle Q Clear(g_c), s	7.6	8.9	11.2				0.0	8.5	8.6	9.1	3.8	0.0
Prop In Lane	1.00		1.00				0.00		0.33	1.00		0.00
Lane Grp Cap(c), veh/h	396	433	358				0	531	522	449	2205	0
V/C Ratio(X)	0.62	0.70	0.85				0.00	0.56	0.57	0.67	0.23	0.00
Avail Cap(c_a), veh/h	446	488	404				0	531	522	449	2205	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.66	0.66	0.00
Uniform Delay (d), s/veh	20.8	21.3	22.2				0.0	17.8	17.9	20.2	4.9	0.0
Incr Delay (d2), s/veh	1.2	3.0	13.5				0.0	4.3	4.5	2.0	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	2.9	3.9	5.1				0.0	3.9	3.9	3.8	1.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.1	24.3	35.8				0.0	22.1	22.3	22.2	5.1	0.0
LnGrp LOS	C	C	D					C	C	C	A	
Approach Vol, veh/h		856						596			814	
Approach Delay, s/veh		27.8						22.2			11.4	
Approach LOS		C						C			B	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	42.1		19.7	22.4		17.9
Change Period (Y+Rc), s	4.6		4.6	* 4.6		4.2
Max Green Setting (Gmax), s	35.8		14.3	* 18		15.4
Max Q Clear Time (g_c+I1), s	5.8		11.1	10.6		13.2
Green Ext Time (p_c), s	1.5		0.1	1.0		0.5

Intersection Summary	
HCM 7th Control Delay, s/veh	20.4
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

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	49	2	38	4	1	37	4	462	9	50	658	112
Future Vol, veh/h	49	2	38	4	1	37	4	462	9	50	658	112
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	50	-	-	50	-	-
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	56	2	44	5	1	43	5	531	10	57	756	129

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1211	1486	443	1040	1545	271	885	0	0	541	0	0
Stage 1	936	936	-	545	545	-	-	-	-	-	-	-
Stage 2	275	551	-	494	1000	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
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	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	138	123	563	185	113	727	760	-	-	1023	-	-
Stage 1	285	342	-	490	517	-	-	-	-	-	-	-
Stage 2	707	514	-	525	319	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	121	116	563	157	106	727	760	-	-	1023	-	-
Mov Cap-2 Maneuver	121	116	-	157	106	-	-	-	-	-	-	-
Stage 1	269	323	-	487	513	-	-	-	-	-	-	-
Stage 2	661	511	-	454	301	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	39.65	13.16	0.08	0.53
HCM LOS	E	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	760	-	-	121	563	490	1023	-	-
HCM Lane V/C Ratio	0.006	-	-	0.486	0.078	0.099	0.056	-	-
HCM Control Delay (s/veh)	9.8	-	-	60.3	11.9	13.2	8.7	-	-
HCM Lane LOS	A	-	-	F	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	2.2	0.3	0.3	0.2	-	-

Intersection	
Intersection Delay, s/veh	22.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	92	45	84	18	33	76	46	307	21	146	505	49
Future Vol, veh/h	92	45	84	18	33	76	46	307	21	146	505	49
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	6	0	0	0	3	1	2	1	9	0	3	3
Mvmt Flow	103	51	94	20	37	85	52	345	24	164	567	55
Number of Lanes	0	1	1	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	2
HCM Control Delay, s/veh	16.7	16.8	18.3	27.6
HCM LOS	C	C	C	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	67%	0%	14%	100%	0%	0%
Vol Thru, %	0%	100%	83%	33%	0%	26%	0%	100%	77%
Vol Right, %	0%	0%	17%	0%	100%	60%	0%	0%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	46	205	123	137	84	127	146	337	217
LT Vol	46	0	0	92	0	18	146	0	0
Through Vol	0	205	102	45	0	33	0	337	168
RT Vol	0	0	21	0	84	76	0	0	49
Lane Flow Rate	52	230	139	154	94	143	164	378	244
Geometry Grp	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.13	0.546	0.33	0.407	0.219	0.358	0.38	0.828	0.524
Departure Headway (Hd)	9.081	8.547	8.564	9.525	8.364	9.043	8.345	7.882	7.719
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	395	423	420	379	428	398	433	461	469
Service Time	6.833	6.299	6.316	7.283	6.121	6.806	6.045	5.582	5.419
HCM Lane V/C Ratio	0.132	0.544	0.331	0.406	0.22	0.359	0.379	0.82	0.52
HCM Control Delay, s/veh	13.2	21.2	15.5	18.7	13.5	16.8	16.1	38.5	18.6
HCM Lane LOS	B	C	C	C	B	C	C	E	C
HCM 95th-tile Q	0.4	3.2	1.4	1.9	0.8	1.6	1.7	8	3

Intersection	
Intersection Delay, s/veh	20.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	84	8	61	72	31	29	200	23	56	337	124
Future Vol, veh/h	72	84	8	61	72	31	29	200	23	56	337	124
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	81	94	9	69	81	35	33	225	26	63	379	139
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay, s/veh	14.9	15.3	15.3	26.5
HCM LOS	B	C	C	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	46%	0%	37%	14%	0%
Vol Thru, %	0%	90%	54%	0%	44%	86%	0%
Vol Right, %	0%	10%	0%	100%	19%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	223	156	8	164	393	124
LT Vol	29	0	72	0	61	56	0
Through Vol	0	200	84	0	72	337	0
RT Vol	0	23	0	8	31	0	124
Lane Flow Rate	33	251	175	9	184	442	139
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.068	0.481	0.379	0.017	0.386	0.809	0.225
Departure Headway (Hd)	7.496	6.91	7.788	6.834	7.541	6.598	5.812
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	478	521	463	523	477	548	617
Service Time	5.242	4.655	5.537	4.583	5.59	4.336	3.549
HCM Lane V/C Ratio	0.069	0.482	0.378	0.017	0.386	0.807	0.225
HCM Control Delay, s/veh	10.8	15.9	15.2	9.7	15.3	31.7	10.2
HCM Lane LOS	B	C	C	A	C	D	B
HCM 95th-tile Q	0.2	2.6	1.7	0.1	1.8	7.9	0.9

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	104	124	85	304	141
Future Vol, veh/h	35	104	124	85	304	141
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	106	127	87	310	144
Number of Lanes	1	0	1	0	0	1

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	9.4	9.3	14.2
HCM LOS	A	A	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	25%	68%
Vol Thru, %	59%	0%	32%
Vol Right, %	41%	75%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	209	139	445
LT Vol	0	35	304
Through Vol	124	0	141
RT Vol	85	104	0
Lane Flow Rate	213	142	454
Geometry Grp	1	1	1
Degree of Util (X)	0.27	0.198	0.588
Departure Headway (Hd)	4.564	5.034	4.664
Convergence, Y/N	Yes	Yes	Yes
Cap	783	708	772
Service Time	2.618	3.098	2.71
HCM Lane V/C Ratio	0.272	0.201	0.588
HCM Control Delay, s/veh	9.3	9.4	14.2
HCM Lane LOS	A	A	B
HCM 95th-tile Q	1.1	0.7	3.9

Intersection	
Intersection Delay, s/veh	15.4
Intersection LOS	C

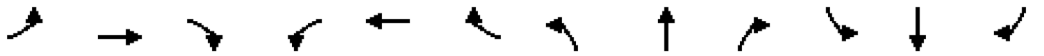
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	3	3	203	3	39	1	165	498	92	83	1
Future Vol, veh/h	5	3	3	203	3	39	1	165	498	92	83	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	3	3	211	3	41	1	172	519	96	86	1
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	9.7	13.4	17	12.3
HCM LOS	A	B	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	45%	83%	53%	0%
Vol Thru, %	99%	0%	27%	1%	47%	0%
Vol Right, %	0%	100%	27%	16%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	166	498	11	245	175	1
LT Vol	1	0	5	203	92	0
Through Vol	165	0	3	3	83	0
RT Vol	0	498	3	39	0	1
Lane Flow Rate	173	519	11	255	182	1
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.272	0.714	0.021	0.424	0.327	0.002
Departure Headway (Hd)	5.667	4.956	6.462	5.985	6.466	5.487
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	635	731	552	602	556	651
Service Time	3.398	2.687	4.52	4.021	4.21	3.23
HCM Lane V/C Ratio	0.272	0.71	0.02	0.424	0.327	0.002
HCM Control Delay, s/veh	10.5	19.1	9.7	13.4	12.3	8.2
HCM Lane LOS	B	C	A	B	B	A
HCM 95th-tile Q	1.1	6.1	0.1	2.1	1.4	0

HCM 7th Signalized Intersection Summary
1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	161	12	379	321	392	0	0	436	536
Future Volume (veh/h)	0	0	0	161	12	379	321	392	0	0	436	536
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.94
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				1826	1900	1885	1885	1856	0	0	1870	1885
Adj Flow Rate, veh/h				169	13	399	338	413	0	0	459	564
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				5	0	1	1	3	0	0	2	1
Cap, veh/h				341	10	308	437	2269	0	0	562	471
Arrive On Green				0.20	0.20	0.20	0.49	1.00	0.00	0.00	0.32	0.32
Sat Flow, veh/h				1739	51	1567	1795	3618	0	0	1870	1489
Grp Volume(v), veh/h				169	0	412	338	413	0	0	459	564
Grp Sat Flow(s),veh/h/ln				1739	0	1618	1795	1763	0	0	1777	1489
Q Serve(g_s), s				4.8	0.0	10.8	8.5	0.0	0.0	0.0	13.1	17.4
Cycle Q Clear(g_c), s				4.8	0.0	10.8	8.5	0.0	0.0	0.0	13.1	17.4
Prop In Lane				1.00		0.97	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				341	0	318	437	2269	0	0	562	471
V/C Ratio(X)				0.49	0.00	1.30	0.77	0.18	0.00	0.00	0.82	1.20
Avail Cap(c_a), veh/h				341	0	318	467	2269	0	0	562	471
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	0.83	0.83	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				19.7	0.0	22.1	12.8	0.0	0.0	0.0	17.3	18.8
Incr Delay (d2), s/veh				0.4	0.0	154.9	5.4	0.1	0.0	0.0	12.4	107.7
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.8	0.0	17.3	3.0	0.0	0.0	0.0	6.7	19.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				20.1	0.0	177.0	18.3	0.1	0.0	0.0	29.7	126.5
LnGrp LOS				C		F	B	A			C	F
Approach Vol, veh/h					581			751			1023	
Approach Delay, s/veh					131.4			8.3			83.1	
Approach LOS					F			A			F	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	18.0	22.0		15.0		40.0						
Change Period (Y+Rc), s	4.6	* 4.6		4.2		4.6						
Max Green Setting (Gmax), s	14.3	* 17		10.8		35.4						
Max Q Clear Time (g_c+I1), s	10.5	19.4		12.8		2.0						
Green Ext Time (p_c), s	0.1	0.0		0.0		1.2						

Intersection Summary		
HCM 7th Control Delay, s/veh	71.2	
HCM 7th LOS	E	

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	0	586	0	0	0	0	465	61	251	346	0
Future Volume (veh/h)	248	0	586	0	0	0	0	465	61	251	346	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				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	1826	1900	1856				0	1885	1856	1870	1856	0
Adj Flow Rate, veh/h	174	0	710				0	489	64	264	364	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, %	5	0	3				0	1	3	2	3	0
Cap, veh/h	373	0	675				0	1062	138	369	2205	0
Arrive On Green	0.21	0.00	0.21				0.00	0.33	0.33	0.41	1.00	0.00
Sat Flow, veh/h	1739	0	3145				0	3268	413	1781	3618	0
Grp Volume(v), veh/h	174	0	710				0	275	278	264	364	0
Grp Sat Flow(s),veh/h/ln	1739	0	1572				0	1791	1796	1781	1763	0
Q Serve(g_s), s	4.8	0.0	11.8				0.0	6.6	6.7	6.8	0.0	0.0
Cycle Q Clear(g_c), s	4.8	0.0	11.8				0.0	6.6	6.7	6.8	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.23	1.00		0.00
Lane Grp Cap(c), veh/h	373	0	675				0	599	601	369	2205	0
V/C Ratio(X)	0.47	0.00	1.05				0.00	0.46	0.46	0.72	0.17	0.00
Avail Cap(c_a), veh/h	373	0	675				0	599	601	398	2205	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	0.67	0.67	0.00
Uniform Delay (d), s/veh	18.9	0.0	21.6				0.0	14.4	14.4	14.7	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	49.2				0.0	2.5	2.6	3.0	0.1	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	1.8	0.0	8.4				0.0	2.8	2.9	2.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.2	0.0	70.8				0.0	16.9	17.0	17.8	0.1	0.0
LnGrp LOS	B		F					B	B	B	A	
Approach Vol, veh/h		884						553			628	
Approach Delay, s/veh		60.6						16.9			7.5	
Approach LOS		E						B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	39.0		16.0	23.0		16.0
Change Period (Y+Rc), s	4.6		4.6	* 4.6		4.2
Max Green Setting (Gmax), s	34.4		12.3	* 18		11.8
Max Q Clear Time (g_c+I1), s	2.0		8.8	8.7		13.8
Green Ext Time (p_c), s	1.0		0.1	1.0		0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	32.8
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

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	53	0	21	0	1	79	1	394	9	69	754	109
Future Vol, veh/h	53	0	21	0	1	79	1	394	9	69	754	109
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	50	-	-	50	-	-
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	56	0	22	0	1	83	1	415	9	73	794	115

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1206	1423	454	964	1475	212	908	0	0	424	0	0
Stage 1	996	996	-	422	422	-	-	-	-	-	-	-
Stage 2	210	426	-	542	1054	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
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	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	139	135	553	210	125	793	745	-	-	1131	-	-
Stage 1	262	320	-	580	587	-	-	-	-	-	-	-
Stage 2	773	584	-	492	301	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	115	126	553	188	117	793	745	-	-	1131	-	-
Mov Cap-2 Maneuver	115	126	-	188	117	-	-	-	-	-	-	-
Stage 1	245	300	-	579	586	-	-	-	-	-	-	-
Stage 2	689	583	-	442	282	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	48	10.49	0.02	0.62
HCM LOS	E	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	745	-	-	115	553	740	1131	-	-
HCM Lane V/C Ratio	0.001	-	-	0.483	0.04	0.114	0.064	-	-
HCM Control Delay (s/veh)	9.8	-	-	62.4	11.8	10.5	8.4	-	-
HCM Lane LOS	A	-	-	F	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	2.2	0.1	0.4	0.2	-	-

Intersection	
Intersection Delay, s/veh	22.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	19	39	13	28	68	57	293	4	75	669	31
Future Vol, veh/h	43	19	39	13	28	68	57	293	4	75	669	31
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, %	6	0	0	0	3	1	2	1	9	0	3	3
Mvmt Flow	45	20	41	14	29	72	60	308	4	79	704	33
Number of Lanes	0	1	1	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	2
HCM Control Delay, s/veh	12.4	13.3	14	28.4
HCM LOS	B	B	B	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	69%	0%	12%	100%	0%	0%
Vol Thru, %	0%	100%	96%	31%	0%	26%	0%	100%	88%
Vol Right, %	0%	0%	4%	0%	100%	62%	0%	0%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	57	195	102	62	39	109	75	446	254
LT Vol	57	0	0	43	0	13	75	0	0
Through Vol	0	195	98	19	0	28	0	446	223
RT Vol	0	0	4	0	39	68	0	0	31
Lane Flow Rate	60	206	107	65	41	115	79	469	267
Geometry Grp	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.132	0.422	0.223	0.159	0.087	0.251	0.156	0.868	0.488
Departure Headway (Hd)	7.915	7.388	7.499	8.786	7.621	7.863	7.113	6.657	6.571
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	453	487	478	408	469	457	508	549	551
Service Time	5.664	5.137	5.248	6.547	5.382	5.62	4.813	4.357	4.271
HCM Lane V/C Ratio	0.132	0.423	0.224	0.159	0.087	0.252	0.156	0.854	0.485
HCM Control Delay, s/veh	11.9	15.5	12.4	13.2	11.1	13.3	11.1	38.7	15.4
HCM Lane LOS	B	C	B	B	B	B	B	E	C
HCM 95th-tile Q	0.5	2.1	0.8	0.6	0.3	1	0.5	9.5	2.7

Intersection	
Intersection Delay, s/veh	18.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	78	67	6	83	94	42	27	312	55	74	183	128
Future Vol, veh/h	78	67	6	83	94	42	27	312	55	74	183	128
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	82	71	6	87	99	44	28	328	58	78	193	135
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay, s/veh	14.5	17.2	23.8	15.2
HCM LOS	B	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	54%	0%	38%	29%	0%
Vol Thru, %	0%	85%	46%	0%	43%	71%	0%
Vol Right, %	0%	15%	0%	100%	19%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	367	145	6	219	257	128
LT Vol	27	0	78	0	83	74	0
Through Vol	0	312	67	0	94	183	0
RT Vol	0	55	0	6	42	0	128
Lane Flow Rate	28	386	153	6	231	271	135
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.058	0.718	0.336	0.012	0.477	0.527	0.23
Departure Headway (Hd)	7.308	6.689	7.923	6.928	7.442	7.015	6.151
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	490	541	453	515	484	514	582
Service Time	5.059	4.44	5.685	4.689	5.499	4.77	3.905
HCM Lane V/C Ratio	0.057	0.713	0.338	0.012	0.477	0.527	0.232
HCM Control Delay, s/veh	10.5	24.8	14.7	9.8	17.2	17.4	10.7
HCM Lane LOS	B	C	B	A	C	C	B
HCM 95th-tile Q	0.2	5.8	1.5	0	2.5	3	0.9

Intersection	
Intersection Delay, s/veh	18.2
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	87	282	162	61	219	239
Future Vol, veh/h	87	282	162	61	219	239
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	92	297	171	64	231	252
Number of Lanes	1	0	1	0	0	1

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	16	12	22.9
HCM LOS	C	B	C

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	24%	48%
Vol Thru, %	73%	0%	52%
Vol Right, %	27%	76%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	223	369	458
LT Vol	0	87	219
Through Vol	162	0	239
RT Vol	61	282	0
Lane Flow Rate	235	388	482
Geometry Grp	1	1	1
Degree of Util (X)	0.369	0.587	0.742
Departure Headway (Hd)	5.665	5.441	5.539
Convergence, Y/N	Yes	Yes	Yes
Cap	631	660	651
Service Time	3.729	3.499	3.589
HCM Lane V/C Ratio	0.372	0.588	0.74
HCM Control Delay, s/veh	12	16	22.9
HCM Lane LOS	B	C	C
HCM 95th-tile Q	1.7	3.8	6.6

Intersection	
Intersection Delay, s/veh	33
Intersection LOS	D

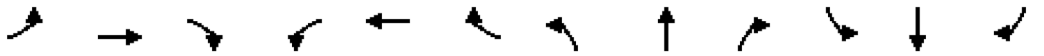
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	9	1	418	3	100	1	123	238	201	121	4
Future Vol, veh/h	0	9	1	418	3	100	1	123	238	201	121	4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	9	1	440	3	105	1	129	251	212	127	4
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	11	50.8	14.1	26.3
HCM LOS	B	F	B	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	0%	80%	62%	0%
Vol Thru, %	99%	0%	90%	1%	38%	0%
Vol Right, %	0%	100%	10%	19%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	124	238	10	521	322	4
LT Vol	1	0	0	418	201	0
Through Vol	123	0	9	3	121	0
RT Vol	0	238	1	100	0	4
Lane Flow Rate	131	251	11	548	339	4
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.265	0.457	0.023	0.949	0.707	0.008
Departure Headway (Hd)	7.297	6.572	7.779	6.23	7.509	6.468
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	492	546	458	581	481	552
Service Time	5.053	4.327	5.864	4.267	5.261	4.219
HCM Lane V/C Ratio	0.266	0.46	0.024	0.943	0.705	0.007
HCM Control Delay, s/veh	12.7	14.8	11	50.8	26.5	9.3
HCM Lane LOS	B	B	B	F	D	A
HCM 95th-tile Q	1.1	2.4	0.1	12.6	5.5	0

HCM 7th Signalized Intersection Summary
1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	77	1	406	683	726	0	0	644	149
Future Volume (veh/h)	0	0	0	77	1	406	683	726	0	0	644	149
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.93
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				1826	1900	1885	1885	1856	0	0	1870	1885
Adj Flow Rate, veh/h				81	1	427	719	764	0	0	678	157
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				5	0	1	1	3	0	0	2	1
Cap, veh/h				286	1	264	746	2601	0	0	765	177
Arrive On Green				0.16	0.16	0.16	0.83	1.00	0.00	0.00	0.27	0.27
Sat Flow, veh/h				1739	4	1607	1795	3618	0	0	2915	653
Grp Volume(v), veh/h				81	0	428	719	764	0	0	427	408
Grp Sat Flow(s),veh/h/ln				1739	0	1611	1795	1763	0	0	1777	1698
Q Serve(g_s), s				3.7	0.0	14.8	30.6	0.0	0.0	0.0	20.7	20.8
Cycle Q Clear(g_c), s				3.7	0.0	14.8	30.6	0.0	0.0	0.0	20.7	20.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.38
Lane Grp Cap(c), veh/h				286	0	265	746	2601	0	0	482	460
V/C Ratio(X)				0.28	0.00	1.62	0.96	0.29	0.00	0.00	0.89	0.89
Avail Cap(c_a), veh/h				286	0	265	764	2601	0	0	482	460
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	0.29	0.29	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.0	0.0	37.6	7.0	0.0	0.0	0.0	31.5	31.5
Incr Delay (d2), s/veh				0.2	0.0	293.9	10.2	0.1	0.0	0.0	20.7	21.6
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				1.5	0.0	27.3	4.9	0.0	0.0	0.0	11.5	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				33.2	0.0	331.5	17.2	0.1	0.0	0.0	52.1	53.1
LnGrp LOS				C		F	B	A			D	D
Approach Vol, veh/h					509			1483			835	
Approach Delay, s/veh					284.1			8.4			52.6	
Approach LOS					F			A			D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	42.0	29.0		19.0		71.0						
Change Period (Y+Rc), s	4.6	* 4.6		4.2		4.6						
Max Green Setting (Gmax), s	38.3	* 24		14.8		66.4						
Max Q Clear Time (g_c+I1), s	32.6	22.8		16.8		2.0						
Green Ext Time (p_c), s	0.3	0.5		0.0		2.4						

Intersection Summary		
HCM 7th Control Delay, s/veh		71.1
HCM 7th LOS		E

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	417	208	640	0	0	0	0	992	104	370	351	0
Future Volume (veh/h)	417	208	640	0	0	0	0	992	104	370	351	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				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	1826	1900	1856				0	1885	1856	1870	1856	0
Adj Flow Rate, veh/h	366	500	483				0	1044	109	389	369	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, %	5	0	3				0	1	3	2	3	0
Cap, veh/h	498	545	451				0	1138	119	468	2336	0
Arrive On Green	0.29	0.29	0.29				0.00	0.35	0.35	0.44	1.00	0.00
Sat Flow, veh/h	1739	1900	1572				0	3357	340	1781	3618	0
Grp Volume(v), veh/h	366	500	483				0	573	580	389	369	0
Grp Sat Flow(s),veh/h/ln	1739	1900	1572				0	1791	1812	1781	1763	0
Q Serve(g_s), s	17.1	22.9	25.8				0.0	27.5	27.6	17.4	0.0	0.0
Cycle Q Clear(g_c), s	17.1	22.9	25.8				0.0	27.5	27.6	17.4	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.19	1.00		0.00
Lane Grp Cap(c), veh/h	498	545	451				0	625	632	468	2336	0
V/C Ratio(X)	0.73	0.92	1.07				0.00	0.92	0.92	0.83	0.16	0.00
Avail Cap(c_a), veh/h	498	545	451				0	625	632	468	2336	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.67	1.67	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.55	0.55	0.00
Uniform Delay (d), s/veh	29.0	31.1	32.1				0.0	28.0	28.1	23.5	0.0	0.0
Incr Delay (d2), s/veh	4.9	20.3	62.8				0.0	20.5	20.5	6.6	0.1	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	7.5	13.1	17.2				0.0	15.0	15.2	6.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.9	51.3	94.9				0.0	48.5	48.5	30.1	0.1	0.0
LnGrp LOS	C	D	F					D	D	C	A	
Approach Vol, veh/h		1349						1153			758	
Approach Delay, s/veh		62.2						48.5			15.5	
Approach LOS		E						D			B	

Timer - Assigned Phs	2		5	6	8
Phs Duration (G+Y+Rc), s	64.2		28.2	36.0	30.0
Change Period (Y+Rc), s	4.6		4.6	* 4.6	4.2
Max Green Setting (Gmax), s	55.4		20.3	* 31	25.8
Max Q Clear Time (g_c+I1), s	2.0		19.4	29.6	27.8
Green Ext Time (p_c), s	1.1		0.0	0.8	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	46.5
HCM 7th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	2	38	4	1	59	4	988	9	92	787	112
Future Vol, veh/h	49	2	38	4	1	59	4	988	9	92	787	112
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	50	-	-	50	-	-
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	52	2	40	4	1	62	4	1040	9	97	828	118

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1610	2139	473	1662	2193	525	946	0	0	1049	0	0
Stage 1	1081	1081	-	1053	1053	-	-	-	-	-	-	-
Stage 2	529	1058	-	609	1140	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
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	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	70	48	537	64	45	497	721	-	-	659	-	-
Stage 1	232	292	-	242	301	-	-	-	-	-	-	-
Stage 2	501	300	-	449	274	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 50	41	537	48	38	497	721	-	-	659	-	-
Mov Cap-2 Maneuver	~ 50	41	-	48	38	-	-	-	-	-	-	-
Stage 1	198	249	-	240	299	-	-	-	-	-	-	-
Stage 2	434	298	-	351	234	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/veh	65.89	21.9	0.04	1.06
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	721	-	-	50	537	280	659	-	-
HCM Lane V/C Ratio	0.006	-	-	1.073	0.074	0.241	0.147	-	-
HCM Control Delay (s/veh)	10	-	-	280.4	12.2	21.9	11.4	-	-
HCM Lane LOS	B	-	-	F	B	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	4.7	0.2	0.9	0.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	98.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	92	45	84	22	33	192	46	717	34	146	634	49
Future Vol, veh/h	92	45	84	22	33	192	46	717	34	146	634	49
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, %	6	0	0	0	3	1	2	1	9	0	3	3
Mvmt Flow	97	47	88	23	35	202	48	755	36	154	667	52
Number of Lanes	0	1	1	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	2
HCM Control Delay, s/veh	23.7	44.9	145.5	89.8
HCM LOS	C	E	F	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	67%	0%	9%	100%	0%	0%
Vol Thru, %	0%	100%	88%	33%	0%	13%	0%	100%	81%
Vol Right, %	0%	0%	12%	0%	100%	78%	0%	0%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	46	478	273	137	84	247	146	423	260
LT Vol	46	0	0	92	0	22	146	0	0
Through Vol	0	478	239	45	0	33	0	423	211
RT Vol	0	0	34	0	84	192	0	0	49
Lane Flow Rate	48	503	287	144	88	260	154	445	274
Geometry Grp	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.14	1.382	0.793	0.476	0.264	0.775	0.435	1.203	0.731
Departure Headway (Hd)	10.87	10.326	10.377	12.914	11.72	11.575	10.83	10.357	10.218
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	332	357	351	281	309	315	335	356	356
Service Time	8.57	8.026	8.077	10.614	9.42	9.275	8.53	8.057	7.918
HCM Lane V/C Ratio	0.145	1.409	0.818	0.512	0.285	0.825	0.46	1.25	0.77
HCM Control Delay, s/veh	15.3	216.5	43.1	26.8	18.6	44.9	21.6	146.4	36.2
HCM Lane LOS	C	F	E	D	C	E	C	F	E
HCM 95th-tile Q	0.5	24.1	6.6	2.4	1	6.1	2.1	17.7	5.6

Intersection	
Intersection Delay, s/veh	21.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	190	63	8	17	65	73	29	200	23	61	337	171
Future Vol, veh/h	190	63	8	17	65	73	29	200	23	61	337	171
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	200	66	8	18	68	77	31	211	24	64	355	180
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay, s/veh	20.9	14.9	16	26.4
HCM LOS	C	B	C	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	75%	0%	11%	15%	0%
Vol Thru, %	0%	90%	25%	0%	42%	85%	0%
Vol Right, %	0%	10%	0%	100%	47%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	223	253	8	155	398	171
LT Vol	29	0	190	0	17	61	0
Through Vol	0	200	63	0	65	337	0
RT Vol	0	23	0	8	73	0	171
Lane Flow Rate	31	235	266	8	163	419	180
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.067	0.477	0.585	0.016	0.349	0.807	0.307
Departure Headway (Hd)	7.907	7.318	7.913	6.811	7.693	6.935	6.14
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	452	491	455	524	467	519	583
Service Time	5.672	5.083	5.672	4.569	5.764	4.69	3.895
HCM Lane V/C Ratio	0.069	0.479	0.585	0.015	0.349	0.807	0.309
HCM Control Delay, s/veh	11.2	16.6	21.3	9.7	14.9	32.8	11.6
HCM Lane LOS	B	C	C	A	B	D	B
HCM 95th-tile Q	0.2	2.5	3.7	0	1.5	7.7	1.3

Intersection	
Intersection Delay, s/veh	20.3
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	104	305	85	304	251
Future Vol, veh/h	35	104	305	85	304	251
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	109	321	89	320	264
Number of Lanes	1	0	1	0	0	1

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	10.8	14.5	26.7
HCM LOS	B	B	D

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	25%	55%
Vol Thru, %	78%	0%	45%
Vol Right, %	22%	75%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	390	139	555
LT Vol	0	35	304
Through Vol	305	0	251
RT Vol	85	104	0
Lane Flow Rate	411	146	584
Geometry Grp	1	1	1
Degree of Util (X)	0.571	0.239	0.82
Departure Headway (Hd)	5.007	5.876	5.05
Convergence, Y/N	Yes	Yes	Yes
Cap	718	610	724
Service Time	3.04	3.924	3.05
HCM Lane V/C Ratio	0.572	0.239	0.807
HCM Control Delay, s/veh	14.5	10.8	26.7
HCM Lane LOS	B	B	D
HCM 95th-tile Q	3.6	0.9	8.8

Intersection	
Intersection Delay, s/veh	55.3
Intersection LOS	F

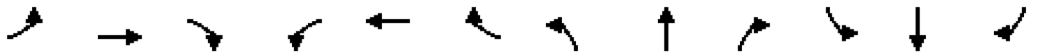
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	3	3	203	3	237	1	148	619	202	83	1
Future Vol, veh/h	5	3	3	203	3	237	1	148	619	202	83	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	3	3	214	3	249	1	156	652	213	87	1
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	11.8	33.7	80.2	23.7
HCM LOS	B	D	F	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	45%	46%	71%	0%
Vol Thru, %	99%	0%	27%	1%	29%	0%
Vol Right, %	0%	100%	27%	53%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	149	619	11	443	285	1
LT Vol	1	0	5	203	202	0
Through Vol	148	0	3	3	83	0
RT Vol	0	619	3	237	0	1
Lane Flow Rate	157	652	12	466	300	1
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.3	1.115	0.027	0.826	0.638	0.002
Departure Headway (Hd)	6.88	6.159	8.605	6.626	7.97	6.881
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	519	586	419	550	456	523
Service Time	4.667	3.945	6.605	4.626	5.67	4.581
HCM Lane V/C Ratio	0.303	1.113	0.029	0.847	0.658	0.002
HCM Control Delay, s/veh	12.6	96.5	11.8	33.7	23.7	9.6
HCM Lane LOS	B	F	B	D	C	A
HCM 95th-tile Q	1.3	20.2	0.1	8.3	4.4	0

HCM 7th Signalized Intersection Summary
1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	59	12	107	369	516	0	0	423	478
Future Volume (veh/h)	0	0	0	59	12	107	369	516	0	0	423	478
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.94
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				1826	1900	1885	1885	1856	0	0	1870	1885
Adj Flow Rate, veh/h				65	13	118	405	567	0	0	465	525
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				5	0	1	1	3	0	0	2	1
Cap, veh/h				168	16	142	581	2668	0	0	634	534
Arrive On Green				0.10	0.10	0.10	0.32	0.76	0.00	0.00	0.36	0.36
Sat Flow, veh/h				1739	162	1473	1795	3618	0	0	1870	1497
Grp Volume(v), veh/h				65	0	131	405	567	0	0	465	525
Grp Sat Flow(s),veh/h/ln				1739	0	1635	1795	1763	0	0	1777	1497
Q Serve(g_s), s				2.1	0.0	4.7	11.8	2.8	0.0	0.0	13.7	20.9
Cycle Q Clear(g_c), s				2.1	0.0	4.7	11.8	2.8	0.0	0.0	13.7	20.9
Prop In Lane				1.00		0.90	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				168	0	158	581	2668	0	0	634	534
V/C Ratio(X)				0.39	0.00	0.83	0.70	0.21	0.00	0.00	0.73	0.98
Avail Cap(c_a), veh/h				168	0	158	607	2668	0	0	634	534
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.82	0.82	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				25.4	0.0	26.6	17.7	2.1	0.0	0.0	16.8	19.1
Incr Delay (d2), s/veh				0.5	0.0	27.8	2.2	0.1	0.0	0.0	7.4	35.1
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.8	0.0	2.9	4.9	0.5	0.0	0.0	6.4	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				26.0	0.0	54.4	20.0	2.3	0.0	0.0	24.2	54.2
LnGrp LOS				C		D	B	A			C	D
Approach Vol, veh/h					196			972			990	
Approach Delay, s/veh					45.0			9.6			40.1	
Approach LOS					D			A			D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	24.0	26.0		10.0		50.0						
Change Period (Y+Rc), s	4.6	* 4.6		4.2		4.6						
Max Green Setting (Gmax), s	20.3	* 21		5.8		45.4						
Max Q Clear Time (g_c+I1), s	13.8	22.9		6.7		4.8						
Green Ext Time (p_c), s	0.1	0.0		0.0		1.7						

Intersection Summary	
HCM 7th Control Delay, s/veh	26.8
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	313	0	296	0	0	0	0	572	111	176	305	0
Future Volume (veh/h)	313	0	296	0	0	0	0	572	111	176	305	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				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	1826	1900	1856				0	1885	1856	1870	1856	0
Adj Flow Rate, veh/h	440	0	215				0	622	121	191	332	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	0	3				0	1	3	2	3	0
Cap, veh/h	613	0	277				0	1035	201	370	2283	0
Arrive On Green	0.18	0.00	0.18				0.00	0.35	0.35	0.21	0.65	0.00
Sat Flow, veh/h	3478	0	1572				0	3069	577	1781	3618	0
Grp Volume(v), veh/h	440	0	215				0	374	369	191	332	0
Grp Sat Flow(s),veh/h/ln	1739	0	1572				0	1791	1762	1781	1763	0
Q Serve(g_s), s	6.0	0.0	6.5				0.0	8.6	8.6	4.8	1.8	0.0
Cycle Q Clear(g_c), s	6.0	0.0	6.5				0.0	8.6	8.6	4.8	1.8	0.0
Prop In Lane	1.00		1.00				0.00		0.33	1.00		0.00
Lane Grp Cap(c), veh/h	613	0	277				0	623	613	370	2283	0
V/C Ratio(X)	0.72	0.00	0.78				0.00	0.60	0.60	0.52	0.15	0.00
Avail Cap(c_a), veh/h	751	0	340				0	623	613	370	2283	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.70	0.70	0.00
Uniform Delay (d), s/veh	19.4	0.0	19.6				0.0	13.4	13.4	17.6	3.4	0.0
Incr Delay (d2), s/veh	1.7	0.0	6.8				0.0	4.2	4.3	0.4	0.1	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	2.2	0.0	2.6				0.0	3.7	3.7	1.8	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.2	0.0	26.5				0.0	17.7	17.8	18.0	3.5	0.0
LnGrp LOS	C		C					B	B	B	A	
Approach Vol, veh/h		655						743			523	
Approach Delay, s/veh		22.9						17.7			8.8	
Approach LOS		C						B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	37.0		15.0	22.0		13.0
Change Period (Y+Rc), s	4.6		4.6	* 4.6		4.2
Max Green Setting (Gmax), s	30.4		9.3	* 17		10.8
Max Q Clear Time (g_c+I1), s	3.8		6.8	10.6		8.5
Green Ext Time (p_c), s	0.9		0.0	1.3		0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	17.1
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

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	53	0	21	0	1	14	1	575	9	39	462	109
Future Vol, veh/h	53	0	21	0	1	14	1	575	9	39	462	109
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	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	58	0	23	0	1	15	1	632	10	43	508	120

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	912	1237	508	1232	1352	321	627	0	0	642	0	0
Stage 1	593	593	-	639	639	-	-	-	-	-	-	-
Stage 2	319	644	-	593	713	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	241	175	564	143	149	676	952	-	-	941	-	-
Stage 1	491	492	-	432	469	-	-	-	-	-	-	-
Stage 2	668	467	-	491	434	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	223	167	564	131	142	676	952	-	-	941	-	-
Mov Cap-2 Maneuver	223	167	-	131	142	-	-	-	-	-	-	-
Stage 1	468	470	-	431	469	-	-	-	-	-	-	-
Stage 2	650	467	-	449	415	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	24.04	11.87	0.02	0.58
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	952	-	-	269	541	941	-	-
HCM Lane V/C Ratio	0.001	-	-	0.302	0.03	0.046	-	-
HCM Control Delay (s/veh)	8.8	-	-	24	11.9	9	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.2	0.1	0.1	-	-

Intersection	
Intersection Delay, s/veh	28.5
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	19	39	9	28	142	57	399	10	75	375	31
Future Vol, veh/h	43	19	39	9	28	142	57	399	10	75	375	31
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	6	0	0	0	3	1	2	1	9	0	3	3
Mvmt Flow	48	21	44	10	31	160	64	448	11	84	421	35
Number of Lanes	0	1	1	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay, s/veh	12.4	15.6	33.6	31.7
HCM LOS	B	C	D	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	69%	0%	5%	100%	0%
Vol Thru, %	0%	98%	31%	0%	16%	0%	92%
Vol Right, %	0%	2%	0%	100%	79%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	57	409	62	39	179	75	406
LT Vol	57	0	43	0	9	75	0
Through Vol	0	399	19	0	28	0	375
RT Vol	0	10	0	39	142	0	31
Lane Flow Rate	64	460	70	44	201	84	456
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.128	0.851	0.167	0.091	0.414	0.168	0.842
Departure Headway (Hd)	7.215	6.669	8.646	7.459	7.409	7.162	6.648
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	496	542	414	479	485	501	543
Service Time	4.965	4.419	6.413	5.226	5.467	4.911	4.397
HCM Lane V/C Ratio	0.129	0.849	0.169	0.092	0.414	0.168	0.84
HCM Control Delay, s/veh	11	36.7	13.2	11	15.6	11.4	35.5
HCM Lane LOS	B	E	B	B	C	B	E
HCM 95th-tile Q	0.4	9	0.6	0.3	2	0.6	8.8

Intersection	
Intersection Delay, s/veh	27.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	67	6	83	94	42	27	312	55	74	183	128
Future Vol, veh/h	70	67	6	83	94	42	27	312	55	74	183	128
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	81	7	100	113	51	33	376	66	89	220	154
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay, s/veh	16.8	22.6	41.7	20.2
HCM LOS	C	C	E	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	51%	0%	38%	29%	0%
Vol Thru, %	0%	85%	49%	0%	43%	71%	0%
Vol Right, %	0%	15%	0%	100%	19%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	367	137	6	219	257	128
LT Vol	27	0	70	0	83	74	0
Through Vol	0	312	67	0	94	183	0
RT Vol	0	55	0	6	42	0	128
Lane Flow Rate	33	442	165	7	264	310	154
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.071	0.884	0.399	0.015	0.598	0.661	0.292
Departure Headway (Hd)	7.949	7.327	8.703	7.714	8.153	7.687	6.816
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	453	500	414	465	446	471	529
Service Time	5.649	5.027	6.435	5.445	6.168	5.409	4.538
HCM Lane V/C Ratio	0.073	0.884	0.399	0.015	0.592	0.658	0.291
HCM Control Delay, s/veh	11.3	43.9	17.1	10.6	22.6	24.2	12.3
HCM Lane LOS	B	E	C	B	C	C	B
HCM 95th-tile Q	0.2	9.7	1.9	0	3.8	4.7	1.2

Intersection	
Intersection Delay, s/veh	19.6
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	87	282	158	61	219	84
Future Vol, veh/h	87	282	158	61	219	84
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	371	208	80	288	111
Number of Lanes	1	0	1	0	0	1

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	22.2	14.2	20.2
HCM LOS	C	B	C

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	24%	72%
Vol Thru, %	72%	0%	28%
Vol Right, %	28%	76%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	219	369	303
LT Vol	0	87	219
Through Vol	158	0	84
RT Vol	61	282	0
Lane Flow Rate	288	486	399
Geometry Grp	1	1	1
Degree of Util (X)	0.471	0.734	0.664
Departure Headway (Hd)	5.888	5.445	5.994
Convergence, Y/N	Yes	Yes	Yes
Cap	608	660	598
Service Time	3.972	3.519	4.069
HCM Lane V/C Ratio	0.474	0.736	0.667
HCM Control Delay, s/veh	14.2	22.2	20.2
HCM Lane LOS	B	C	C
HCM 95th-tile Q	2.5	6.4	4.9

Intersection	
Intersection Delay, s/veh	24.9
Intersection LOS	C

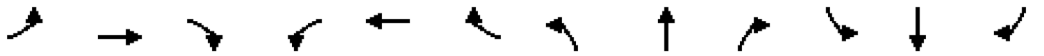
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	9	1	418	3	100	1	123	225	41	121	4
Future Vol, veh/h	0	9	1	418	3	100	1	123	225	41	121	4
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	1	459	3	110	1	135	247	45	133	4
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	9.9	37	12.5	13.6
HCM LOS	A	E	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	0%	80%	25%	0%
Vol Thru, %	99%	0%	90%	1%	75%	0%
Vol Right, %	0%	100%	10%	19%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	124	225	10	521	162	4
LT Vol	1	0	0	418	41	0
Through Vol	123	0	9	3	121	0
RT Vol	0	225	1	100	0	4
Lane Flow Rate	136	247	11	573	178	4
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.253	0.409	0.021	0.887	0.35	0.008
Departure Headway (Hd)	6.682	5.962	6.78	5.579	7.079	6.231
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	534	601	531	647	506	570
Service Time	4.462	3.741	4.78	3.635	4.866	4.017
HCM Lane V/C Ratio	0.255	0.411	0.021	0.886	0.352	0.007
HCM Control Delay, s/veh	11.7	12.9	9.9	37	13.7	9.1
HCM Lane LOS	B	B	A	E	B	A
HCM 95th-tile Q	1	2	0.1	10.7	1.6	0

HCM 7th Signalized Intersection Summary
1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	107	1	195	290	399	0	0	642	316
Future Volume (veh/h)	0	0	0	107	1	195	290	399	0	0	642	316
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.95
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				1826	1900	1885	1885	1856	0	0	1870	1885
Adj Flow Rate, veh/h				113	1	205	305	420	0	0	676	333
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				5	0	1	1	3	0	0	2	1
Cap, veh/h				226	1	208	431	2550	0	0	920	453
Arrive On Green				0.13	0.13	0.13	0.48	1.00	0.00	0.00	0.41	0.41
Sat Flow, veh/h				1739	8	1604	1795	3618	0	0	2355	1114
Grp Volume(v), veh/h				113	0	206	305	420	0	0	531	478
Grp Sat Flow(s),veh/h/ln				1739	0	1611	1795	1763	0	0	1777	1599
Q Serve(g_s), s				3.6	0.0	7.7	8.0	0.0	0.0	0.0	15.2	15.2
Cycle Q Clear(g_c), s				3.6	0.0	7.7	8.0	0.0	0.0	0.0	15.2	15.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.70
Lane Grp Cap(c), veh/h				226	0	209	431	2550	0	0	723	650
V/C Ratio(X)				0.50	0.00	0.98	0.71	0.16	0.00	0.00	0.74	0.74
Avail Cap(c_a), veh/h				226	0	209	458	2550	0	0	723	650
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	0.82	0.82	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.3	0.0	26.0	13.9	0.0	0.0	0.0	15.1	15.1
Incr Delay (d2), s/veh				0.6	0.0	57.1	3.1	0.1	0.0	0.0	6.5	7.2
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.4	0.0	6.0	2.7	0.0	0.0	0.0	6.8	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				24.9	0.0	83.1	17.1	0.1	0.0	0.0	21.6	22.3
LnGrp LOS				C		F	B	A			C	C
Approach Vol, veh/h					319			725			1009	
Approach Delay, s/veh					62.5			7.2			21.9	
Approach LOS					E			A			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	19.0	29.0		12.0		48.0						
Change Period (Y+Rc), s	4.6	* 4.6		4.2		4.6						
Max Green Setting (Gmax), s	15.3	* 24		7.8		43.4						
Max Q Clear Time (g_c+I1), s	10.0	17.2		9.7		2.0						
Green Ext Time (p_c), s	0.1	2.0		0.0		1.2						

Intersection Summary		
HCM 7th Control Delay, s/veh	23.1	
HCM 7th LOS	C	

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	208	347	0	0	0	0	457	91	276	471	0
Future Volume (veh/h)	234	208	347	0	0	0	0	457	91	276	471	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				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	1826	1900	1856				0	1885	1856	1870	1856	0
Adj Flow Rate, veh/h	245	305	306				0	497	99	300	512	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	0	3				0	1	3	2	3	0
Cap, veh/h	396	433	358				0	879	174	449	2205	0
Arrive On Green	0.23	0.23	0.23				0.00	0.30	0.30	0.08	0.21	0.00
Sat Flow, veh/h	1739	1900	1572				0	3057	587	1781	3618	0
Grp Volume(v), veh/h	245	305	306				0	299	297	300	512	0
Grp Sat Flow(s),veh/h/ln	1739	1900	1572				0	1791	1759	1781	1763	0
Q Serve(g_s), s	7.6	8.9	11.2				0.0	8.5	8.6	9.8	7.3	0.0
Cycle Q Clear(g_c), s	7.6	8.9	11.2				0.0	8.5	8.6	9.8	7.3	0.0
Prop In Lane	1.00		1.00				0.00		0.33	1.00		0.00
Lane Grp Cap(c), veh/h	396	433	358				0	531	522	449	2205	0
V/C Ratio(X)	0.62	0.70	0.85				0.00	0.56	0.57	0.67	0.23	0.00
Avail Cap(c_a), veh/h	446	488	404				0	531	522	449	2205	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.69	0.69	0.00
Uniform Delay (d), s/veh	20.8	21.3	22.2				0.0	17.8	17.9	25.1	11.8	0.0
Incr Delay (d2), s/veh	1.2	3.0	13.5				0.0	4.3	4.5	2.1	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	2.9	3.9	5.1				0.0	3.9	3.9	4.8	2.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.1	24.3	35.8				0.0	22.1	22.3	27.2	12.0	0.0
LnGrp LOS	C	C	D					C	C	C	B	
Approach Vol, veh/h		856						596			812	
Approach Delay, s/veh		27.8						22.2			17.6	
Approach LOS		C						C			B	

Timer - Assigned Phs	2		5	6	8
Phs Duration (G+Y+Rc), s	42.1		19.7	22.4	17.9
Change Period (Y+Rc), s	4.6		4.6	* 4.6	4.2
Max Green Setting (Gmax), s	35.8		14.3	* 18	15.4
Max Q Clear Time (g_c+I1), s	9.3		11.8	10.6	13.2
Green Ext Time (p_c), s	1.5		0.1	1.0	0.5

Intersection Summary	
HCM 7th Control Delay, s/veh	22.7
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

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	49	2	38	4	1	37	4	412	9	50	629	112
Future Vol, veh/h	49	2	38	4	1	37	4	412	9	50	629	112
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	0
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	56	2	44	5	1	43	5	474	10	57	723	129

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1084	1331	723	1327	1455	242	852	0	0	484	0	0
Stage 1	838	838	-	488	488	-	-	-	-	-	-	-
Stage 2	247	493	-	839	967	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	182	154	425	122	129	760	785	-	-	1077	-	-
Stage 1	360	381	-	531	549	-	-	-	-	-	-	-
Stage 2	736	546	-	359	332	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	161	145	425	102	122	760	785	-	-	1077	-	-
Mov Cap-2 Maneuver	161	145	-	102	122	-	-	-	-	-	-	-
Stage 1	341	360	-	528	546	-	-	-	-	-	-	-
Stage 2	689	543	-	303	314	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	35.33	14.27	0.09	0.54
HCM LOS	E	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	785	-	-	218	437	1077	-	-
HCM Lane V/C Ratio	0.006	-	-	0.469	0.111	0.053	-	-
HCM Control Delay (s/veh)	9.6	-	-	35.3	14.3	8.5	-	-
HCM Lane LOS	A	-	-	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	2.3	0.4	0.2	-	-

Intersection	
Intersection Delay, s/veh	44.2
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	92	45	84	18	33	76	46	256	21	146	474	49
Future Vol, veh/h	92	45	84	18	33	76	46	256	21	146	474	49
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	6	0	0	0	3	1	2	1	9	0	3	3
Mvmt Flow	103	51	94	20	37	85	52	288	24	164	533	55
Number of Lanes	0	1	1	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay, s/veh	14.2	14.6	19.5	71.7
HCM LOS	B	B	C	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	67%	0%	14%	100%	0%
Vol Thru, %	0%	92%	33%	0%	26%	0%	91%
Vol Right, %	0%	8%	0%	100%	60%	0%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	46	277	137	84	127	146	523
LT Vol	46	0	92	0	18	146	0
Through Vol	0	256	45	0	33	0	474
RT Vol	0	21	0	84	76	0	49
Lane Flow Rate	52	311	154	94	143	164	588
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.109	0.609	0.351	0.186	0.307	0.326	1.082
Departure Headway (Hd)	7.901	7.315	8.537	7.365	8.089	7.153	6.627
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	456	498	423	490	447	499	547
Service Time	5.601	5.015	6.237	5.065	6.089	4.945	4.419
HCM Lane V/C Ratio	0.114	0.624	0.364	0.192	0.32	0.329	1.075
HCM Control Delay, s/veh	11.6	20.8	15.8	11.7	14.6	13.4	88
HCM Lane LOS	B	C	C	B	B	B	F
HCM 95th-tile Q	0.4	4	1.6	0.7	1.3	1.4	17.7

Intersection	
Intersection Delay, s/veh	20.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	84	8	61	72	31	29	200	23	56	337	124
Future Vol, veh/h	72	84	8	61	72	31	29	200	23	56	337	124
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	81	94	9	69	81	35	33	225	26	63	379	139
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay, s/veh	14.9	15.3	15.3	26.5
HCM LOS	B	C	C	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	46%	0%	37%	14%	0%
Vol Thru, %	0%	90%	54%	0%	44%	86%	0%
Vol Right, %	0%	10%	0%	100%	19%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	223	156	8	164	393	124
LT Vol	29	0	72	0	61	56	0
Through Vol	0	200	84	0	72	337	0
RT Vol	0	23	0	8	31	0	124
Lane Flow Rate	33	251	175	9	184	442	139
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.068	0.481	0.379	0.017	0.386	0.809	0.225
Departure Headway (Hd)	7.496	6.91	7.788	6.834	7.541	6.598	5.812
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	478	521	463	523	477	548	617
Service Time	5.242	4.655	5.537	4.583	5.59	4.336	3.549
HCM Lane V/C Ratio	0.069	0.482	0.378	0.017	0.386	0.807	0.225
HCM Control Delay, s/veh	10.8	15.9	15.2	9.7	15.3	31.7	10.2
HCM Lane LOS	B	C	C	A	C	D	B
HCM 95th-tile Q	0.2	2.6	1.7	0.1	1.8	7.9	0.9

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	104	124	85	304	135
Future Vol, veh/h	35	104	124	85	304	135
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	106	127	87	310	138
Number of Lanes	1	0	1	0	0	1

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	9.3	9.3	14
HCM LOS	A	A	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	25%	69%
Vol Thru, %	59%	0%	31%
Vol Right, %	41%	75%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	209	139	439
LT Vol	0	35	304
Through Vol	124	0	135
RT Vol	85	104	0
Lane Flow Rate	213	142	448
Geometry Grp	1	1	1
Degree of Util (X)	0.27	0.198	0.58
Departure Headway (Hd)	4.556	5.022	4.664
Convergence, Y/N	Yes	Yes	Yes
Cap	785	711	770
Service Time	2.61	3.084	2.712
HCM Lane V/C Ratio	0.271	0.2	0.582
HCM Control Delay, s/veh	9.3	9.3	14
HCM Lane LOS	A	A	B
HCM 95th-tile Q	1.1	0.7	3.8

Intersection	
Intersection Delay, s/veh	15.4
Intersection LOS	C

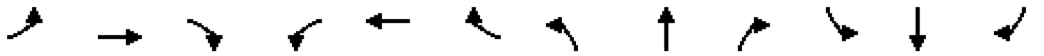
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	3	3	203	3	39	1	148	498	92	83	1
Future Vol, veh/h	5	3	3	203	3	39	1	148	498	92	83	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	3	3	211	3	41	1	154	519	96	86	1
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	9.6	13.3	17.1	12.3
HCM LOS	A	B	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	45%	83%	53%	0%
Vol Thru, %	99%	0%	27%	1%	47%	0%
Vol Right, %	0%	100%	27%	16%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	149	498	11	245	175	1
LT Vol	1	0	5	203	92	0
Through Vol	148	0	3	3	83	0
RT Vol	0	498	3	39	0	1
Lane Flow Rate	155	519	11	255	182	1
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.244	0.714	0.021	0.423	0.326	0.002
Departure Headway (Hd)	5.665	4.953	6.441	5.969	6.442	5.463
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	635	731	554	602	558	654
Service Time	3.396	2.684	4.5	4.005	4.185	3.206
HCM Lane V/C Ratio	0.244	0.71	0.02	0.424	0.326	0.002
HCM Control Delay, s/veh	10.2	19.1	9.6	13.3	12.3	8.2
HCM Lane LOS	B	C	A	B	B	A
HCM 95th-tile Q	1	6.1	0.1	2.1	1.4	0

HCM 7th Signalized Intersection Summary
1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	161	12	379	321	392	0	0	436	536
Future Volume (veh/h)	0	0	0	161	12	379	321	392	0	0	436	536
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.94
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				1826	1900	1885	1885	1856	0	0	1870	1885
Adj Flow Rate, veh/h				169	13	399	338	413	0	0	459	564
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				5	0	1	1	3	0	0	2	1
Cap, veh/h				341	10	308	437	2269	0	0	562	471
Arrive On Green				0.20	0.20	0.20	0.49	1.00	0.00	0.00	0.32	0.32
Sat Flow, veh/h				1739	51	1567	1795	3618	0	0	1870	1489
Grp Volume(v), veh/h				169	0	412	338	413	0	0	459	564
Grp Sat Flow(s),veh/h/ln				1739	0	1618	1795	1763	0	0	1777	1489
Q Serve(g_s), s				4.8	0.0	10.8	8.5	0.0	0.0	0.0	13.1	17.4
Cycle Q Clear(g_c), s				4.8	0.0	10.8	8.5	0.0	0.0	0.0	13.1	17.4
Prop In Lane				1.00		0.97	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				341	0	318	437	2269	0	0	562	471
V/C Ratio(X)				0.49	0.00	1.30	0.77	0.18	0.00	0.00	0.82	1.20
Avail Cap(c_a), veh/h				341	0	318	467	2269	0	0	562	471
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	0.83	0.83	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				19.7	0.0	22.1	12.8	0.0	0.0	0.0	17.3	18.8
Incr Delay (d2), s/veh				0.4	0.0	154.9	5.4	0.1	0.0	0.0	12.4	107.7
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.8	0.0	17.3	3.0	0.0	0.0	0.0	6.7	19.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				20.1	0.0	177.0	18.3	0.1	0.0	0.0	29.7	126.5
LnGrp LOS				C		F	B	A			C	F
Approach Vol, veh/h					581			751			1023	
Approach Delay, s/veh					131.4			8.3			83.1	
Approach LOS					F			A			F	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	18.0	22.0		15.0		40.0						
Change Period (Y+Rc), s	4.6	* 4.6		4.2		4.6						
Max Green Setting (Gmax), s	14.3	* 17		10.8		35.4						
Max Q Clear Time (g_c+I1), s	10.5	19.4		12.8		2.0						
Green Ext Time (p_c), s	0.1	0.0		0.0		1.2						

Intersection Summary		
HCM 7th Control Delay, s/veh	71.2	
HCM 7th LOS	E	

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	0	586	0	0	0	0	465	61	251	346	0
Future Volume (veh/h)	248	0	586	0	0	0	0	465	61	251	346	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				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	1826	1900	1856				0	1885	1856	1870	1856	0
Adj Flow Rate, veh/h	174	0	710				0	489	64	264	364	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, %	5	0	3				0	1	3	2	3	0
Cap, veh/h	373	0	675				0	1062	138	369	2205	0
Arrive On Green	0.21	0.00	0.21				0.00	0.33	0.33	0.41	1.00	0.00
Sat Flow, veh/h	1739	0	3145				0	3268	413	1781	3618	0
Grp Volume(v), veh/h	174	0	710				0	275	278	264	364	0
Grp Sat Flow(s),veh/h/ln	1739	0	1572				0	1791	1796	1781	1763	0
Q Serve(g_s), s	4.8	0.0	11.8				0.0	6.6	6.7	6.8	0.0	0.0
Cycle Q Clear(g_c), s	4.8	0.0	11.8				0.0	6.6	6.7	6.8	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.23	1.00		0.00
Lane Grp Cap(c), veh/h	373	0	675				0	599	601	369	2205	0
V/C Ratio(X)	0.47	0.00	1.05				0.00	0.46	0.46	0.72	0.17	0.00
Avail Cap(c_a), veh/h	373	0	675				0	599	601	398	2205	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	0.67	0.67	0.00
Uniform Delay (d), s/veh	18.9	0.0	21.6				0.0	14.4	14.4	14.7	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	49.2				0.0	2.5	2.6	3.0	0.1	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	1.8	0.0	8.4				0.0	2.8	2.9	2.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.2	0.0	70.8				0.0	16.9	17.0	17.8	0.1	0.0
LnGrp LOS	B		F					B	B	B	A	
Approach Vol, veh/h		884						553			628	
Approach Delay, s/veh		60.6						16.9			7.5	
Approach LOS		E						B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	39.0		16.0	23.0		16.0
Change Period (Y+Rc), s	4.6		4.6	* 4.6		4.2
Max Green Setting (Gmax), s	34.4		12.3	* 18		11.8
Max Q Clear Time (g_c+I1), s	2.0		8.8	8.7		13.8
Green Ext Time (p_c), s	1.0		0.1	1.0		0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	32.8
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

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	53	0	21	0	1	79	1	394	9	69	754	109
Future Vol, veh/h	53	0	21	0	1	79	1	394	9	69	754	109
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	0
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	56	0	22	0	1	83	1	415	9	73	794	115

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1149	1365	794	1361	1475	212	908	0	0	424	0	0
Stage 1	939	939	-	422	422	-	-	-	-	-	-	-
Stage 2	210	426	-	939	1054	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	164	147	387	116	126	794	747	-	-	1133	-	-
Stage 1	316	342	-	581	588	-	-	-	-	-	-	-
Stage 2	773	585	-	316	302	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	136	137	387	102	118	794	747	-	-	1133	-	-
Mov Cap-2 Maneuver	136	137	-	102	118	-	-	-	-	-	-	-
Stage 1	296	320	-	580	587	-	-	-	-	-	-	-
Stage 2	690	584	-	279	283	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	44.16	10.48	0.02	0.62
HCM LOS	E	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	747	-	-	167	741	1133	-	-
HCM Lane V/C Ratio	0.001	-	-	0.467	0.114	0.064	-	-
HCM Control Delay (s/veh)	9.8	-	-	44.2	10.5	8.4	-	-
HCM Lane LOS	A	-	-	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	2.2	0.4	0.2	-	-

Intersection	
Intersection Delay, s/veh	73.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	19	39	13	28	68	57	293	4	75	669	31
Future Vol, veh/h	43	19	39	13	28	68	57	293	4	75	669	31
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, %	6	0	0	0	3	1	2	1	9	0	3	3
Mvmt Flow	45	20	41	14	29	72	60	308	4	79	704	33
Number of Lanes	0	1	1	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay, s/veh	11.8	12.8	15.6	116
HCM LOS	B	B	C	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	69%	0%	12%	100%	0%
Vol Thru, %	0%	99%	31%	0%	26%	0%	96%
Vol Right, %	0%	1%	0%	100%	62%	0%	4%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	57	297	62	39	109	75	700
LT Vol	57	0	43	0	13	75	0
Through Vol	0	293	19	0	28	0	669
RT Vol	0	4	0	39	68	0	31
Lane Flow Rate	60	313	65	41	115	79	737
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.112	0.539	0.145	0.078	0.227	0.14	1.204
Departure Headway (Hd)	7.029	6.492	8.453	7.27	7.595	6.368	5.882
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	513	560	427	496	476	564	619
Service Time	4.729	4.192	6.153	4.97	5.595	4.099	3.613
HCM Lane V/C Ratio	0.117	0.559	0.152	0.083	0.242	0.14	1.191
HCM Control Delay, s/veh	10.6	16.5	12.6	10.6	12.8	10.1	127.4
HCM Lane LOS	B	C	B	B	B	B	F
HCM 95th-tile Q	0.4	3.2	0.5	0.3	0.9	0.5	26.1

Intersection	
Intersection Delay, s/veh	18.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	78	67	6	83	94	42	27	312	55	74	183	128
Future Vol, veh/h	78	67	6	83	94	42	27	312	55	74	183	128
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	82	71	6	87	99	44	28	328	58	78	193	135
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay, s/veh	14.5	17.2	23.8	15.2
HCM LOS	B	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	54%	0%	38%	29%	0%
Vol Thru, %	0%	85%	46%	0%	43%	71%	0%
Vol Right, %	0%	15%	0%	100%	19%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	367	145	6	219	257	128
LT Vol	27	0	78	0	83	74	0
Through Vol	0	312	67	0	94	183	0
RT Vol	0	55	0	6	42	0	128
Lane Flow Rate	28	386	153	6	231	271	135
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.058	0.718	0.336	0.012	0.477	0.527	0.23
Departure Headway (Hd)	7.308	6.689	7.923	6.928	7.442	7.015	6.151
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	490	541	453	515	484	514	582
Service Time	5.059	4.44	5.685	4.689	5.499	4.77	3.905
HCM Lane V/C Ratio	0.057	0.713	0.338	0.012	0.477	0.527	0.232
HCM Control Delay, s/veh	10.5	24.8	14.7	9.8	17.2	17.4	10.7
HCM Lane LOS	B	C	B	A	C	C	B
HCM 95th-tile Q	0.2	5.8	1.5	0	2.5	3	0.9

Intersection	
Intersection Delay, s/veh	18.2
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	87	282	162	61	219	239
Future Vol, veh/h	87	282	162	61	219	239
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	92	297	171	64	231	252
Number of Lanes	1	0	1	0	0	1

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	16	12	22.9
HCM LOS	C	B	C

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	24%	48%
Vol Thru, %	73%	0%	52%
Vol Right, %	27%	76%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	223	369	458
LT Vol	0	87	219
Through Vol	162	0	239
RT Vol	61	282	0
Lane Flow Rate	235	388	482
Geometry Grp	1	1	1
Degree of Util (X)	0.369	0.587	0.742
Departure Headway (Hd)	5.665	5.441	5.539
Convergence, Y/N	Yes	Yes	Yes
Cap	631	660	651
Service Time	3.729	3.499	3.589
HCM Lane V/C Ratio	0.372	0.588	0.74
HCM Control Delay, s/veh	12	16	22.9
HCM Lane LOS	B	C	C
HCM 95th-tile Q	1.7	3.8	6.6

Intersection	
Intersection Delay, s/veh	33
Intersection LOS	D

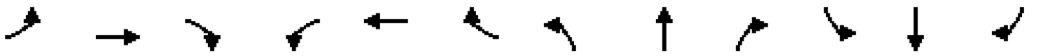
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	9	1	418	3	100	1	123	238	201	121	4
Future Vol, veh/h	0	9	1	418	3	100	1	123	238	201	121	4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	9	1	440	3	105	1	129	251	212	127	4
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	11	50.8	14.1	26.3
HCM LOS	B	F	B	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	0%	80%	62%	0%
Vol Thru, %	99%	0%	90%	1%	38%	0%
Vol Right, %	0%	100%	10%	19%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	124	238	10	521	322	4
LT Vol	1	0	0	418	201	0
Through Vol	123	0	9	3	121	0
RT Vol	0	238	1	100	0	4
Lane Flow Rate	131	251	11	548	339	4
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.265	0.457	0.023	0.949	0.707	0.008
Departure Headway (Hd)	7.297	6.572	7.779	6.23	7.509	6.468
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	492	546	458	581	481	552
Service Time	5.053	4.327	5.864	4.267	5.261	4.219
HCM Lane V/C Ratio	0.266	0.46	0.024	0.943	0.705	0.007
HCM Control Delay, s/veh	12.7	14.8	11	50.8	26.5	9.3
HCM Lane LOS	B	B	B	F	D	A
HCM 95th-tile Q	1.1	2.4	0.1	12.6	5.5	0

HCM 7th Signalized Intersection Summary
1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	77	1	406	593	629	0	0	644	149
Future Volume (veh/h)	0	0	0	77	1	406	593	629	0	0	644	149
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.93
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				1826	1900	1885	1885	1856	0	0	1870	1885
Adj Flow Rate, veh/h				81	1	427	624	662	0	0	678	157
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				5	0	1	1	3	0	0	2	1
Cap, veh/h				371	1	343	581	2256	0	0	676	156
Arrive On Green				0.21	0.21	0.21	0.32	0.64	0.00	0.00	0.24	0.24
Sat Flow, veh/h				1739	4	1607	1795	3618	0	0	2911	652
Grp Volume(v), veh/h				81	0	428	624	662	0	0	427	408
Grp Sat Flow(s),veh/h/ln				1739	0	1611	1795	1763	0	0	1777	1692
Q Serve(g_s), s				2.3	0.0	12.8	19.4	5.0	0.0	0.0	14.4	14.4
Cycle Q Clear(g_c), s				2.3	0.0	12.8	19.4	5.0	0.0	0.0	14.4	14.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.39
Lane Grp Cap(c), veh/h				371	0	344	581	2256	0	0	426	406
V/C Ratio(X)				0.22	0.00	1.25	1.07	0.29	0.00	0.00	1.00	1.00
Avail Cap(c_a), veh/h				371	0	344	581	2256	0	0	426	406
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.41	0.41	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				19.5	0.0	23.6	20.3	4.8	0.0	0.0	22.8	22.8
Incr Delay (d2), s/veh				0.1	0.0	132.6	46.8	0.1	0.0	0.0	44.1	45.6
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				0.9	0.0	17.0	14.9	1.4	0.0	0.0	10.8	10.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				19.6	0.0	156.2	67.1	4.9	0.0	0.0	66.9	68.4
LnGrp LOS				B		F	F	A			F	F
Approach Vol, veh/h					509			1286			835	
Approach Delay, s/veh					134.5			35.1			67.6	
Approach LOS					F			D			E	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	24.0	19.0	17.0	43.0
Change Period (Y+Rc), s	4.6	* 4.6	4.2	4.6
Max Green Setting (Gmax), s	17.3	* 14	12.8	38.4
Max Q Clear Time (g_c+I1), s	21.4	16.4	14.8	7.0
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0

Intersection Summary	
HCM 7th Control Delay, s/veh	64.7
HCM 7th LOS	E

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	417	208	512	0	0	0	0	805	91	370	351	0
Future Volume (veh/h)	417	208	512	0	0	0	0	805	91	370	351	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				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	1826	1900	1856				0	1885	1856	1870	1856	0
Adj Flow Rate, veh/h	366	437	416				0	847	96	389	369	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, %	5	0	3				0	1	3	2	3	0
Cap, veh/h	482	527	436				0	1008	114	475	2255	0
Arrive On Green	0.28	0.28	0.28				0.00	0.31	0.31	0.27	0.64	0.00
Sat Flow, veh/h	1739	1900	1572				0	3325	366	1781	3618	0
Grp Volume(v), veh/h	366	437	416				0	469	474	389	369	0
Grp Sat Flow(s),veh/h/ln	1739	1900	1572				0	1791	1806	1781	1763	0
Q Serve(g_s), s	14.4	16.2	19.5				0.0	18.3	18.3	15.4	3.2	0.0
Cycle Q Clear(g_c), s	14.4	16.2	19.5				0.0	18.3	18.3	15.4	3.2	0.0
Prop In Lane	1.00		1.00				0.00		0.20	1.00		0.00
Lane Grp Cap(c), veh/h	482	527	436				0	559	564	475	2255	0
V/C Ratio(X)	0.76	0.83	0.95				0.00	0.84	0.84	0.82	0.16	0.00
Avail Cap(c_a), veh/h	482	527	436				0	559	564	475	2255	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.53	0.53	0.00
Uniform Delay (d), s/veh	24.8	25.4	26.6				0.0	24.1	24.1	25.8	5.4	0.0
Incr Delay (d2), s/veh	6.2	10.1	31.2				0.0	14.2	14.1	5.7	0.1	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	6.4	8.2	10.5				0.0	9.6	9.7	7.0	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.0	35.5	57.8				0.0	38.2	38.1	31.5	5.5	0.0
LnGrp LOS	C	D	E					D	D	C	A	
Approach Vol, veh/h		1219						943			758	
Approach Delay, s/veh		41.8						38.2			18.9	
Approach LOS		D						D			B	

Timer - Assigned Phs	2		5	6	8
Phs Duration (G+Y+Rc), s	52.6		24.6	28.0	25.0
Change Period (Y+Rc), s	4.6		4.6	* 4.6	4.2
Max Green Setting (Gmax), s	45.4		18.3	* 23	20.8
Max Q Clear Time (g_c+I1), s	5.2		17.4	20.3	21.5
Green Ext Time (p_c), s	1.1		0.0	1.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	34.7
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

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	49	2	38	4	1	59	4	788	9	79	672	112
Future Vol, veh/h	49	2	38	4	1	59	4	788	9	79	672	112
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	0
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	52	2	40	4	1	62	4	829	9	83	707	118

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1297	1721	707	1717	1834	419	825	0	0	839	0	0
Stage 1	874	874	-	843	843	-	-	-	-	-	-	-
Stage 2	424	847	-	875	992	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	129	89	434	64	76	583	803	-	-	794	-	-
Stage 1	344	366	-	326	379	-	-	-	-	-	-	-
Stage 2	579	377	-	343	323	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	101	79	434	50	67	583	803	-	-	794	-	-
Mov Cap-2 Maneuver	101	79	-	50	67	-	-	-	-	-	-	-
Stage 1	308	328	-	324	377	-	-	-	-	-	-	-
Stage 2	514	375	-	277	289	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	63.37	18.8	0.05	0.92
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	803	-	-	149	328	794	-	-
HCM Lane V/C Ratio	0.005	-	-	0.63	0.206	0.105	-	-
HCM Control Delay (s/veh)	9.5	-	-	63.4	18.8	10.1	-	-
HCM Lane LOS	A	-	-	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	3.4	0.8	0.3	-	-

Intersection	
Intersection Delay, s/veh	109.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	92	45	84	22	33	192	46	517	34	146	519	49
Future Vol, veh/h	92	45	84	22	33	192	46	517	34	146	519	49
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, %	6	0	0	0	3	1	2	1	9	0	3	3
Mvmt Flow	97	47	88	23	35	202	48	544	36	154	546	52
Number of Lanes	0	1	1	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay, s/veh	17.1	25.9	146.2	136.7
HCM LOS	C	D	F	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	67%	0%	9%	100%	0%
Vol Thru, %	0%	94%	33%	0%	13%	0%	91%
Vol Right, %	0%	6%	0%	100%	78%	0%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	46	551	137	84	247	146	568
LT Vol	46	0	92	0	22	146	0
Through Vol	0	517	45	0	33	0	519
RT Vol	0	34	0	84	192	0	49
Lane Flow Rate	48	580	144	88	260	154	598
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.112	1.254	0.374	0.201	0.607	0.351	1.281
Departure Headway (Hd)	8.874	8.292	10.307	9.11	9.418	8.783	8.253
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	406	441	352	396	387	412	442
Service Time	6.574	5.992	8.007	6.81	7.418	6.483	5.953
HCM Lane V/C Ratio	0.118	1.315	0.409	0.222	0.672	0.374	1.353
HCM Control Delay, s/veh	12.7	157.3	19	14.1	25.9	16.2	167.7
HCM Lane LOS	B	F	C	B	D	C	F
HCM 95th-tile Q	0.4	22.8	1.7	0.7	3.8	1.6	24

Intersection	
Intersection Delay, s/veh	21.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	190	63	8	17	65	73	29	200	23	56	337	142
Future Vol, veh/h	190	63	8	17	65	73	29	200	23	56	337	142
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	200	66	8	18	68	77	31	211	24	59	355	149
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay, s/veh	20.7	14.7	15.8	26
HCM LOS	C	B	C	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	75%	0%	11%	14%	0%
Vol Thru, %	0%	90%	25%	0%	42%	86%	0%
Vol Right, %	0%	10%	0%	100%	47%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	223	253	8	155	393	142
LT Vol	29	0	190	0	17	56	0
Through Vol	0	200	63	0	65	337	0
RT Vol	0	23	0	8	73	0	142
Lane Flow Rate	31	235	266	8	163	414	149
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.067	0.473	0.581	0.016	0.346	0.794	0.254
Departure Headway (Hd)	7.847	7.258	7.848	6.747	7.634	6.911	6.122
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	455	495	458	529	470	521	584
Service Time	5.611	5.022	5.606	4.504	5.705	4.665	3.876
HCM Lane V/C Ratio	0.068	0.475	0.581	0.015	0.347	0.795	0.255
HCM Control Delay, s/veh	11.2	16.4	21	9.6	14.7	31.4	11
HCM Lane LOS	B	C	C	A	B	D	B
HCM 95th-tile Q	0.2	2.5	3.6	0	1.5	7.4	1

Intersection	
Intersection Delay, s/veh	24.4
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	104	305	85	304	296
Future Vol, veh/h	35	104	305	85	304	296
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	109	321	89	320	312
Number of Lanes	1	0	1	0	0	1

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	11	14.9	33.7
HCM LOS	B	B	D

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	25%	51%
Vol Thru, %	78%	0%	49%
Vol Right, %	22%	75%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	390	139	600
LT Vol	0	35	304
Through Vol	305	0	296
RT Vol	85	104	0
Lane Flow Rate	411	146	632
Geometry Grp	1	1	1
Degree of Util (X)	0.579	0.243	0.883
Departure Headway (Hd)	5.077	5.987	5.033
Convergence, Y/N	Yes	Yes	Yes
Cap	710	598	720
Service Time	3.108	4.033	3.058
HCM Lane V/C Ratio	0.579	0.244	0.878
HCM Control Delay, s/veh	14.9	11	33.7
HCM Lane LOS	B	B	D
HCM 95th-tile Q	3.7	0.9	11

Intersection	
Intersection Delay, s/veh	60.8
Intersection LOS	F

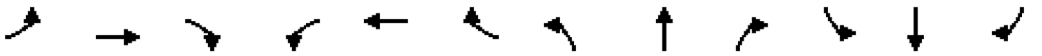
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	3	3	203	3	237	1	148	619	247	83	1
Future Vol, veh/h	5	3	3	203	3	237	1	148	619	247	83	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	3	3	214	3	249	1	156	652	260	87	1
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	12.2	36.2	88.8	30.6
HCM LOS	B	E	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	45%	46%	75%	0%
Vol Thru, %	99%	0%	27%	1%	25%	0%
Vol Right, %	0%	100%	27%	53%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	149	619	11	443	330	1
LT Vol	1	0	5	203	247	0
Through Vol	148	0	3	3	83	0
RT Vol	0	619	3	237	0	1
Lane Flow Rate	157	652	12	466	347	1
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.307	1.143	0.027	0.842	0.744	0.002
Departure Headway (Hd)	7.038	6.315	8.95	6.79	8.059	6.947
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	507	573	402	536	452	518
Service Time	4.832	4.108	6.95	4.79	5.759	4.647
HCM Lane V/C Ratio	0.31	1.138	0.03	0.869	0.768	0.002
HCM Control Delay, s/veh	13	107.1	12.2	36.2	30.7	9.7
HCM Lane LOS	B	F	B	E	D	A
HCM 95th-tile Q	1.3	21.3	0.1	8.7	6.1	0

HCM 7th Signalized Intersection Summary
1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	59	12	107	369	516	0	0	431	478
Future Volume (veh/h)	0	0	0	59	12	107	369	516	0	0	431	478
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.96
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1826	1900	1885	1885	1856	0	0	1870	1885
Adj Flow Rate, veh/h				65	13	118	405	567	0	0	474	525
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				5	0	1	1	3	0	0	2	1
Cap, veh/h				172	16	145	426	2867	0	0	957	817
Arrive On Green				0.10	0.10	0.10	0.47	1.00	0.00	0.00	0.54	0.54
Sat Flow, veh/h				1739	162	1473	1795	3618	0	0	1870	1516
Grp Volume(v), veh/h				65	0	131	405	567	0	0	474	525
Grp Sat Flow(s),veh/h/ln				1739	0	1635	1795	1763	0	0	1777	1516
Q Serve(g_s), s				3.5	0.0	7.9	21.6	0.0	0.0	0.0	16.8	24.4
Cycle Q Clear(g_c), s				3.5	0.0	7.9	21.6	0.0	0.0	0.0	16.8	24.4
Prop In Lane				1.00		0.90	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				172	0	161	426	2867	0	0	957	817
V/C Ratio(X)				0.38	0.00	0.81	0.95	0.20	0.00	0.00	0.50	0.64
Avail Cap(c_a), veh/h				195	0	183	634	2867	0	0	957	817
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	0.84	0.84	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				42.2	0.0	44.2	25.7	0.0	0.0	0.0	14.5	16.3
Incr Delay (d2), s/veh				0.5	0.0	18.8	13.9	0.1	0.0	0.0	1.8	3.9
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.5	0.0	4.0	8.5	0.1	0.0	0.0	7.1	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				42.7	0.0	63.0	39.6	0.1	0.0	0.0	16.3	20.1
LnGrp LOS				D		E	D	A			B	C
Approach Vol, veh/h					196			972			999	
Approach Delay, s/veh					56.2			16.6			18.3	
Approach LOS					E			B			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	27.4	58.5		14.1		85.9						
Change Period (Y+Rc), s	3.7	4.6		4.2		4.6						
Max Green Setting (Gmax), s	35.3	41.0		11.2		80.0						
Max Q Clear Time (g_c+I1), s	23.6	26.4		9.9		2.0						
Green Ext Time (p_c), s	0.2	2.8		0.1		1.7						

Intersection Summary	
HCM 7th Control Delay, s/veh	21.0
HCM 7th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	313	0	296	0	0	0	0	572	111	176	314	0
Future Volume (veh/h)	313	0	296	0	0	0	0	572	111	176	314	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				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	1826	1900	1856				0	1885	1856	1870	1856	0
Adj Flow Rate, veh/h	440	0	215				0	622	121	191	341	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	0	3				0	1	3	2	3	0
Cap, veh/h	557	0	252				0	1113	216	591	2651	0
Arrive On Green	0.16	0.00	0.16				0.00	0.37	0.37	0.11	0.25	0.00
Sat Flow, veh/h	3478	0	1572				0	3070	578	1781	3618	0
Grp Volume(v), veh/h	440	0	215				0	374	369	191	341	0
Grp Sat Flow(s),veh/h/ln	1739	0	1572				0	1791	1762	1781	1763	0
Q Serve(g_s), s	12.2	0.0	13.3				0.0	16.5	16.6	9.9	7.5	0.0
Cycle Q Clear(g_c), s	12.2	0.0	13.3				0.0	16.5	16.6	9.9	7.5	0.0
Prop In Lane	1.00		1.00				0.00		0.33	1.00		0.00
Lane Grp Cap(c), veh/h	557	0	252				0	670	659	591	2651	0
V/C Ratio(X)	0.79	0.00	0.85				0.00	0.56	0.56	0.32	0.13	0.00
Avail Cap(c_a), veh/h	967	0	437				0	670	659	591	2651	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.82	0.82	0.00
Uniform Delay (d), s/veh	40.4	0.0	40.9				0.0	24.8	24.8	34.2	12.2	0.0
Incr Delay (d2), s/veh	1.0	0.0	3.2				0.0	3.3	3.4	0.1	0.1	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	5.2	0.0	5.3				0.0	7.6	7.5	4.7	3.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.3	0.0	44.0				0.0	28.1	28.2	34.3	12.2	0.0
LnGrp LOS	D		D					C	C	C	B	
Approach Vol, veh/h		655						743			532	
Approach Delay, s/veh		42.2						28.2			20.1	
Approach LOS		D						C			C	

Timer - Assigned Phs	2		5	6	8
Phs Duration (G+Y+Rc), s	79.8		37.8	42.0	20.2
Change Period (Y+Rc), s	4.6		4.6	* 4.6	4.2
Max Green Setting (Gmax), s	63.4		22.3	* 37	27.8
Max Q Clear Time (g_c+I1), s	9.5		11.9	18.6	15.3
Green Ext Time (p_c), s	1.0		0.1	1.8	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	30.7
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

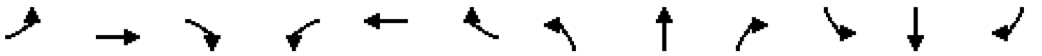
Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	0	21	0	1	14	1	616	9	39	462	109
Future Vol, veh/h	53	0	21	0	1	14	1	616	9	39	462	109
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	50	-	-	50	-	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	58	0	23	0	1	15	1	677	10	43	508	120

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	935	1282	508	1277	1397	343	627	0	0	687	0	0
Stage 1	593	593	-	684	684	-	-	-	-	-	-	-
Stage 2	341	689	-	593	713	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	233	165	564	133	140	653	952	-	-	905	-	-
Stage 1	491	492	-	406	448	-	-	-	-	-	-	-
Stage 2	648	446	-	491	434	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	215	157	564	121	133	653	952	-	-	905	-	-
Mov Cap-2 Maneuver	215	157	-	121	133	-	-	-	-	-	-	-
Stage 1	468	469	-	405	447	-	-	-	-	-	-	-
Stage 2	630	445	-	448	414	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	23.3	12.17	0.01	0.59
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	952	-	-	215	564	519	905	-	-
HCM Lane V/C Ratio	0.001	-	-	0.271	0.041	0.032	0.047	-	-
HCM Control Delay (s/veh)	8.8	-	-	27.9	11.7	12.2	9.2	-	-
HCM Lane LOS	A	-	-	D	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.1	0.1	0.1	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	19	39	9	28	142	57	441	10	75	377	31
Future Volume (veh/h)	43	19	39	9	28	142	57	441	10	75	377	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.99	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1900	1900	1900	1856	1885	1870	1885	1767	1900	1856	1856
Adj Flow Rate, veh/h	48	21	44	10	31	160	64	496	11	84	424	35
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	6	0	0	0	3	1	2	1	9	0	3	3
Cap, veh/h	359	130	314	105	59	259	169	679	15	139	593	49
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.10	0.37	0.37	0.08	0.35	0.35
Sat Flow, veh/h	987	641	1542	35	291	1271	1781	1835	41	1810	1686	139
Grp Volume(v), veh/h	69	0	44	201	0	0	64	0	507	84	0	459
Grp Sat Flow(s),veh/h/ln	1628	0	1542	1596	0	0	1781	0	1876	1810	0	1825
Q Serve(g_s), s	0.0	0.0	0.9	0.0	0.0	0.0	1.3	0.0	9.0	1.7	0.0	8.4
Cycle Q Clear(g_c), s	1.2	0.0	0.9	4.4	0.0	0.0	1.3	0.0	9.0	1.7	0.0	8.4
Prop In Lane	0.70		1.00	0.05		0.80	1.00		0.02	1.00		0.08
Lane Grp Cap(c), veh/h	489	0	314	423	0	0	169	0	695	139	0	642
V/C Ratio(X)	0.14	0.00	0.14	0.48	0.00	0.00	0.38	0.00	0.73	0.60	0.00	0.71
Avail Cap(c_a), veh/h	848	0	722	841	0	0	254	0	1111	258	0	1081
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	12.6	14.0	0.0	0.0	16.4	0.0	10.5	17.3	0.0	10.8
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.8	0.0	0.0	1.4	0.0	1.5	4.2	0.0	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.3	1.4	0.0	0.0	0.5	0.0	3.1	0.8	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.9	0.0	12.8	14.8	0.0	0.0	17.8	0.0	12.0	21.4	0.0	12.3
LnGrp LOS	B		B	B			B		B	C		B
Approach Vol, veh/h		113			201			571			543	
Approach Delay, s/veh		12.8			14.8			12.6			13.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	18.8		12.4	8.2	18.1		12.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	22.9		18.1	5.5	22.9		18.1				
Max Q Clear Time (g_c+I1), s	3.7	11.0		3.2	3.3	10.4		6.4				
Green Ext Time (p_c), s	0.0	2.7		0.4	0.0	2.5		0.9				

Intersection Summary		
HCM 7th Control Delay, s/veh	13.4	
HCM 7th LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	67	6	83	94	42	27	312	55	74	183	128
Future Volume (veh/h)	70	67	6	83	94	42	27	312	55	74	183	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	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	84	81	7	100	113	51	33	376	66	89	220	154
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	366	288	436	298	231	85	449	623	109	252	468	630
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	626	1030	1557	440	824	303	1002	1545	271	220	1160	1561
Grp Volume(v), veh/h	165	0	7	264	0	0	33	0	442	309	0	154
Grp Sat Flow(s),veh/h/ln	1656	0	1557	1566	0	0	1002	0	1817	1380	0	1561
Q Serve(g_s), s	0.0	0.0	0.1	2.1	0.0	0.0	0.8	0.0	5.5	0.5	0.0	1.9
Cycle Q Clear(g_c), s	2.0	0.0	0.1	4.1	0.0	0.0	6.7	0.0	5.5	5.9	0.0	1.9
Prop In Lane	0.51		1.00	0.38		0.19	1.00		0.15	0.29		1.00
Lane Grp Cap(c), veh/h	655	0	436	613	0	0	449	0	733	720	0	630
V/C Ratio(X)	0.25	0.00	0.02	0.43	0.00	0.00	0.07	0.00	0.60	0.43	0.00	0.24
Avail Cap(c_a), veh/h	1172	0	986	1160	0	0	680	0	1151	1055	0	989
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.1	0.0	7.4	8.8	0.0	0.0	9.5	0.0	6.7	6.1	0.0	5.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.5	0.0	0.0	0.1	0.0	0.8	0.4	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	1.0	0.0	0.0	0.1	0.0	1.4	0.8	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.3	0.0	7.4	9.3	0.0	0.0	9.6	0.0	7.5	6.5	0.0	5.8
LnGrp LOS	A		A	A			A		A	A		A
Approach Vol, veh/h		172			264			475			463	
Approach Delay, s/veh		8.2			9.3			7.6			6.3	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	16.0	12.5	16.0	12.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	8.7	4.0	7.9	6.1
Green Ext Time (p_c), s	2.1	0.8	1.9	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	7.6
HCM 7th LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	87	282	162	61	219	84
Future Volume (veh/h)	87	282	162	61	219	84
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	114	371	213	80	288	111
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	129	421	599	225	454	154
Arrive On Green	0.34	0.34	0.46	0.46	0.46	0.46
Sat Flow, veh/h	382	1242	1296	487	685	333
Grp Volume(v), veh/h	486	0	0	293	399	0
Grp Sat Flow(s),veh/h/ln	1628	0	0	1783	1017	0
Q Serve(g_s), s	12.7	0.0	0.0	4.8	12.3	0.0
Cycle Q Clear(g_c), s	12.7	0.0	0.0	4.8	17.0	0.0
Prop In Lane	0.23	0.76		0.27	0.72	
Lane Grp Cap(c), veh/h	551	0	0	824	607	0
V/C Ratio(X)	0.88	0.00	0.00	0.36	0.66	0.00
Avail Cap(c_a), veh/h	647	0	0	1102	799	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.1	0.0	0.0	7.8	12.5	0.0
Incr Delay (d2), s/veh	12.1	0.0	0.0	0.3	1.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	0.0	0.0	1.4	3.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	26.2	0.0	0.0	8.1	13.7	0.0
LnGrp LOS	C			A	B	
Approach Vol, veh/h	486		293			399
Approach Delay, s/veh	26.2		8.1			13.7
Approach LOS	C		A			B

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	25.4			25.4	19.8
Change Period (Y+Rc), s	4.5			4.5	4.5
Max Green Setting (Gmax), s	28.0			28.0	18.0
Max Q Clear Time (g_c+I1), s	6.8			19.0	14.7
Green Ext Time (p_c), s	1.7			1.9	0.6

Intersection Summary	
HCM 7th Control Delay, s/veh	17.4
HCM 7th LOS	B

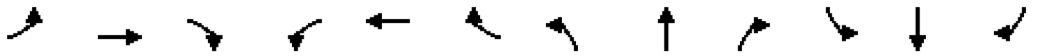
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	9	1	418	3	100	1	123	225	41	126	4
Future Volume (veh/h)	0	9	1	418	3	100	1	123	225	41	126	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	10	1	459	3	110	1	135	247	45	138	4
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	837	84	763	4	137	107	442	376	187	338	376
Arrive On Green	0.00	0.50	0.50	0.50	0.50	0.50	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	0	1673	167	1146	7	275	4	1865	1585	238	1426	1585
Grp Volume(v), veh/h	0	0	11	572	0	0	136	0	247	183	0	4
Grp Sat Flow(s),veh/h/ln	0	0	1840	1428	0	0	1868	0	1585	1664	0	1585
Q Serve(g_s), s	0.0	0.0	0.1	11.4	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.0	0.0	0.1	11.5	0.0	0.0	2.1	0.0	4.8	2.8	0.0	0.1
Prop In Lane	0.00		0.09	0.80		0.19	0.01		1.00	0.25		1.00
Lane Grp Cap(c), veh/h	0	0	921	904	0	0	549	0	376	525	0	376
V/C Ratio(X)	0.00	0.00	0.01	0.63	0.00	0.00	0.25	0.00	0.66	0.35	0.00	0.01
Avail Cap(c_a), veh/h	0	0	1690	1504	0	0	1166	0	901	1036	0	901
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)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	4.3	7.2	0.0	0.0	10.8	0.0	11.8	11.1	0.0	10.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.0	0.2	0.0	2.0	0.4	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	0.0	0.0	0.0	2.0	0.0	0.0	0.7	0.0	1.5	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	4.3	7.9	0.0	0.0	11.0	0.0	13.8	11.5	0.0	10.0
LnGrp LOS			A	A			B		B	B		B
Approach Vol, veh/h		11			572			383			187	
Approach Delay, s/veh		4.3			7.9			12.8			11.4	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	12.6	21.7	12.6	21.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	19.5	31.5	19.5	31.5
Max Q Clear Time (g_c+I1), s	6.8	2.1	4.8	13.5
Green Ext Time (p_c), s	1.3	0.0	0.9	3.7

Intersection Summary	
HCM 7th Control Delay, s/veh	10.1
HCM 7th LOS	B

HCM 7th Signalized Intersection Summary
1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	107	1	195	290	401	0	0	642	316
Future Volume (veh/h)	0	0	0	107	1	195	290	401	0	0	642	316
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.94
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				1826	1900	1885	1885	1856	0	0	1870	1885
Adj Flow Rate, veh/h				113	1	205	305	422	0	0	676	333
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				5	0	1	1	3	0	0	2	1
Cap, veh/h				209	1	192	415	2413	0	0	792	390
Arrive On Green				0.12	0.12	0.12	0.23	0.68	0.00	0.00	0.35	0.35
Sat Flow, veh/h				1739	8	1604	1795	3618	0	0	2351	1112
Grp Volume(v), veh/h				113	0	206	305	422	0	0	532	477
Grp Sat Flow(s),veh/h/ln				1739	0	1611	1795	1763	0	0	1777	1592
Q Serve(g_s), s				2.8	0.0	5.4	7.1	1.9	0.0	0.0	12.5	12.5
Cycle Q Clear(g_c), s				2.8	0.0	5.4	7.1	1.9	0.0	0.0	12.5	12.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.70
Lane Grp Cap(c), veh/h				209	0	193	415	2413	0	0	624	559
V/C Ratio(X)				0.54	0.00	1.07	0.74	0.17	0.00	0.00	0.85	0.85
Avail Cap(c_a), veh/h				209	0	193	451	2413	0	0	624	559
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.82	0.82	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				18.6	0.0	19.8	16.0	2.5	0.0	0.0	13.5	13.5
Incr Delay (d2), s/veh				1.6	0.0	83.1	3.9	0.1	0.0	0.0	13.8	15.2
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.0	0.0	6.2	3.0	0.4	0.0	0.0	6.5	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				20.2	0.0	102.9	19.9	2.7	0.0	0.0	27.4	28.7
LnGrp LOS				C		F	B	A			C	C
Approach Vol, veh/h					319			727			1009	
Approach Delay, s/veh					73.6			9.9			28.0	
Approach LOS					E			A			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	15.0	20.4		9.6		35.4						
Change Period (Y+Rc), s	4.6	* 4.6		4.2		4.6						
Max Green Setting (Gmax), s	11.3	* 16		5.4		30.8						
Max Q Clear Time (g_c+I1), s	9.1	14.5		7.4		3.9						
Green Ext Time (p_c), s	0.0	0.5		0.0		1.2						

Intersection Summary	
HCM 7th Control Delay, s/veh	28.7
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	208	347	0	0	0	0	457	91	276	473	0
Future Volume (veh/h)	234	208	347	0	0	0	0	457	91	276	473	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				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	1826	1900	1856				0	1885	1856	1870	1856	0
Adj Flow Rate, veh/h	245	305	306				0	497	99	300	514	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	0	3				0	1	3	2	3	0
Cap, veh/h	396	433	358				0	879	174	449	2205	0
Arrive On Green	0.23	0.23	0.23				0.00	0.30	0.30	0.25	0.63	0.00
Sat Flow, veh/h	1739	1900	1572				0	3057	587	1781	3618	0
Grp Volume(v), veh/h	245	305	306				0	299	297	300	514	0
Grp Sat Flow(s),veh/h/ln	1739	1900	1572				0	1791	1759	1781	1763	0
Q Serve(g_s), s	7.6	8.9	11.2				0.0	8.5	8.6	9.1	3.8	0.0
Cycle Q Clear(g_c), s	7.6	8.9	11.2				0.0	8.5	8.6	9.1	3.8	0.0
Prop In Lane	1.00		1.00				0.00		0.33	1.00		0.00
Lane Grp Cap(c), veh/h	396	433	358				0	531	522	449	2205	0
V/C Ratio(X)	0.62	0.70	0.85				0.00	0.56	0.57	0.67	0.23	0.00
Avail Cap(c_a), veh/h	446	488	404				0	531	522	449	2205	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.66	0.66	0.00
Uniform Delay (d), s/veh	20.8	21.3	22.2				0.0	17.8	17.9	20.2	4.9	0.0
Incr Delay (d2), s/veh	1.2	3.0	13.5				0.0	4.3	4.5	2.0	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	2.9	3.9	5.1				0.0	3.9	3.9	3.8	1.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.1	24.3	35.8				0.0	22.1	22.3	22.2	5.1	0.0
LnGrp LOS	C	C	D					C	C	C	A	
Approach Vol, veh/h		856						596			814	
Approach Delay, s/veh		27.8						22.2			11.4	
Approach LOS		C						C			B	

Timer - Assigned Phs	2		5	6	8
Phs Duration (G+Y+Rc), s	42.1		19.7	22.4	17.9
Change Period (Y+Rc), s	4.6		4.6	* 4.6	4.2
Max Green Setting (Gmax), s	35.8		14.3	* 18	15.4
Max Q Clear Time (g_c+I1), s	5.8		11.1	10.6	13.2
Green Ext Time (p_c), s	1.5		0.1	1.0	0.5

Intersection Summary	
HCM 7th Control Delay, s/veh	20.4
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

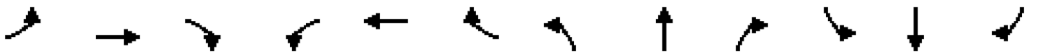
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	2	38	4	1	37	4	462	9	50	658	112
Future Vol, veh/h	49	2	38	4	1	37	4	462	9	50	658	112
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	50	-	-	50	-	0
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	56	2	44	5	1	43	5	531	10	57	756	129

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1147	1422	756	1418	1545	271	885	0	0	541	0	0
Stage 1	871	871	-	545	545	-	-	-	-	-	-	-
Stage 2	275	551	-	872	1000	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	165	136	407	105	114	728	763	-	-	1025	-	-
Stage 1	345	367	-	491	517	-	-	-	-	-	-	-
Stage 2	708	515	-	344	320	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	144	127	407	87	107	728	763	-	-	1025	-	-
Mov Cap-2 Maneuver	144	127	-	87	107	-	-	-	-	-	-	-
Stage 1	325	347	-	488	514	-	-	-	-	-	-	-
Stage 2	661	512	-	288	302	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	33	15.37	0.08	0.53
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	763	-	-	143	407	395	1025	-	-
HCM Lane V/C Ratio	0.006	-	-	0.409	0.107	0.122	0.056	-	-
HCM Control Delay (s/veh)	9.7	-	-	46.5	14.9	15.4	8.7	-	-
HCM Lane LOS	A	-	-	E	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.8	0.4	0.4	0.2	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	45	84	18	33	76	46	307	21	146	505	49
Future Volume (veh/h)	92	45	84	18	33	76	46	307	21	146	505	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.99	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1900	1900	1900	1856	1885	1870	1885	1767	1900	1856	1856
Adj Flow Rate, veh/h	103	51	94	20	37	85	52	345	24	164	567	55
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	6	0	0	0	3	1	2	1	9	0	3	3
Cap, veh/h	320	112	265	126	88	163	98	637	44	214	714	69
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.06	0.37	0.37	0.12	0.43	0.43
Sat Flow, veh/h	974	650	1536	123	511	947	1781	1736	121	1810	1660	161
Grp Volume(v), veh/h	154	0	94	142	0	0	52	0	369	164	0	622
Grp Sat Flow(s),veh/h/ln	1624	0	1536	1581	0	0	1781	0	1857	1810	0	1821
Q Serve(g_s), s	0.0	0.0	2.1	0.2	0.0	0.0	1.1	0.0	6.2	3.5	0.0	11.7
Cycle Q Clear(g_c), s	3.0	0.0	2.1	3.2	0.0	0.0	1.1	0.0	6.2	3.5	0.0	11.7
Prop In Lane	0.67		1.00	0.14		0.60	1.00		0.07	1.00		0.09
Lane Grp Cap(c), veh/h	433	0	265	377	0	0	98	0	681	214	0	783
V/C Ratio(X)	0.36	0.00	0.35	0.38	0.00	0.00	0.53	0.00	0.54	0.77	0.00	0.79
Avail Cap(c_a), veh/h	840	0	702	820	0	0	231	0	938	395	0	1081
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	14.4	14.8	0.0	0.0	18.1	0.0	9.9	16.8	0.0	9.7
Incr Delay (d2), s/veh	0.5	0.0	0.8	0.6	0.0	0.0	4.4	0.0	0.7	5.7	0.0	2.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.7	1.1	0.0	0.0	0.5	0.0	2.1	1.6	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.2	0.0	15.2	15.4	0.0	0.0	22.5	0.0	10.5	22.5	0.0	12.6
LnGrp LOS	B		B	B			C		B	C		B
Approach Vol, veh/h		248			142			421			786	
Approach Delay, s/veh		15.2			15.4			12.0			14.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	19.0		11.3	6.7	21.4		11.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.6	19.9		18.0	5.1	23.4		18.0				
Max Q Clear Time (g_c+I1), s	5.5	8.2		5.0	3.1	13.7		5.2				
Green Ext Time (p_c), s	0.1	1.8		1.0	0.0	3.1		0.6				

Intersection Summary												
HCM 7th Control Delay, s/veh			14.1									
HCM 7th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	84	8	61	72	31	29	200	23	56	337	124
Future Volume (veh/h)	72	84	8	61	72	31	29	200	23	56	337	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	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	81	94	9	69	81	35	33	225	26	63	379	139
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	348	266	376	290	200	69	473	659	76	220	655	627
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	576	1096	1552	387	824	283	878	1643	190	142	1632	1561
Grp Volume(v), veh/h	175	0	9	185	0	0	33	0	251	442	0	139
Grp Sat Flow(s),veh/h/ln	1673	0	1552	1495	0	0	878	0	1833	1775	0	1561
Q Serve(g_s), s	0.0	0.0	0.1	0.8	0.0	0.0	0.8	0.0	2.4	0.5	0.0	1.5
Cycle Q Clear(g_c), s	2.0	0.0	0.1	2.8	0.0	0.0	5.5	0.0	2.4	4.7	0.0	1.5
Prop In Lane	0.46		1.00	0.37		0.19	1.00		0.10	0.14		1.00
Lane Grp Cap(c), veh/h	614	0	376	558	0	0	473	0	736	875	0	627
V/C Ratio(X)	0.29	0.00	0.02	0.33	0.00	0.00	0.07	0.00	0.34	0.51	0.00	0.22
Avail Cap(c_a), veh/h	1332	0	1106	1282	0	0	746	0	1306	1406	0	1113
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.0	0.0	7.3	8.2	0.0	0.0	8.1	0.0	5.2	5.9	0.0	5.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.3	0.5	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	0.6	0.0	0.0	0.1	0.0	0.5	1.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.3	0.0	7.3	8.6	0.0	0.0	8.2	0.0	5.5	6.4	0.0	5.1
LnGrp LOS	A		A	A			A		A	A		A
Approach Vol, veh/h		184			185			284			581	
Approach Delay, s/veh		8.2			8.6			5.8			6.1	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	14.6	10.6	14.6	10.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	7.5	4.0	6.7	4.8
Green Ext Time (p_c), s	1.2	0.8	2.7	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	6.7
HCM 7th LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	35	104	124	85	304	141
Future Volume (veh/h)	35	104	124	85	304	141
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	106	127	87	310	144
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	52	154	521	357	641	254
Arrive On Green	0.13	0.13	0.50	0.50	0.50	0.50
Sat Flow, veh/h	411	1210	1034	709	780	504
Grp Volume(v), veh/h	143	0	0	214	454	0
Grp Sat Flow(s),veh/h/ln	1632	0	0	1743	1284	0
Q Serve(g_s), s	2.0	0.0	0.0	1.7	5.2	0.0
Cycle Q Clear(g_c), s	2.0	0.0	0.0	1.7	6.9	0.0
Prop In Lane	0.25	0.74		0.41	0.68	
Lane Grp Cap(c), veh/h	208	0	0	878	895	0
V/C Ratio(X)	0.69	0.00	0.00	0.24	0.51	0.00
Avail Cap(c_a), veh/h	1211	0	0	2352	2016	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.2	0.0	0.0	3.4	4.8	0.0
Incr Delay (d2), s/veh	4.0	0.0	0.0	0.1	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	0.2	0.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	14.2	0.0	0.0	3.6	5.2	0.0
LnGrp LOS	B			A	A	
Approach Vol, veh/h	143		214			454
Approach Delay, s/veh	14.2		3.6			5.2
Approach LOS	B		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	16.8			16.8	7.6
Change Period (Y+Rc), s	4.5			4.5	4.5
Max Green Setting (Gmax), s	32.9			32.9	18.1
Max Q Clear Time (g_c+I1), s	3.7			8.9	4.0
Green Ext Time (p_c), s	1.3			3.4	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	6.4
HCM 7th LOS	A

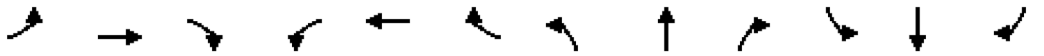
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	3	3	203	3	39	1	165	498	92	83	1
Future Volume (veh/h)	5	3	3	203	3	39	1	165	498	92	83	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	3	3	211	3	41	1	172	519	96	86	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	319	174	112	526	7	56	135	800	679	404	302	679
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	523	727	469	1186	29	233	2	1867	1585	469	705	1585
Grp Volume(v), veh/h	11	0	0	255	0	0	173	0	519	182	0	1
Grp Sat Flow(s),veh/h/ln	1720	0	0	1447	0	0	1869	0	1585	1174	0	1585
Q Serve(g_s), s	0.0	0.0	0.0	4.3	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	0.0	4.4	0.0	0.0	1.6	0.0	7.5	1.7	0.0	0.0
Prop In Lane	0.45		0.27	0.83		0.16	0.01		1.00	0.53		1.00
Lane Grp Cap(c), veh/h	605	0	0	589	0	0	935	0	679	706	0	679
V/C Ratio(X)	0.02	0.00	0.00	0.43	0.00	0.00	0.19	0.00	0.76	0.26	0.00	0.00
Avail Cap(c_a), veh/h	1258	0	0	1202	0	0	1376	0	1054	954	0	1054
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.9	0.0	0.0	9.5	0.0	0.0	4.9	0.0	6.6	4.9	0.0	4.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	0.1	0.0	1.8	0.2	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	0.0	0.0	0.0	1.0	0.0	0.0	0.3	0.0	1.4	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.9	0.0	0.0	10.0	0.0	0.0	5.0	0.0	8.4	5.1	0.0	4.4
LnGrp LOS	A			A			A		A	A		A
Approach Vol, veh/h		11			255			692			183	
Approach Delay, s/veh		7.9			10.0			7.5			5.1	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	16.1	11.0	16.1	11.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	9.5	2.1	3.7	6.4
Green Ext Time (p_c), s	2.1	0.0	1.1	1.1

Intersection Summary	
HCM 7th Control Delay, s/veh	7.7
HCM 7th LOS	A

HCM 7th Signalized Intersection Summary
1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	161	12	379	321	392	0	0	436	536
Future Volume (veh/h)	0	0	0	161	12	379	321	392	0	0	436	536
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.94
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				1826	1900	1885	1885	1856	0	0	1870	1885
Adj Flow Rate, veh/h				169	13	399	338	413	0	0	459	564
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				5	0	1	1	3	0	0	2	1
Cap, veh/h				341	10	308	437	2269	0	0	562	471
Arrive On Green				0.20	0.20	0.20	0.49	1.00	0.00	0.00	0.32	0.32
Sat Flow, veh/h				1739	51	1567	1795	3618	0	0	1870	1489
Grp Volume(v), veh/h				169	0	412	338	413	0	0	459	564
Grp Sat Flow(s),veh/h/ln				1739	0	1618	1795	1763	0	0	1777	1489
Q Serve(g_s), s				4.8	0.0	10.8	8.5	0.0	0.0	0.0	13.1	17.4
Cycle Q Clear(g_c), s				4.8	0.0	10.8	8.5	0.0	0.0	0.0	13.1	17.4
Prop In Lane				1.00		0.97	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				341	0	318	437	2269	0	0	562	471
V/C Ratio(X)				0.49	0.00	1.30	0.77	0.18	0.00	0.00	0.82	1.20
Avail Cap(c_a), veh/h				341	0	318	467	2269	0	0	562	471
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	0.83	0.83	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				19.7	0.0	22.1	12.8	0.0	0.0	0.0	17.3	18.8
Incr Delay (d2), s/veh				0.4	0.0	154.9	5.4	0.1	0.0	0.0	12.4	107.7
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.8	0.0	17.3	3.0	0.0	0.0	0.0	6.7	19.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				20.1	0.0	177.0	18.3	0.1	0.0	0.0	29.7	126.5
LnGrp LOS				C		F	B	A			C	F
Approach Vol, veh/h					581			751			1023	
Approach Delay, s/veh					131.4			8.3			83.1	
Approach LOS					F			A			F	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	18.0	22.0		15.0		40.0						
Change Period (Y+Rc), s	4.6	* 4.6		4.2		4.6						
Max Green Setting (Gmax), s	14.3	* 17		10.8		35.4						
Max Q Clear Time (g_c+I1), s	10.5	19.4		12.8		2.0						
Green Ext Time (p_c), s	0.1	0.0		0.0		1.2						

Intersection Summary		
HCM 7th Control Delay, s/veh	71.2	
HCM 7th LOS	E	

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	0	586	0	0	0	0	465	61	251	346	0
Future Volume (veh/h)	248	0	586	0	0	0	0	465	61	251	346	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				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	1826	1900	1856				0	1885	1856	1870	1856	0
Adj Flow Rate, veh/h	174	0	710				0	489	64	264	364	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, %	5	0	3				0	1	3	2	3	0
Cap, veh/h	373	0	675				0	1062	138	369	2205	0
Arrive On Green	0.21	0.00	0.21				0.00	0.33	0.33	0.41	1.00	0.00
Sat Flow, veh/h	1739	0	3145				0	3268	413	1781	3618	0
Grp Volume(v), veh/h	174	0	710				0	275	278	264	364	0
Grp Sat Flow(s),veh/h/ln	1739	0	1572				0	1791	1796	1781	1763	0
Q Serve(g_s), s	4.8	0.0	11.8				0.0	6.6	6.7	6.8	0.0	0.0
Cycle Q Clear(g_c), s	4.8	0.0	11.8				0.0	6.6	6.7	6.8	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.23	1.00		0.00
Lane Grp Cap(c), veh/h	373	0	675				0	599	601	369	2205	0
V/C Ratio(X)	0.47	0.00	1.05				0.00	0.46	0.46	0.72	0.17	0.00
Avail Cap(c_a), veh/h	373	0	675				0	599	601	398	2205	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	0.67	0.67	0.00
Uniform Delay (d), s/veh	18.9	0.0	21.6				0.0	14.4	14.4	14.7	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	49.2				0.0	2.5	2.6	3.0	0.1	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	1.8	0.0	8.4				0.0	2.8	2.9	2.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.2	0.0	70.8				0.0	16.9	17.0	17.8	0.1	0.0
LnGrp LOS	B		F					B	B	B	A	
Approach Vol, veh/h		884						553			628	
Approach Delay, s/veh		60.6						16.9			7.5	
Approach LOS		E						B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	39.0		16.0	23.0		16.0
Change Period (Y+Rc), s	4.6		4.6	* 4.6		4.2
Max Green Setting (Gmax), s	34.4		12.3	* 18		11.8
Max Q Clear Time (g_c+I1), s	2.0		8.8	8.7		13.8
Green Ext Time (p_c), s	1.0		0.1	1.0		0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	32.8
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

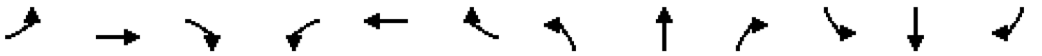
Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	0	21	0	1	79	1	394	9	69	754	109
Future Vol, veh/h	53	0	21	0	1	79	1	394	9	69	754	109
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	50	-	-	50	-	0
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	56	0	22	0	1	83	1	415	9	73	794	115

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1149	1365	794	1361	1475	212	908	0	0	424	0	0
Stage 1	939	939	-	422	422	-	-	-	-	-	-	-
Stage 2	210	426	-	939	1054	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	164	147	387	116	126	794	747	-	-	1133	-	-
Stage 1	316	342	-	581	588	-	-	-	-	-	-	-
Stage 2	773	585	-	316	302	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	136	137	387	102	118	794	747	-	-	1133	-	-
Mov Cap-2 Maneuver	136	137	-	102	118	-	-	-	-	-	-	-
Stage 1	296	320	-	580	587	-	-	-	-	-	-	-
Stage 2	690	584	-	279	283	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	39.07	10.48	0.02	0.62
HCM LOS	E	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	747	-	-	136	387	741	1133	-	-
HCM Lane V/C Ratio	0.001	-	-	0.41	0.057	0.114	0.064	-	-
HCM Control Delay (s/veh)	9.8	-	-	48.7	14.9	10.5	8.4	-	-
HCM Lane LOS	A	-	-	E	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.8	0.2	0.4	0.2	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	19	39	13	28	68	57	293	4	75	669	31
Future Volume (veh/h)	43	19	39	13	28	68	57	293	4	75	669	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.98	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1900	1900	1900	1856	1885	1870	1885	1767	1900	1856	1856
Adj Flow Rate, veh/h	45	20	41	14	29	72	60	308	4	79	704	33
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, %	6	0	0	0	3	1	2	1	9	0	3	3
Cap, veh/h	268	95	214	107	67	139	105	903	12	127	874	41
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.06	0.49	0.49	0.07	0.50	0.50
Sat Flow, veh/h	943	690	1559	111	491	1008	1781	1856	24	1810	1756	82
Grp Volume(v), veh/h	65	0	41	115	0	0	60	0	312	79	0	737
Grp Sat Flow(s),veh/h/ln	1632	0	1559	1610	0	0	1781	0	1880	1810	0	1838
Q Serve(g_s), s	0.0	0.0	1.0	0.3	0.0	0.0	1.4	0.0	4.5	1.9	0.0	14.8
Cycle Q Clear(g_c), s	1.4	0.0	1.0	2.9	0.0	0.0	1.4	0.0	4.5	1.9	0.0	14.8
Prop In Lane	0.69		1.00	0.12		0.63	1.00		0.01	1.00		0.04
Lane Grp Cap(c), veh/h	362	0	214	313	0	0	105	0	914	127	0	915
V/C Ratio(X)	0.18	0.00	0.19	0.37	0.00	0.00	0.57	0.00	0.34	0.62	0.00	0.81
Avail Cap(c_a), veh/h	755	0	639	744	0	0	214	0	1269	353	0	1378
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	16.9	17.7	0.0	0.0	20.2	0.0	7.0	19.9	0.0	9.3
Incr Delay (d2), s/veh	0.2	0.0	0.4	0.7	0.0	0.0	4.8	0.0	0.2	4.9	0.0	2.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.4	1.0	0.0	0.0	0.7	0.0	1.4	0.9	0.0	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.2	0.0	17.3	18.4	0.0	0.0	25.0	0.0	7.2	24.8	0.0	11.4
LnGrp LOS	B		B	B			C		A	C		B
Approach Vol, veh/h		106			115			372			816	
Approach Delay, s/veh		17.3			18.4			10.1			12.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	26.0		10.6	7.1	26.5		10.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.6	29.8		18.1	5.3	33.1		18.1				
Max Q Clear Time (g_c+I1), s	3.9	6.5		3.4	3.4	16.8		4.9				
Green Ext Time (p_c), s	0.1	2.0		0.3	0.0	5.1		0.5				

Intersection Summary			
HCM 7th Control Delay, s/veh		12.8	
HCM 7th LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	67	6	83	94	42	27	312	55	74	183	128
Future Volume (veh/h)	78	67	6	83	94	42	27	312	55	74	183	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	0.99		0.98	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	71	6	87	99	44	28	328	58	78	193	135
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	386	263	408	312	220	79	502	590	104	275	483	596
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	638	1002	1555	440	838	302	1044	1543	273	242	1265	1560
Grp Volume(v), veh/h	153	0	6	230	0	0	28	0	386	271	0	135
Grp Sat Flow(s),veh/h/ln	1640	0	1555	1580	0	0	1044	0	1816	1506	0	1560
Q Serve(g_s), s	0.0	0.0	0.1	1.4	0.0	0.0	0.6	0.0	4.2	0.2	0.0	1.5
Cycle Q Clear(g_c), s	1.7	0.0	0.1	3.1	0.0	0.0	5.0	0.0	4.2	4.4	0.0	1.5
Prop In Lane	0.54		1.00	0.38		0.19	1.00		0.15	0.29		1.00
Lane Grp Cap(c), veh/h	649	0	408	611	0	0	502	0	694	759	0	596
V/C Ratio(X)	0.24	0.00	0.01	0.38	0.00	0.00	0.06	0.00	0.56	0.36	0.00	0.23
Avail Cap(c_a), veh/h	1304	0	1105	1307	0	0	845	0	1291	1248	0	1109
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.5	0.0	6.9	8.0	0.0	0.0	8.2	0.0	6.1	5.7	0.0	5.3
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.7	0.3	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.7	0.0	0.0	0.1	0.0	1.0	0.6	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.7	0.0	6.9	8.4	0.0	0.0	8.2	0.0	6.8	6.0	0.0	5.5
LnGrp LOS	A		A	A			A		A	A		A
Approach Vol, veh/h		159			230			414			406	
Approach Delay, s/veh		7.7			8.4			6.9			5.8	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	14.2	11.2	14.2	11.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	7.0	3.7	6.4	5.1
Green Ext Time (p_c), s	2.0	0.7	1.8	1.1

Intersection Summary	
HCM 7th Control Delay, s/veh	6.9
HCM 7th LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	87	282	162	61	219	239
Future Volume (veh/h)	87	282	162	61	219	239
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	297	171	64	231	252
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	114	367	588	220	402	371
Arrive On Green	0.30	0.30	0.45	0.45	0.45	0.45
Sat Flow, veh/h	384	1240	1297	486	561	819
Grp Volume(v), veh/h	390	0	0	235	483	0
Grp Sat Flow(s),veh/h/ln	1628	0	0	1783	1380	0
Q Serve(g_s), s	8.0	0.0	0.0	3.0	7.9	0.0
Cycle Q Clear(g_c), s	8.0	0.0	0.0	3.0	10.9	0.0
Prop In Lane	0.24	0.76		0.27	0.48	
Lane Grp Cap(c), veh/h	482	0	0	808	774	0
V/C Ratio(X)	0.81	0.00	0.00	0.29	0.62	0.00
Avail Cap(c_a), veh/h	816	0	0	1639	1443	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.7	0.0	0.0	6.2	8.4	0.0
Incr Delay (d2), s/veh	3.3	0.0	0.0	0.2	0.8	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	0.0	0.7	2.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	15.0	0.0	0.0	6.4	9.3	0.0
LnGrp LOS	B			A	A	
Approach Vol, veh/h	390		235			483
Approach Delay, s/veh	15.0		6.4			9.3
Approach LOS	B		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	20.8			20.8	15.1
Change Period (Y+Rc), s	4.5			4.5	4.5
Max Green Setting (Gmax), s	33.0			33.0	18.0
Max Q Clear Time (g_c+I1), s	5.0			12.9	10.0
Green Ext Time (p_c), s	1.4			3.4	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	10.7
HCM 7th LOS	B

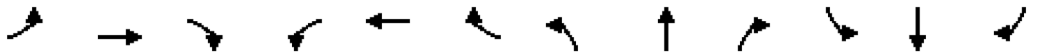
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	9	1	418	3	100	1	123	238	201	121	4
Future Volume (veh/h)	0	9	1	418	3	100	1	123	238	201	121	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	9	1	440	3	105	1	129	251	212	127	4
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	0	737	82	657	3	122	82	658	558	362	167	558
Arrive On Green	0.00	0.45	0.45	0.45	0.45	0.45	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	0	1654	184	1147	8	274	2	1867	1585	655	475	1585
Grp Volume(v), veh/h	0	0	10	548	0	0	130	0	251	339	0	4
Grp Sat Flow(s),veh/h/ln	0	0	1837	1428	0	0	1869	0	1585	1130	0	1585
Q Serve(g_s), s	0.0	0.0	0.1	15.3	0.0	0.0	0.0	0.0	5.4	10.5	0.0	0.1
Cycle Q Clear(g_c), s	0.0	0.0	0.1	15.4	0.0	0.0	2.2	0.0	5.4	12.7	0.0	0.1
Prop In Lane	0.00		0.10	0.80		0.19	0.01		1.00	0.63		1.00
Lane Grp Cap(c), veh/h	0	0	819	782	0	0	740	0	558	529	0	558
V/C Ratio(X)	0.00	0.00	0.01	0.70	0.00	0.00	0.18	0.00	0.45	0.64	0.00	0.01
Avail Cap(c_a), veh/h	0	0	1092	996	0	0	899	0	693	633	0	693
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	6.9	11.2	0.0	0.0	10.0	0.0	11.1	13.9	0.0	9.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.6	0.0	0.0	0.1	0.0	0.6	1.6	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	3.9	0.0	0.0	0.7	0.0	1.6	2.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	6.9	12.7	0.0	0.0	10.2	0.0	11.7	15.5	0.0	9.4
LnGrp LOS			A	B			B		B	B		A
Approach Vol, veh/h		10			548			381			343	
Approach Delay, s/veh		6.9			12.7			11.2			15.4	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	20.2	24.4	20.2	24.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	19.5	26.5	19.5	26.5
Max Q Clear Time (g_c+I1), s	7.4	2.1	14.7	17.4
Green Ext Time (p_c), s	1.3	0.0	1.0	2.5

Intersection Summary	
HCM 7th Control Delay, s/veh	12.9
HCM 7th LOS	B

HCM 7th Signalized Intersection Summary
1: Bay Ave & Hwy 1 NB Off-Ramp

01/06/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	77	1	406	683	726	0	0	644	149
Future Volume (veh/h)	0	0	0	77	1	406	683	726	0	0	644	149
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.93
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				1826	1900	1885	1885	1856	0	0	1870	1885
Adj Flow Rate, veh/h				81	1	427	719	764	0	0	678	157
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				5	0	1	1	3	0	0	2	1
Cap, veh/h				286	1	264	746	2601	0	0	765	177
Arrive On Green				0.16	0.16	0.16	0.83	1.00	0.00	0.00	0.27	0.27
Sat Flow, veh/h				1739	4	1607	1795	3618	0	0	2915	653
Grp Volume(v), veh/h				81	0	428	719	764	0	0	427	408
Grp Sat Flow(s),veh/h/ln				1739	0	1611	1795	1763	0	0	1777	1698
Q Serve(g_s), s				3.7	0.0	14.8	30.6	0.0	0.0	0.0	20.7	20.8
Cycle Q Clear(g_c), s				3.7	0.0	14.8	30.6	0.0	0.0	0.0	20.7	20.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.38
Lane Grp Cap(c), veh/h				286	0	265	746	2601	0	0	482	460
V/C Ratio(X)				0.28	0.00	1.62	0.96	0.29	0.00	0.00	0.89	0.89
Avail Cap(c_a), veh/h				286	0	265	764	2601	0	0	482	460
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	0.29	0.29	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.0	0.0	37.6	7.0	0.0	0.0	0.0	31.5	31.5
Incr Delay (d2), s/veh				0.2	0.0	293.9	10.2	0.1	0.0	0.0	20.7	21.6
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				1.5	0.0	27.3	4.9	0.0	0.0	0.0	11.5	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				33.2	0.0	331.5	17.2	0.1	0.0	0.0	52.1	53.1
LnGrp LOS				C		F	B	A			D	D
Approach Vol, veh/h					509			1483			835	
Approach Delay, s/veh					284.1			8.4			52.6	
Approach LOS					F			A			D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	42.0	29.0		19.0		71.0						
Change Period (Y+Rc), s	4.6	* 4.6		4.2		4.6						
Max Green Setting (Gmax), s	38.3	* 24		14.8		66.4						
Max Q Clear Time (g_c+I1), s	32.6	22.8		16.8		2.0						
Green Ext Time (p_c), s	0.3	0.5		0.0		2.4						

Intersection Summary		
HCM 7th Control Delay, s/veh		71.1
HCM 7th LOS		E

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	417	208	640	0	0	0	0	992	104	370	351	0
Future Volume (veh/h)	417	208	640	0	0	0	0	992	104	370	351	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				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	1826	1900	1856				0	1885	1856	1870	1856	0
Adj Flow Rate, veh/h	366	500	483				0	1044	109	389	369	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, %	5	0	3				0	1	3	2	3	0
Cap, veh/h	498	545	451				0	1138	119	468	2336	0
Arrive On Green	0.29	0.29	0.29				0.00	0.35	0.35	0.44	1.00	0.00
Sat Flow, veh/h	1739	1900	1572				0	3357	340	1781	3618	0
Grp Volume(v), veh/h	366	500	483				0	573	580	389	369	0
Grp Sat Flow(s),veh/h/ln	1739	1900	1572				0	1791	1812	1781	1763	0
Q Serve(g_s), s	17.1	22.9	25.8				0.0	27.5	27.6	17.4	0.0	0.0
Cycle Q Clear(g_c), s	17.1	22.9	25.8				0.0	27.5	27.6	17.4	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.19	1.00		0.00
Lane Grp Cap(c), veh/h	498	545	451				0	625	632	468	2336	0
V/C Ratio(X)	0.73	0.92	1.07				0.00	0.92	0.92	0.83	0.16	0.00
Avail Cap(c_a), veh/h	498	545	451				0	625	632	468	2336	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.67	1.67	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.55	0.55	0.00
Uniform Delay (d), s/veh	29.0	31.1	32.1				0.0	28.0	28.1	23.5	0.0	0.0
Incr Delay (d2), s/veh	4.9	20.3	62.8				0.0	20.5	20.5	6.6	0.1	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	7.5	13.1	17.2				0.0	15.0	15.2	6.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.9	51.3	94.9				0.0	48.5	48.5	30.1	0.1	0.0
LnGrp LOS	C	D	F					D	D	C	A	
Approach Vol, veh/h		1349						1153			758	
Approach Delay, s/veh		62.2						48.5			15.5	
Approach LOS		E						D			B	

Timer - Assigned Phs	2		5	6	8
Phs Duration (G+Y+Rc), s	64.2		28.2	36.0	30.0
Change Period (Y+Rc), s	4.6		4.6	* 4.6	4.2
Max Green Setting (Gmax), s	55.4		20.3	* 31	25.8
Max Q Clear Time (g_c+I1), s	2.0		19.4	29.6	27.8
Green Ext Time (p_c), s	1.1		0.0	0.8	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	46.5
HCM 7th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

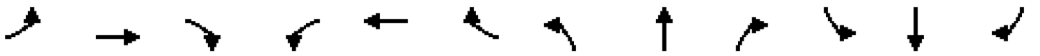
Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	2	38	4	1	59	4	988	9	92	787	112
Future Vol, veh/h	49	2	38	4	1	59	4	988	9	92	787	112
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	50	-	-	50	-	0
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	52	2	40	4	1	62	4	1040	9	97	828	118

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1551	2080	828	2076	2193	525	946	0	0	1049	0	0
Stage 1	1022	1022	-	1053	1053	-	-	-	-	-	-	-
Stage 2	529	1058	-	1023	1140	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	84	53	370	35	45	498	723	-	-	661	-	-
Stage 1	284	312	-	243	302	-	-	-	-	-	-	-
Stage 2	502	301	-	283	275	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	61	45	370	25	38	498	723	-	-	661	-	-
Mov Cap-2 Maneuver	61	45	-	25	38	-	-	-	-	-	-	-
Stage 1	242	267	-	241	300	-	-	-	-	-	-	-
Stage 2	435	299	-	214	235	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	19.07	29.77	0.04	1.06
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	723	-	-	60	370	212	661	-	-
HCM Lane V/C Ratio	0.006	-	-	0.889	0.108	0.318	0.147	-	-
HCM Control Delay (s/veh)	10	-	-	195.9	15.9	29.8	11.4	-	-
HCM Lane LOS	B	-	-	F	C	D	B	-	-
HCM 95th %tile Q(veh)	0	-	-	4.1	0.4	1.3	0.5	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	45	84	22	33	192	46	717	34	146	634	49
Future Volume (veh/h)	92	45	84	22	33	192	46	717	34	146	634	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1900	1900	1900	1856	1885	1870	1885	1767	1900	1856	1856
Adj Flow Rate, veh/h	97	47	88	23	35	202	48	755	36	154	667	52
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, %	6	0	0	0	3	1	2	1	9	0	3	3
Cap, veh/h	200	82	380	63	56	230	76	837	40	191	904	70
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.04	0.47	0.47	0.11	0.53	0.53
Sat Flow, veh/h	490	341	1573	41	233	952	1781	1781	85	1810	1695	132
Grp Volume(v), veh/h	144	0	88	260	0	0	48	0	791	154	0	719
Grp Sat Flow(s),veh/h/ln	831	0	1573	1225	0	0	1781	0	1866	1810	0	1828
Q Serve(g_s), s	0.0	0.0	3.3	3.2	0.0	0.0	2.0	0.0	28.8	6.1	0.0	22.4
Cycle Q Clear(g_c), s	12.6	0.0	3.3	15.8	0.0	0.0	2.0	0.0	28.8	6.1	0.0	22.4
Prop In Lane	0.67		1.00	0.09		0.78	1.00		0.05	1.00		0.07
Lane Grp Cap(c), veh/h	282	0	380	349	0	0	76	0	876	191	0	974
V/C Ratio(X)	0.51	0.00	0.23	0.74	0.00	0.00	0.64	0.00	0.90	0.80	0.00	0.74
Avail Cap(c_a), veh/h	287	0	386	355	0	0	123	0	1003	213	0	1072
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.4	0.0	22.5	26.3	0.0	0.0	34.8	0.0	18.0	32.3	0.0	13.3
Incr Delay (d2), s/veh	1.4	0.0	0.3	8.2	0.0	0.0	8.5	0.0	10.3	18.1	0.0	2.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	1.2	5.1	0.0	0.0	1.0	0.0	13.8	3.6	0.0	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.8	0.0	22.8	34.4	0.0	0.0	43.3	0.0	28.3	50.4	0.0	15.7
LnGrp LOS	C		C	C			D		C	D		B
Approach Vol, veh/h		232			260			839			873	
Approach Delay, s/veh		25.3			34.4			29.2			21.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.3	39.2		22.3	7.6	43.9		22.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.7	39.7		18.1	5.1	43.3		18.1				
Max Q Clear Time (g_c+I1), s	8.1	30.8		14.6	4.0	24.4		17.8				
Green Ext Time (p_c), s	0.0	3.9		0.4	0.0	5.3		0.1				

Intersection Summary			
HCM 7th Control Delay, s/veh		26.5	
HCM 7th LOS		C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	63	8	17	65	73	29	200	23	61	337	171
Future Volume (veh/h)	190	63	8	17	65	73	29	200	23	61	337	171
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	0.99		0.98	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	200	66	8	18	68	77	31	211	24	64	355	180
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	528	125	448	172	230	228	437	627	71	212	614	594
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1029	433	1558	86	798	791	865	1646	187	156	1613	1560
Grp Volume(v), veh/h	266	0	8	163	0	0	31	0	235	419	0	180
Grp Sat Flow(s),veh/h/ln	1462	0	1558	1675	0	0	865	0	1833	1769	0	1560
Q Serve(g_s), s	1.9	0.0	0.1	0.0	0.0	0.0	0.8	0.0	2.5	0.8	0.0	2.2
Cycle Q Clear(g_c), s	3.9	0.0	0.1	2.0	0.0	0.0	5.8	0.0	2.5	4.9	0.0	2.2
Prop In Lane	0.75		1.00	0.11		0.47	1.00		0.10	0.15		1.00
Lane Grp Cap(c), veh/h	653	0	448	629	0	0	437	0	698	827	0	594
V/C Ratio(X)	0.41	0.00	0.02	0.26	0.00	0.00	0.07	0.00	0.34	0.51	0.00	0.30
Avail Cap(c_a), veh/h	1156	0	1032	1243	0	0	681	0	1215	1306	0	1034
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.2	0.0	6.9	7.6	0.0	0.0	9.0	0.0	6.0	6.7	0.0	5.9
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.3	0.5	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	0.5	0.0	0.0	0.1	0.0	0.6	1.2	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.6	0.0	6.9	7.8	0.0	0.0	9.1	0.0	6.3	7.2	0.0	6.2
LnGrp LOS	A		A	A			A		A	A		A
Approach Vol, veh/h		274			163			266			599	
Approach Delay, s/veh		8.5			7.8			6.6			6.9	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	14.8	12.3	14.8	12.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	7.8	5.9	6.9	4.0
Green Ext Time (p_c), s	1.1	1.4	2.7	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	7.3
HCM 7th LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	35	104	305	85	304	251
Future Volume (veh/h)	35	104	305	85	304	251
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	109	321	89	320	264
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	48	141	879	244	510	378
Arrive On Green	0.12	0.12	0.62	0.62	0.62	0.62
Sat Flow, veh/h	411	1210	1409	391	561	605
Grp Volume(v), veh/h	147	0	0	410	584	0
Grp Sat Flow(s),veh/h/ln	1632	0	0	1800	1166	0
Q Serve(g_s), s	3.0	0.0	0.0	3.9	10.3	0.0
Cycle Q Clear(g_c), s	3.0	0.0	0.0	3.9	14.1	0.0
Prop In Lane	0.25	0.74		0.22	0.55	
Lane Grp Cap(c), veh/h	191	0	0	1123	888	0
V/C Ratio(X)	0.77	0.00	0.00	0.36	0.66	0.00
Avail Cap(c_a), veh/h	845	0	0	2487	1831	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.9	0.0	0.0	3.2	5.4	0.0
Incr Delay (d2), s/veh	6.4	0.0	0.0	0.2	0.8	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	0.4	0.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	21.3	0.0	0.0	3.4	6.2	0.0
LnGrp LOS	C			A	A	
Approach Vol, veh/h	147		410			584
Approach Delay, s/veh	21.3		3.4			6.2
Approach LOS	C		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	26.2			26.2	8.6
Change Period (Y+Rc), s	4.5			4.5	4.5
Max Green Setting (Gmax), s	48.0			48.0	18.0
Max Q Clear Time (g_c+I1), s	5.9			16.1	5.0
Green Ext Time (p_c), s	2.9			5.6	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	7.1
HCM 7th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	3	3	203	3	237	1	148	619	202	83	1
Future Volume (veh/h)	5	3	3	203	3	237	1	148	619	202	83	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	3	3	214	3	249	1	156	652	213	87	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	315	188	142	351	27	290	87	800	679	368	127	679
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	533	525	397	632	75	811	2	1868	1585	516	296	1585
Grp Volume(v), veh/h	11	0	0	466	0	0	157	0	652	300	0	1
Grp Sat Flow(s),veh/h/ln	1455	0	0	1518	0	0	1870	0	1585	812	0	1585
Q Serve(g_s), s	0.0	0.0	0.0	10.7	0.0	0.0	0.0	0.0	16.8	12.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	0.0	11.9	0.0	0.0	2.2	0.0	16.8	14.2	0.0	0.0
Prop In Lane	0.45		0.27	0.46		0.53	0.01		1.00	0.71		1.00
Lane Grp Cap(c), veh/h	644	0	0	667	0	0	887	0	679	494	0	679
V/C Ratio(X)	0.02	0.00	0.00	0.70	0.00	0.00	0.18	0.00	0.96	0.61	0.00	0.00
Avail Cap(c_a), veh/h	743	0	0	774	0	0	887	0	679	494	0	679
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.7	0.0	0.0	12.4	0.0	0.0	7.5	0.0	11.7	11.0	0.0	6.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.3	0.0	0.0	0.1	0.0	25.0	2.1	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	0.0	3.5	0.0	0.0	0.7	0.0	8.9	2.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.7	0.0	0.0	14.7	0.0	0.0	7.6	0.0	36.6	13.1	0.0	6.9
LnGrp LOS	A			B			A		D	B		A
Approach Vol, veh/h		11			466			809			301	
Approach Delay, s/veh		8.7			14.7			31.0			13.1	
Approach LOS		A			B			C			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	22.5	19.5	22.5	19.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	18.8	2.2	16.2	13.9
Green Ext Time (p_c), s	0.0	0.0	0.5	1.2

Intersection Summary	
HCM 7th Control Delay, s/veh	22.7
HCM 7th LOS	C

Arterial Level of Service: NB Bay Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Capitola Ave	IV	25	36.4	9.9	46.3	0.22	17.1	C
Hill St	IV	25	36.2	12.0	48.2	0.22	16.4	C
Hwy 1 SB Off-Ramp	IV	25	24.9	19.5	44.4	0.14	11.2	D
Hwy 1 NB Off-Ramp	IV	25	16.0	3.0	19.0	0.06	11.4	D
Total	IV		113.5	44.4	157.9	0.64	14.5	C

Arterial Level of Service: SB Bay Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hwy 1 NB Off-Ramp	IV	25	21.0	12.2	33.2	0.10	10.3	D
Hwy 1 SB Off-Ramp	IV	25	16.0	5.0	21.0	0.06	10.3	D
Retail Dwy	IV	25	24.9	12.2	37.1	0.14	13.4	C
Capitola Ave	IV	25	36.2	10.3	46.5	0.22	17.0	C
Monterey Ave	IV	25	36.4	18.3	54.7	0.22	14.5	C
Total	IV		134.5	58.0	192.5	0.73	13.7	C

Arterial Level of Service: NB Monterey Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Park Ave	IV	25	19.0	16.9	35.9	0.09	8.6	E
Monterey Ave	IV	25	14.9	0.0	14.9	0.06	13.6	C
Total	IV		33.9	16.9	50.8	0.14	10.1	D

Arterial Level of Service: WB Monterey Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Bay Ave	IV	25	19.8	12.1	31.9	0.09	10.2	D
Park Ave	IV	25	14.9	19.4	34.3	0.06	5.9	F
Total	IV		34.7	31.5	66.2	0.15	8.0	E

Arterial Level of Service: NB Bay Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Capitola Ave	IV	25	36.4	6.8	43.2	0.22	18.4	C
Hill St	IV	25	36.2	15.5	51.7	0.22	15.3	C
Hwy 1 SB Off-Ramp	IV	25	24.9	17.8	42.7	0.14	11.7	D
Hwy 1 NB Off-Ramp	IV	25	16.0	2.5	18.5	0.06	11.7	D
Total	IV		113.5	42.6	156.1	0.64	14.7	C

Arterial Level of Service: SB Bay Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hwy 1 NB Off-Ramp	IV	25	21.0	13.6	34.6	0.10	9.9	D
Hwy 1 SB Off-Ramp	IV	25	16.0	5.6	21.6	0.06	10.0	D
Retail Dwy	IV	25	24.9	16.6	41.5	0.14	12.0	D
Capitola Ave	IV	25	36.2	9.3	45.5	0.22	17.3	C
Monterey Ave	IV	25	36.4	7.8	44.2	0.22	18.0	C
Total	IV		134.5	52.9	187.4	0.73	14.1	C

Arterial Level of Service: NB Monterey Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Park Ave	IV	25	19.0	8.5	27.5	0.09	11.3	D
Monterey Ave	IV	25	14.9	0.0	14.9	0.06	13.6	C
Total	IV		33.9	8.5	42.4	0.14	12.1	D

Arterial Level of Service: WB Monterey Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Bay Ave	IV	25	19.8	9.8	29.6	0.09	11.0	D
Park Ave	IV	25	14.9	9.2	24.1	0.06	8.4	E
Total	IV		34.7	19.0	53.7	0.15	9.8	D

Arterial Level of Service: NB Bay Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Capitola Ave	IV	25	36.4	8.7	45.1	0.22	17.6	C
Hill St	IV	25	36.2	9.5	45.7	0.22	17.3	C
	IV	25	24.9	14.4	39.3	0.14	12.7	D
Hwy 1 NB Off-Ramp	IV	25	16.0	1.3	17.3	0.06	12.5	D
Total	IV		113.5	33.9	147.4	0.64	15.6	C

Arterial Level of Service: SB Bay Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	IV	25	21.0	9.9	30.9	0.10	11.1	D
Hwy 1 SB Off-Ramp	IV	25	16.0	2.6	18.6	0.06	11.7	D
Retail Dwy	IV	25	24.9	13.1	38.0	0.14	13.1	C
Capitola Ave	IV	25	36.2	9.0	45.2	0.22	17.5	C
Monterey Ave	IV	25	36.4	14.5	50.9	0.22	15.6	C
Total	IV		134.5	49.1	183.6	0.73	14.4	C

Arterial Level of Service: NB Monterey Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Park Ave	IV	25	19.0	13.3	32.3	0.09	9.6	D
Monterey Ave	IV	25	14.9	0.0	14.9	0.06	13.6	C
Total	IV		33.9	13.3	47.2	0.14	10.9	D

Arterial Level of Service: WB Monterey Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Bay Ave	IV	25	19.8	10.3	30.1	0.09	10.8	D
Park Ave	IV	25	14.9	26.9	41.8	0.06	4.8	F
Total	IV		34.7	37.2	71.9	0.15	7.3	E

Arterial Level of Service: NB Bay Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Capitola Ave	IV	25	36.4	8.4	44.8	0.22	17.7	C
Hill St	IV	25	36.2	31.8	68.0	0.22	11.6	D
Hwy 1 SB Off-Ramp	IV	25	24.9	43.2	68.1	0.14	7.3	E
Hwy 1 NB Off-Ramp	IV	25	16.0	3.5	19.5	0.06	11.1	D
Total	IV		113.5	86.9	200.4	0.64	11.5	D

Arterial Level of Service: SB Bay Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hwy 1 NB Off-Ramp	IV	25	21.0	36.7	57.7	0.10	5.9	F
Hwy 1 SB Off-Ramp	IV	25	16.0	1.2	17.2	0.06	12.6	D
Retail Dwy	IV	25	24.9	15.8	40.7	0.14	12.2	D
Capitola Ave	IV	25	36.2	11.1	47.3	0.22	16.7	C
Monterey Ave	IV	25	36.4	9.4	45.8	0.22	17.3	C
Total	IV		134.5	74.2	208.7	0.73	12.6	D

Arterial Level of Service: NB Monterey Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Park Ave	IV	25	19.0	9.7	28.7	0.09	10.8	D
Monterey Ave	IV	25	14.9	0.0	14.9	0.06	13.6	C
Total	IV		33.9	9.7	43.6	0.14	11.8	D

Arterial Level of Service: WB Monterey Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Bay Ave	IV	25	19.8	14.5	34.3	0.09	9.5	D
Park Ave	IV	25	14.9	17.4	32.3	0.06	6.3	F
Total	IV		34.7	31.9	66.6	0.15	7.9	E

Attachment E – Existing Intersection Observed Driver Behavior at Bay/Capitola Technical Memo

DRAFT TECHNICAL MEMORANDUM

RE: ***Capitola Avenue at Bay Avenue - Existing Intersection Observed Driver Behavior***

From: ***Sean Houck, P.E, Kimley-Horn***
Derek Wu P.E, Kimley-Horn

To: ***Kailash Mozumder, City of Capitola***

Date: ***July 23, 2024***

INTRODUCTION

This Technical Memorandum evaluates vehicle navigation and observes driver behavior at the intersection of Capitola Avenue and Bay Avenue (study intersection) in Capitola, California. The existing, four-leg intersection currently operates as an all-way stop-controlled (AWSC) intersection. The intersection was evaluated using aerial video collected by drone and processed using video analytics (VA). VA is the process of applying artificial intelligence (AI) to define vehicle kinematics in the video for the purpose of extracting time-spatial data, applying prediction kinematic models, and visualizing driver behavior trends. VA were used in this study to evaluate:

- Stopping Rate
- Measured Speed
- Deceleration Rate
- Near Miss Collisions - Vehicles, Pedestrians, and Bicyclists

The study intersection is shown below in **Figure 1**.

Figure 1: Study Location

EXISTING CONDITIONS

Capitola Avenue is a two-lane, north-south roadway with a posted speed limit of 25 miles per hour (mph). Capitola Avenue is classified as an arterial south of Bay Avenue and a collector north of Bay Avenue. The northbound approach has a dedicated right-turn lane and a shared left-turn/through lane. The southbound approach has a shared left/through/right-turn lane. Bay Avenue is a two-lane, east-west arterial with a posted speed limit of 25 mph. There is a two-way left-turn lane west of the intersection. The eastbound approach consists of a dedicated right-turn lane and shared left-turn/through lane. The westbound approach consists of a dedicated left-turn lane and a shared through/right turn lane.

There are crosswalks and sidewalks located along all legs of the intersection. There are Class II bike lanes along the western leg of Bay Avenue. The north, east, and south legs have Class III bike routes in which bicyclists share the road with the vehicles. There are two (2) schools located within a half-mile radius of the study intersection including one elementary and one middle school.

DATA COLLECTION

Data collection occurred at the study intersection using drone imagery, on May 16th, 2024, during the following time periods:

- AM peak hour/school drop-off
- PM school pick-up
- PM peak hour
- PM evening off-peak

The data collection start and end times of each captured video is identified in **Table 1**.

Table 1: Video Times

Video	Peak Hour	Start Time	End Time
1	AM Peak/School Drop-off	7:50 AM	8:40 AM
2	PM School Pick-up	2:45 PM	3:30 PM
3	PM Peak	3:55 PM	4:45 PM
4	PM Evening Off-Peak	7:05 PM	7:35 PM

EXISTING CONDITIONS ASSESSMENT

Drone videos were processed using pixel tracing software which identifies and measures vehicle movement as shown in **Figure 2**. The focus of this assessment was to identify the following of the observed vehicles:

- Deceleration speeds approaching the stop signs
- Heavy braking
- Interaction with other vehicles and pedestrians/bicyclists

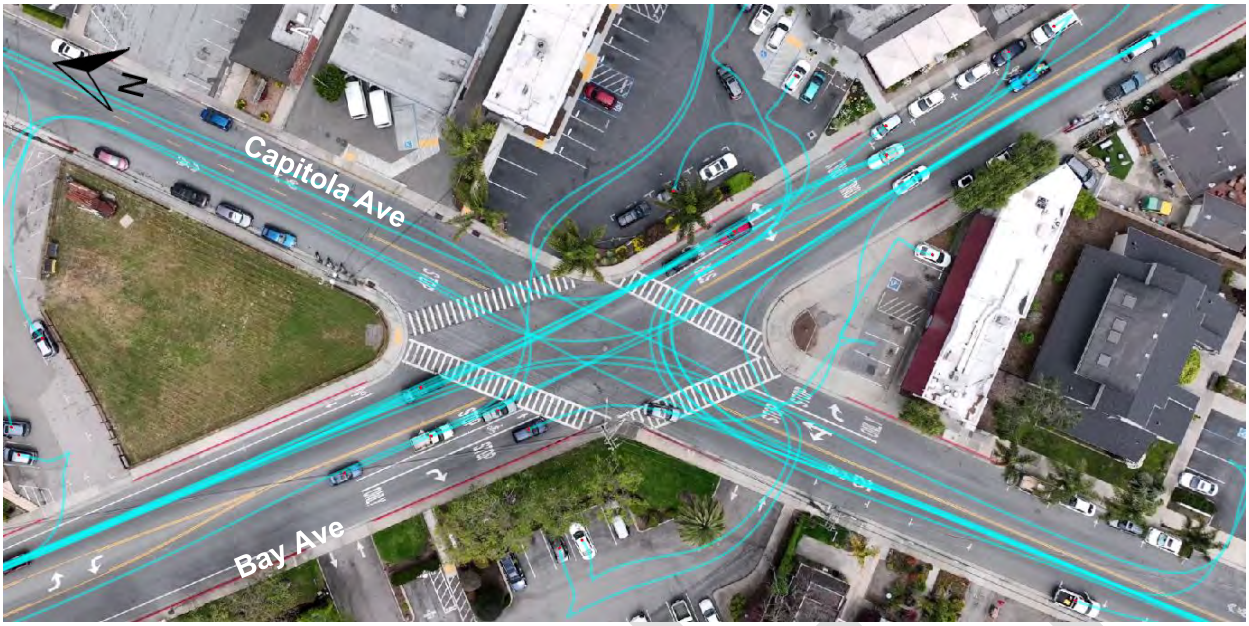


Figure 2: Pixel Tracing Software for PM School Pick-up Video

Stopping Rate

Traffic regions were created at each approach to measure the minimum speed of each vehicle before entering the intersection. See **Figure 3** for the location of the traffic regions.

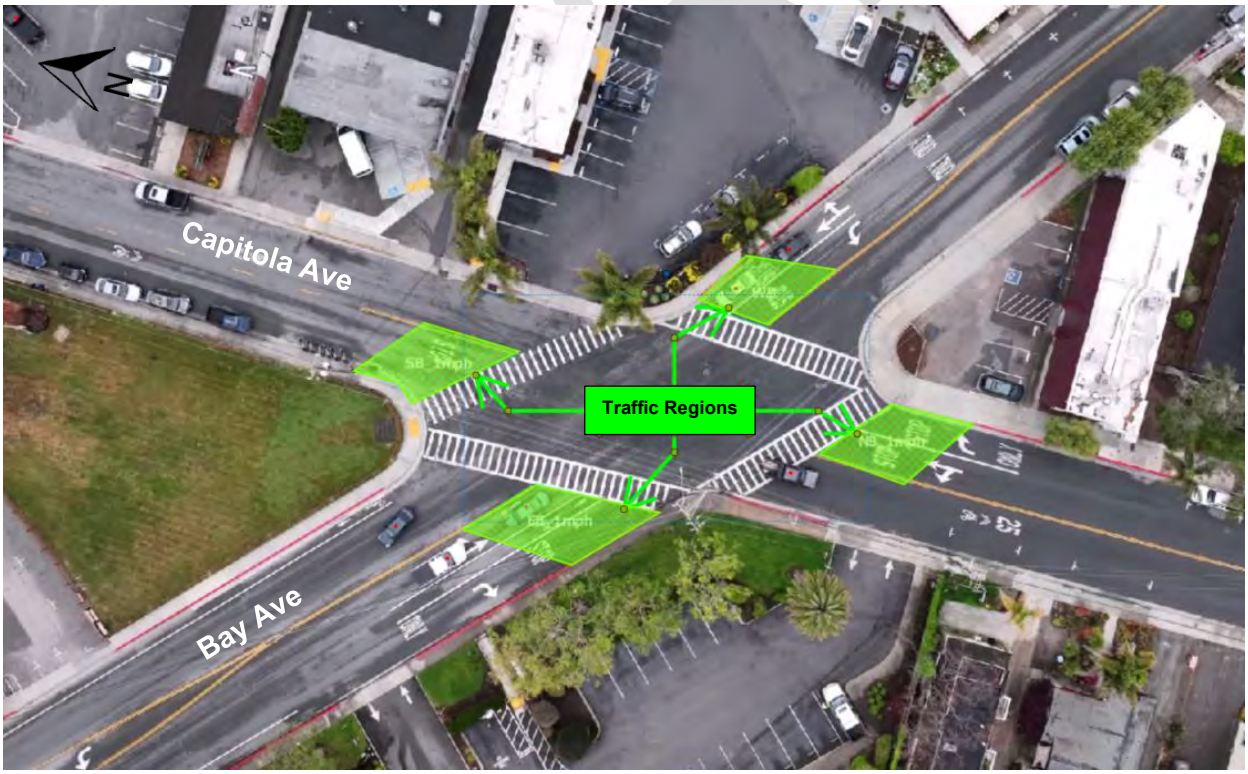


Figure 3: Speed Measurement Gates

The vehicle speed analysis may vary by 0.5 mph or less as compared to actual speeds, therefore the criteria for making a complete stop was determined to be vehicles traveling between 0 and 1 mph. Vehicles traveling at a speed of 0 to 1 mph within the traffic regions identified in **Figure 3** meet the criteria for vehicles making a complete stop**. Table 2** through **Table 6** summarize the number of vehicles that met the complete stop criteria along each intersection approach for each observed period.

Table 2: Intersection Stopping Rate

All Observed Periods				
Approach	Total Number of Vehicles	Criteria Met	Criteria Not Met	
		Vehicle Count	Vehicle Count	Percentage
NB	405	217	188	46.4%
WB	907	342	565	62.3%
SB	270	109	161	59.6%
EB	1227	413	814	66.3%

Table 3: AM Peak/School Drop-off Stopping Rate

AM Peak/School Drop-off Period				
Approach	AM Peak Number of Vehicles	Criteria Met	Criteria Not Met	
		Vehicle Count	Vehicle Count	Percentage
NB	81	36	45	55.6%
WB	331	104	227	68.6%
SB	85	37	48	56.5%
EB	333	95	238	71.5%

Table 4: PM School Pick-up Stopping Rate

PM School Pick-up Period				
Approach	School Pick-up Number of Vehicles	Criteria Met	Criteria Not Met	
		Vehicle Count	Vehicle Count	Percentage
NB	160	104	56	35.0%
WB	300	145	155	51.7%
SB	71	36	35	49.3%
EB	395	171	224	56.7%

Table 5: PM Peak Stopping Rate

PM Peak Period				
Approach	PM Peak Number of Vehicles	Criteria Met	Criteria Not Met	
		Vehicle Count	Vehicle Count	Percentage
NB	116	61	55	47.4%
WB	215	76	139	64.7%
SB	80	32	48	60.0%
EB	378	123	255	67.5%

Table 6: PM Evening Off-Peak Stopping Rate

PM Evening Off-Peak Period				
Approach	PM Off-Peak Number of Vehicles	Criteria Met	Criteria Not Met	
		Vehicle Count	Vehicle Count	Percentage
NB	48	16	32	66.7%
WB	61	17	44	72.1%
SB	34	4	30	88.2%
EB	121	24	97	80.2%

The tables above summarize approaching vehicles that did and did not meet the criteria of traveling 0 to 1 mph. The tables identify the percentage of vehicles not making a complete stop at the intersection along each directional approach. The PM evening off-peak period had the highest recorded percentage of 66.3% of vehicles not making a complete stop.

Measured Vehicle Speed

Vehicle speeds within the designated traffic regions were further analyzed to capture the maximum and 85th percentile speed entering the region. These speeds are summarized below in **Table 7** for each studied time period combined. The vehicle speeds were further reviewed for each studied time period by directional approach and are graphically shown in **Figure 4** through **Figure 11**.

Table 7: Total Intersection Measured Vehicle Speed

All Observed Periods		AM Peak/ School Drop-offPeriods		PM School Pick-up Period		PM Peak Period		PM Evening Off-Peak Period	
Speed	Total Vehicles	Speed	Total Vehicles	Speed	Total Vehicles	Speed	Total Vehicles	Speed	Total Vehicles
0	235	0	65	0	127	0	39	0	4
2	1088	2	313	2	405	2	307	2	63
4	932	4	299	4	267	4	267	4	99
6	358	6	94	6	76	6	124	6	64
8	113	8	28	8	31	8	32	8	22
10	32	10	10	10	10	10	8	10	4
12	22	12	9	12	4	12	7	12	2
14	15	14	4	14	3	14	3	14	5
16	8	16	3	16	3	16	2	16	0
18	6	18	5	18	0	18	0	18	1
Max Speed									
19.223969		19.223969		17.837877		17.749456		18.966279	
85th Percentile									
6.5047956		6.4144871		5.86448425		6.7806282		7.5144739	

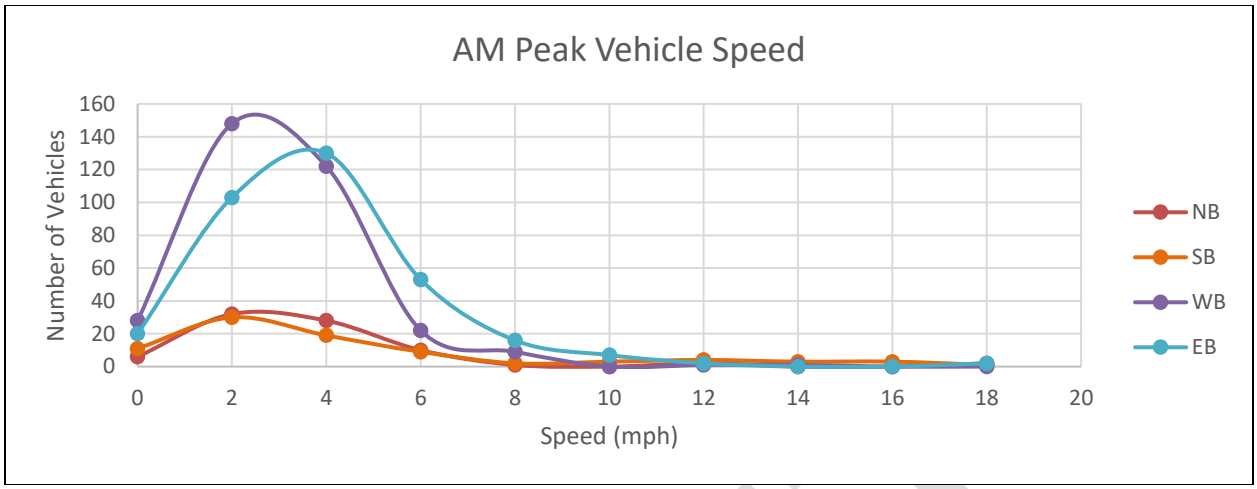


Figure 4: Vehicle Speed per Approach (AM Peak/School Drop-off)

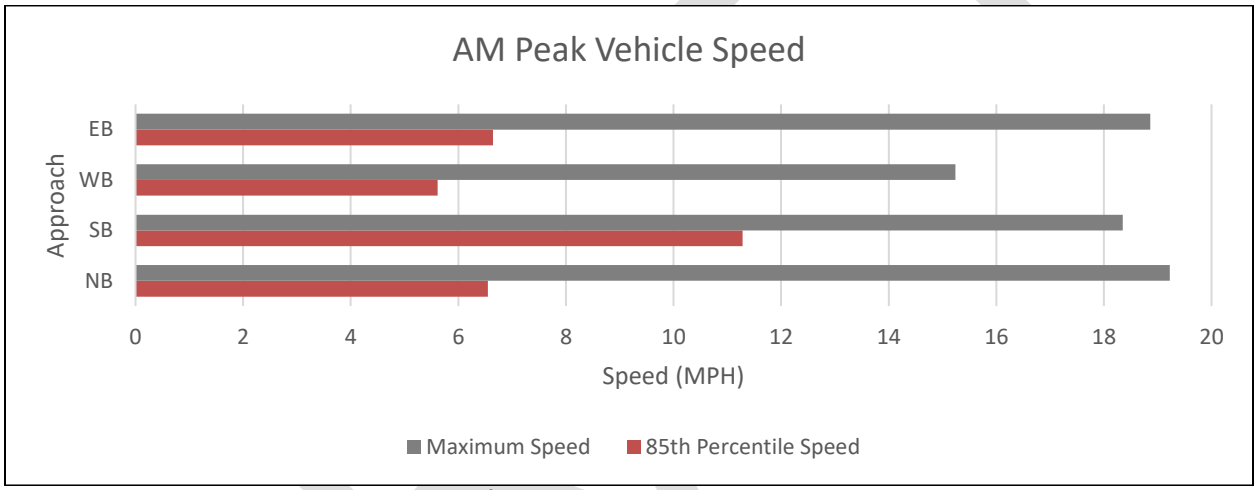


Figure 5: Maximum Speed and 85th Percentile Speed (AM Peak/School Drop-off)

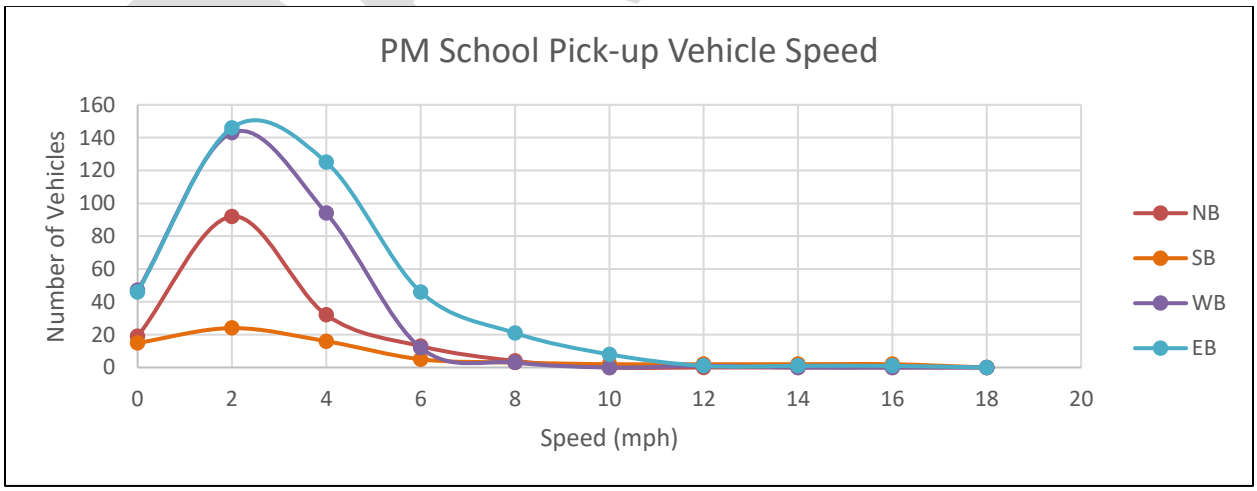


Figure 6: Vehicle Speed per Approach (PM School Pick-up)

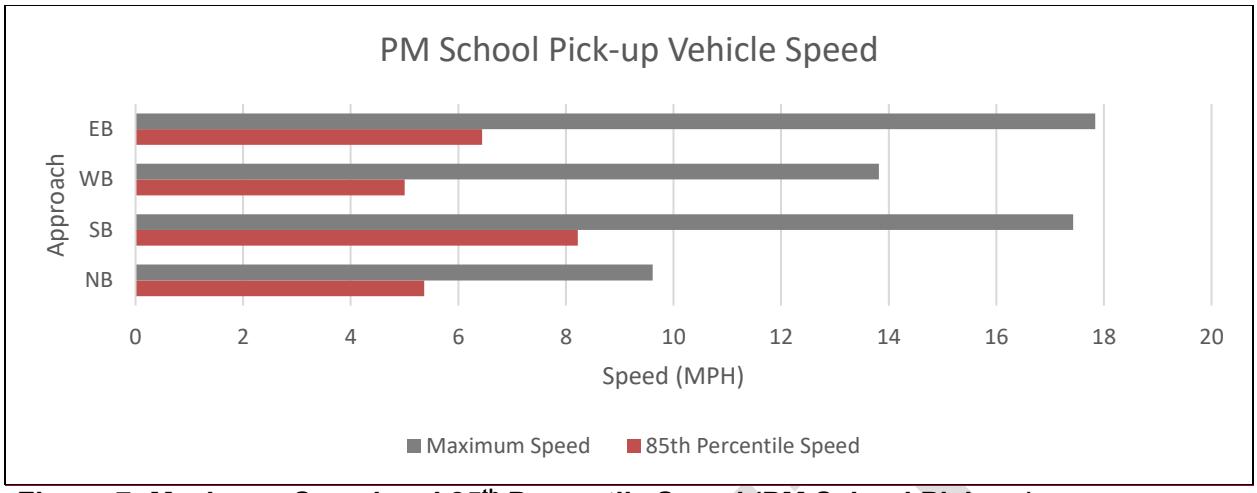


Figure 7: Maximum Speed and 85th Percentile Speed (PM School Pick-up)

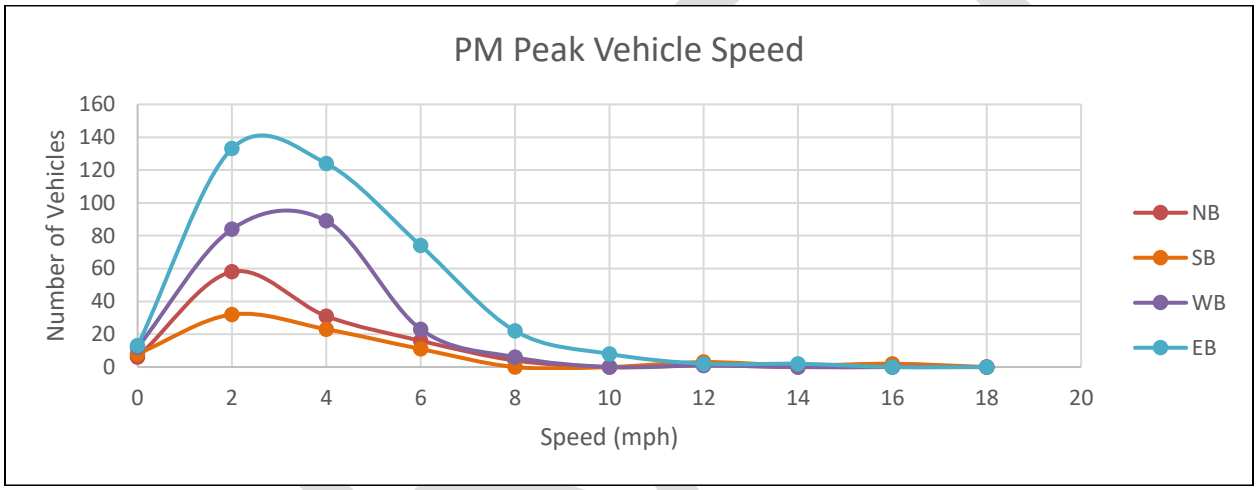


Figure 8: Vehicle Speed per Approach (PM Peak)

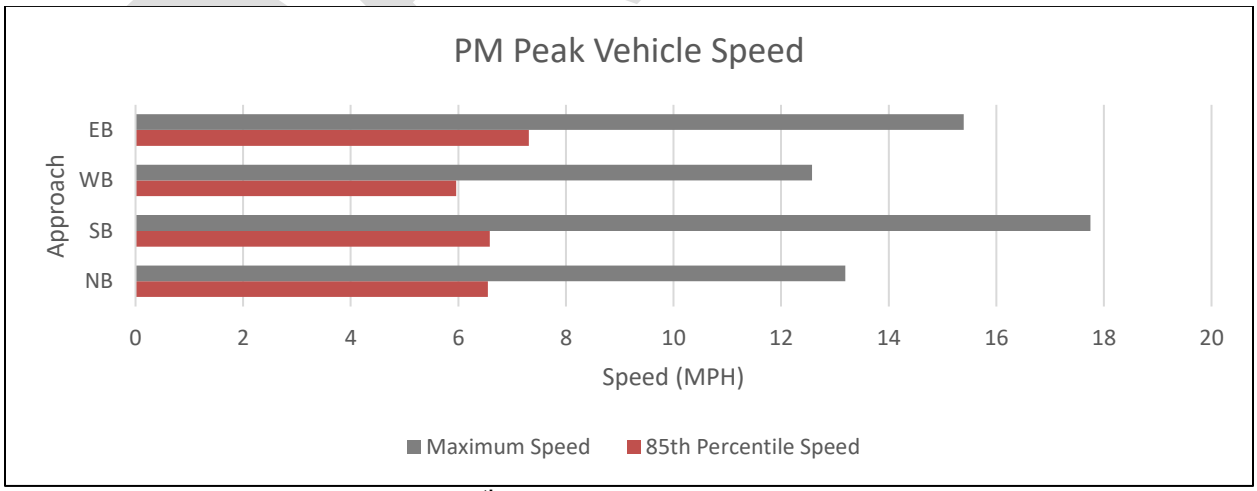


Figure 9: Maximum Speed and 85th Percentile Speed (PM Peak)

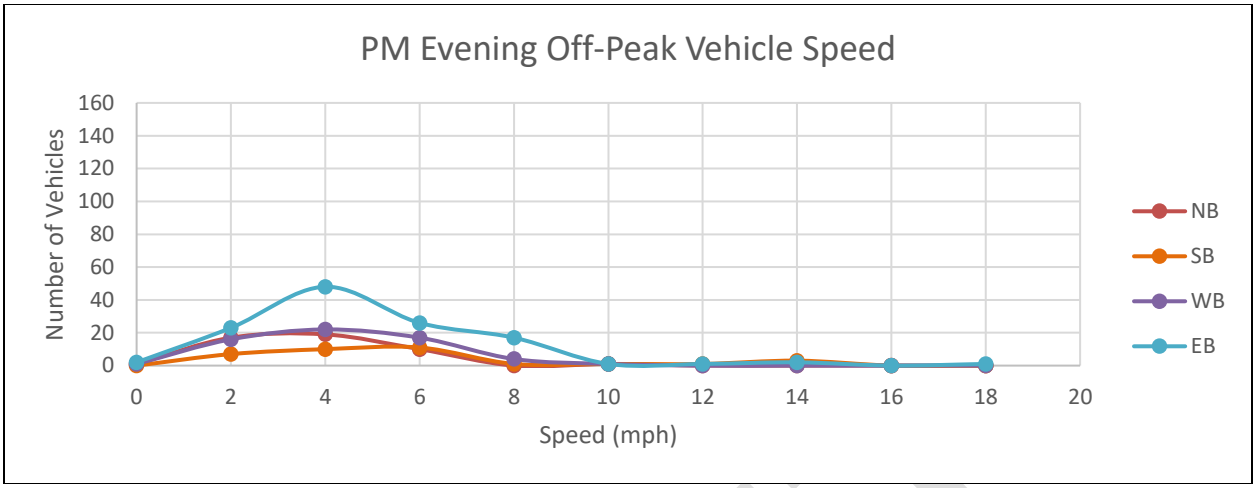


Figure 10: Vehicle Speed per Approach (PM Evening Off-Peak)

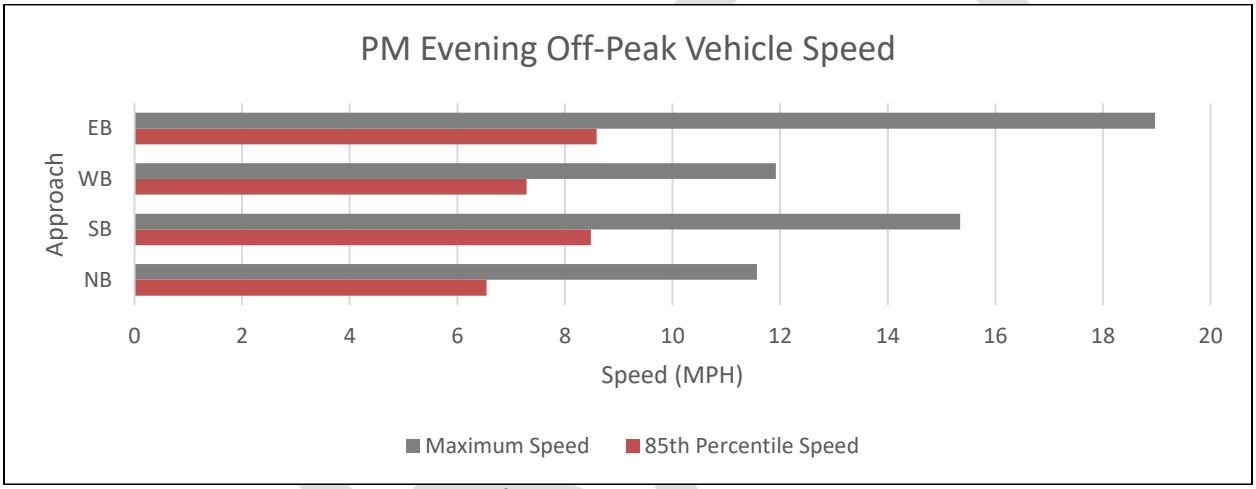


Figure 11: Maximum Speed and 85th Percentile Speed (PM Evening Off-Peak)

The table and figures above portray the number of approaching vehicles and vehicle speeds within the approach regions. The percentage of vehicles within the 2 to 6 mph category was 72%, which indicates that majority of vehicles do not meet the complete stop criteria. Furthermore, six (6) vehicles were driving at a speed greater than 18 mph during the AM peak and PM evening off-peak periods.

Deceleration Rate

VA was used to identify vehicles decelerating at a rate equal to or greater than 10 ft/s^2. Vehicles decelerating at or above this criteria were classified as Heavy Braking. An example of an observed heavy braking incident was vehicle id 293 shown in **Figure 16.** The vehicle approached the intersection at a recorded speed of 28 mph and decelerated to nearly 0 mph in under 5 seconds resulting in a deceleration rate of 13 ft/s^2. **Figure 17** illustrates the rapid deceleration of the vehicle over the short period of time.

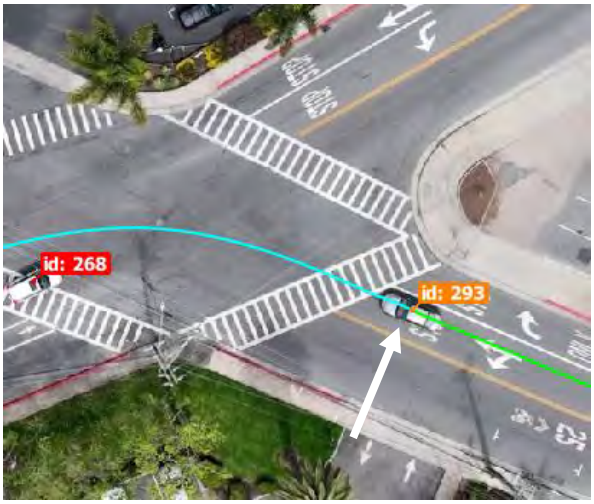


Figure 16:Heavy Braking

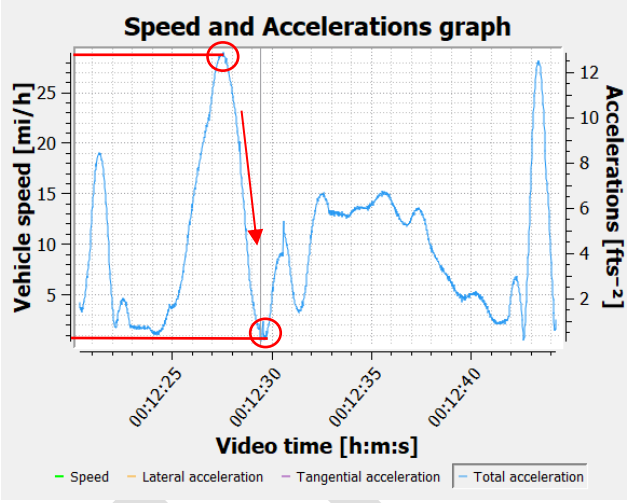


Figure 17: Car Deceleration

The number of vehicles identified as meeting the heavy braking criteria are summarized in **Table 8** below.

Table 8: Heavy Braking Summary

AM Peak/School Drop-off				PM School Pick-up			
Approach	Vehicles			Approach	Vehicles		
	Heavy Braking	Total	% Heavy Braking		Heavy Braking	Total	% Heavy Braking
NB	14	81	**17.3%**	**NB**	3	160	**1.9%**
WB	41	331	**12.4%**	**WB**	16	300	**5.3%**
SB	6	85	**7.1%**	**SB**	4	71	**5.6%**
EB	36	333	**10.8%**	**EB**	14	395	**3.5%**
PM Peak				**PM Evening Off-Peak**			
Approach	Vehicles			Approach	Vehicles		
	Heavy Braking	Total	% Heavy Braking		Heavy Braking	Total	% Heavy Braking
NB	7	116	**6.0%**	**NB**	3	48	**6.3%**
WB	6	215	**2.8%**	**WB**	8	61	**13.1%**
SB	3	80	**3.8%**	**SB**	2	34	**5.9%**
EB	23	378	**6.1%**	**EB**	14	121	**11.6%**

All Observed Periods			
Approach	Vehicles		
	Heavy Braking	Total	% Heavy Braking
NB	27	405	**6.7%**
WB	71	907	**7.8%**
SB	15	270	**5.6%**
EB	87	1227	**7.1%**

Figure 12 through **Figure 15** illustrate the vehicle position and direction of travel of each identified heavy braking incident. Approach and departure crosswalks are identified to reference the vehicle position.

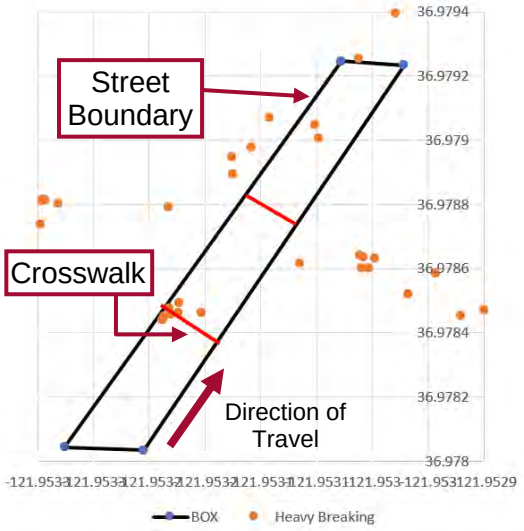


Figure 12: Northbound Heavy Braking

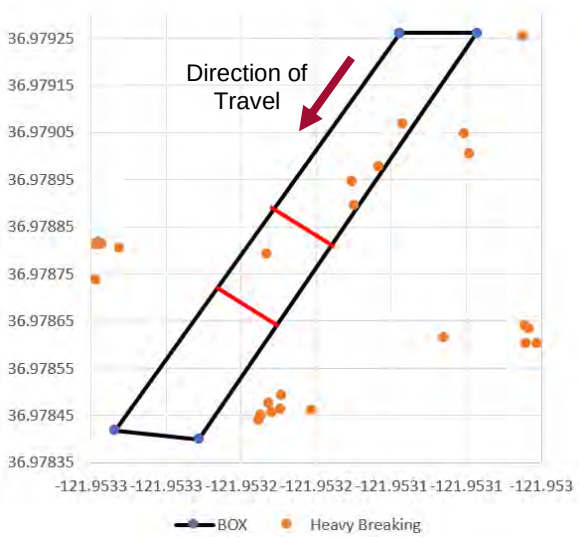


Figure 13: Southbound Heavy Braking

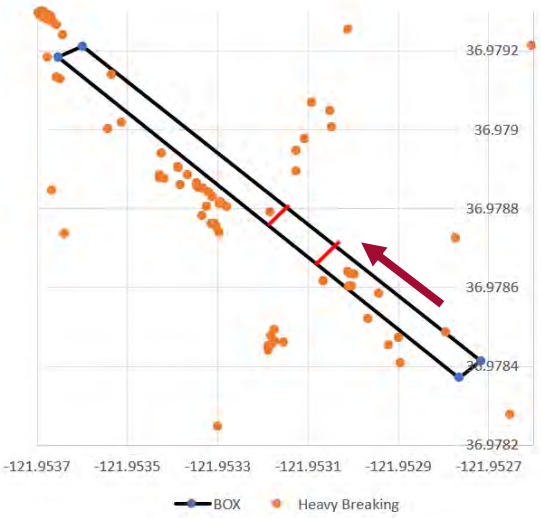


Figure 14: Westbound Heavy Braking

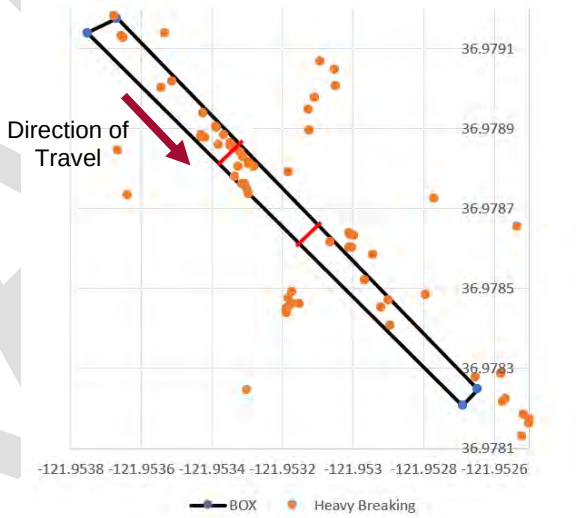


Figure 15: Eastbound Heavy Braking

The table and figures above portray the number of vehicles heavy braking along each approach of the intersection. The figures identify where the 200 recorded heavy braking occurrences, over all observed time periods, happened relative to the crosswalk. Of the observed 200 heavy braking incidents, approximately 43.5% of them occurred along the eastbound directional approach.

Near Miss Collisions

Post encroachment time (PET) is the time it takes for an object to leave a point that a second object reaches. A near-miss collision occurs when the PET is equal to or less than 1.5 seconds. **Figure 18** shows an example of a near-miss occurrence. Vehicle id 370 makes an eastbound left-turn movement while vehicle id 369 travels westbound, reaching the same point of the left-turning vehicle in 1.5 seconds.

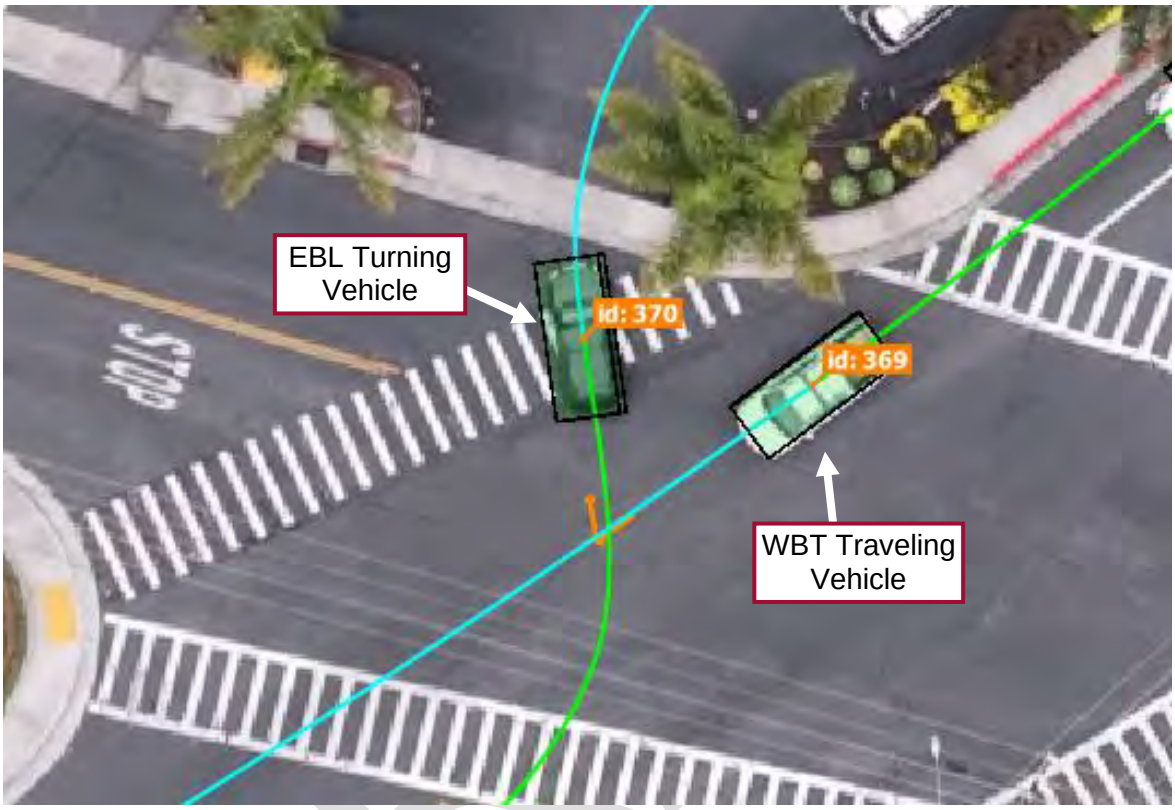


Figure 18: Observed Near Miss

Table 9: Recorded Near Misses

Time	Number of PET ≤ 1.5
AM Peak/School Drop-off	13
PM School Pick-up	10
PM Peak	10
PM Evening Off-Peak	2
Total	**35**

Table 10: Direction of Travel for Near Misses

Directions	Number of PET	Percentage
WBT/EBL	23	65.7%
EBT/WBL	6	17.1%
NBL/EBL	3	8.6%
WBR/EBL	2	5.7%
NBL/EBR	1	2.9%

The tables above summarize the number of near miss collisions and their direction of travel during each observed time period. Of the total recorded 35 near miss collisions, approximately 65.7% of them occurred between vehicles making the eastbound left-turning movement and westbound vehicles traveling through the intersection (WBT/EBL).

CONCLUSION

Kimley Horn conducted a study on the way drivers interact with the AWSC intersection of Capitola Avenue and Bay Avenue in the city of Capitola. Driver behavior was evaluated using aerial video collected by drone and processed using VA to document the following:

1. Stopping Rate
    a. The highest rate of vehicles not making a complete stop within the region was during the PM evening off-peak period.
    b. The eastbound approach trended higher rates of not making a complete stop compared to the other approaches.
2. Measured Vehicle Speed
    a. The maximum speed was approximately 19 mph.
    b. 85th percentile speed was approximately 7.5 mph.
        i. The eastbound and southbound approaches saw the highest 85th percentile speeds during all observed time periods.
3. Deceleration Rate
    a. The percentage identified as heavy braking was 7.1% of all observed vehicles during all observed periods.
    b. The highest rate of heavy braking occurred during the AM peak/school drop-off period.
    c. The highest rate of heavy braking occurred along the eastbound approach accounting for 43.5% of the total heavy braking incidents.
4. Near Miss Collisions - Vehicles, Pedestrians, and Bicyclists
    a. A total of 35 near misses were recorded during the observed time periods.
        i. Conflict occurrences between vehicles making an eastbound left-turning movement and westbound vehicles traveling through the intersection accounted for 65.7% of recorded near misses.
    b. There were no observed occurrences of a near miss between a vehicle and a bicyclist or pedestrian.