720 Hill Street Hotel Development

Transportation Impact and Operational Analysis
2nd Draft Submittal

June 2022

Prepared for

DUDEK

Prepared by

Kimley»Horn
10 South Almaden Boulevard, Suite 1250
San Jose, CA 95113

TABLE OF CONTENTS

TABLES

FIGURES

EXECUTIVE SUMMARY

This transportation impact and operational analysis (TIOA) evaluates transportation operations and site circulation conditions for the proposed 720 Hill Street project in the City of Capitola. The proposed project is located on a 3.086 gross acre property (APN 03-011-28) bounded by Hill Street and Crossroads Loop. An existing Quality Inn & Suites hotel operates on the property, and the Project's site plan proposes to construct a new 3-story boutique hotel totaling up to 42 guest rooms on the unused/undeveloped portion of the property.

Based on City and Client discussion, the proposed hotel would be managed under the same ownership as the existing Quality Inn & Suites on-site but will function as an independent business entity. There is no land division between the existing and proposed hotel, but to operate, it is assumed the project would be required to have a shared vehicle access and a shared parking agreement through a Conditional Use Permit. The proposed project would also provide up to 30 additional vehicle parking spaces on-site, and the project will be accessed from a private driveway off of Crossroads Loop.

The potential adverse effects of the project were evaluated in accordance with the standards and methodologies set forth by the City of Capitola and the County of Santa Cruz. The transportation analysis report for the project includes a CEQA transportation analysis and a local transportation analysis (LTA). The CEQA transportation analysis comprises an evaluation of Vehicle Miles Traveled (VMT) which is defined in Chapter 1. The LTA supplements the CEQA transportation analysis by identifying transportation operational issues via an evaluation of weekday AM and PM peak-hour traffic conditions for five (5) study intersections near the project site. The LTA also includes an analysis of site access, on-site circulation, parking, vehicle queuing, and effects to transit, bicycle, and pedestrian access.

CEQA VMT Transportation Analysis

The proposed project, which is a retail serving development, would not meet the screening criteria set forth in the Santa Cruz County's VMT guidelines. The County's Travel Demand Model was used to estimate VMT impacts for the project as well as the City of Capitola VMT threshold for customer-focused uses.

Similar to retail stores, typical hotels such as the proposed project most often serve pre-existing needs (i.e., the hotel does not generate new trips because it meets existing demand) because their guests are staying at the hotel not because of the amenities offered by the hotel, but because of the area the hotel is located in. Because of this, typical hotels can be presumed to reduce trip lengths when a new hotel is proposed.

The addition of the proposed hotel can shorten existing trip lengths, which would result in a net decrease in VMT. Therefore, it is presumed that the VMT-related impact of the proposed hotel would be less than significant.

Local Transportation Analysis

Project Trip Generation

Trip generation for the proposed project land uses was calculated using average trip generation rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition* (September 2021).

The existing Quality Inn & Suites hotel on-site was not included in the trip generation analysis for determining the net new project trips added to the City roadway network. The existing hotel will continue to operate separately from the project, and the vehicle trips from the existing hotel are already established in the existing traffic counts.

Development of the proposed project with all applicable trip reductions and credits is anticipated to generate a net total of 336 additional daily trips, 19 AM, and 25 PM peak hour trips to the roadway network.

Intersection Traffic Operations

The study intersections were assessed under Existing and Cumulative scenarios. Traffic counts for Existing Year 2022 were determined from new turning movement counts collected on Tuesday, February 15, 2022 for the study intersections. Cumulative 2040 future year condition roadway segment volumes from the SCCRTC Travel Demand Model were obtained to determine Cumulative traffic volume growth estimates. City of Capitola and Caltrans intersection level of service standards and significance thresholds were used to determine adverse effects caused by the project.

Adverse Effects and Improvements

The project is not anticipated to generate an adverse effect to the study intersections for the Existing Plus Project and Cumulative Plus Project Scenarios.

Vehicle Site Access and Circulation

The site will be accessed from one (1) existing private driveway along Crossroads Loop. In addition, a proposed driveway for passenger loading at the hotel entrance provides inbound only access from Crossroads Loop. Project driveways designed passenger vehicle access driveways are 25-feet wide and are consistent with City Municipal Code. Vehicles accessing the project driveway would be allowed to make turns in and out of the site when there are sufficient vehicle gaps along Crossroads Loop and Hill Street.

The proposed driveway locations optimize sight distance and spacing for the proposed site plan. Passenger vehicles, delivery trucks, refuse, and emergency vehicles are able to circulate within the project site without conflict.

Pedestrian, Bicycle, and Transit Site Access

The project is anticipated to increase pedestrian, bicycle, and transit activity in the area; however, it is anticipated that the project would not create an adverse effect to the existing pedestrian, bicycle, or transit facility operations.

On-Site Vehicle and Bicycle Parking

Based on City and Client discussion, the project would be required to have a shared vehicle access and a shared parking agreement through a Conditional Use Permit.

The project site with a shared parking agreement proposes a net total parking supply of 103 vehicle spaces to accommodate the existing Quality Inn & Suites and project hotel (73 existing spaces plus 30 proposed spaces). Of the 73 existing vehicle parking spaces, 12 spaces would be dedicated to the new project hotel. The existing and proposed project site plan does not provide a total bicycle parking supply.

The project site plan is anticipated to provide sufficient vehicle parking per the City's off-street parking requirement but will have a shortfall of required bicycle spaces. To mitigate the bicycle parking deficit, the project would be required to provide a minimum of 15 shared bicycle spaces on-site for the existing and proposed hotel (10 short term and 5 long term spaces).

Neighborhood Interface

The project's on-site vehicle parking would satisfy the City's vehicle parking standard, and the project is not anticipated to create an adverse effect to the existing parking condition in the surrounding area. The project is not anticipated to create an adverse effect to the existing pedestrian and bicycle facilities in the surrounding area.

1 INTRODUCTION

1.1 Project Description

This transportation impact and operational analysis (TIOA) evaluates transportation operations and site circulation conditions for the proposed 720 Hill Street project in the City of Capitola.

The proposed project is located on a 3.086 gross acre property (APN 03-011-28) bounded by Hill Street and Crossroads Loop. An existing Quality Inn & Suites hotel operates on the property, and the Project's site plan proposes to construct a new 3-story boutique hotel totaling up to 42 guest rooms on the unused/undeveloped portion of the property.

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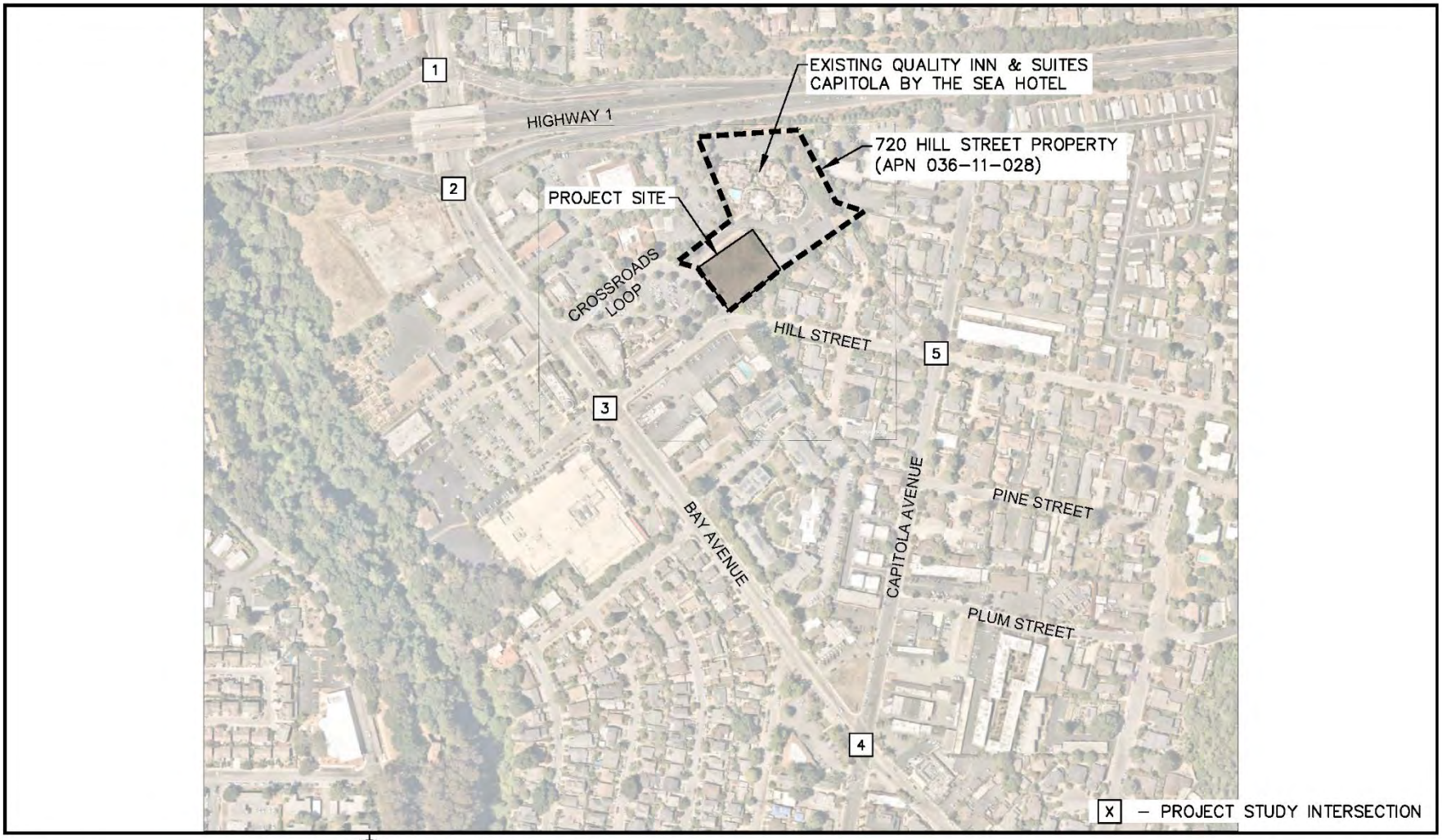
The potential adverse effects of the project were evaluated in accordance with the standards and methodologies set forth by the City of Capitola and the County of Santa Cruz. The transportation analysis report for the project includes a CEQA transportation analysis and a local transportation analysis (LTA). The CEQA transportation analysis comprises an evaluation of Vehicle Miles Traveled (VMT) which is defined in Chapter 1. The LTA supplements the CEQA transportation analysis by identifying transportation operational issues via an evaluation of weekday AM and PM peak-hour traffic conditions for five (5) study intersections near the project site. The LTA also includes an analysis of site access, on-site circulation, parking, vehicle queuing, and effects to transit, bicycle, and pedestrian access.

Figure 1: Project Site Map



1.2 CEQA Transportation Analysis Scope

Screening Criteria

Santa Cruz County includes screening criteria for projects that are expected to result in less-than-significant VMT impacts. Projects that meet the screening criteria do not require a CEQA transportation analysis but may be required to provide a Local Transportation Analysis (LTA).

The proposed project, which is a retail serving development, would not meet the screening criteria set forth in the Santa Cruz County's VMT guidelines. The County's Travel Demand Model was used to estimate VMT impacts for the project.

VMT Analysis Methodology

SB 743 is part of a long-standing policy effort by the California legislature to improve California's sustainability and reduce greenhouse gas emissions through denser infill development, a reduction in single occupancy vehicles, improved mass transit, and other actions. Recognizing that the current environmental analysis techniques are, at times, encouraging development that is inconsistent with this vision, the legislature has taken the extraordinary step to change the basis of environmental analysis for transportation impacts from Level of Service (LOS) to Vehicle Miles Travelled (VMT). VMT is understood to be a good proxy for evaluating Greenhouse Gas (GHG) and other transportation related impacts that the State is actively trying to address. While the use of VMT to determine significant transportation impacts has only been considered recently, it is by no means a new performance metric and has long been used as a basis for transportation system evaluations and as an important metric for evaluating the performance of Travel Demand Models.

In January 2019, the Natural Resources Agency finalized updates to the CEQA Guidelines including the incorporation of SB 743 modifications. The Guidelines' changes were approved by the Office of Administrative Law and are now in effect. Specific to SB 743, Section 15064.3(c) states, "A lead agency may elect to be governed by the provisions of this section immediately. The provisions apply statewide as of July 1, 2020."

To help aid lead agencies with SB 743 implementation, the Governor's Office of Planning and Research (OPR) produced the Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018) that provides guidance about the variety of implementation questions they face with respect to shifting to a VMT metric. Key guidance from this document includes:

- VMT is the most appropriate metric to evaluate a project's transportation impact.
- OPR recommends tour- and trip-based travel models to estimate VMT, but ultimately defers to local agencies to determine the appropriate tools.
- OPR recommends measuring VMT for residential and office projects on a "per rate" basis.
- OPR states that by adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Generally, retail development including stores smaller than 50,000 square feet might be considered local serving.
- OPR recommends that where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less-than-significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds described above should apply.

- Lead agencies have the discretion to set or apply their own significance thresholds.

City of Capitola VMT Threshold

The City of Capitola's VMT thresholds consider the VMT performance of residential and non-residential components of a project separately, using the efficiency metrics of VMT per capita and VMT per employee, respectively. For retail components of a project, or other customer-focused uses, the citywide VMT change is analyzed. The City of Capitola's VMT thresholds of significance are summarized below for each of these components:

- Residential – 15% below baseline (existing) average VMT per Capita
- Employment-based land uses (e.g., office) – 15% below baseline (existing) average VMT per Employee
- Customer-based non-residential land uses (e.g., retail) – No net increase in VMT

Santa Cruz County VMT Threshold

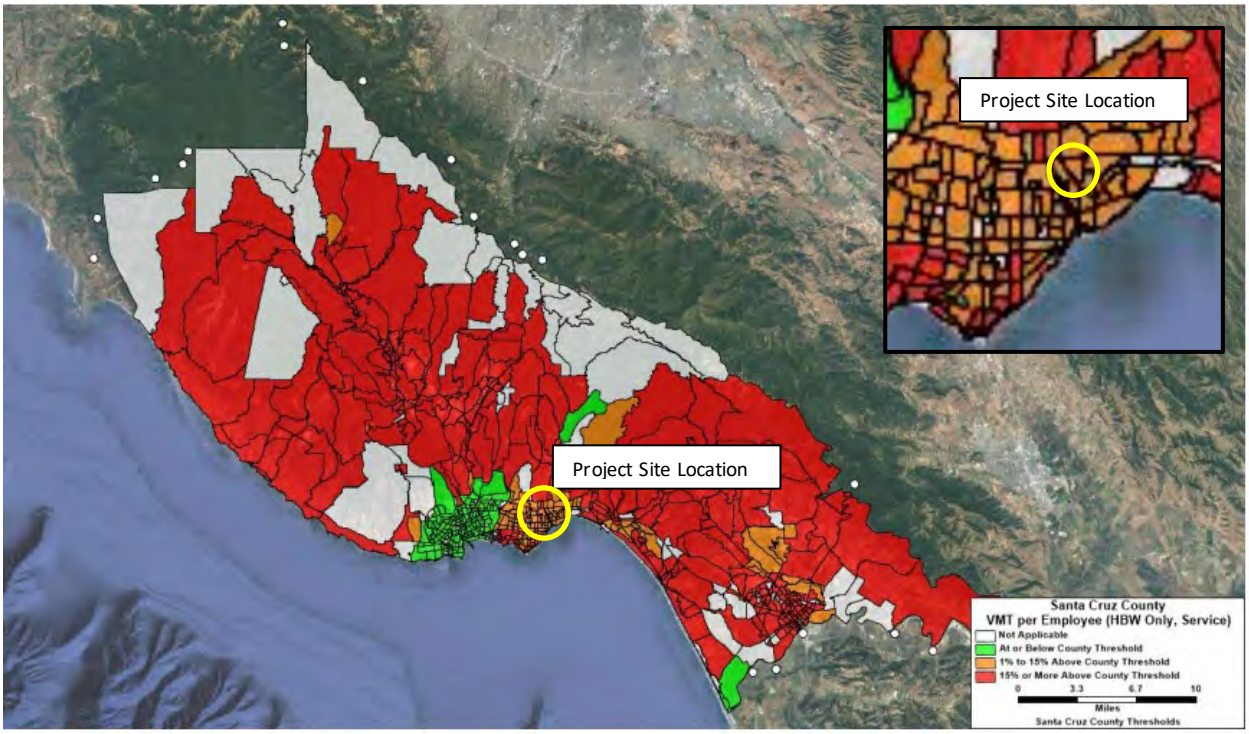
VMT guidelines for Santa Cruz County are based on the Analyzing Vehicle Miles Traveled for CEQA Compliance document (updated May 2021). **Table 1** summarizes the County's VMT threshold for various land use types. The project (retail) would be subject to a threshold of no net regional increase in VMT.

Figure 2 shows Santa Cruz heat maps identifying existing level VMT per employee for office and service uses respectively in the County. Developments in green-colored areas are estimated to have VMT levels below the County's threshold of significance while orange and pink-colored areas are estimated to have VMT levels above the threshold of significance.

Table 1: Santa Cruz County VMT Thresholds of Significance

Land Use	VMT Threshold	Basis
Residential	8.9 VMT/capita[4]	15% below existing county-wide average VMT per capita.
Office or Service	7.4 Work VMT/Employee[5]	15% below existing county-wide average Work VMT per employee
Retail	Net regional change	Using the county as the basis (instead of the tri-county region)
Other Employment	Work VMT/Employee[6]	15% below existing county-wide average Work VMT per employee for similar land uses
Other Customer	Net regional change	Using the county as the basis

Figure 2: Santa Cruz County VMT Per Employee Service Screening Map



1.3 Local Transportation Analysis Scope

This TIOA does not just analyze transportation impacts under CEQA. It also provides a local mobility analysis to evaluate consistency with City requirements set forth in the City's General Plan. The City's General Plan Circulation Element requires development projects to analyze level of service ("LOS") impacts in order to assess roadway capacity. The information from an LOS analysis can be used to identify operating deficiencies on the roadway network, determine the effects of a project and potential improvements to offset such effects, and to update and apply the City's impact fee program more accurately. This LOS analysis is not a CEQA analysis, which provides specifically that "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment." (Public Resources Code, §21099(b)(2); see also CEQA Guidelines, §15064.3(a) ["a project's effect on automobile delay shall not constitute a significant environmental impact."])

CEQA no longer focuses on LOS-based analyses because such analyses tend to result in mitigation measures calling for new or expanded roadways, which leads to more VMT and GHG emissions in contravention of the purposes of SB 743 (2013) and the State's climate change laws, including AB 32 (2006), requiring a reduction in state GHG emissions to 1990 levels by 2020, and SB 32 (2016), requiring at least a 40 percent reduction in GHG emissions from 1990 levels by 2030. Accordingly, the local mobility analysis is provided for compliance with the City's General Plan and not for purposes of evaluating the Project's transportation impacts under CEQA.

Study intersections for the project were selected in consultation with City staff. The following five (5) intersections studied in this report are listed below.

1. Bay Avenue / Highway 1 NB Ramps (Caltrans Signal)
2. Bay Avenue / Highway 1 SB Ramps (Caltrans Signal)
3. Bay Avenue / Hill Street (City Stop Control)
4. Bay Avenue / Capitola Avenue (City Stop Control)
5. Capitola Avenue / Hill Street (City Stop Control)

Study Scenarios

Traffic conditions for each study intersection were 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 intersections were assessed under the following study scenarios.

- **Existing Conditions**: Existing AM and PM peak-hour traffic volumes, intersection geometry, and traffic control based on Year 2022 traffic count data.

- **Existing Plus Project Conditions**: Peak-hour traffic volumes based on Existing conditions and adding the net vehicle trips from the Project to the Existing roadway geometry and traffic control. The Project scenario is compared to the Existing conditions for determining project traffic adverse effects.

- **Cumulative Conditions**: Peak-hour traffic volumes based on the Santa Cruz County Regional Transportation Commission (SCCRTC) Travel Demand Model for Year 2040 and roadway geometry and traffic control identified in the County RTP and City of Capitola General Plan.

- **Cumulative Plus Project Conditions**: Peak-hour traffic volumes based on Cumulative conditions and adding the net vehicle trips from the Project to the Cumulative roadway geometry and traffic control. The Project scenario is compared to the Cumulative conditions for determining project traffic adverse effects.

Intersection 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) Sixth Edition and Synchro 11 traffic analysis software. HCM 6th 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 2** relates the operational characteristics associated with each LOS category for signalized and unsignalized intersections.

Table 2: 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.			

Project adverse effects are determined by comparing baseline conditions to those scenarios with the proposed Project. Adverse effects for intersections are created when traffic from the proposed Project causes the LOS to fall below the maintaining agency's LOS threshold or causes deficient intersections to deteriorate further, per the criteria indicated below:

- If the intersection operates at an acceptable LOS without the Project during the weekday peak hour and degrades to an unacceptable LOS with the Project during the weekday peak hour.
- If the intersection operates at an unacceptable LOS without the Project during the weekday peak hour, and the volume/capacity (v/c) ratio of any opposing movements at the intersection increases by 1 percent or more with the Project.

City of Capitola LOS Threshold

The City of Capitola is required to apply a VMT-based metric for evaluating transportation impacts on the environment pursuant to CEQA. The City of Capitola General Plan (adopted June 26, 2014 and updated March 13, 2019) (Policy MO-3.3), however, 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 is in compliance with the City's General Plan.

California Department of Transportation (Caltrans) LOS Threshold

Pursuant to SB 743, Caltrans evaluates a land use project's impacts on the state highway system utilizing VMT, rather than congestion or capacity related metrics, such as LOS or v/c ratios. Caltrans' "Vehicle Miles Traveled-Focused Transportation Impact Study Guide states that:

"When analyzing the impact of VMT on the State Highway System resulting from local land use projects, the focus will no longer be on traffic at intersections and roadways immediately around project sites. Instead, the focus will be on how projects are likely to influence the overall amount of automobile use."

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. Caltrans also requires, as published on their website, a safety analysis of their facilities. This study relies on the Highway 1 EIR for future improvements, which did assess safety.

Project-related deficiencies at study intersections occur when the addition of Project traffic:

- 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.

1.4 Report Organization

This report includes a total of six (6) chapters as follows:

- **Chapter 2** describes existing transportation conditions including VMT of the existing land uses in the proximity of the project, the existing roadway network, transit service, bicycle, and pedestrian facilities.
- **Chapter 3** describes the CEQA transportation analysis, including the project VMT impact analysis.
- **Chapters 4, 5, and 6** describe the local transportation analysis including operations of study intersections, the methods used to estimate project-generated traffic, the project's effects on the transportation system, and an analysis of other transportation issues including site access and circulation, parking, transit services, bicycle and pedestrian facilities, and neighborhood intrusion.

2 EXISTING TRANSPORTATION CONDITIONS

This chapter describes the existing conditions of the transportation system within the study area. It presents the existing land use's vehicle miles traveled (VMT) near the project and describes transportation facilities near the project site, including the roadway network, transit service, and pedestrian and bicycle facilities. The analysis of existing intersection operations is included as part of the Local Transportation Analysis (Chapters 4, 5, and 6).

2.1 Vehicle Miles Traveled

To determine whether a project would result in CEQA transportation impacts related to VMT, the County has developed screening maps to streamline the analysis for residential, office, and service projects. Based on the screening maps, the existing VMT for employment uses in the project vicinity is about 1% to 15% above the County's VMT threshold. The current regional average VMT for office and service employment use is 7.4 per employee (see **Table 1**). Chapter 3 presents additional information on the project's VMT.

2.2 Existing Roadway Network

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

Highway 1 is 4-lane freeway (that connects with State Route 17 and State Route 156) and travels in a east-west direction in the City of Capitola. Access to and from the project site is provided by ramp terminals at Porter Street / Bay Avenue.

Bay Avenue is an arterial in the north-south direction between Highway 1 and Monterey Avenue. Near the project site, Bay Avenue is a two- to four-lane facility with a two-way left-turn lane (TWLTL) median. On-street parking is prohibited along Bay Avenue. There are Class II bike lanes and sidewalks along both sides of the roadway. The posted speed limit is 25 miles per hour and the road is classified as a minor arterial per the General Plan.

Capitola Avenue is a two-lane street in the north-south direction that provides access to the project as well as various commercial and residential land uses between Soquel Drive and Monterey Avenue. The roadway provides sidewalks are 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.

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.

2.3 Existing Pedestrian and Bicycle Facilities

Pedestrian and bicycle activity within project vicinity are active along Bay Avenue and Capitola 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 and Hill Street, 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.

Near the project site, Hill Street provides sidewalk and bicycle facilities for pedestrian and bike access. 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. However, it is recommended that bicycle facilities be implemented on Crossroads Loop to provide better connectivity to Hill Street and Bay Avenue.

The City of Capitola Bicycle Transportation Plan 2011 does not indicate any future bicycle facilities planned within the study area.

2.4 Existing Transit Facilities

Transit services in the study area include a bus route provided by the Santa Cruz Metro Transit District (SCMTD). Per the updated Spring* service schedule, beginning March 17, 2022, 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
    - Nearest transit stop to project – Hill Street / Crossroads Loop intersection

**Note that the routes and service schedules described above are based on March 17, 2022, schedules. At the time that this report was prepared, COVID 19 had affected routes and service schedules and may not be reflective of typical operations.*

A bus stop with a shelter and bench is located within a ½-mile walking distance from the project site at the southwest corner of the intersection of Hill Street and Bay Avenue. The closest transit stops by the project are located along Hill Street at the intersections of Bay Avenue, Crossroads Loop, and Capitola Avenue.

2.5 Existing Intersections

The traffic study to identify potential traffic adverse effects was evaluated per the standards and guidelines set forth by the City of Capitola and Caltrans. Study intersections for the project were selected in consultation with City staff. The five (5) intersections studied in this TIOA are listed below.

1. Bay Avenue / Highway 1 NB Ramps
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2.6 Existing Field Observations

Field observations did not reveal any significant traffic related congestion within the project study area. During the AM and PM peak hours, traffic queueing was observed at the Bay Avenue and Highway 1 freeway ramp intersections; however, traffic on the freeway mainline or ramps did not impact operations at the signalized intersections.

During the AM peak, the Bay Avenue southbound approach at the Highway 1 NB ramp intersection experiences traffic congestion and queuing due to short intersection spacing with Main Street and heavy right turn movements onto the freeway on-ramp.

Along Hill Street, minimal traffic congestion was observed next to the project site. On-street parking was present in the marked spaces along Hill Street and Crossroads Loop.

3 CEQA VMT TRANSPORTATION ANALYSIS

With the passage of SB 743, Vehicle Miles Travelled (VMT) has become an important indicator for determining if a new development will result in a "significant transportation impact" under the California Environmental Quality Act (CEQA). This chapter describes the CEQA transportation analysis, including the VMT threshold of significance, the project-level VMT impact analysis results, and the mitigation measures that are necessary to reduce a VMT impact.

3.1 Purpose of Analysis

SB 743 is part of a long-standing policy effort by the California legislature to improve California's sustainability and reduce greenhouse gas emissions through denser infill development, a reduction in single occupancy vehicles, improved mass transit, and other actions. Recognizing that the current environmental analysis techniques are, at times, encouraging development that is inconsistent with this vision, the legislature has taken the extraordinary step to change the basis of environmental analysis for transportation impacts from Level of Service (LOS) to Vehicle Miles Travelled (VMT). VMT is understood to be a good proxy for evaluating Greenhouse Gas (GHG) and other transportation related impacts that the State is actively trying to address. While the use of VMT to determine significant transportation impacts has only been considered recently, it is by no means a new performance metric and has long been used as a basis for transportation system evaluations and as an important metric for evaluating the performance of Travel Demand Models.

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- OPR recommends tour- and trip-based travel models to estimate VMT, but ultimately defers to local agencies to determine the appropriate tools.
- OPR recommends measuring VMT for residential and office projects on a "per rate" basis.
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- OPR recommends that where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less-than-significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds described above should apply.
- Lead agencies have the discretion to set or apply their own significance thresholds.

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- Residential – 15% below baseline (existing) average VMT per Capita
- Employment-based land uses (e.g., office) – 15% below baseline (existing) average VMT per Employee
- Customer-based non-residential land uses (e.g., retail) – No net increase in VMT

3.2 Methodology and Assumptions

Based on the land use information provided, for the purposes of SB 743 analysis and the determination of transportation related significant impacts, the following land uses were analyzed:

- Hotel

In terms of a VMT analysis, hotels are grouped into two categories, typical and destination. Typical hotels are generally those hotels with limited amenities that may include a dining area with a breakfast buffet, small gym, and sometimes a pool; generally, guests stay at these hotels because their ultimate destination is in the vicinity of the hotel. Alternatively, guests visiting destination hotels will spend the majority of their time on the hotel property or engaging in activities run by the hotel because the hotel is their ultimate destination. While both types of hotels are customer-based, and impacts are measured in terms of whether the hotel increases regional VMT, destination hotels generally require quantitative analyses while typical hotels can be assumed to result in a less than significant impact.

3.3 Project VMT Analysis

Hotel Analysis

Similar to retail stores, typical hotels such as the proposed project most often serve pre-existing needs (i.e., the hotel does not generate new trips because it meets existing demand) because their guests are staying at the hotel not because of the amenities offered by the hotel, but because of the area the hotel is located in. Because of this, typical hotels can be presumed to reduce trip lengths when a new hotel is proposed. Essentially, the assumption is that someone will travel to a newly constructed typical hotel because of its proximity to the area attraction, rather than that the proposed hotel is fulfilling an unmet need (i.e., the person had an existing need to travel to the area that was previously met by an existing hotel located in the same general area, but now is traveling to the new hotel because it is either closer to the person's origin location or located a similar distance away).

Typical hotels most often they can be presumed to reduce trip lengths when a new hotel is introduced within a cluster of existing hotels located near a local destination or attraction. Essentially, a trip to a hotel is expected to occur due to someone planning to travel to Capitola, or the immediate area, but the proximity of the hotel to the surrounding attractions would drive the length of that trip and the resultant impact to the overall transportation system. Thus, the impact to the transportation system would be negligible or reduced by the introduction of a new hotel to an area where people are already

traveling and planning on staying unless the hotel significantly effects the local supply of rooms or introduces a significant new attraction.

Conversely, destination hotels do not serve pre-existing needs as they offer special amenities that aren't offered elsewhere, and guests typically spend the majority of their time on the destination hotel property. The Chaminade Resort & Spa in Santa Cruz is an example of a destination hotel while the proposed project is an example of a typical hotel. Guests will choose the hotel because they are traveling to Capitola for a variety of reasons such as wanting to spend time at the beach rather than spending time at the proposed hotel.

While a specific market study for the proposed hotel is not being provided as part of this report, a map showing the proximity of other similar hotels is provided as **Figure 3.** A half-mile buffer was placed around the seven existing hotels in the area, as well as the proposed project, to visually represent the lack of overlapping service area between the proposed project and the existing hotels.

As shown below, the proposed project, identified with a red icon, labeled "Proposed Hotel", and has red buffer surrounding it, will reduce trip lengths by "adding hotel opportunities into the local area, further improving hotel destination proximity"[1]. Accordingly, it is appropriate that the proposed project development be presumed, in accordance with the *Technical Advisory*, that it will result in a VMT reduction and support the goals of SB 743.

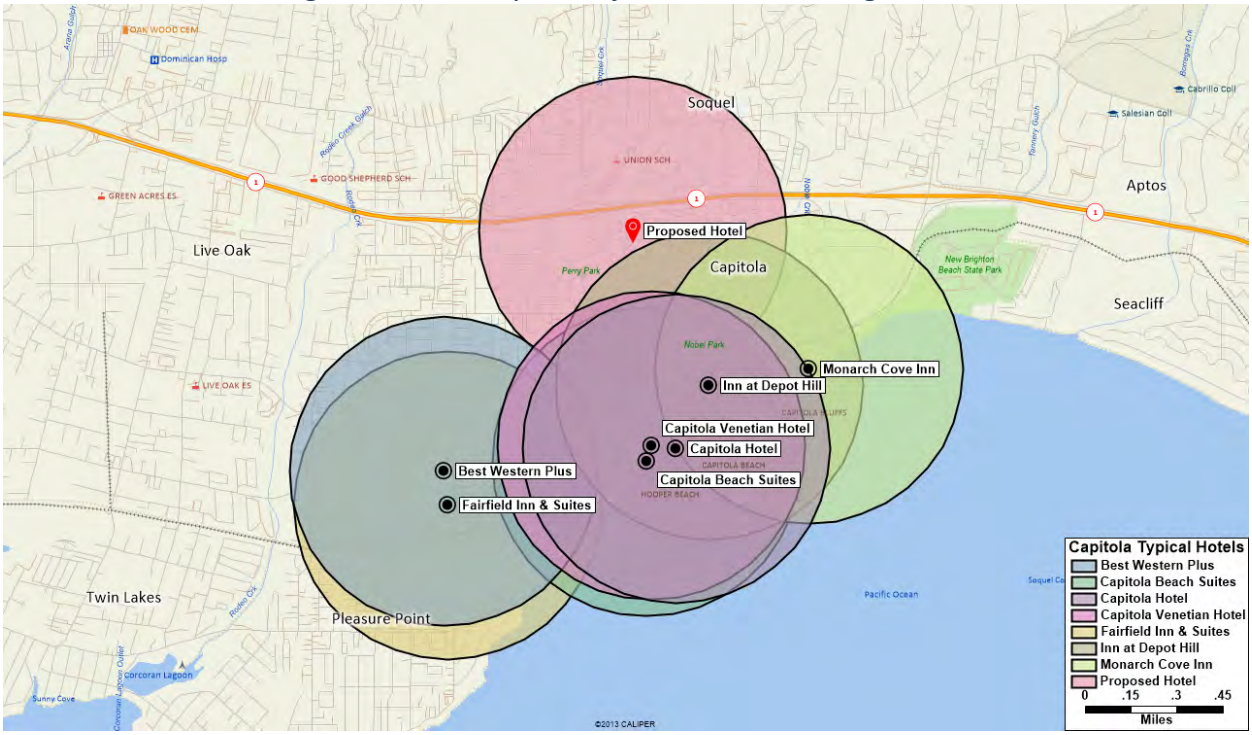
Conclusion

Based on the results of this analysis, the following findings are made:

- The addition of the proposed hotel can shorten existing trip lengths, which would result in a net decrease in VMT. **Therefore, it is presumed that the VMT-related impact of the proposed hotel would be less than significant.**

[1] *Technical Advisory on Evaluating Transportation Impacts in CEQA*. Governor's Office of Planning and Research. December 2018. Page 16.

Figure 3: Proximity of Project Hotel to Existing Hotels



4 LTA PROJECT DESCRIPTION

This chapter describes the local transportation analysis including the method by which project traffic is estimated through trip generation, trip distribution, and volume assignment.

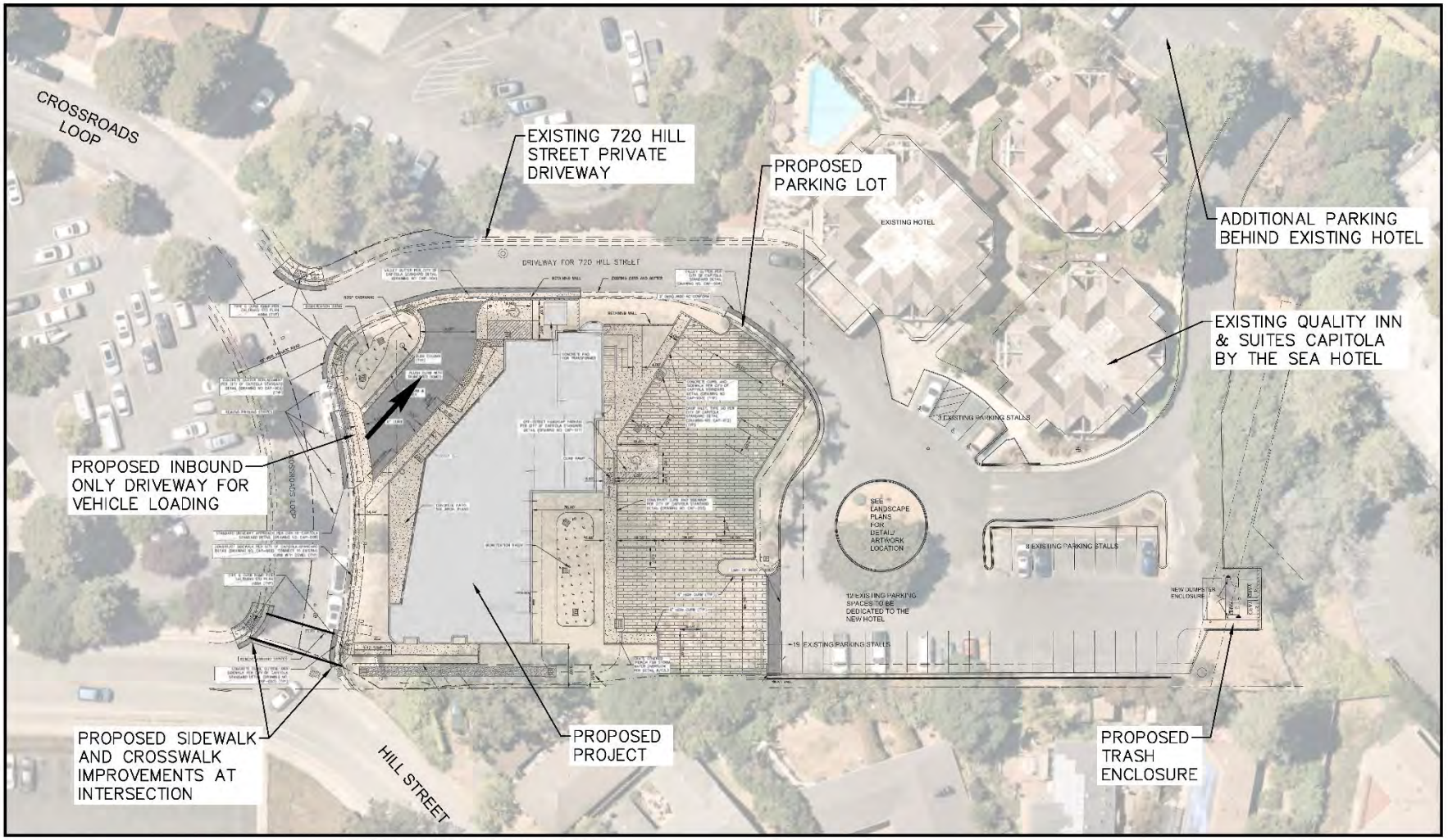
4.1 Project Site Plan

The proposed project is located on a 3.086 gross acre property (APN 03-011-28) bounded by Hill Street and Crossroads Loop. An existing Quality Inn & Suites hotel operates on the property, and the Project's site plan proposes to construct a new 3-story boutique hotel totaling up to 42 guest rooms on the unused/undeveloped portion of the property.

Based on City and Client discussion, the proposed hotel would be managed under the same ownership as the existing Quality Inn & Suites on-site but will function as an independent business entity. There is no land division between the existing and proposed hotel, but to operate, it is assumed the project would be required to have a shared vehicle access and a shared parking agreement through a Conditional Use Permit. The proposed project would also provide up to 30 additional vehicle parking spaces on-site, and the project will be accessed from a private driveway off of Crossroads Loop.

The project site plan is presented in **Figure 4** and the **Appendices**.

Figure 4: Project Site Plan



Kimley»Horn

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

DW-097809005 JUNE 2022

GROUND FLOOR SITE PLAN
720 HILL STREET HOTEL TRANSPORTATION ANALYSIS

4.2 Project Trip Generation

Project Site Vehicle Operations

Trip generation for the proposed project land uses was calculated using average trip generation rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition* (September 2021).

A trip is defined as a single or one-directional vehicle movement in either the origin or destination at the project site. In other words, a trip can be either "to" or "from" the site. In addition, a single customer visit to a site is counted as two trips (i.e. one to and one from the site). Daily, AM, and PM peak hour trips for the project were calculated with average trip rates.

For the purposes of determining the worst-case effects of traffic on the surrounding street network, Project trips are typically estimated on weekdays between the hours of 7:00-9:00 AM and 4:00-6:00 PM, which is when peak commuter traffic causes the worst congestion and delay. While the Project itself may generate more traffic during other times of the day, the peak of "adjacent street traffic" represents the time period when to the greatest amount of congestion occurs on the network and when operational deficiencies would be triggered due to the Project.

The existing Quality Inn & Suites hotel on-site was not included in the trip generation analysis for determining the net new project trips added to the City roadway network. The existing hotel will continue to operate separately from the project, and the vehicle trips from the existing hotel are already established in the existing traffic counts.

ITE Land Use Code 310 (Hotel) was assumed for the project trip generation estimates which is the most conservative trip generation rate that could be used for the project. A hotel is a place of lodging that provides sleeping accommodations and supporting facilities such as restaurants; cocktail lounges; meeting and banquet rooms or convention facilities; limited recreational facilities (pool, fitness room); and/or other retail and service shops. ITE land use data is based on empirical data collected from surveyed sites which most closely match the project description.

Baseline Vehicle Trips

Baseline vehicle trips for the proposed hotel project are anticipated to generate a gross total of 336 daily trips, 19 AM peak hour trips, and 25 PM peak hour vehicle trips. Of the AM peak hour trips, approximately 11 trips will be inbound to the project and 8 trips will be outbound from the project. For the PM peak hour trips, approximately 13 trips are inbound while 12 trips are outbound.

Vehicle Trip Reductions and Credits

Per ITE, an internal capture reduction can be applied for a mixed use development; however, an internal capture reduction was not applied since the project does not contain an applicable mixed land use.

The project is located on an unused/undeveloped portion of the property and the proposed project land uses are not anticipated to generate pass-by or diverted trips from the roadway network. Therefore, the project is not eligible for an existing use or pass-by trip credit.

Net Vehicle Project Trips

Development of the proposed project with all applicable trip reductions and credits is anticipated to generate a net total of 336 additional daily trips, 19 AM, and 25 PM peak hour trips to the roadway network. **Table 3** provides a summary of the proposed trip generation and trip reductions/credits.

Table 3: Project Trip Generation

LAND USE / DESCRIPTION	PROJECT SIZE	TOTAL DAILY TRIPS	AM PEAK TRIPS			PM PEAK TRIPS		
			TOTAL	IN	OUT	TOTAL	IN	OUT
Trip Generation Rates (ITE)								
Hotel [ITE 310]	Per Room(s)	7.99	0.46	56%	44%	0.59	51%	49%
All Suites Hotel [ITE 311]	Per Room(s)	4.40	0.34	53%	47%	0.36	49%	51%
Business Hotel [ITE 312]	Per Room(s)	4.02	0.36	39%	61%	0.31	55%	45%
Motel [ITE 320]	Per Room(s)	3.35	0.35	37%	63%	0.36	54%	46%
Resort Hotel [ITE 330]	Per Room(s)	*	0.32	72%	28%	0.41	43%	57%
Baseline Vehicle Trips for Project								
720 Hill Street Hotel [ITE 310]	42 Room(s)	336	19	11	8	25	13	12
Baseline Project Vehicle-Trips		**336**	**19**	**11**	**8**	**25**	**13**	**12**
Location-based Mode Share Adjustments								
N/A		0	0	0	0	0	0	0
Project Vehicle-Trips After Reduction		**336**	**19**	**11**	**8**	**25**	**13**	**12**
Project Trip Adjustments								
N/A		0	0	0	0	0	0	0
Project Vehicle-Trips After Reduction		**336**	**19**	**11**	**8**	**25**	**13**	**12**
Other Trip Adjustments								
Pass-by and Diverted Link Trips (N/A)		0	0	0	0	0	0	0
Existing Use Credit (N/A Project Site is Vacant)		0	0	0	0	0	0	0
Other Trip Adjustment Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Baseline Project Vehicle-Trips		**336**	**19**	**11**	**8**	**25**	**13**	**12**
Gross Project Vehicle-Trips		**336**	**19**	**11**	**8**	**25**	**13**	**12**
Net Project Vehicle-Trips		**336**	**19**	**11**	**8**	**25**	**13**	**12**
Notes:								
Land Uses assumed based on latest proposed site plan from GJ Architecture								
Daily, AM, and PM trips based on average land use rates from the Institute of Traffic Engineers Trip Generation 11th Edition (September 2021)								

4.3 Project Trip Distribution and Assignment

Due to the nature of the proposed development, a majority of the vehicle project trips are anticipated to access the Highway 1 regional freeway. Trip distribution and assignment assumptions for the project was based on the project driveway location, the freeway ramp location, community characteristics, and professional engineering judgement. The project trips to and from the site are anticipated to access the following regional facilities and destinations with the estimated trip distribution percentages as shown in **Table 4**.

Table 4: Project Trip Distribution

Location	Roadway Origin / Destination	Inbound Trip Distribution (%)	Outbound Trip Distribution (%)
A	Highway 1 North	40%	40%
B	Highway 1 South	40%	40%
C	Bay Avenue North	3%	3%
D	Bay Avenue East	10%	10%
E	Capitola Avenue North	2%	2%
F	Capitola Avenue South	5%	5%

The net project trip assignments and distributions are presented in **Figure 5** and **Figure 6**. The trip assignment shown represents the shortest paths to and from the project site under ideal traffic conditions.

Figure 5: Net Project Trip Distribution

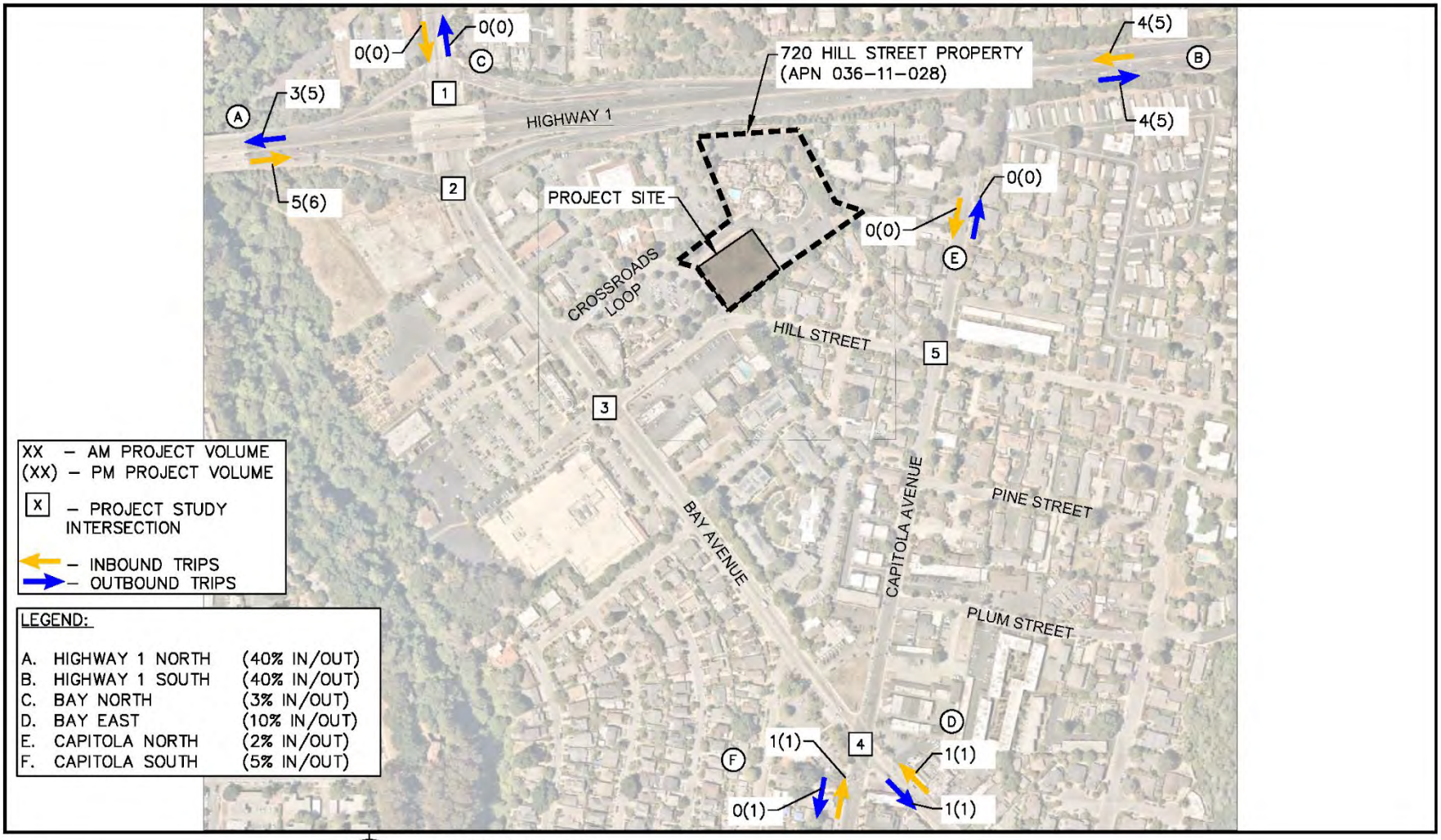
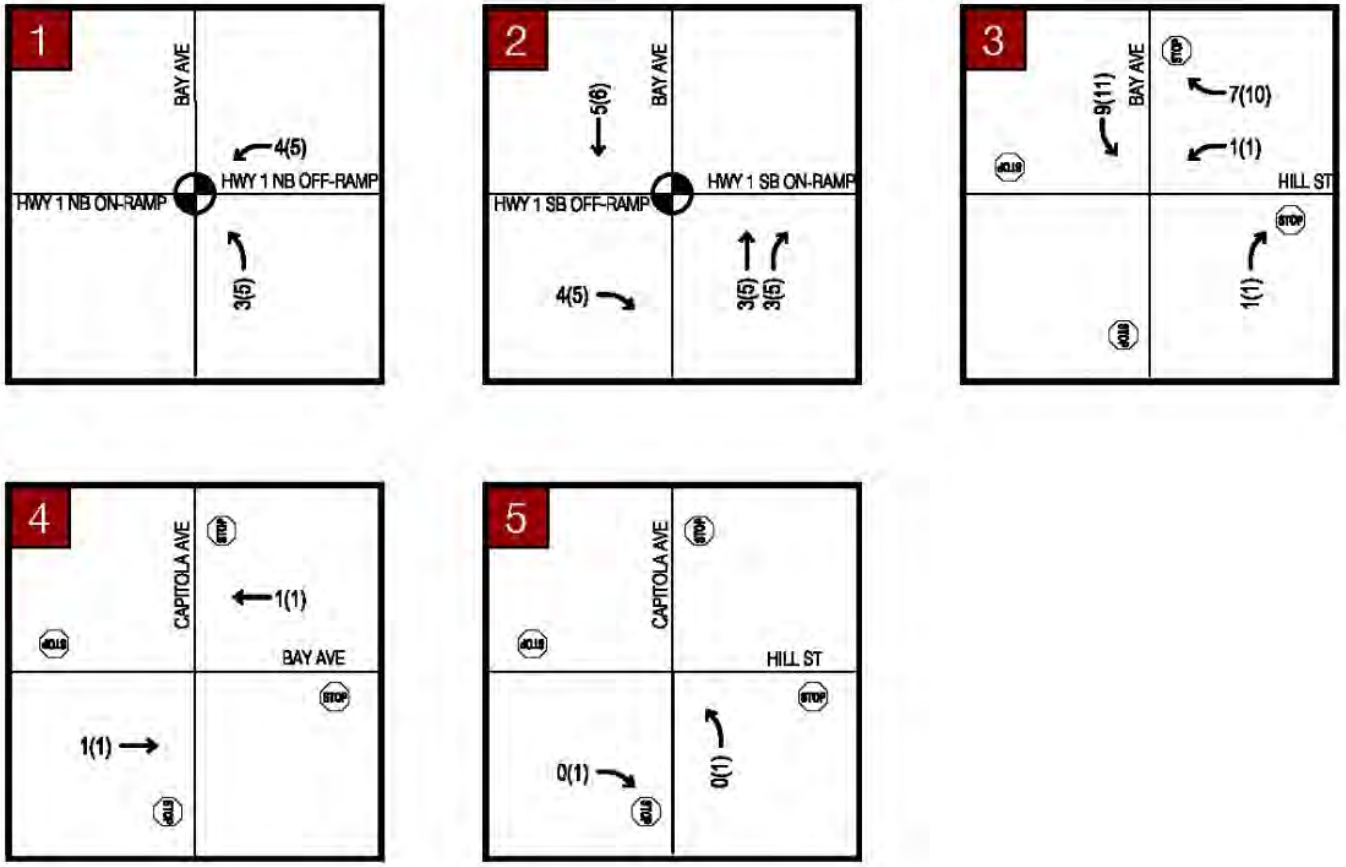


Figure 6: Net Project Trip Assignment



5 LTA INTERSECTION OPERATIONS

This chapter describes the local transportation analysis including intersection operations analysis for existing and cumulative conditions; intersection vehicle queuing analysis; and mitigation measures for any adverse effects to intersection level of service caused by the project.

5.1 Existing Conditions Analysis:

Traffic counts for Year 2022 were determined from new turning movement counts collected on Tuesday, February 15, 2022 for the study intersections. Signal timings for the Highway 1 ramp intersections were obtained from Caltrans. Peak hour volumes during each intersection's respective peak were conservatively used in this analysis, therefore, some volume imbalances were observed between study intersections. Existing intersection lane geometry and peak hour turning movement volumes are shown in **Figure 7** and **Figure 8**, respectively.

Traffic operations were evaluated at the study intersections under Existing conditions, and the results of the analysis are presented in **Table 5**. New intersection turning-movement counts and Synchro output sheets are provided in the **Appendices**.

Table 5: Intersection Operations Summary for Existing Conditions

#	Intersection	LOS Criteria	Jurisdiction	Control	Existing Conditions			
					AM Peak		PM Peak	
					LOS	Delay (sec)[1]	LOS	Delay (sec)[1]
1	Bay Avenue / Highway 1 NB Ramps	C	Caltrans	Signalized	**E**	**70.3**	C	31.8
2	Bay Avenue / Highway 1 SB Ramps	C	Caltrans	Signalized	C	23.8	C	22.4
3	Bay Avenue / Hill Street	D	Capitola	AWSC	C	15.8	C	15.9
4	Bay Avenue / Capitola Avenue	D	Capitola	AWSC	D	25.6	C	15.1
5	Capitola Avenue / Hill Street	C	Capitola	AWSC	A	10.0	A	9.1

Notes:
1. Analysis performed using HCM 6th Edition methodologies
2. Delay indicated in seconds/vehicle
3. AWSC = All-Way Stop Control; Caltrans = California Department of Transportation
4. Intersections that operate below maintaining agency's LOS standard are highlighted and bolded

As shown above, the following study intersection is anticipated to operate at unacceptable LOS during at least one peak hour under Existing conditions.

- **Bay Avenue / Highway 1 NB Ramps (Intersection #1 – Signal Caltrans)**
  - This signalized Caltrans intersection is anticipated to operate at LOS E during the AM peak and would experience average vehicle delay greater than the Caltrans LOS threshold.
  - Per the City of Capitola General Plan Update EIR, this intersection is identified to operate at deficient LOS for the buildout condition and is under Caltrans jurisdiction; therefore, implementation of improvements at this intersection is outside the jurisdiction of the City.
  - The EIR planned improvement to mitigate the adverse effect under buildout conditions is to add an eastbound right turn lane at the Highway 1 NB off-ramp. Since implementation of the identified improvements necessary to mitigate the adverse effect to a less than significant level cannot be guaranteed, and may be considered infeasible by Caltrans, the intersection impact is considered significant and unavoidable.

Figure 7: Existing Intersection Lane Geometry

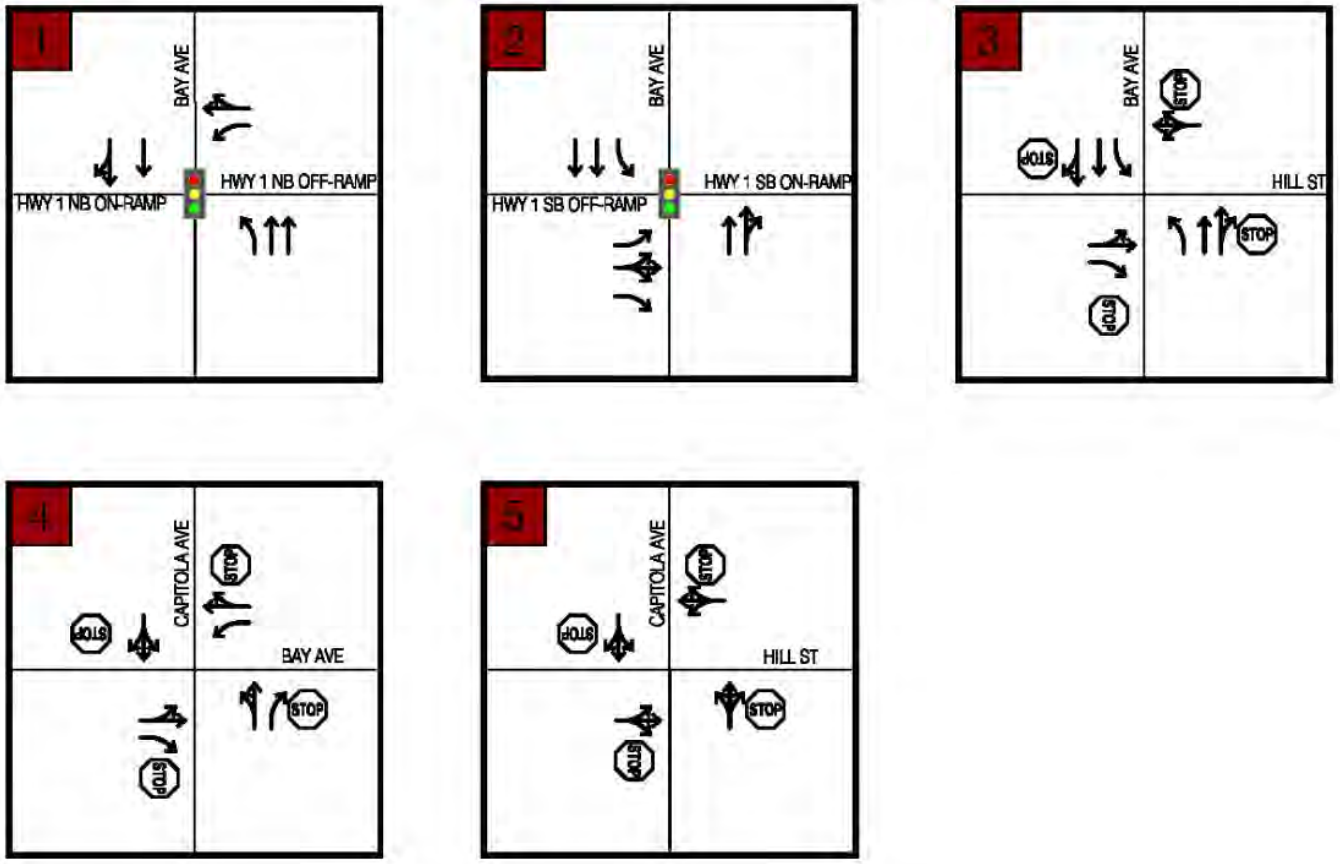
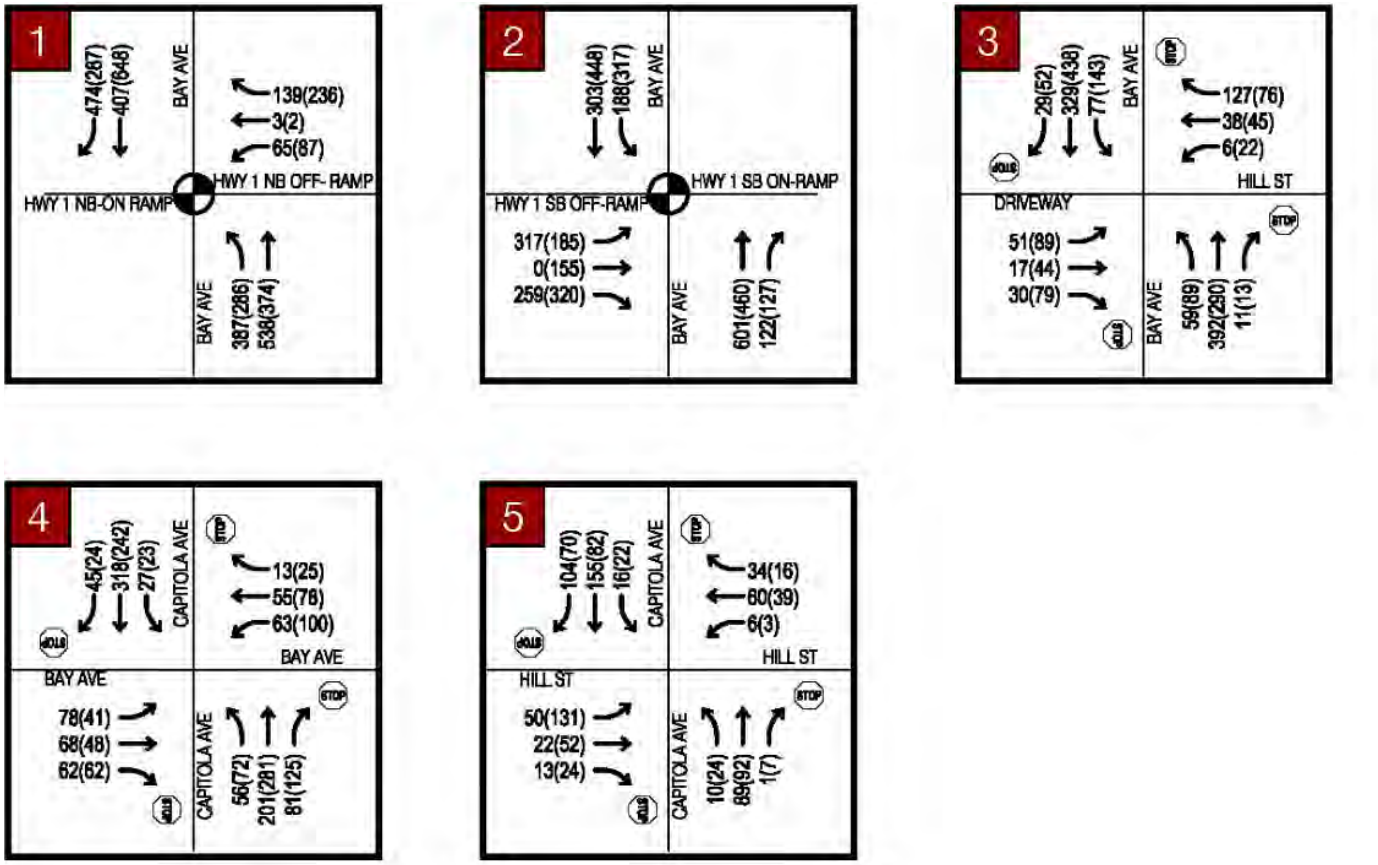


Figure 8: Existing Traffic Volumes



5.2 Existing Plus Project Conditions Analysis

Traffic operations were evaluated at the study intersections under Existing Plus Project conditions based on Existing conditions and adding the net vehicle trips from the proposed project to the Existing roadway geometry and traffic control. The net project traffic volumes were incorporated from the Trip Generation and Trip Distribution described in Section 4 of this report. Traffic operations for the study intersections under Project conditions are shown below in **Table 6** and **Figure 9**.

Table 6: Intersection Operations Summary for Existing Plus Project Conditions

#	Intersection	LOS Criteria	Jurisdiction	Control	Existing Plus Project Conditions					
					AM Peak			PM Peak		
					LOS	Delay (sec)[1]	Impact	LOS	Delay (sec)[1]	Impact
1	Bay Avenue / Highway 1 NB Ramps	C	Caltrans	Signalized	**E**	**70.0**	**No**	C	31.7	No
2	Bay Avenue / Highway 1 SB Ramps	C	Caltrans	Signalized	C	24.0	No	C	22.6	No
3	Bay Avenue / Hill Street	D	Capitola	AWSC	C	16.1	No	C	16.3	No
4	Bay Avenue / Capitola Avenue	D	Capitola	AWSC	D	25.7	No	C	15.2	No
5	Capitola Avenue / Hill Street	C	Capitola	AWSC	A	10.0	No	A	9.1	No

Notes:
1. Analysis performed using HCM 6th Edition methodologies
2. Delay indicated in seconds/vehicle
3. AWSC = All-Way Stop Control; Caltrans = California Department of Transportation
4. Intersections that operate below maintaining agency's LOS standard are highlighted and bolded

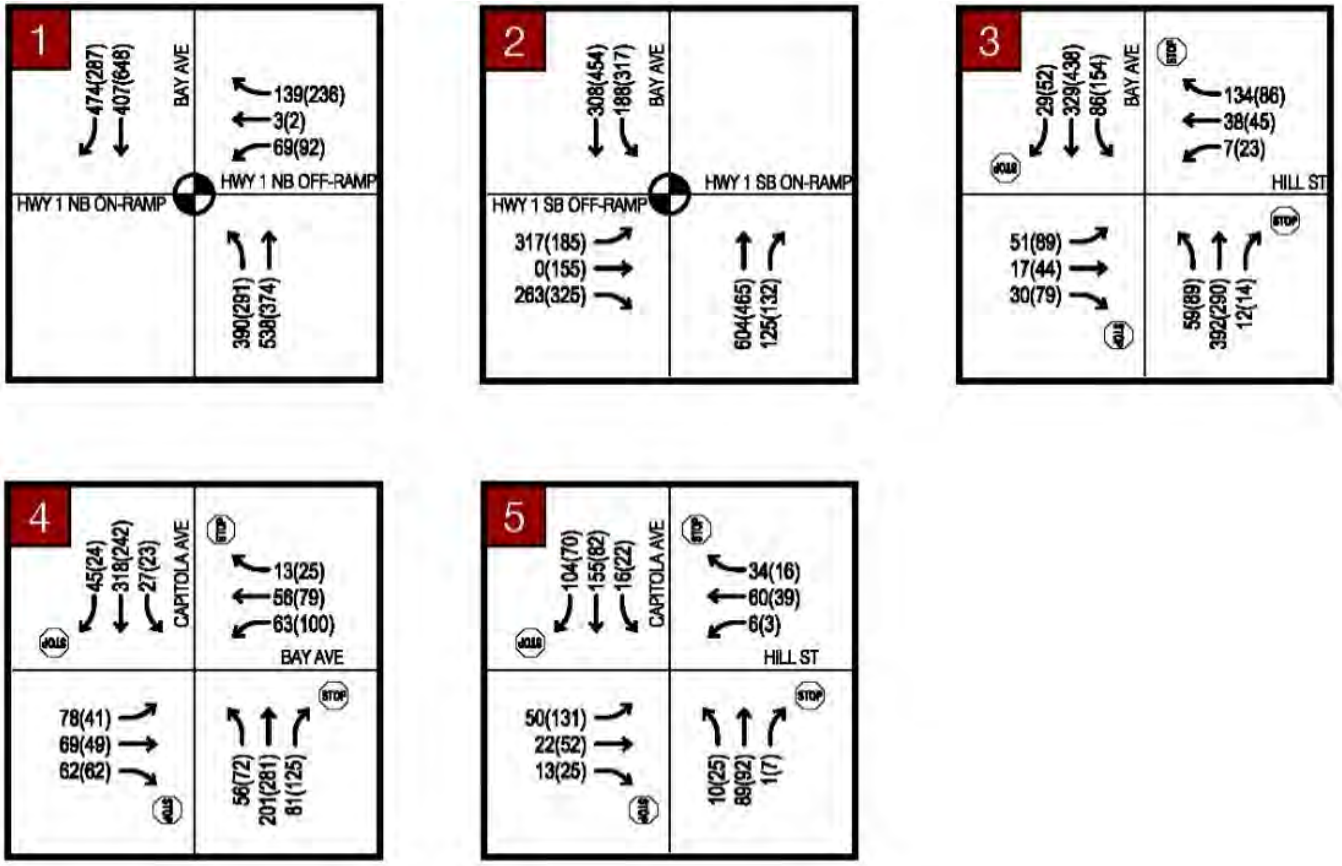
As shown above, the following study intersection is anticipated to operate at unacceptable LOS during at least one peak hour under Existing Plus Project conditions.

- **Bay Avenue / Highway 1 NB Ramps (Intersection #1 – Signal Caltrans)**
  - This signalized Caltrans intersection is anticipated to operate at LOS E during the AM peak and would experience average vehicle delay greater than the Caltrans LOS threshold.
  - The project would not cause the intersection already operating at unacceptable LOS under Existing conditions to operate with an increased LOS delay. The project would also not increase the v/c by more than one percent in any of the critical movement peak hours as indicated below in **Table 7**.
  - Therefore, the project does not cause any new deficiencies at the study intersection and does not create an adverse effect.

Table 7: Existing Plus Project Critical Movement V/C Calculation

AM Peak				
Condition	**EBL+WBT**	**WBL+EBT**	**NBL+SBT**	**SBL+NBT**
Existing (v/c)	N/A	N/A	1.55	0.22
Existing Plus Project (v/c)	N/A	N/A	1.55	0.22
v/c Change	**N/A**	**N/A**	**0.00%**	**0.00%**

Figure 9: Existing Plus Project Traffic Volumes



5.3 Cumulative Conditions Analysis

Cumulative Intersection and Roadway Geometry

The Cumulative (Year 2040) Conditions (also referred to as "Cumulative") and Cumulative (Year 2040) Plus Project Conditions (also referred to as "Cumulative Plus Project") analyses assume that signal timing changes (such as signal cycle lengths, offsets, and splits) will be implemented prior to 2040 to service traffic pattern changes and growth. Local intersection geometric operational improvements could be implemented as part of future development projects and as part of the County's ongoing signal retiming program. Santa Cruz County Regional Transportation Commission ("SCCRTC") and Caltrans are also planning several Highway 1 main line and interchanges. Auxiliary lanes and High Occupancy Vehicle (HOV) lanes are planned for construction along Highway 1 in the study area. Status of the planning, design and improvements is continuously updated on the SCC RTC website.

The roadway network under Cumulative conditions would be the same as the existing roadway network with the addition of the following planned intersection improvement by the City.

- **Bay Avenue / Capitola Avenue (Intersection #4)**
  - Convert All-Way stop controlled intersection into a single lane roundabout
  - Per the City of Capitola General Plan Update EIR, the City has identified the construction of a roundabout as a possible alternative to the intersection to help alleviate congestion and improve safety. This intersection is at a skew angle, which increases crosswalk distances for pedestrians and crossing distances for bicycles and vehicles. In addition, the skew results in high perception-reaction time for drivers, which increases intersection delay and vehicle queues.

Cumulative Traffic 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 2040 "future year" condition. Land uses for the 2040 future year 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. Land use assumptions for future growth was provided by County Staff. These are all in the vicinity of the Project and also includes redevelopment growth and other natural growth anticipated in the County, also from AMBAG.

2040 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 (2040) forecast volumes were compared to determine the annual incremental growth in traffic volumes at study intersection approach and departure links. 2040 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).

This TIOA report assumes that the SCCRTC Travel Demand Model, updated in July 2020, includes a reasonable estimate of growth in the Project study area and that future development projects approved or anticipated at the time that this TIOA was prepared were incorporated into the Travel Demand Model and, therefore, the Cumulative analyses. No additional manual assignments or adjustments were made to the Travel Demand Model or volume forecasts.

Changes in land use and improvements to the regional and local road network including Highway 1 in 2040 Conditions results in some local street cut through traffic diverting back to the freeway. Because of relatively low growth in some areas of the County, this may result in a reduction in Cumulative model volumes compared to Existing Conditions. To be conservative, volumes entering the intersection for Cumulative Conditions were not reduced between Existing Conditions and Cumulative Conditions.

Traffic operations for the study intersections under Cumulative conditions are shown below in **Table 8** and **Figure 10**.

Table 8: Intersection Operations Summary for Cumulative Conditions

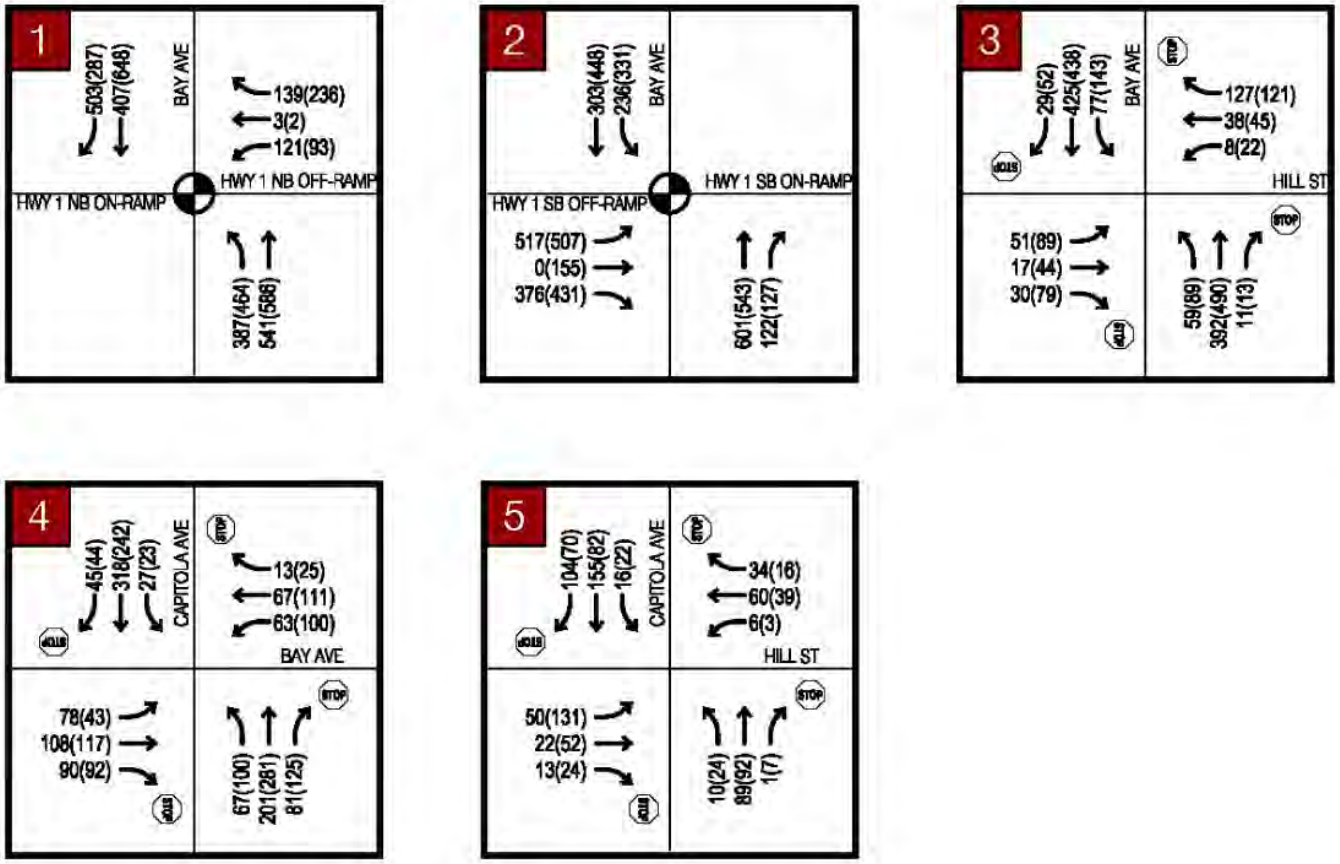
#	Intersection	LOS Criteria	Jurisdiction	Control	Cumulative Conditions			
					AM Peak		PM Peak	
					LOS	Delay (sec)[1]	LOS	Delay (sec)[1]
1	Bay Avenue / Highway 1 NB Ramps	C	Caltrans	Signalized	**E**	**79.9**	C	28.2
2	Bay Avenue / Highway 1 SB Ramps	C	Caltrans	Signalized	C	28.3	C	32.5
3	Bay Avenue / Hill Street	D	Capitola	AWSC	C	18.2	C	23.6
4	Bay Avenue / Capitola Avenue	D	Capitola	Roundabout	A	8.2	A	7.4
5	Capitola Avenue / Hill Street	C	Capitola	AWSC	A	10.0	A	9.1

Notes:
1. Analysis performed using HCM 6th Edition methodologies
2. Delay indicated in seconds/vehicle
3. AWSC = All-Way Stop Control; Caltrans = California Department of Transportation
4. Intersections that operate below maintaining agency's LOS standard are highlighted and bolded

As shown above, the following study intersection is anticipated to operate at unacceptable LOS during at least one peak hour under Cumulative conditions.

- **Bay Avenue / Highway 1 NB Ramps (Intersection #1 – Signal Caltrans)**
  - This signalized Caltrans intersection is anticipated to operate at LOS E during the AM peak and would experience average vehicle delay greater than the Caltrans LOS threshold.
  - Per the City of Capitola General Plan Update EIR, this intersection is identified to operate at deficient LOS for the buildout condition and is under Caltrans jurisdiction; therefore, implementation of improvements at this intersection is outside the jurisdiction of the City.
  - The EIR planned improvement to mitigate the adverse effect is to add an eastbound right turn lane at the Highway 1 NB off-ramp. Since implementation of the identified improvements necessary to mitigate the adverse effect to a less than significant level cannot be guaranteed, and may be considered infeasible by Caltrans, the intersection impact is considered significant and unavoidable.

Figure 10: Cumulative Traffic Volumes



5.4 Cumulative Plus Project Conditions Analysis

Traffic operations were evaluated at the study intersections under Cumulative Plus Project conditions based on Cumulative conditions and adding the net vehicle trips from the proposed project to the Cumulative roadway geometry and traffic control. The net project traffic volumes were incorporated from the Trip Generation and Trip Distribution described in Section 4 of this report. Traffic operations for the study intersections under Project conditions are shown below in **Table 9** and **Figure 11**.

Table 9: Intersection Operations Summary for Cumulative Plus Project Conditions

#	Intersection	LOS Criteria	Jurisdiction	Control	Cumulative Plus Project Conditions					
					AM Peak			PM Peak		
					LOS	Delay (sec)[1]	Impact	LOS	Delay (sec)[1]	Impact
1	Bay Avenue / Highway 1 NB Ramps	C	Caltrans	Signalized	**E**	**79.6**	**No**	C	28.2	No
2	Bay Avenue / Highway 1 SB Ramps	C	Caltrans	Signalized	C	28.6	No	C	32.7	No
3	Bay Avenue / Hill Street	D	Capitola	AWSC	C	18.6	No	C	24.5	No
4	Bay Avenue / Capitola Avenue	D	Capitola	Roundabout	A	8.2	No	A	7.4	No
5	Capitola Avenue / Hill Street	C	Capitola	AWSC	A	10.0	No	A	9.1	No

Notes:
1. Analysis performed using HCM 6th Edition methodologies
2. Delay indicated in seconds/vehicle
3. AWSC = All-Way Stop Control; Caltrans = California Department of Transportation
4. Intersections that operate below maintaining agency's LOS standard are highlighted and bolded

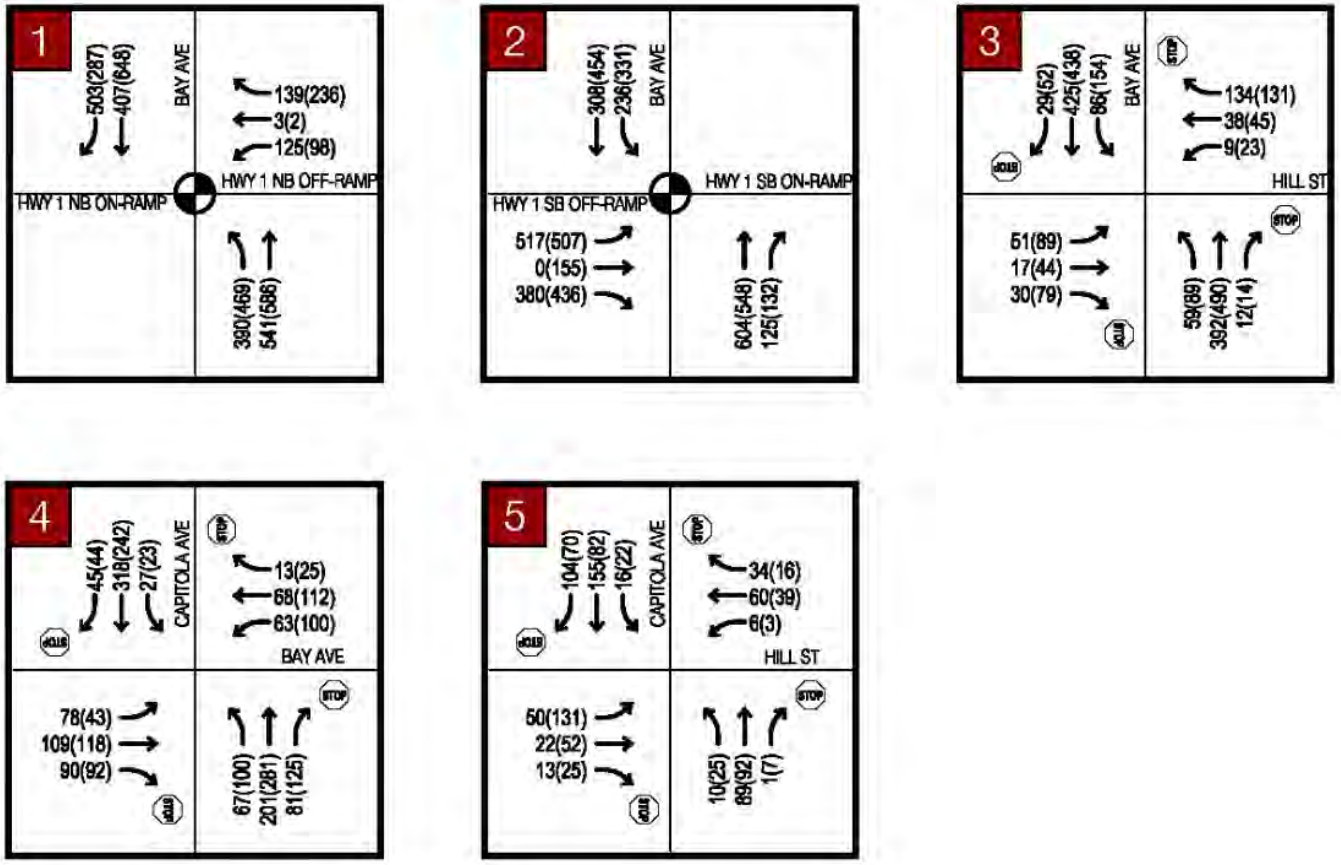
As shown above, the following study intersection is anticipated to operate at unacceptable LOS during at least one peak hour under Cumulative Plus Project conditions.

- **Bay Avenue / Highway 1 NB Ramps (Intersection #1 – Signal Caltrans)**
  - This signalized Caltrans intersection is anticipated to operate at LOS E during the AM peak and would experience average vehicle delay greater than the Caltrans LOS threshold.
  - The project would not cause the intersection already operating at unacceptable LOS under Cumulative conditions to operate with an increased LOS delay. The project would also not increase the v/c by more than one percent in any of the critical movement peak hours as indicated below in **Table 10**.
  - Therefore, the project does not cause any new deficiencies at the study intersection and does not create an adverse effect.

Table 10: Cumulative Plus Project Critical Movement V/C Calculation

Bay Avenue /Highway 1 NB Ramps (Intersection #1)				
AM Peak				
Condition	**EBL+WBT**	**WBL+EBT**	**NBL+SBT**	**SBL+NBT**
Cumulative (v/c)	N/A	N/A	1.55	0.22
Cumulative Plus Project (v/c)	N/A	N/A	1.56	0.22
v/c Change	**N/A**	**N/A**	**0.65%**	**0.00%**

Figure 11: Cumulative Plus Project Traffic Volumes



5.5 Adverse Effects and Improvements

This section discusses significant transportation project adverse effects identified under Project conditions as well as planned roadway improvements.

Project VMT Adverse Effects

The addition of the proposed hotel can shorten existing trip lengths, which would result in a net decrease in VMT. Therefore, it is presumed that the VMT-related impact of the proposed hotel would be less than significant.

Project Intersection Adverse Effects

Based on City and Caltrans intersection operation threshold criteria described in Section 1, the project is not anticipated to generate an adverse effect to the study intersections during the Existing Plus Project and Cumulative Plus Project scenarios.

City Identified Bicycle / Pedestrian Improvements

The project is not anticipated to generate an adverse effect to the existing pedestrian and bicycle network during the Existing Plus Project and Cumulative Plus Project scenarios.

City Identified Transit Improvements

The project is not anticipated to generate an adverse effect to the existing transit network during the Existing Plus Project and Cumulative Plus Project scenarios.

6 LTA SITE ACCESS AND CIRCULATION

This chapter describes the local transportation analysis including site access and on-site circulation review, effects on bicycle, pedestrian, and transit facilities, construction operations, and neighborhood interface.

6.1 Driveway Site Access

Site access and circulation for the project is based on the latest site plan prepared by the project applicant and is included in the **Appendices**. The 720 Hill Street project provides on-site parking spaces. The site is accessed by the several driveways:

- **Private Driveway at Crossroads Loop**
  - Inbound and outbound access
  - Existing primary driveway serving the project site
- **Loading Zone Driveway at Crossroads Loop**
  - Proposed one-way access for loading vehicles only
  - Inbound from Crossroads Loop, Outbound from existing private driveway
- **Internal On-Site Guest Parking North Driveway**
  - Inbound and outbound access for guest parking
- **Internal On-Site Guest Parking East Driveway**
  - Inbound and outbound access for guest parking

Per City Municipal Code 17.76 and Table 17.76-4, the minimum width of the proposed two-way drive aisle is 25-feet. The parking lot drive aisles for guest parking are dimensioned 25-feet wide.

All driveways do not exceed thirty feet in width, as specified in the City Municipal Code 12.32.010.

In addition, the standard parking spaces on-site are dimensioned 9-feet by 18-feet and compact spaces which satisfy City parking standards.

Vehicles accessing the project driveway would be allowed to make turns in and out the site when there are sufficient vehicle gaps along Crossroads Loop and Hill Street. From the queue analysis results summarized in Section 5, inbound vehicle queues and delays are not expected to be significant issues. For outbound vehicles, on-site vehicle queues are expected during the AM and PM peak due to a combination of inherent unpredictability of vehicle arrivals at driveways, and the random occurrence of gaps in traffic; however, these conditions are typical of driveways in retail and service areas.

6.2 Passenger Vehicle Access and Circulation

Vehicle maneuverability and access for the parking area was analyzed using AutoTURN software which measures design vehicle swept paths and turning through simulation and clearance checks. A passenger car design from the American Association of State Highway and Transportation Officials (AASHTO) was assessed for the loading zone and internal parking area.

Analysis using the AASHTO template revealed that passenger vehicles could adequately access the driveways on Crossroads Loop, the loading zone, maneuver through the parking lot, and park in the stalls without conflicting into other vehicles or stationary objects. The proposed layout provides sufficient vehicle clearance.

6.3 Heavy Vehicle Truck Access and Circulation

The SU-30 was assumed as the maximum size delivery truck that would be allowed at the project driveway. Fire apparatus and garbage trucks were also checked for site access, and these vehicle dimensions were based on NCHRP 659 – Guide for the Geometric Design of Driveways.

SU-30 trucks would be able to maneuver on Hill Street adjacent to the project site and access the site via Crossroads Loop. Garbage and recycling bins are anticipated to be located in a new proposed trash enclosure in the southeast corner of the site. For businesses with yard bins, front or rear loading waste collection vehicle templates were used, and these vehicles would be able to enter the project driveway to pick up bins and exit the site without conflict.

In the event of an emergency, it is assumed that fire apparatus vehicles will stage in the project parking lots, along the existing private driveway, along Crossroads Loop, or along Hill Street. An existing fire hydrant at the northeast corner of Crossroads Loop and the existing private driveway provides direct fire access for emergency personnel. The project driveways are 25-feet wide minimum, provide at least 10-feet high clearance, and satisfies the 20-foot horizontal and 10-foot- vertical minimum access clearances from the 2016 CA Fire Code.

Figure 12 through **Figure 15** show site access and vehicle turn templates at the project driveway and on-site parking area for the design vehicles described above.

Figure 12: Passenger Vehicle Access

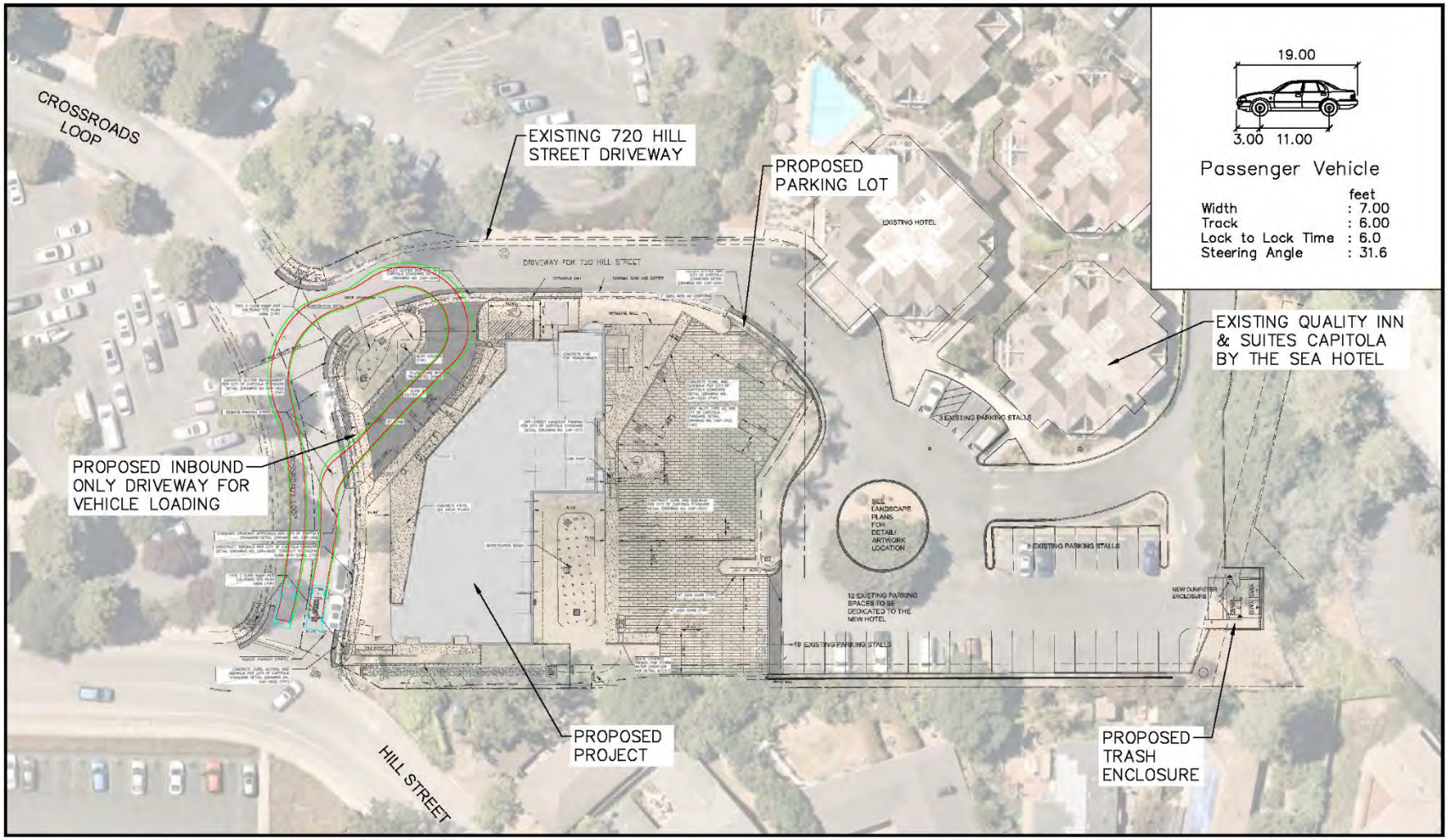


Figure 13: Delivery Truck Vehicle Access

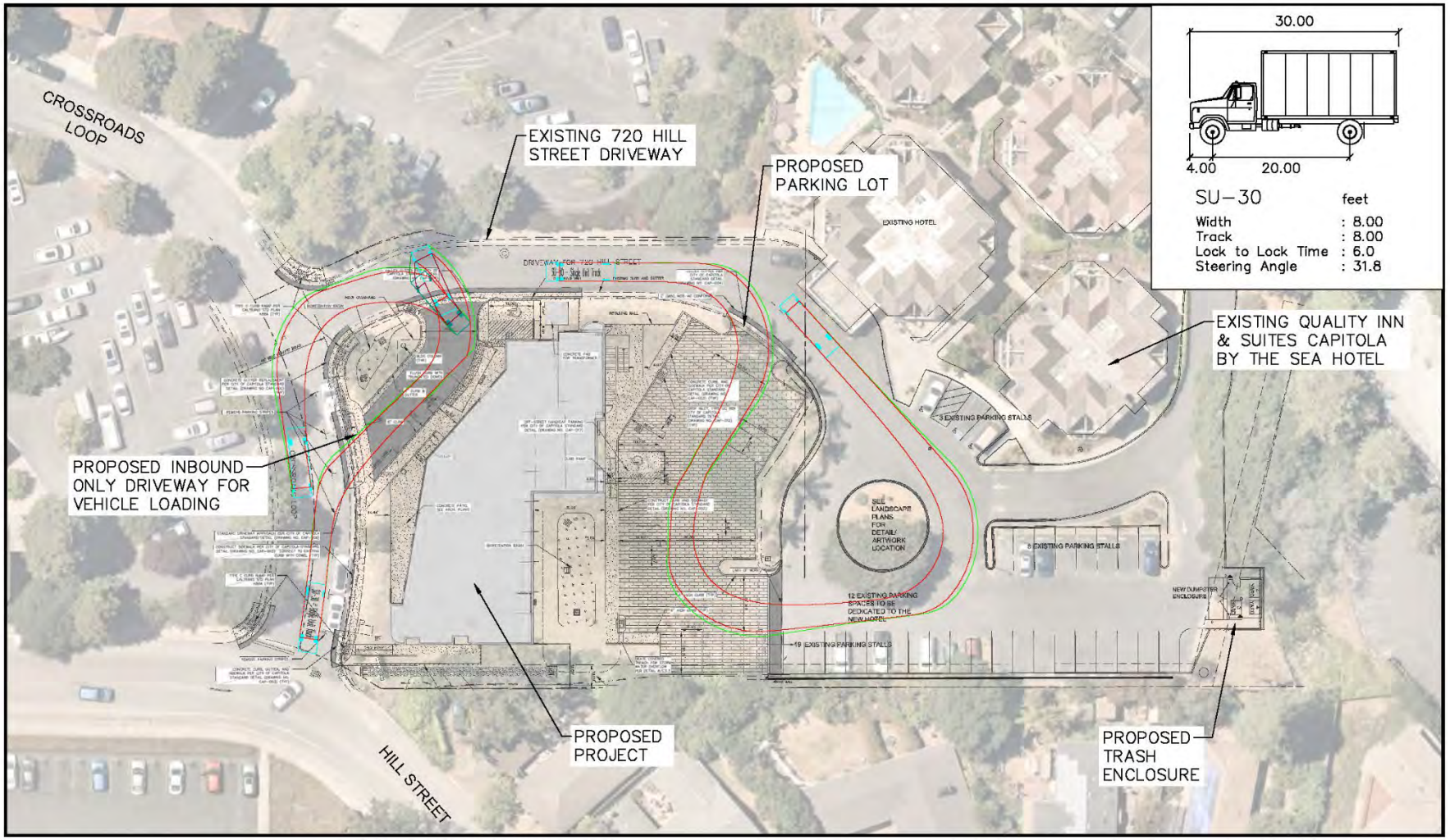


Figure 14: Garbage Truck Access

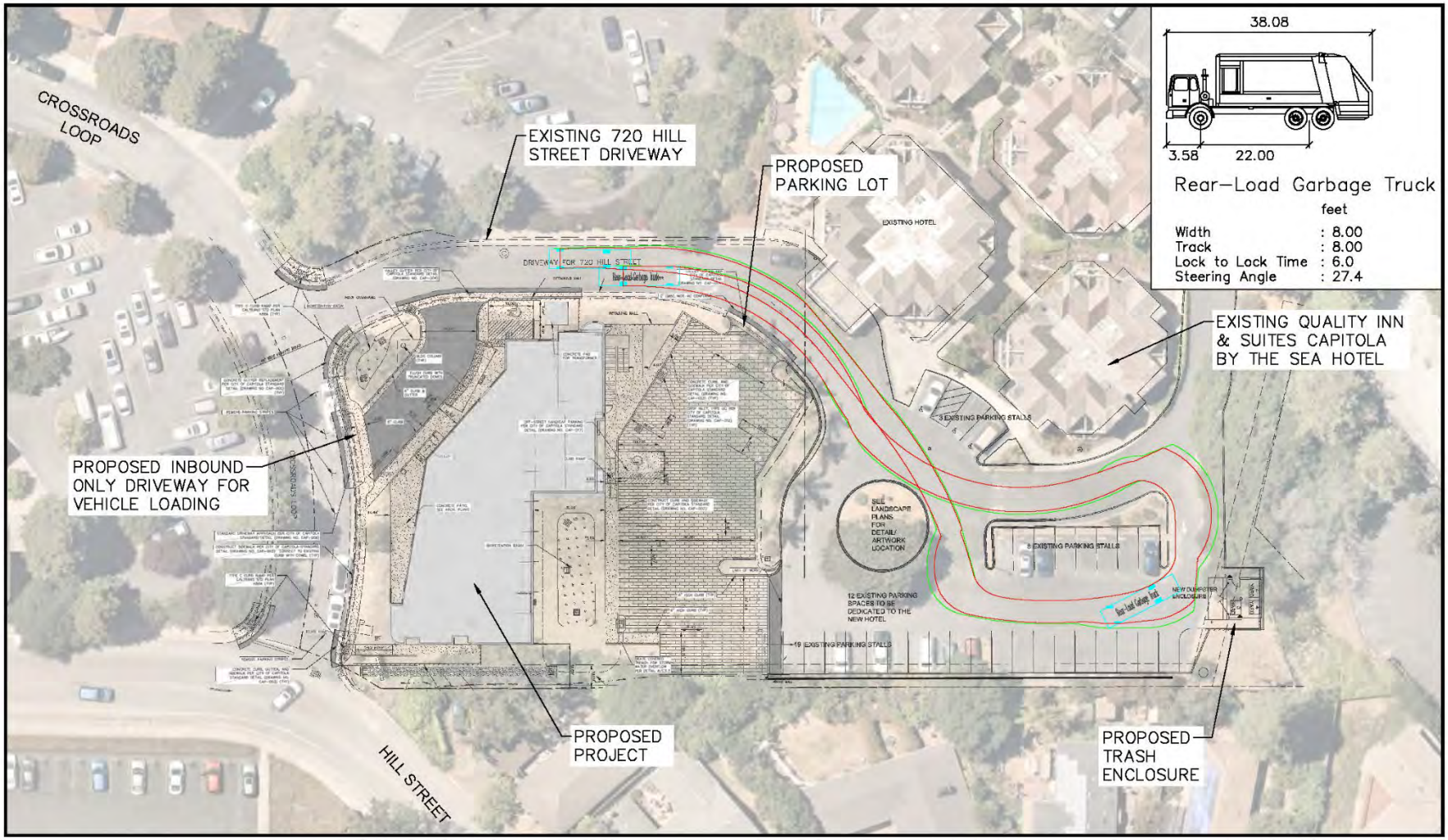
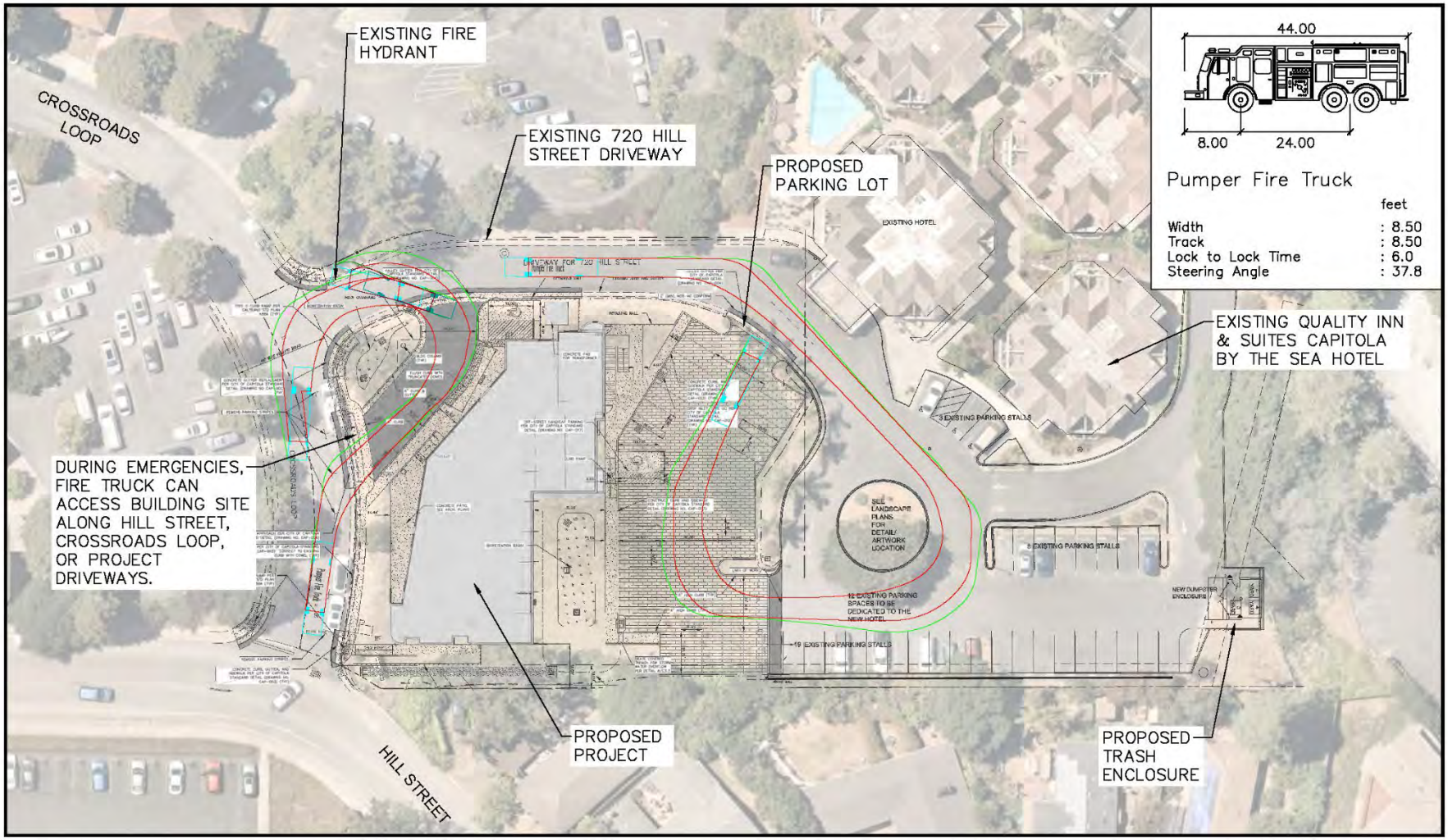


Figure 15: Fire Truck Access



6.4 Vehicle Sight Distance Analysis

A preliminary stopping sight distance (SSD) and intersection sight distance (ISD) analysis was conducted to determine the feasibility of the project driveway locations. The AASHTO methodology was used in this analysis. The sight distance needed under various assumptions of physical conditions and driver behavior is directly related to vehicle speeds and to the resultant distances traversed during perception-reaction time and braking.

The proposed loading zone driveway at the building entrance only provides direct inbound vehicle access from Crossroads Loop and vehicles will exit the site at the private driveway that intersects with Crossroads Loop. Therefore, an SSD and ISD analysis was conducted for the existing private driveway which provides inbound and outbound access for the project site.

Stopping sight distance is defined as the sum of reaction distance and braking distance. The reaction distance is based on the reaction time of the driver while the braking distance is dependent upon the vehicle speed and the coefficient of friction between the tires and roadway as the vehicle decelerates to a complete stop. This sight distance analysis indicates the minimum visibility that is required for an approaching vehicle to stop safely if a vehicle from the project driveway enters or exits the approaching road. The driver should also have an unobstructed view of the intersection, including any traffic-control devices, and sufficient lengths along the intersecting road to permit the driver to anticipate and avoid potential collisions.

For vehicles entering Crossroads Loop from the existing project driveway from the proposed project driveway, the AASHTO method evaluates sight distance from a vehicle exiting the driveway to a vehicle approaching from either direction. The intersection sight distance is defined along intersection approach legs and across their included corners known as departure sight triangles. These specified areas should be clear of obstructions that might block a driver's view of potentially conflicting vehicles. Intersection sight distance is measured from a point 3.5-feet above the existing grade (driver's eye) along the potential driveway to a 3.5-foot object height in the center of the approaching lane on the roadway. A vehicle setback in a stopped position from the edge of shoulder was assumed for determining intersection sight distance.

Project Driveway Sight Distance

Minimum sight distance criteria for the potential driveways along the study roadways was determined from the AASHTO Geometric Design of Highways and Streets 7th Edition (Green Book). For the purposes of this analysis, a design speed of 20 mph was assumed along Crossroads Loop. AASHTO standard time gap variables for passenger cars stopped on the proposed project driveways were used. Based on the existing traffic control, minimum sight distance was calculated for the following scenarios:

- Stopping Sight Distance on Crossroads Loop
- Intersection Sight Distance Case B – Stop control at the existing 720 Hill Street shared private project driveway
    - Case B1 – Left turn from the minor road
    - Case B2 – Right turn from the minor road

Minimum SSD and ISD values were obtained from Table 9-7 and Table 9-9 of the AASHTO Green Book. A site visit was taken to measure the available sight distance and departure sight triangles at the proposed driveway locations. From a 5-foot setback from the edge of travel way, the measured available sight

distance varies in each direction on Crossroads Loop. **Table 11** summarizes the intersection and stopping sight distance at the project driveways.

Table 11: Project Driveway Sight Distance

Type	Design Speed (MPH)	Required Sight Distance (ft)	Actual Sight Distance (ft)	Sufficient Sight Distance?
Private Driveway at Crossroads Loop				
SSD on Primary Road	20	115	>200	Yes
ISD Case B1 (Left Turn)	20	225	>250	Yes
ISD Case B2 (Right Turn)	20	195	>250	Yes
Proposed Project Loading Driveway at Private Driveway				
SSD on Primary Road	10	50	>200	Yes
ISD Case B1 (Left Turn)	10	115	>150	Yes
ISD Case B2 (Right Turn)	10	100	>150	Yes

The project driveway location satisfies the minimum stopping sight distance required for all approaches on Crossroads Loop. Vehicles on the road will have sufficient sight distance to react and stop safely if a vehicle from the project driveway enters or exits the road. The existing horizontal curve and on-street parking along Crossroads Loop partially constrains intersection sight distance at the existing project driveway; however, vehicles entering the City streets from the project driveway will have sufficient visibility to make a left or right turn onto the road per AASHTO scenarios.

Overall, the project driveway location is feasible and provide sufficient sight distance for traffic conditions. To ensure that exiting vehicles can see bikes and vehicles traveling on the roadway, no parking striped with red curb should be established immediately adjacent to the project driveways. The project site plan proposes to remove existing on-street parking on Crossroads Loop by its frontage. An exhibit comparing the design and measured available stopping and intersection sight distances is shown in **Figure 16** and **Figure 17.**

Figure 16: Sight Distance Analysis at Private Driveway

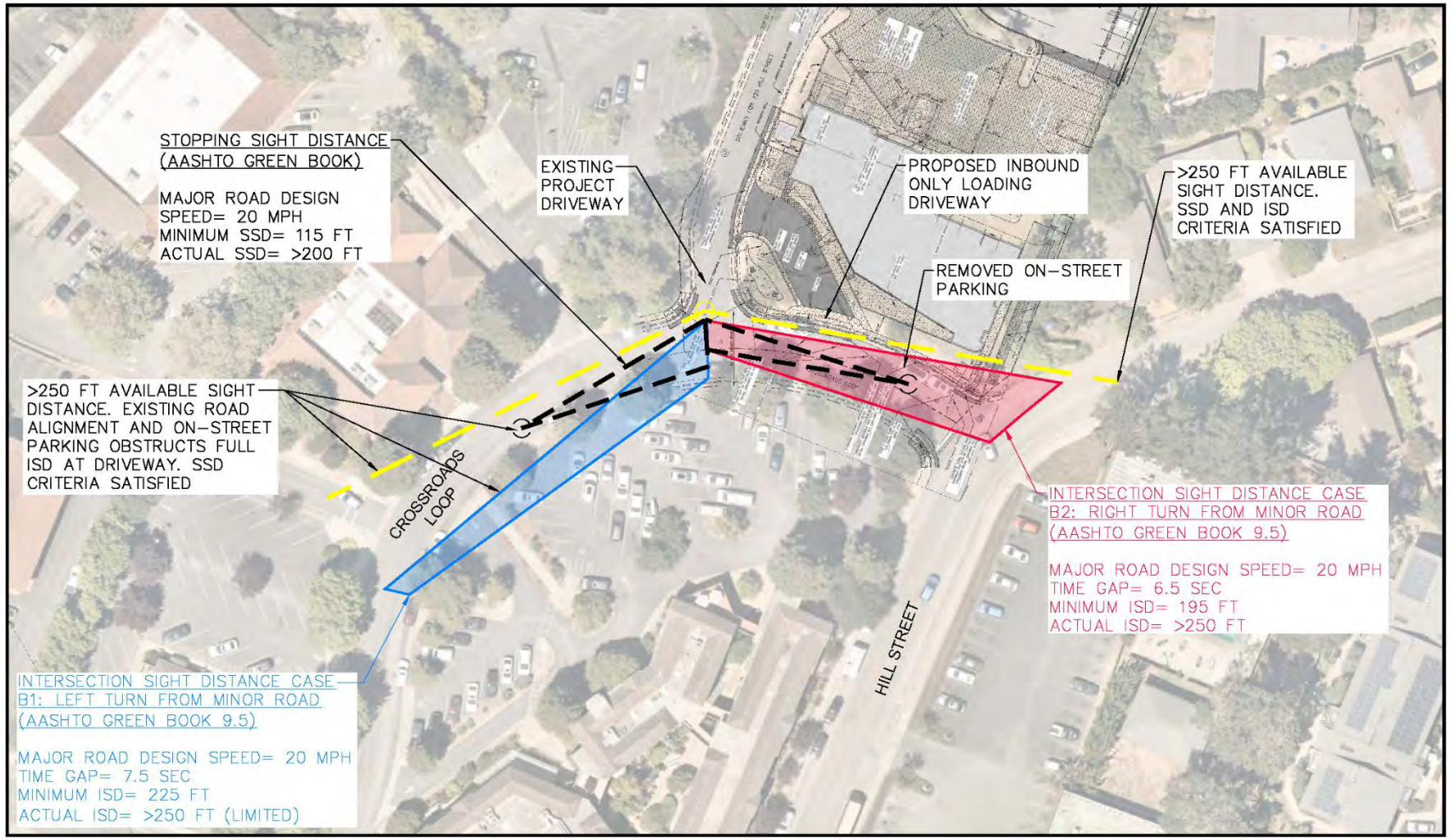
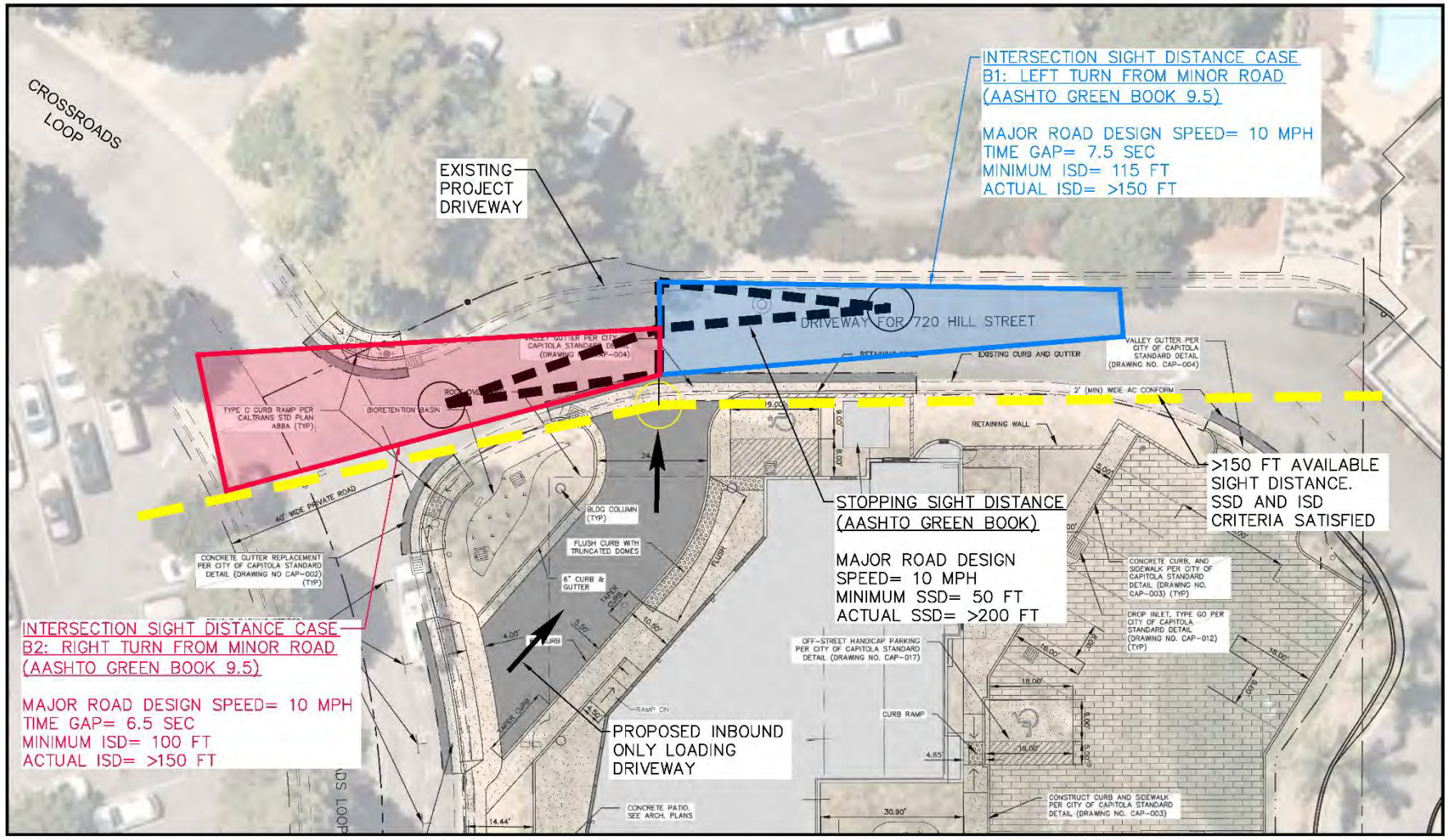


Figure 17: Sight Distance Analysis at Loading Driveway



DW-097809005 JUNE 2022

SIGHT DISTANCE ANALYSIS
720 HILL STREET HOTEL TRANSPORTATION ANALYSIS

6.5 Bicycle, Pedestrian, and Transit Access

Due to the function and operational characteristics of the proposed hotel use, the project is anticipated to add some project trips to the existing pedestrian, bicycle, or transit facilities in the area. The increase in multi-modal trips is due to guests accessing local amenities and points of interest such as nearby restaurants, grocery stores, or tourist destinations during their stay at the hotel.

The project will provide on-site pedestrian improvements to the existing facilities along the project frontage on Crossroads Loop. The following improvements will enhance pedestrian access in the area.

- Construct a sidewalk on the east side of Crossroads Loop from Hill Street to the project's private driveway.
- Reconstruct the existing concrete curb ramps to ADA standard at the project driveway and at the Crossroad Loop / Hill Street intersection.

As stated in Section 2, the existing network of sidewalks and crosswalks in the study area are adequate with connectivity and walkable routes to nearby bus stops, retail, and other points of interest in the immediate project area. In addition, the nearest transit stop is located adjacent to the project at the intersection of Hill Street / Crossroads Loop.

As for bicycle connectivity, the Class II bike lanes and Class III shared bike sharrows on Hill Street and Class II bike lanes on Bay Avenue provide bicycle facilities in the vicinity of the project site.

The project is anticipated to increase pedestrian, bicycle, and transit activity in the area; however, it is anticipated that the project would not create an adverse effect to the existing pedestrian, bicycle, or transit facility operations.

6.6 Vehicle and Bicycle Parking

Per Chapter 17.76, Table 17.76-2, and Table 17.76-6 of the Capitola Municipal Code (updated 12/9/2021), the proposed project land use is required to provide the following minimum off-street vehicle and bicycle parking as shown in **Table 12**.

Table 12: Required On-Site Parking

Guideline Source	Land Use	Parking Type	Parking Standard per Guideline
Capitola Municipal Code	Hotel	Vehicle	One (1) vehicle space per guest room; One (1) vehicle space per 300 sqft of office
		Bicycle (Short Term)	One (1) bicycle space per for every 10 code-required auto parking spaces
		Bicycle (Long Term)	One (1) bicycle space per for every 20 code-required auto parking spaces for uses 10,000 square feet or greater

Parking Condition with Project Site Only

Based on these City ratios, the project is required to provide a minimum total of 42 off-street vehicle parking spaces and 6 off-street bicycle parking spaces (4 short-term spaces and 2 long-term spaces) for the proposed hotel use. The project site plan proposes 30 vehicle spaces and does not provide a bicycle parking supply. Under these conditions, the project site would have a parking shortfall as shown in **Table 13**.

Table 13: Parking Summary – Project Site Only

Parking Condition	Vehicle Parking (# Spaces)	Bicycle Parking (# Spaces)
Project Hotel Only		
Required Parking	42	6
Proposed Parking Supply	30	0
Parking Surplus/Deficit	(12)	(6)
Sufficient On-Site Parking?	No	No

Parking Condition with Shared Parking Agreement

Based on City and Client discussion, the proposed hotel would be managed under the same ownership as the existing Quality Inn & Suites on-site but will function as an independent business entity. There is no land division between the existing and proposed hotel, but to operate, it is assumed the project would be required to have a shared vehicle access and a shared parking agreement through a Conditional Use Permit.

With a shared parking agreement, the on-site parking will be shared between the existing and proposed hotel uses on the 720 Hill Street property. The Quality Inn & Suites has an existing guestroom count of 55 rooms and the new project hotel will have a proposed guestroom count of 42 rooms. **Table 14**

summarize the vehicle and bicycle parking requirements for the combined Quality Inn & Suites and project hotel.

Table 14: Parking Summary – Shared Parking Agreement

Parking Condition	Vehicle Parking (# Spaces)	Bicycle Parking (# Spaces)
Required Parking Per City Code		
Existing Quality Inn Suites	55	9
Proposed Project Hotel	42	6
Net Total Required Parking	**97**	**15**
Combined Parking Supply		
Existing Quality Inn Suites	73	0
Proposed Project Hotel	30	0
Net Total Parking Supply	**103**	**0**
Parking Surplus/Deficit	**6**	**(15)**
Sufficient On-Site Parking?	**Yes**	**No**

Per City Municipal Code, the combined Quality Inn & Suites and project hotel site is required to provide a minimum total of 97 off-street vehicle parking spaces and 15 off-street bicycle parking spaces (10 short-term spaces and 5 long-term spaces).

The project site with a shared parking agreement proposes a net total parking supply of 103 vehicle spaces to accommodate the existing Quality Inn & Suites and project hotel (73 existing spaces plus 30 proposed spaces). Of the 73 existing vehicle parking spaces, 12 spaces would be dedicated to the new project hotel. The existing and proposed project site plan does not provide a total bicycle parking supply.

The project site plan is anticipated to provide sufficient vehicle parking per the City's off-street parking requirement but will have a shortfall of required bicycle spaces. To mitigate the bicycle parking deficit, the project would be required to provide a minimum of 15 shared bicycle spaces on-site for the existing and proposed hotel (10 short term and 5 long term spaces).

6.7 Construction Operations

During project construction, the existing curb, gutter, and sidewalk along the project frontage would be widened and replaced. A Traffic Management Plan (TMP) should be developed for construction activities at the site. Prior to construction, the contractor should place temporary signs indicating closed sidewalk facilities, install a temporary screened fence around the work area, protect existing features/utilities, and repair any damaged improvements within public right of way per City of Capitola requirements.

Pedestrians and bicyclists would potentially not be able to travel on the north side of Crossroads Loop Road or the north side of Hill Street next to the project during construction and would need to use the existing facilities on the opposite side of the street.

Vehicle access along Crossroads Loop near the project may also be restricted during construction due to its 2-lane roadway cross-section. The through lanes on Crossroads Loop could be temporary closed, and the contractor should install appropriate MUTCD traffic control devices to warn approaching vehicles of temporary lane closures and lane merges prior to the project site.

It is assumed that a temporary construction vehicle parking and stage construction area would be provided on the project site. This potential parking area would require the contractor to obtain necessary approval, right of entry, and permits with the City and property owners prior to construction.

6.8 Neighborhood Interface

The proposed project is in the community commercial district in the City and not located in the vicinity of schools. Therefore, the project is not anticipated to create an adverse effect to the existing school and neighborhood operations in the surrounding area. The project is located on commercial collector streets and would not promote excessive cut through traffic or vehicle speeding along the roadway network.

From the parking analysis, the project's on-site parking would satisfy the City's vehicle parking standard, and the project is not anticipated to create an adverse effect to the existing parking condition in the surrounding area.

From recent site visits and field observations, sidewalk and curb returns are provided in the area. The existing sidewalks in the area are at least four-feet wide and have either rolled or raised concrete curbs. ADA compliant curb ramps are also provided in the area. The project is not anticipated to create an adverse effect to the existing pedestrian and bicycle facilities in the surrounding neighborhood area.

7 APPENDICES

Appendices A –Project Site Plan
Appendices B – Intersection, Roadway, and Freeway Traffic Counts
Appendices C – Synchro Intersection Operations Analysis

Appendices A – Project Site Plan

BOUTIQUE HOTEL CAPITOLA, CA

HOTEL DEVELOPMENT

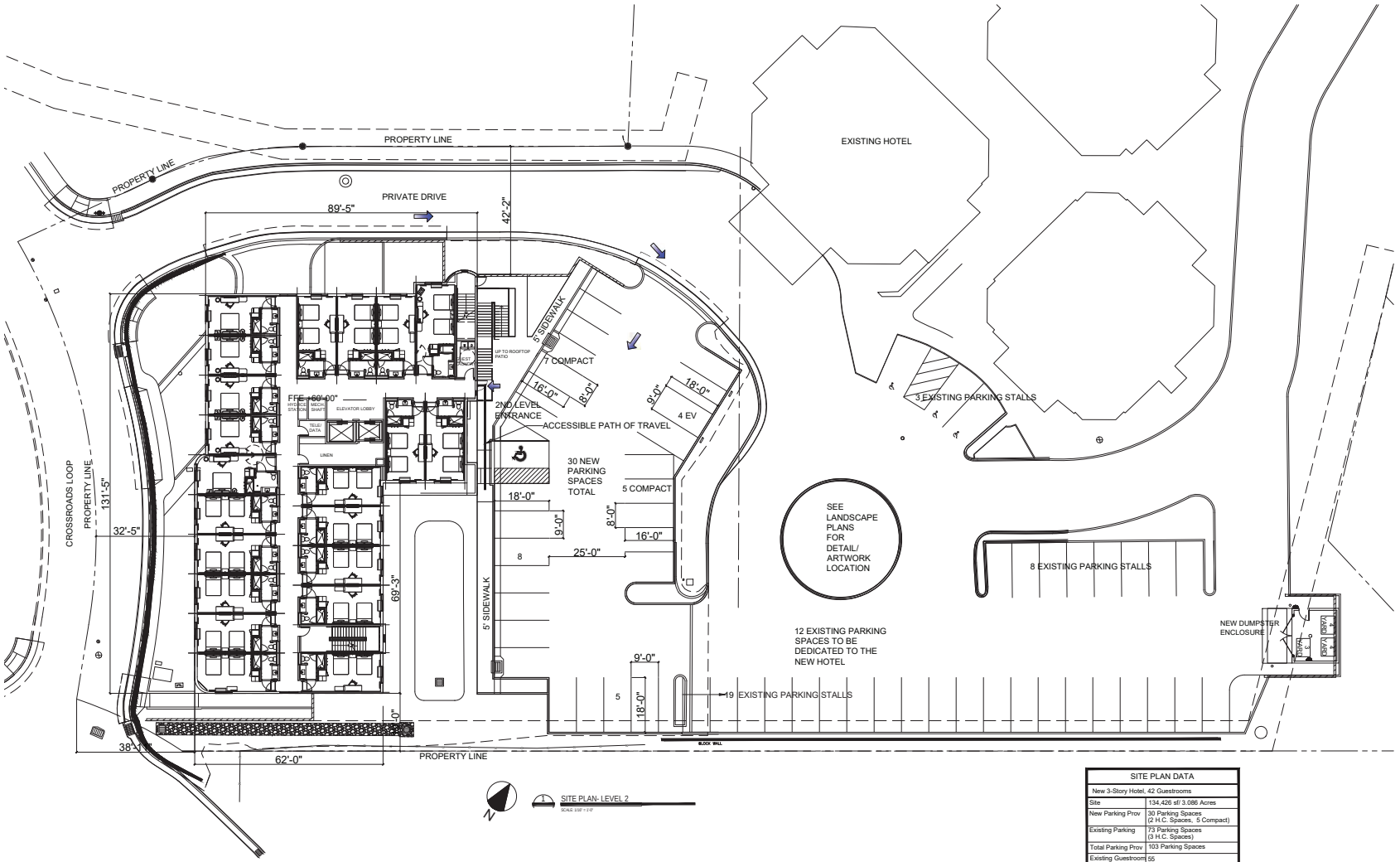
December 3, 2021

TEAM

GJ Architecture
17823 E Cindercone Rd
Rio Verde, AZ 85263
480.686.2203

Bowman & Williams
Consulting Civil Engineers
3949 Research Park Court, Ste 100
Soquel, CA 95073-2094
831.426.3560

Michael Arnone + Associates
Landscape Architect
mike@arnonelandscape.com
831.462.4988



SITE PLAN DATA	
New 3-Story Hotel, 42 Guestrooms	
Site	134,426 sf/ 3.086 Acres
New Parking Prov	30 Parking Spaces (2 H.C. Spaces, 5 Compact)
Existing Parking	73 Parking Spaces (3 H.C. Spaces)
Total Parking Prov	103 Parking Spaces
Existing Guestroom Count	55
Total Guestrooms	97
Zoning	C-C
Total Lot Coverage	16.6%
Total FAR	.39
Building GBA EX.	34,492 sf
Building GBA New	18,261 sf
1st Floor	7,650 sf
2nd Floor	9,895 sf
3rd Floor	9,895 sf
Roof	821 sf

Gwen Jarick Architecture LLC
17823 E Cinderconе Rd
Rio Verde, AZ 85263
480.686.2203
gwen@gj-arch.com

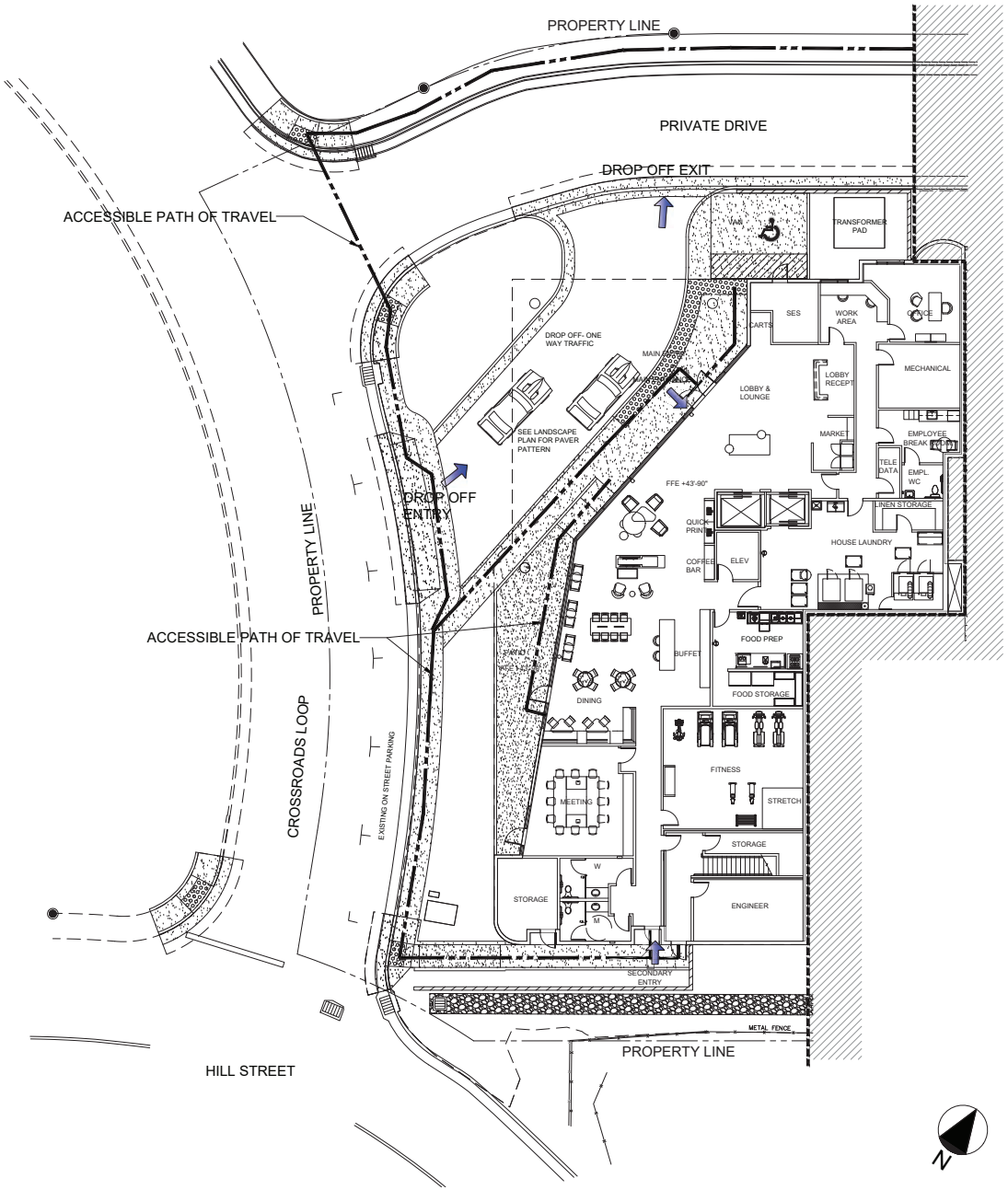
BOUTIQUE HOTEL
720 Hill Street Capitola, CA

ISSUE DATE: 12/3/2021
REVISION DATE:
GENERATION:
DECOR:

LEVEL 2 SITE PLAN

A101

NOT FOR CONSTRUCTION



LOCATION MAP
APN #: 036-011-28

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3rd Floor	9,895 sf
Roof	821 sf

1 SITE PLAN- LEVEL 1
SCALE: 3/32" = 1'-0"

ARCHITECTURE PLANNING DESIGN
Gwen Jarick Architecture LLC
17823 E Cinderconе Rd
Rio Verde, AZ 85263
480.686.2203
gwen@gj-arch.com

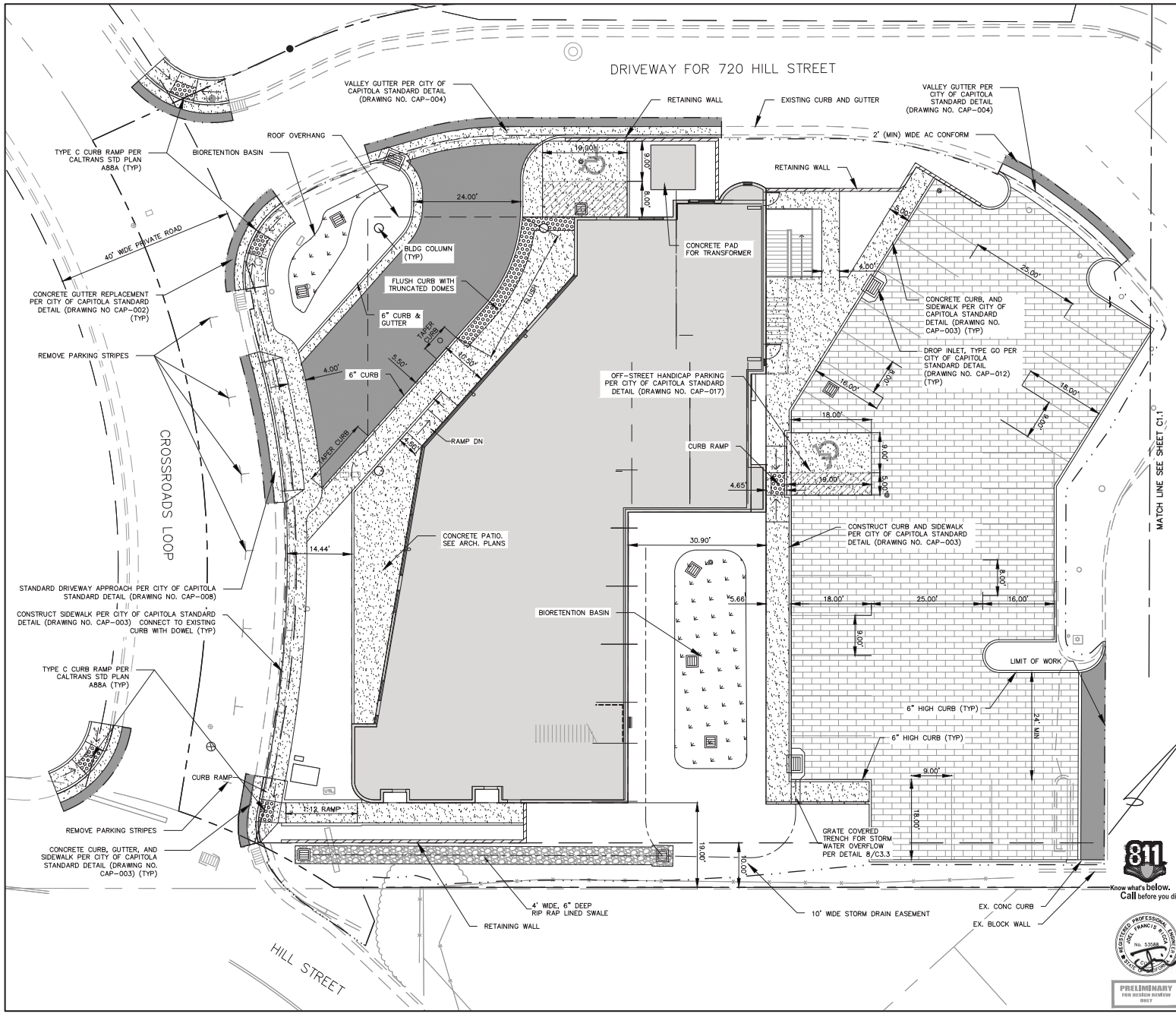
BOUTIQUE HOTEL
720 Hill Street Capitola, CA

ISSUE DATE: 12/3/2021
REVISION DATE:
GENERATION:
DECOR:

LEVEL 1 SITE PLAN

A100

NOT FOR CONSTRUCTION



GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.

Know what's below. Call before you dig.

DISCLAIMER

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APN 036-011-28

APPLICATION #21-0284

REVISED

DECEMBER 2, 2021 SECOND PLANNING SUBMITTAL

BOWMAN & WILLIAMS
CONSULTING CIVIL ENGINEERS AND LAND SURVEYORS
3949 RESEARCH PARK COURT, SUITE 100
SOQUEL, CA 95073-2094
(831) 426-3560

SITE PLAN

BOUTIQUE HOTEL IN CAPITOLA
720 HILL STREET
CAPITOLA, CA

SCALE 1" = 10'	DRAWN JFR	JOB NO. 28034	SHEET
DATE MARCH 2, 2021	CHECKED	INDEX SOQUEL 1	C1.0
DESIGN JFR	DWG NAME	FILE NO. 28034	OF 17

REGISTERED PROFESSIONAL ENGINEER — JOEL FRANCIS KLOSA — No. 53588 — STATE OF CALIFORNIA — CIVIL

PRELIMINARY FOR DESIGN REVIEW ONLY

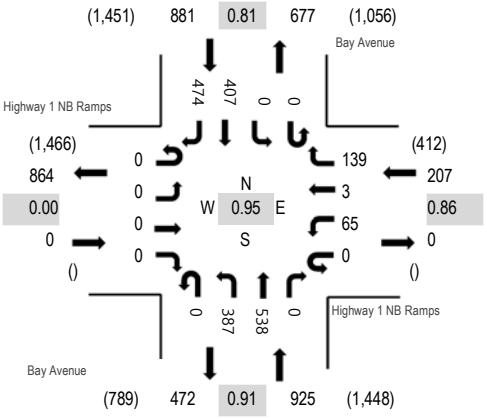
Appendices B – Intersection, Roadway, and Freeway Traffic Counts

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

Location: 1 Bay Avenue & Highway 1 NB Ramps AM
Date: Tuesday, February 15, 2022
Study Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes in Study Peak Hour: 08:15 AM - 08:30 AM

Study Peak Hour (for all study intersections)

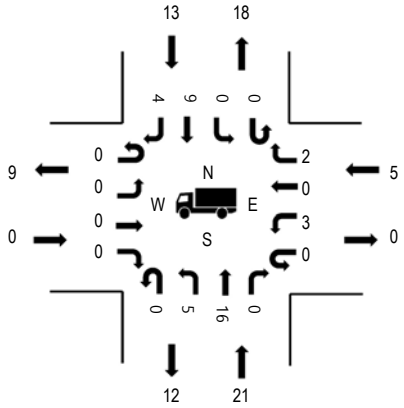
Motorized Vehicles



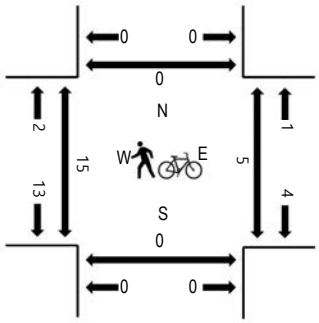
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	2.4%	0.86
NB	2.3%	0.91
SB	1.5%	0.81
All	1.9%	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 Avenue Northbound				Bay Avenue Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	0	0	0	20	1	32	0	57	19	0	0	0	44	49	222	1,360
7:15 AM	0	0	0	0	0	18	1	34	0	64	41	0	0	0	46	66	270	1,630
7:30 AM	0	0	0	0	0	20	0	40	0	75	88	0	0	0	72	96	391	1,890
7:45 AM	0	0	0	0	0	13	2	30	0	108	127	0	0	0	91	106	477	2,013
8:00 AM	0	0	0	0	0	18	0	38	0	79	174	0	0	0	81	102	492	1,951
8:15 AM	0	0	0	0	0	12	1	33	0	96	115	0	0	0	133	140	530	
8:30 AM	0	0	0	0	0	22	0	38	0	104	122	0	0	0	102	126	514	
8:45 AM	0	0	0	0	0	18	2	19	0	73	106	0	0	0	79	118	415	
Count Total	0	0	0	0	0	141	7	264	0	656	792	0	0	0	648	803	3,311	
Peak Hour	0	0	0	0	0	65	3	139	0	387	538	0	0	0	407	474	2,013	

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	3	1	0	4	7:00 AM	0	0	0	0	0	7:00 AM	0	0	4	0	4
7:15 AM	0	1	1	4	6	7:15 AM	0	0	0	0	0	7:15 AM	1	0	1	0	2
7:30 AM	0	2	2	0	4	7:30 AM	0	0	0	0	0	7:30 AM	1	0	0	0	1
7:45 AM	0	7	1	6	14	7:45 AM	0	1	0	0	1	7:45 AM	1	0	1	0	2
8:00 AM	0	1	2	2	5	8:00 AM	0	2	0	10	12	8:00 AM	3	0	3	0	6
8:15 AM	0	5	2	3	10	8:15 AM	0	3	0	2	5	8:15 AM	8	0	1	0	9
8:30 AM	0	8	0	2	10	8:30 AM	0	1	0	3	4	8:30 AM	3	0	0	0	3
8:45 AM	0	4	1	3	8	8:45 AM	0	1	0	1	2	8:45 AM	2	0	3	0	5
Count Total	0	31	10	20	61	Count Total	0	8	0	16	24	Count Total	19	0	13	0	32
Peak Hour	0	21	5	13	39	Peak Hour	0	7	0	15	22	Peak Hour	15	0	5	0	20

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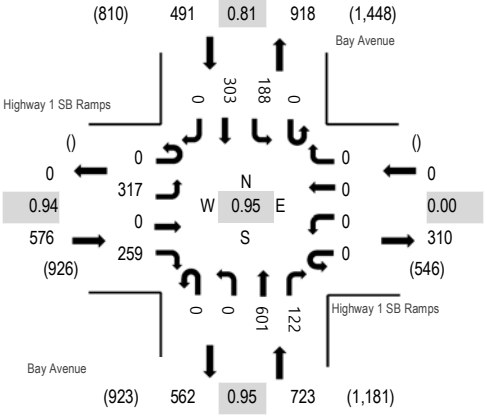
Motorized Vehicles



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	HV%	PHF
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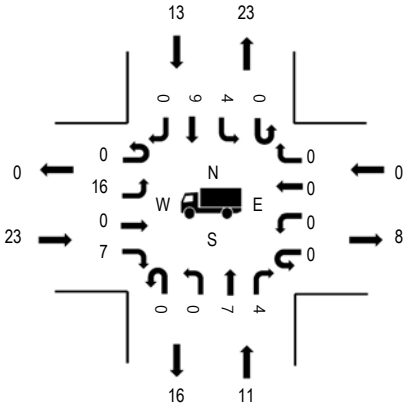
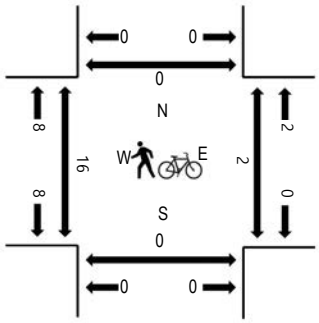
Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	Highway 1 SB Ramps Eastbound				Highway 1 SB Ramps Westbound				Bay Avenue Northbound				Bay Avenue 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	13	0	36	0	0	0	0	0	0	64	17	0	23	40	0	193	1,186
7:15 AM	0	27	0	38	0	0	0	0	0	0	73	25	0	29	34	0	226	1,442
7:30 AM	0	53	0	48	0	0	0	0	0	0	118	27	0	42	51	0	339	1,687
7:45 AM	0	84	0	60	0	0	0	0	0	0	149	30	0	58	47	0	428	1,790
8:00 AM	0	92	0	61	0	0	0	0	0	0	164	27	0	34	71	0	449	1,731
8:15 AM	0	69	0	78	0	0	0	0	0	0	138	34	0	47	105	0	471	
8:30 AM	0	72	0	60	0	0	0	0	0	0	150	31	0	49	80	0	442	
8:45 AM	0	73	0	62	0	0	0	0	0	0	108	26	1	47	52	0	369	
Count Total	0	483	0	443	0	0	0	0	0	0	964	217	1	329	480	0	2,917	
Peak Hour	0	317	0	259	0	0	0	0	0	0	601	122	0	188	303	0	1,790	

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

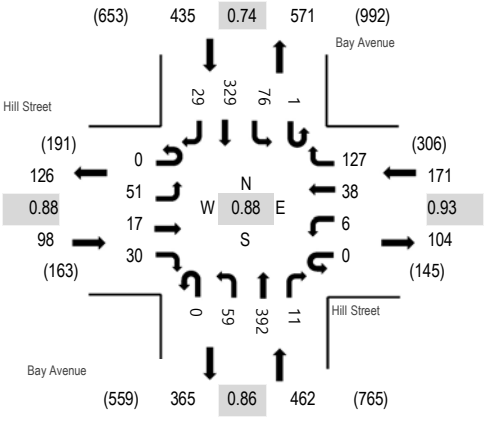
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	5	0	0	1	6	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:15 AM	1	0	0	3	4	7:15 AM	0	0	0	0	0	7:15 AM	1	0	0	0	1
7:30 AM	2	1	0	0	3	7:30 AM	0	0	0	0	0	7:30 AM	3	0	0	0	3
7:45 AM	8	3	0	3	14	7:45 AM	0	1	0	0	1	7:45 AM	4	0	0	0	4
8:00 AM	2	2	0	2	6	8:00 AM	0	2	0	7	9	8:00 AM	5	0	1	0	6
8:15 AM	5	3	0	6	14	8:15 AM	0	2	0	3	5	8:15 AM	5	0	0	0	5
8:30 AM	8	3	0	2	13	8:30 AM	0	0	0	2	2	8:30 AM	2	0	1	0	3
8:45 AM	4	4	0	4	12	8:45 AM	0	1	0	1	2	8:45 AM	3	0	2	0	5
Count Total	35	16	0	21	72	Count Total	0	6	0	13	19	Count Total	23	0	4	0	27
Peak Hour	23	11	0	13	47	Peak Hour	0	5	0	12	17	Peak Hour	16	0	2	0	18

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

Location: 3 Bay Avenue & Hill Street AM
Date: Tuesday, February 15, 2022
Study Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes in Study Peak Hour: 08:15 AM - 08:30 AM

Study Peak Hour (for all study intersections)

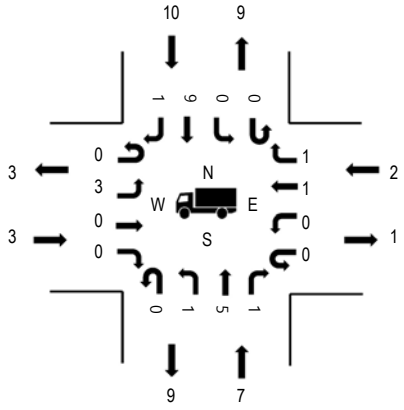
Motorized Vehicles



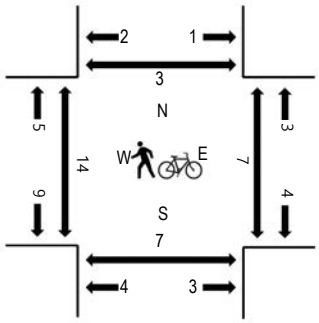
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.1%	0.88
WB	1.2%	0.93
NB	1.5%	0.86
SB	2.3%	0.74
All	1.9%	0.88

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	Hill Street Eastbound				Hill Street Westbound				Bay Avenue Northbound				Bay Avenue Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	13	4	5	0	1	6	20	0	8	40	0	0	5	22	5	129	721
7:15 AM	0	7	3	3	0	1	2	21	0	3	42	1	0	9	35	5	132	882
7:30 AM	0	7	1	6	0	0	3	40	0	10	92	1	0	2	58	4	224	1,081
7:45 AM	0	7	3	6	0	2	4	35	0	8	97	1	0	11	55	7	236	1,156
8:00 AM	0	10	3	6	0	1	10	35	0	12	110	1	1	19	79	3	290	1,166
8:15 AM	0	17	4	7	0	1	8	37	0	14	95	2	0	22	119	5	331	
8:30 AM	0	13	4	7	0	0	12	25	0	12	118	4	0	20	75	9	299	
8:45 AM	0	11	6	10	0	4	8	30	0	21	69	4	0	15	56	12	246	
Count Total	0	85	28	50	0	10	53	243	0	88	663	14	1	103	499	50	1,887	
Peak Hour	0	51	17	30	0	6	38	127	0	59	392	11	1	76	329	29	1,166	

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

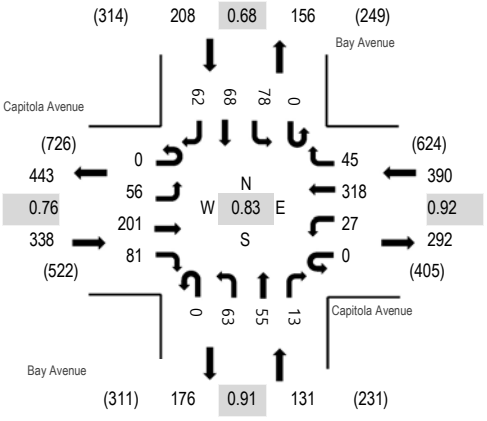
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	2	2	7:00 AM	0	0	0	0	0	7:00 AM	0	1	1	1	3
7:15 AM	0	0	0	3	3	7:15 AM	0	0	0	0	0	7:15 AM	0	1	1	1	3
7:30 AM	0	2	0	2	4	7:30 AM	0	0	1	0	1	7:30 AM	3	3	2	3	11
7:45 AM	0	2	0	4	6	7:45 AM	0	0	1	0	1	7:45 AM	2	0	0	2	4
8:00 AM	0	2	0	1	3	8:00 AM	0	1	0	7	8	8:00 AM	5	2	3	0	10
8:15 AM	2	1	1	5	9	8:15 AM	3	2	0	4	9	8:15 AM	4	4	2	0	10
8:30 AM	0	2	0	2	4	8:30 AM	0	1	0	3	4	8:30 AM	2	0	0	0	2
8:45 AM	1	2	1	2	6	8:45 AM	0	2	0	1	3	8:45 AM	3	1	2	3	9
Count Total	3	11	2	21	37	Count Total	3	6	2	15	26	Count Total	19	12	11	10	52
Peak Hour	3	7	2	10	22	Peak Hour	3	6	0	15	24	Peak Hour	14	7	7	3	31

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

Location: 4 Bay Avenue & Capitola Avenue AM
Date: Tuesday, February 15, 2022
Study Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes in Study Peak Hour: 08:15 AM - 08:30 AM

Study Peak Hour (for all study intersections)

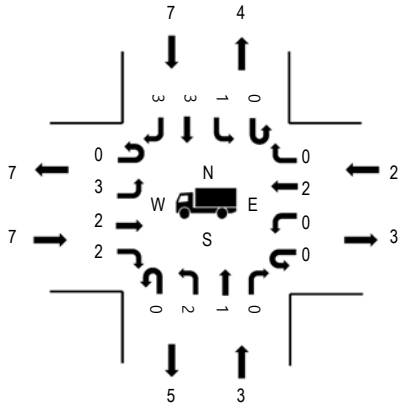
Motorized Vehicles



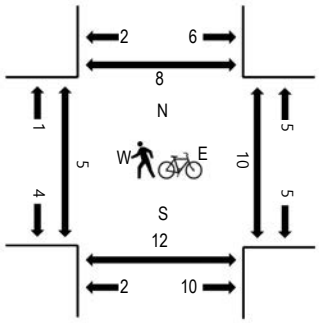
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.1%	0.76
WB	0.5%	0.92
NB	2.3%	0.91
SB	3.4%	0.68
All	1.8%	0.83

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	Capitola Avenue Eastbound				Capitola Avenue Westbound				Bay Avenue Northbound				Bay Avenue 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	5	14	6	0	1	27	1	0	10	12	1	0	2	6	5	90	621
7:15 AM	0	10	16	12	0	4	30	2	0	9	6	2	0	4	20	6	121	817
7:30 AM	0	7	37	23	0	3	76	4	0	17	7	1	0	6	10	12	203	1,018
7:45 AM	0	14	31	17	0	6	70	9	0	12	14	2	0	6	16	10	207	1,067
8:00 AM	0	11	59	19	0	6	80	20	0	15	17	2	0	26	13	18	286	1,070
8:15 AM	0	15	78	18	0	8	86	8	0	16	10	7	0	38	22	16	322	
8:30 AM	0	16	33	27	0	7	82	8	0	20	14	2	0	8	17	18	252	
8:45 AM	0	10	21	23	0	7	69	10	0	13	19	3	0	6	20	9	210	
Count Total	0	88	289	145	0	42	520	62	0	112	99	20	0	96	124	94	1,691	
Peak Hour	0	56	201	81	0	27	318	45	0	63	55	13	0	78	68	62	1,067	

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

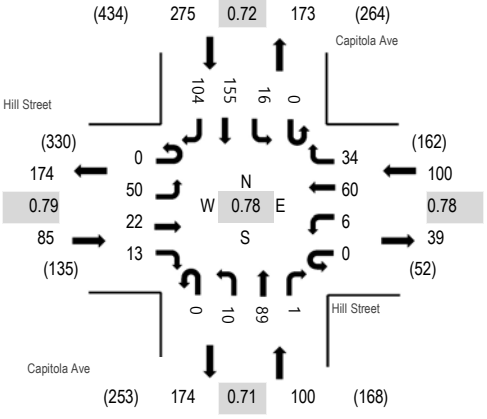
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	2	0	0	0	2	7:00 AM	0	0	0	0	0	7:00 AM	0	2	0	0	2
7:15 AM	1	0	0	0	1	7:15 AM	0	0	0	0	0	7:15 AM	3	1	2	1	7
7:30 AM	1	0	2	0	3	7:30 AM	0	0	0	0	0	7:30 AM	1	1	2	1	5
7:45 AM	2	0	2	2	6	7:45 AM	0	2	0	0	2	7:45 AM	1	0	1	2	4
8:00 AM	0	0	0	1	1	8:00 AM	6	0	3	2	11	8:00 AM	3	6	3	3	15
8:15 AM	2	1	0	1	4	8:15 AM	3	1	0	1	5	8:15 AM	0	4	4	2	10
8:30 AM	3	2	0	3	8	8:30 AM	1	0	0	0	1	8:30 AM	1	2	2	1	6
8:45 AM	1	0	3	1	5	8:45 AM	0	1	1	0	2	8:45 AM	1	6	1	3	11
Count Total	12	3	7	8	30	Count Total	10	4	4	3	21	Count Total	10	22	15	13	60
Peak Hour	7	3	2	7	19	Peak Hour	10	3	3	3	19	Peak Hour	5	12	10	8	35

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

Location: 5 Capitola Ave & Hill Street AM
Date: Tuesday, February 15, 2022
Study Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes in Study Peak Hour: 08:15 AM - 08:30 AM

Study Peak Hour (for all study intersections)

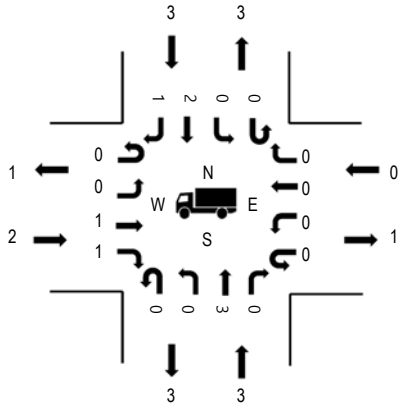
Motorized Vehicles



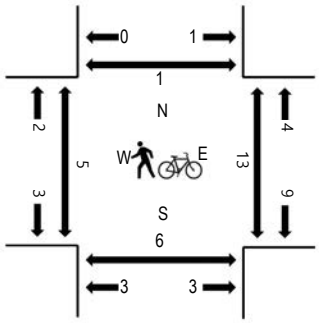
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.4%	0.79
WB	0.0%	0.78
NB	3.0%	0.71
SB	1.1%	0.72
All	1.4%	0.78

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	Hill Street Eastbound				Hill Street Westbound				Capitola Ave Northbound				Capitola 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		
7:00 AM	0	3	4	0	0	2	9	1	0	7	4	0	0	0	8	13	51	291
7:15 AM	0	7	0	3	0	0	5	4	0	1	9	0	0	0	21	22	72	411
7:30 AM	0	5	1	0	0	0	13	2	0	6	9	1	0	0	15	25	77	519
7:45 AM	0	7	1	1	0	1	15	3	0	2	15	1	0	3	20	22	91	560
8:00 AM	0	15	7	2	0	2	18	12	0	2	33	0	0	4	47	29	171	608
8:15 AM	0	18	6	3	0	3	13	14	0	3	25	0	0	8	57	30	180	
8:30 AM	0	10	8	7	0	0	14	5	0	3	16	0	0	1	31	23	118	
8:45 AM	0	21	4	2	0	4	16	6	0	9	20	2	0	1	24	30	139	
Count Total	0	86	31	18	0	12	103	47	0	33	131	4	0	17	223	194	899	
Peak Hour	0	50	22	13	0	6	60	34	0	10	89	1	0	16	155	104	560	

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

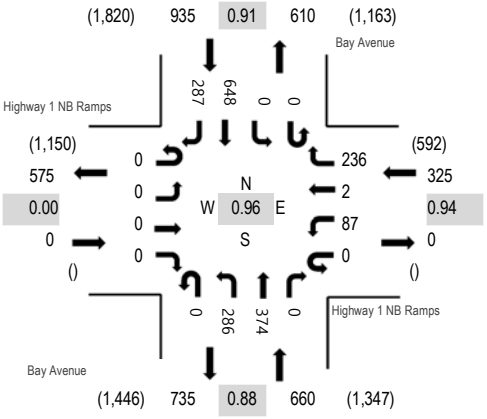
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	1	0	1	7:00 AM	1	0	2	0	3
7:15 AM	0	0	0	0	0	7:15 AM	0	1	0	0	1	7:15 AM	0	0	3	0	3
7:30 AM	0	0	0	0	0	7:30 AM	0	0	1	3	4	7:30 AM	3	0	4	0	7
7:45 AM	0	0	0	0	0	7:45 AM	0	1	0	4	5	7:45 AM	1	1	4	0	6
8:00 AM	1	1	0	2	4	8:00 AM	0	1	1	2	4	8:00 AM	3	2	7	1	13
8:15 AM	0	0	0	1	1	8:15 AM	2	0	0	4	6	8:15 AM	1	1	2	0	4
8:30 AM	1	2	0	0	3	8:30 AM	0	0	0	1	1	8:30 AM	0	2	0	0	2
8:45 AM	0	0	0	2	2	8:45 AM	0	1	1	0	2	8:45 AM	0	0	3	0	3
Count Total	2	3	0	5	10	Count Total	2	4	4	14	24	Count Total	9	6	25	1	41
Peak Hour	2	3	0	3	8	Peak Hour	2	2	1	11	16	Peak Hour	5	6	13	1	25

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

Location: 1 Bay Avenue & Highway 1 NB Ramps PM
Date: Tuesday, February 15, 2022
Study Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes in Study Peak Hour: 05:00 PM - 05:15 PM

Study Peak Hour (for all study intersections)

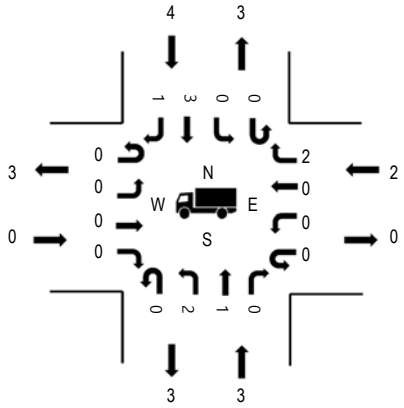
Motorized Vehicles



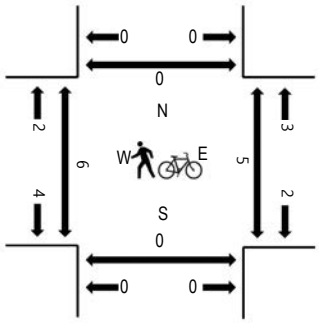
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	0.6%	0.94
NB	0.5%	0.88
SB	0.4%	0.91
All	0.5%	0.96

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	Highway 1 NB Ramps Eastbound				Highway 1 NB Ramps Westbound				Bay Avenue Northbound				Bay Avenue 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	18	0	46	0	76	100	0	0	0	191	81	512	1,915
4:15 PM	0	0	0	0	0	27	0	43	0	75	93	0	0	0	159	70	467	1,901
4:30 PM	0	0	0	0	0	22	0	56	0	77	85	0	0	0	178	78	496	1,920
4:45 PM	0	0	0	0	0	19	1	66	0	61	90	0	0	0	144	59	440	1,878
5:00 PM	0	0	0	0	0	20	0	57	0	83	104	0	0	0	163	71	498	1,844
5:15 PM	0	0	0	0	0	26	1	57	0	65	95	0	0	0	163	79	486	
5:30 PM	0	0	0	0	0	29	0	47	0	77	105	0	0	0	140	56	454	
5:45 PM	0	0	0	0	0	22	0	35	0	77	84	0	0	0	125	63	406	
Count Total	0	0	0	0	0	183	2	407	0	591	756	0	0	0	1,263	557	3,759	
Peak Hour	0	0	0	0	0	87	2	236	0	286	374	0	0	0	648	287	1,920	

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

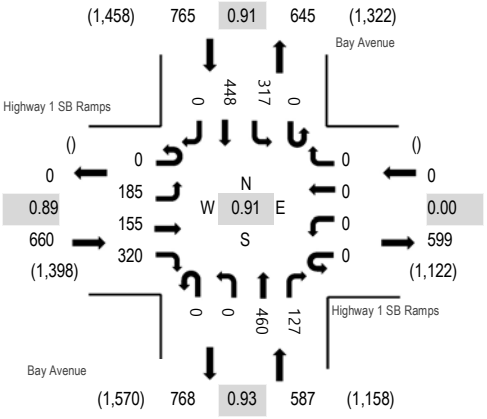
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	2	4	6	4:00 PM	0	3	0	1	4	4:00 PM	0	0	0	0	0
4:15 PM	0	3	2	2	7	4:15 PM	0	0	0	0	0	4:15 PM	2	0	3	0	5
4:30 PM	0	1	0	0	1	4:30 PM	0	4	0	3	7	4:30 PM	1	0	2	0	3
4:45 PM	0	0	1	1	2	4:45 PM	0	1	0	4	5	4:45 PM	3	0	2	0	5
5:00 PM	0	1	0	1	2	5:00 PM	0	1	0	2	3	5:00 PM	0	0	1	0	1
5:15 PM	0	1	1	2	4	5:15 PM	0	1	0	1	2	5:15 PM	2	0	0	0	2
5:30 PM	0	1	1	1	3	5:30 PM	0	0	0	0	0	5:30 PM	1	0	3	0	4
5:45 PM	0	1	0	2	3	5:45 PM	0	0	0	3	3	5:45 PM	2	0	3	0	5
Count Total	0	8	7	13	28	Count Total	0	10	0	14	24	Count Total	11	0	14	0	25
Peak Hour	0	3	2	4	9	Peak Hour	0	7	0	10	17	Peak Hour	6	0	5	0	11

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

Location: 2 Bay Avenue & Highway 1 SB Ramps PM
Date: Tuesday, February 15, 2022
Study Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes in Study Peak Hour: 04:00 PM - 04:15 PM

Study Peak Hour (for all study intersections)

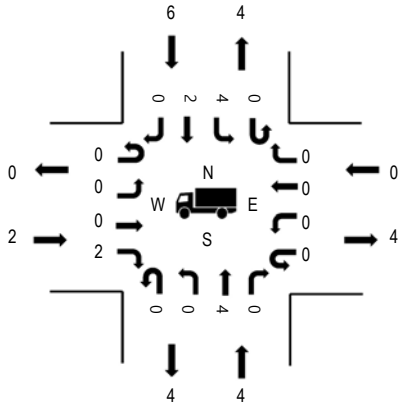
Motorized Vehicles



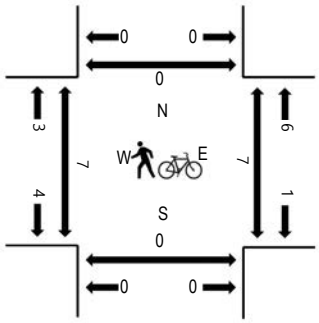
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.3%	0.89
WB	0.0%	0.00
NB	0.7%	0.93
SB	0.8%	0.91
All	0.6%	0.91

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	Highway 1 SB Ramps Eastbound				Highway 1 SB Ramps Westbound				Bay Avenue Northbound				Bay Avenue 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	54	35	96	0	0	0	0	0	0	118	37	0	96	114	0	550	2,012
4:15 PM	0	43	33	67	0	0	0	0	0	0	124	33	0	80	113	0	493	1,976
4:30 PM	0	45	43	71	0	0	0	0	0	0	111	30	0	84	116	0	500	1,999
4:45 PM	0	43	44	86	0	0	0	0	0	0	107	27	0	57	105	0	469	1,992
5:00 PM	0	56	44	70	0	0	0	0	0	0	124	33	0	80	107	0	514	2,002
5:15 PM	0	57	39	99	0	0	0	0	0	0	102	30	0	61	128	0	516	
5:30 PM	0	56	42	88	0	0	0	0	0	0	116	17	0	64	110	0	493	
5:45 PM	0	52	28	107	0	0	0	0	0	0	114	35	0	50	93	0	479	
Count Total	0	406	308	684	0	0	0	0	0	0	916	242	0	572	886	0	4,014	
Peak Hour	0	185	155	320	0	0	0	0	0	0	460	127	0	317	448	0	2,012	

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

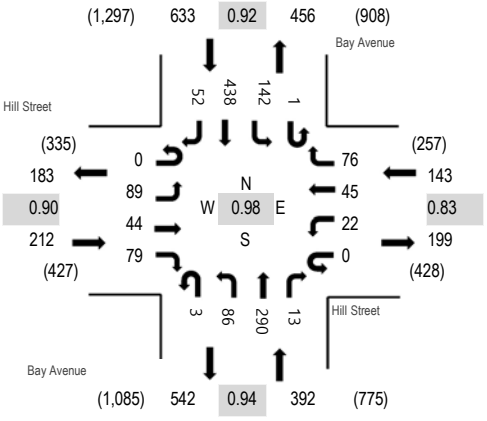
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	0	0	3	4	4:00 PM	0	3	0	0	3	4:00 PM	0	0	0	0	0
4:15 PM	0	3	0	2	5	4:15 PM	0	0	0	0	0	4:15 PM	4	0	3	0	7
4:30 PM	0	1	0	0	1	4:30 PM	0	3	0	3	6	4:30 PM	1	0	3	0	4
4:45 PM	1	0	0	1	2	4:45 PM	0	0	0	3	3	4:45 PM	2	0	1	0	3
5:00 PM	1	0	0	0	1	5:00 PM	0	1	0	2	3	5:00 PM	2	0	1	0	3
5:15 PM	1	1	0	2	4	5:15 PM	0	0	0	0	0	5:15 PM	1	0	0	0	1
5:30 PM	1	1	0	1	3	5:30 PM	0	0	0	0	0	5:30 PM	1	0	2	0	3
5:45 PM	4	0	0	1	5	5:45 PM	0	0	0	3	3	5:45 PM	3	0	2	0	5
Count Total	9	6	0	10	25	Count Total	0	7	0	11	18	Count Total	14	0	12	0	26
Peak Hour	2	4	0	6	12	Peak Hour	0	6	0	6	12	Peak Hour	7	0	7	0	14

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

Location: 3 Bay Avenue & Hill Street PM
Date: Tuesday, February 15, 2022
Study Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes in Study Peak Hour: 04:00 PM - 04:15 PM

Study Peak Hour (for all study intersections)

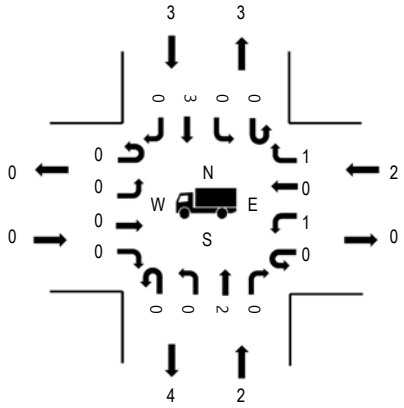
Motorized Vehicles



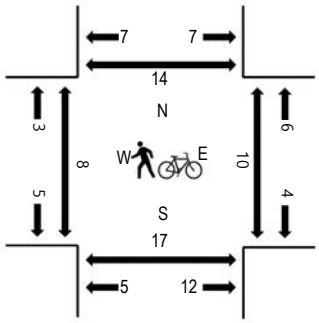
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.90
WB	1.4%	0.83
NB	0.5%	0.94
SB	0.5%	0.92
All	0.5%	0.98

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	Hill Street Eastbound				Hill Street Westbound				Bay Avenue Northbound				Bay Avenue 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	23	9	16	0	7	18	18	1	17	69	3	1	41	120	9	352	1,380
4:15 PM	0	19	10	18	0	3	10	25	1	20	79	4	0	25	99	13	326	1,368
4:30 PM	0	22	15	22	0	7	9	21	0	25	72	4	0	36	99	18	350	1,382
4:45 PM	0	25	10	23	0	5	8	12	1	24	70	2	0	40	120	12	352	1,383
5:00 PM	0	23	13	21	0	2	10	15	0	20	84	2	1	44	93	12	340	1,376
5:15 PM	0	21	18	20	0	5	4	17	0	16	63	4	0	32	127	13	340	
5:30 PM	0	17	15	13	0	1	6	16	0	18	82	8	0	34	126	15	351	
5:45 PM	0	21	14	19	0	4	12	22	0	12	70	4	0	41	112	14	345	
Count Total	0	171	104	152	0	34	77	146	3	152	589	31	2	293	896	106	2,756	
Peak Hour	0	89	44	79	0	22	45	76	3	86	290	13	1	142	438	52	1,380	

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

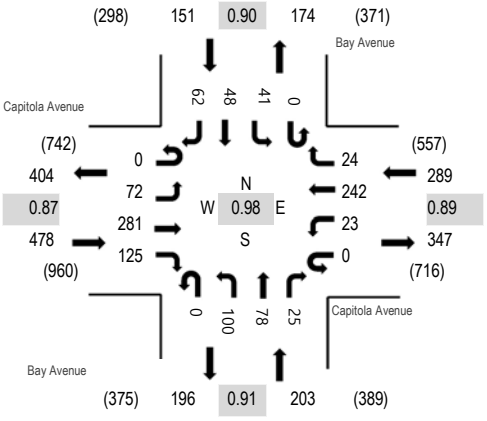
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	1	1	4:00 PM	1	0	0	1	2	4:00 PM	3	3	3	2	11
4:15 PM	0	1	1	1	3	4:15 PM	2	1	0	0	3	4:15 PM	0	2	1	4	7
4:30 PM	0	1	1	0	2	4:30 PM	0	4	1	3	8	4:30 PM	3	6	2	4	15
4:45 PM	0	0	0	1	1	4:45 PM	2	0	2	2	6	4:45 PM	2	6	4	4	16
5:00 PM	0	0	0	0	0	5:00 PM	3	0	1	1	5	5:00 PM	0	6	2	1	9
5:15 PM	0	1	0	0	1	5:15 PM	0	0	0	0	0	5:15 PM	3	4	2	2	11
5:30 PM	0	0	0	1	1	5:30 PM	0	0	0	0	0	5:30 PM	0	5	2	0	7
5:45 PM	0	0	0	0	0	5:45 PM	0	2	0	2	4	5:45 PM	0	4	7	5	16
Count Total	0	3	2	4	9	Count Total	8	7	4	9	28	Count Total	11	36	23	22	92
Peak Hour	0	2	2	3	7	Peak Hour	5	5	3	6	19	Peak Hour	8	17	10	14	49

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

Location: 4 Bay Avenue & Capitola Avenue PM
Date: Tuesday, February 15, 2022
Study Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes in Study Peak Hour: 04:45 PM - 05:00 PM

Study Peak Hour (for all study intersections)

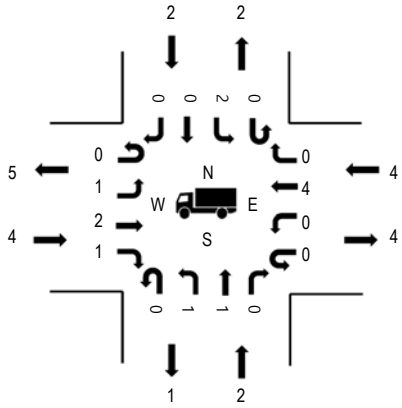
Motorized Vehicles



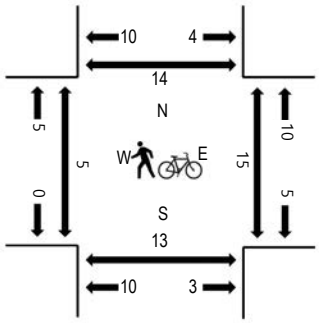
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.8%	0.87
WB	1.4%	0.89
NB	1.0%	0.91
SB	1.3%	0.90
All	1.1%	0.98

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	Capitola Avenue Eastbound				Capitola Avenue Westbound				Bay Avenue Northbound				Bay Avenue 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	25	78	34	0	7	57	6	0	19	19	3	0	10	5	17	280	1,121
4:15 PM	0	21	56	27	0	4	70	7	0	26	22	8	0	10	14	16	281	1,109
4:30 PM	0	12	72	38	0	4	49	5	0	28	17	8	0	14	15	13	275	1,106
4:45 PM	0	14	75	26	0	8	66	6	0	27	20	6	0	7	14	16	285	1,109
5:00 PM	0	16	72	21	0	4	56	6	0	22	21	11	0	9	17	13	268	1,083
5:15 PM	0	26	89	25	0	3	52	5	0	17	18	6	0	9	17	11	278	
5:30 PM	0	17	65	24	0	8	60	8	0	21	24	6	0	15	17	13	278	
5:45 PM	0	20	79	28	0	6	47	13	0	14	23	3	0	5	9	12	259	
Count Total	0	151	586	223	0	44	457	56	0	174	164	51	0	79	108	111	2,204	
Peak Hour	0	72	281	125	0	23	242	24	0	100	78	25	0	41	48	62	1,121	

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

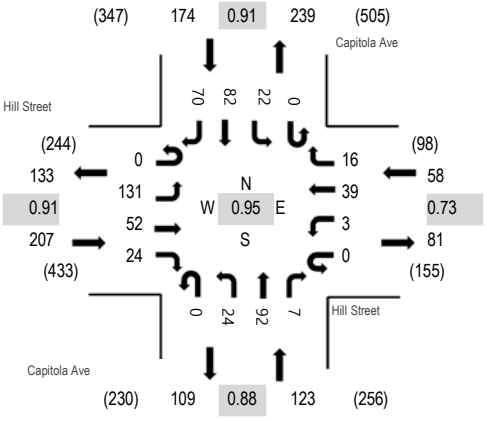
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	1	1	1	4	4:00 PM	1	3	0	4	8	4:00 PM	0	2	6	5	13
4:15 PM	1	1	0	0	2	4:15 PM	0	0	1	0	1	4:15 PM	2	4	5	3	14
4:30 PM	1	0	2	1	4	4:30 PM	2	0	0	0	2	4:30 PM	0	4	0	0	4
4:45 PM	1	0	1	0	2	4:45 PM	0	1	0	1	2	4:45 PM	3	3	4	6	16
5:00 PM	0	0	0	0	0	5:00 PM	1	2	1	1	5	5:00 PM	4	5	5	4	18
5:15 PM	0	1	1	0	2	5:15 PM	0	0	0	0	0	5:15 PM	2	3	2	7	14
5:30 PM	0	1	0	0	1	5:30 PM	0	0	0	1	1	5:30 PM	1	1	4	4	10
5:45 PM	0	0	0	0	0	5:45 PM	2	0	1	0	3	5:45 PM	2	0	4	4	10
Count Total	4	4	5	2	15	Count Total	6	6	3	7	22	Count Total	14	22	30	33	99
Peak Hour	4	2	4	2	12	Peak Hour	3	4	1	5	13	Peak Hour	5	13	15	14	47

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

Location: 5 Capitola Ave & Hill Street PM
Date: Tuesday, February 15, 2022
Study Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes in Study Peak Hour: 04:00 PM - 04:15 PM

Study Peak Hour (for all study intersections)

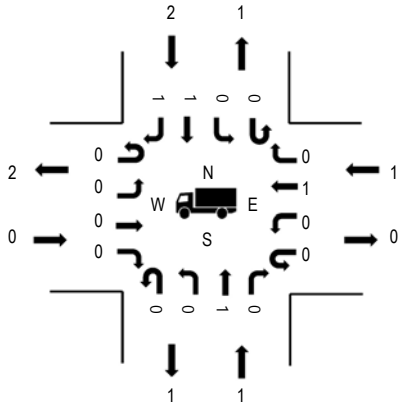
Motorized Vehicles



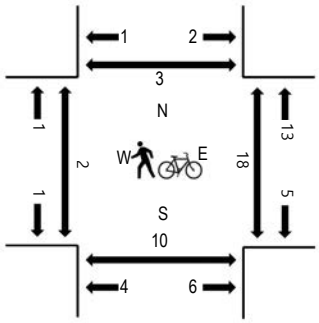
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.91
WB	1.7%	0.73
NB	0.8%	0.88
SB	1.1%	0.91
All	0.7%	0.95

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



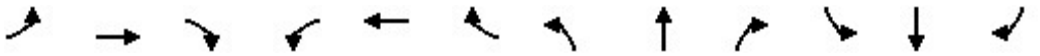
Traffic Counts - Motorized Vehicles

Interval Start Time	Hill Street Eastbound				Hill Street 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	33	13	3	0	1	8	8	0	6	27	2	0	5	25	18	149	562
4:15 PM	0	24	13	8	0	0	18	2	0	5	21	1	0	8	18	19	137	557
4:30 PM	0	37	12	8	0	2	8	4	0	8	20	0	0	4	16	19	138	558
4:45 PM	0	37	14	5	0	0	5	2	0	5	24	4	0	5	23	14	138	568
5:00 PM	0	38	15	6	0	2	5	3	0	3	28	0	0	5	22	17	144	572
5:15 PM	0	37	9	5	0	1	7	2	0	7	29	0	0	4	26	11	138	
5:30 PM	0	38	15	6	0	1	6	2	0	7	26	0	0	7	26	14	148	
5:45 PM	0	34	15	8	0	0	8	3	0	5	26	2	0	2	18	21	142	
Count Total	0	278	106	49	0	7	65	26	0	46	201	9	0	40	174	133	1,134	
Peak Hour	0	131	52	24	0	3	39	16	0	24	92	7	0	22	82	70	562	

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	1	2	2	5	4:00 PM	1	3	5	1	10
4:15 PM	0	0	1	0	1	4:15 PM	1	1	0	3	5	4:15 PM	0	2	6	1	9
4:30 PM	0	0	0	1	1	4:30 PM	0	0	0	0	0	4:30 PM	1	1	2	1	5
4:45 PM	0	0	0	1	1	4:45 PM	0	1	1	3	5	4:45 PM	0	4	5	0	9
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	1	1	5:00 PM	1	4	5	1	11
5:15 PM	0	0	0	0	0	5:15 PM	1	2	0	0	3	5:15 PM	1	1	2	0	4
5:30 PM	0	1	0	0	1	5:30 PM	1	0	0	2	3	5:30 PM	2	0	6	1	9
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	1	1	5:45 PM	2	2	6	0	10
Count Total	0	2	1	2	5	Count Total	3	5	3	12	23	Count Total	8	17	37	5	67
Peak Hour	0	1	1	2	4	Peak Hour	1	3	3	8	15	Peak Hour	2	10	18	3	33

Appendices C – Synchro Intersection Operations Analysis



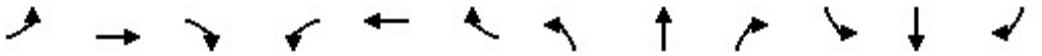
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	65	3	139	387	538	0	0	407	474
Future Volume (veh/h)	0	0	0	65	3	139	387	538	0	0	407	474
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.93
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				68	3	146	407	566	0	0	428	499
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				214	4	194	743	2575	0	0	426	353
Arrive On Green				0.12	0.12	0.12	0.83	1.00	0.00	0.00	0.24	0.24
Sat Flow, veh/h				1739	33	1583	1795	3618	0	0	1870	1469
Grp Volume(v), veh/h				68	0	149	407	566	0	0	428	499
Grp Sat Flow(s),veh/h/ln				1739	0	1615	1795	1763	0	0	1777	1469
Q Serve(g_s), s				2.1	0.0	5.3	4.3	0.0	0.0	0.0	14.4	14.4
Cycle Q Clear(g_c), s				2.1	0.0	5.3	4.3	0.0	0.0	0.0	14.4	14.4
Prop In Lane				1.00		0.98	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				214	0	198	743	2575	0	0	426	353
V/C Ratio(X)				0.32	0.00	0.75	0.55	0.22	0.00	0.00	1.00	1.42
Avail Cap(c_a), veh/h				371	0	345	743	2575	0	0	426	353
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	0.68	0.68	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.0	0.0	25.4	3.4	0.0	0.0	0.0	22.8	22.8
Incr Delay (d2), s/veh				0.3	0.0	2.1	0.3	0.1	0.0	0.0	44.5	202.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.8	0.0	2.0	1.0	0.0	0.0	0.0	10.9	24.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				24.3	0.0	27.6	3.7	0.1	0.0	0.0	67.3	225.6
LnGrp LOS				C	A	C	A	A	A	A	F	F
Approach Vol, veh/h					217			973			927	
Approach Delay, s/veh					26.6			1.6			152.5	
Approach LOS					C			A			F	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	29.4	19.0		11.6		48.4						
Change Period (Y+Rc), s	4.6	* 4.6		* 4.2		4.6						
Max Green Setting (Gmax), s	17.3	* 14		* 13		38.4						
Max Q Clear Time (g_c+I1), s	6.3	16.4		7.3		2.0						
Green Ext Time (p_c), s	0.2	0.0		0.2		1.7						

Intersection Summary		
HCM 6th Ctrl Delay		70.3
HCM 6th LOS		E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	317	0	259	0	0	0	0	601	122	188	303	0
Future Volume (veh/h)	317	0	259	0	0	0	0	601	122	188	303	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		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	419	0	182				0	633	128	198	319	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	541	0	244				0	856	173	590	2460	0
Arrive On Green	0.16	0.00	0.16				0.00	0.29	0.29	0.11	0.23	0.00
Sat Flow, veh/h	3478	0	1572				0	3046	596	1781	3618	0
Grp Volume(v), veh/h	419	0	182				0	384	377	198	319	0
Grp Sat Flow(s),veh/h/ln	1739	0	1572				0	1791	1756	1781	1763	0
Q Serve(g_s), s	6.9	0.0	6.6				0.0	11.6	11.7	6.2	4.3	0.0
Cycle Q Clear(g_c), s	6.9	0.0	6.6				0.0	11.6	11.7	6.2	4.3	0.0
Prop In Lane	1.00		1.00				0.00		0.34	1.00		0.00
Lane Grp Cap(c), veh/h	541	0	244				0	519	509	590	2460	0
V/C Ratio(X)	0.77	0.00	0.74				0.00	0.74	0.74	0.34	0.13	0.00
Avail Cap(c_a), veh/h	742	0	335				0	519	509	590	2460	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	0.75	0.75	0.00
Uniform Delay (d), s/veh	24.3	0.0	24.2				0.0	19.2	19.3	20.6	8.6	0.0
Incr Delay (d2), s/veh	2.2	0.0	3.3				0.0	9.1	9.4	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	2.8	0.0	2.5				0.0	5.8	5.7	2.6	1.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	0.0	27.5				0.0	28.3	28.6	20.7	8.7	0.0
LnGrp LOS	C	A	C				A	C	C	C	A	A
Approach Vol, veh/h		601						761			517	
Approach Delay, s/veh		26.8						28.5			13.3	
Approach LOS		C						C			B	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		46.5			24.5	22.0		13.5				
Change Period (Y+Rc), s		4.6			4.6	* 4.6		4.2				
Max Green Setting (Gmax), s		38.4			14.3	* 17		12.8				
Max Q Clear Time (g_c+I1), s		6.3			8.2	13.7		8.9				
Green Ext Time (p_c), s		0.9			0.1	0.9		0.4				

Intersection Summary	
HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	15.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	17	30	6	38	127	59	392	11	77	329	29
Future Vol, veh/h	51	17	30	6	38	127	59	392	11	77	329	29
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	6	0	0	0	3	1	2	1	9	0	3	3
Mvmt Flow	58	19	34	7	43	144	67	445	13	88	374	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	13	15.4	17	15.2
HCM LOS	B	C	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	75%	0%	4%	100%	0%	0%
Vol Thru, %	0%	100%	92%	25%	0%	22%	0%	100%	79%
Vol Right, %	0%	0%	8%	0%	100%	74%	0%	0%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	59	261	142	68	30	171	77	219	139
LT Vol	59	0	0	51	0	6	77	0	0
Through Vol	0	261	131	17	0	38	0	219	110
RT Vol	0	0	11	0	30	127	0	0	29
Lane Flow Rate	67	297	161	77	34	194	88	249	158
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.144	0.595	0.326	0.191	0.073	0.407	0.189	0.507	0.314
Departure Headway (Hd)	7.744	7.216	7.299	8.891	7.692	7.543	7.783	7.324	7.175
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	463	499	493	403	464	476	460	491	501
Service Time	5.498	4.969	5.053	6.661	5.462	5.303	5.538	5.079	4.929
HCM Lane V/C Ratio	0.145	0.595	0.327	0.191	0.073	0.408	0.191	0.507	0.315
HCM Control Delay	11.8	20.1	13.6	13.8	11.1	15.4	12.4	17.4	13.2
HCM Lane LOS	B	C	B	B	B	C	B	C	B
HCM 95th-tile Q	0.5	3.8	1.4	0.7	0.2	2	0.7	2.8	1.3

Intersection	
Intersection Delay, s/veh	25.6
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	78	68	62	63	55	13	56	201	81	27	318	45
Future Vol, veh/h	78	68	62	63	55	13	56	201	81	27	318	45
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, %	0	4	5	3	2	0	6	1	2	0	1	0
Mvmt Flow	94	82	75	76	66	16	67	242	98	33	383	54
Number of Lanes	0	1	1	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	14.5	12.8	18.4	42
HCM LOS	B	B	C	E

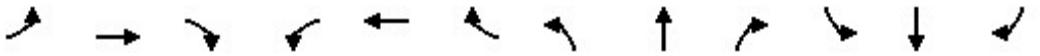
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	22%	0%	53%	0%	100%	8%	7%
Vol Thru, %	78%	0%	47%	0%	0%	74%	82%
Vol Right, %	0%	100%	0%	100%	0%	17%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	257	81	146	62	57	74	390
LT Vol	56	0	78	0	57	6	27
Through Vol	201	0	68	0	0	55	318
RT Vol	0	81	0	62	0	13	45
Lane Flow Rate	310	98	176	75	68	90	470
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.617	0.17	0.391	0.147	0.163	0.198	0.884
Departure Headway (Hd)	7.175	6.26	8.003	7.074	8.567	7.949	6.775
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	502	571	449	506	418	450	536
Service Time	4.935	4.02	5.766	4.837	6.338	5.719	4.828
HCM Lane V/C Ratio	0.618	0.172	0.392	0.148	0.163	0.2	0.877
HCM Control Delay	20.9	10.3	15.9	11.1	13	12.7	42
HCM Lane LOS	C	B	C	B	B	B	E
HCM 95th-tile Q	4.1	0.6	1.8	0.5	0.6	0.7	9.9

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	22	13	6	60	34	10	89	1	16	155	104
Future Vol, veh/h	50	22	13	6	60	34	10	89	1	16	155	104
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	0	4	7	0	0	0	0	3	0	0	2	2
Mvmt Flow	64	28	17	8	77	44	13	114	1	21	199	133
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	9.1	9	10.9
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	59%	6%	6%
Vol Thru, %	89%	26%	60%	56%
Vol Right, %	1%	15%	34%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	85	100	275
LT Vol	10	50	6	16
Through Vol	89	22	60	155
RT Vol	1	13	34	104
Lane Flow Rate	128	109	128	353
Geometry Grp	1	1	1	1
Degree of Util (X)	0.175	0.157	0.176	0.435
Departure Headway (Hd)	4.917	5.196	4.955	4.441
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	724	684	717	807
Service Time	2.985	3.275	3.033	2.492
HCM Lane V/C Ratio	0.177	0.159	0.179	0.437
HCM Control Delay	9	9.3	9.1	10.9
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.6	0.6	0.6	2.2



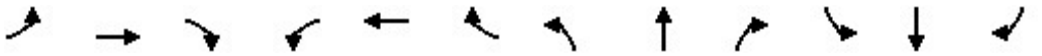
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	87	2	236	286	374	0	0	648	287
Future Volume (veh/h)	0	0	0	87	2	236	286	374	0	0	648	287
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.96
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				1900	1900	1885	1885	1900	0	0	1885	1900
Adj Flow Rate, veh/h				91	2	246	298	390	0	0	675	299
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				0	0	1	1	0	0	0	1	0
Cap, veh/h				322	2	284	606	2561	0	0	744	330
Arrive On Green				0.18	0.18	0.18	0.68	1.00	0.00	0.00	0.31	0.31
Sat Flow, veh/h				1810	13	1599	1795	3705	0	0	2473	1054
Grp Volume(v), veh/h				91	0	248	298	390	0	0	508	466
Grp Sat Flow(s),veh/h/ln				1810	0	1612	1795	1805	0	0	1791	1642
Q Serve(g_s), s				3.4	0.0	11.7	6.3	0.0	0.0	0.0	21.2	21.2
Cycle Q Clear(g_c), s				3.4	0.0	11.7	6.3	0.0	0.0	0.0	21.2	21.2
Prop In Lane				1.00		0.99	1.00		0.00	0.00		0.64
Lane Grp Cap(c), veh/h				322	0	286	606	2561	0	0	560	514
V/C Ratio(X)				0.28	0.00	0.87	0.49	0.15	0.00	0.00	0.91	0.91
Avail Cap(c_a), veh/h				367	0	327	606	2561	0	0	560	514
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	0.85	0.85	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				27.8	0.0	31.2	9.4	0.0	0.0	0.0	25.7	25.7
Incr Delay (d2), s/veh				0.2	0.0	17.5	0.2	0.1	0.0	0.0	20.9	22.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.4	0.0	5.7	1.9	0.0	0.0	0.0	11.9	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				27.9	0.0	48.7	9.6	0.1	0.0	0.0	46.6	48.0
LnGrp LOS				C	A	D	A	A	A	A	D	D
Approach Vol, veh/h					339			688			974	
Approach Delay, s/veh					43.1			4.2			47.3	
Approach LOS					D			A			D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	30.9	29.0		18.1		59.9						
Change Period (Y+Rc), s	4.6	* 4.6		* 4.2		4.6						
Max Green Setting (Gmax), s	22.3	* 24		* 16		53.4						
Max Q Clear Time (g_c+I1), s	8.3	23.2		13.7		2.0						
Green Ext Time (p_c), s	0.1	0.5		0.2		1.1						

Intersection Summary		
HCM 6th Ctrl Delay		31.8
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	155	320	0	0	0	0	460	127	317	448	0
Future Volume (veh/h)	185	155	320	0	0	0	0	460	127	317	448	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.96	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	1900	1900	1885				0	1885	1900	1885	1900	0
Adj Flow Rate, veh/h	192	265	266				0	505	140	348	492	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	1				0	1	0	1	0	0
Cap, veh/h	355	373	313				0	824	227	596	2494	0
Arrive On Green	0.20	0.20	0.20				0.00	0.30	0.30	0.44	0.92	0.00
Sat Flow, veh/h	1810	1900	1598				0	2842	757	1795	3705	0
Grp Volume(v), veh/h	192	265	266				0	328	317	348	492	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1598				0	1791	1713	1795	1805	0
Q Serve(g_s), s	7.4	10.2	12.5				0.0	12.2	12.4	11.4	1.1	0.0
Cycle Q Clear(g_c), s	7.4	10.2	12.5				0.0	12.2	12.4	11.4	1.1	0.0
Prop In Lane	1.00		1.00				0.00		0.44	1.00		0.00
Lane Grp Cap(c), veh/h	355	373	313				0	537	514	596	2494	0
V/C Ratio(X)	0.54	0.71	0.85				0.00	0.61	0.62	0.58	0.20	0.00
Avail Cap(c_a), veh/h	483	507	426				0	537	514	596	2494	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.70	0.70	0.00
Uniform Delay (d), s/veh	28.2	29.3	30.2				0.0	23.4	23.4	17.7	1.0	0.0
Incr Delay (d2), s/veh	0.5	1.4	8.8				0.0	5.1	5.5	0.7	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	3.1	4.6	5.3				0.0	5.8	5.6	4.2	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.7	30.7	39.0				0.0	28.5	28.9	18.4	1.1	0.0
LnGrp LOS	C	C	D				A	C	C	B	A	A
Approach Vol, veh/h		723						645			840	
Approach Delay, s/veh		33.2						28.7			8.3	
Approach LOS		C						C			A	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		58.5			30.5	28.0		19.5				
Change Period (Y+Rc), s		4.6			4.6	* 4.6		4.2				
Max Green Setting (Gmax), s		48.4			18.3	* 23		20.8				
Max Q Clear Time (g_c+I1), s		3.1			13.4	14.4		14.5				
Green Ext Time (p_c), s		1.4			0.1	1.3		0.8				

Intersection Summary		
HCM 6th Ctrl Delay		22.4
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	15.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	89	44	79	22	45	76	89	290	13	143	438	52
Future Vol, veh/h	89	44	79	22	45	76	89	290	13	143	438	52
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	2
Mvmt Flow	91	45	81	22	46	78	91	296	13	146	447	53
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	14.3	15.1	14.7	17.4
HCM LOS	B	C	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	67%	0%	15%	100%	0%	0%
Vol Thru, %	0%	100%	88%	33%	0%	31%	0%	100%	74%
Vol Right, %	0%	0%	12%	0%	100%	53%	0%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	89	193	110	133	79	143	143	292	198
LT Vol	89	0	0	89	0	22	143	0	0
Through Vol	0	193	97	44	0	45	0	292	146
RT Vol	0	0	13	0	79	76	0	0	52
Lane Flow Rate	91	197	112	136	81	146	146	298	202
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.21	0.428	0.24	0.328	0.171	0.334	0.317	0.606	0.402
Departure Headway (Hd)	8.32	7.806	7.721	8.697	7.646	8.228	7.83	7.317	7.164
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	430	460	463	413	467	435	458	492	501
Service Time	6.094	5.58	5.495	6.48	5.428	6.011	5.597	5.084	4.93
HCM Lane V/C Ratio	0.212	0.428	0.242	0.329	0.173	0.336	0.319	0.606	0.403
HCM Control Delay	13.3	16.3	12.9	15.7	12	15.1	14.2	20.8	14.7
HCM Lane LOS	B	C	B	C	B	C	B	C	B
HCM 95th-tile Q	0.8	2.1	0.9	1.4	0.6	1.4	1.3	4	1.9

Intersection	
Intersection Delay, s/veh	15.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	48	62	100	78	25	72	281	125	23	242	24
Future Vol, veh/h	41	48	62	100	78	25	72	281	125	23	242	24
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	5	0	0	1	1	0	1	1	1	0	2	0
Mvmt Flow	42	49	63	102	80	26	73	287	128	23	247	24
Number of Lanes	0	1	1	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	11.3	12	16.8	16.6
HCM LOS	B	B	C	C

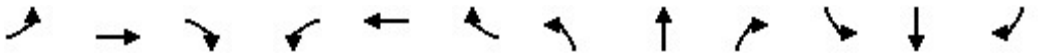
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	0%	46%	0%	100%	9%	8%
Vol Thru, %	80%	0%	54%	0%	0%	69%	84%
Vol Right, %	0%	100%	0%	100%	0%	22%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	353	125	89	62	90	113	289
LT Vol	72	0	41	0	90	10	23
Through Vol	281	0	48	0	0	78	242
RT Vol	0	125	0	62	0	25	24
Lane Flow Rate	360	128	91	63	92	115	295
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.632	0.195	0.19	0.114	0.193	0.223	0.528
Departure Headway (Hd)	6.32	5.506	7.516	6.474	7.585	6.959	6.447
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	569	647	474	549	470	512	554
Service Time	4.095	3.281	5.316	4.272	5.38	4.754	4.53
HCM Lane V/C Ratio	0.633	0.198	0.192	0.115	0.196	0.225	0.532
HCM Control Delay	19.4	9.6	12.1	10.1	12.2	11.8	16.6
HCM Lane LOS	C	A	B	B	B	B	C
HCM 95th-tile Q	4.4	0.7	0.7	0.4	0.7	0.8	3.1

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	131	52	24	3	39	16	24	92	7	22	82	70
Future Vol, veh/h	131	52	24	3	39	16	24	92	7	22	82	70
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, %	0	0	0	0	0	0	0	1	0	0	0	0
Mvmt Flow	138	55	25	3	41	17	25	97	7	23	86	74
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	8.2	8.9	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	63%	5%	13%
Vol Thru, %	75%	25%	67%	47%
Vol Right, %	6%	12%	28%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	123	207	58	174
LT Vol	24	131	3	22
Through Vol	92	52	39	82
RT Vol	7	24	16	70
Lane Flow Rate	129	218	61	183
Geometry Grp	1	1	1	1
Degree of Util (X)	0.173	0.288	0.081	0.23
Departure Headway (Hd)	4.797	4.756	4.748	4.52
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	744	752	750	791
Service Time	2.846	2.805	2.807	2.565
HCM Lane V/C Ratio	0.173	0.29	0.081	0.231
HCM Control Delay	8.9	9.7	8.2	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	1.2	0.3	0.9



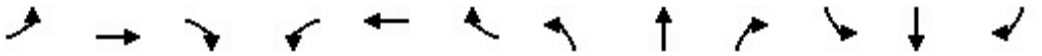
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	69	3	139	390	538	0	0	407	474
Future Volume (veh/h)	0	0	0	69	3	139	390	538	0	0	407	474
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.93
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				73	3	146	411	566	0	0	428	499
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				214	4	195	742	2574	0	0	426	353
Arrive On Green				0.12	0.12	0.12	0.83	1.00	0.00	0.00	0.24	0.24
Sat Flow, veh/h				1739	33	1583	1795	3618	0	0	1870	1469
Grp Volume(v), veh/h				73	0	149	411	566	0	0	428	499
Grp Sat Flow(s),veh/h/ln				1739	0	1615	1795	1763	0	0	1777	1469
Q Serve(g_s), s				2.3	0.0	5.3	4.4	0.0	0.0	0.0	14.4	14.4
Cycle Q Clear(g_c), s				2.3	0.0	5.3	4.4	0.0	0.0	0.0	14.4	14.4
Prop In Lane				1.00		0.98	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				214	0	199	742	2574	0	0	426	353
V/C Ratio(X)				0.34	0.00	0.75	0.55	0.22	0.00	0.00	1.00	1.42
Avail Cap(c_a), veh/h				371	0	345	742	2574	0	0	426	353
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	0.68	0.68	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.1	0.0	25.4	3.4	0.0	0.0	0.0	22.8	22.8
Incr Delay (d2), s/veh				0.3	0.0	2.1	0.4	0.1	0.0	0.0	44.5	202.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.9	0.0	2.0	1.0	0.0	0.0	0.0	10.9	24.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				24.4	0.0	27.5	3.8	0.1	0.0	0.0	67.3	225.6
LnGrp LOS				C	A	C	A	A	A	A	F	F
Approach Vol, veh/h					222			977			927	
Approach Delay, s/veh					26.5			1.7			152.5	
Approach LOS					C			A			F	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	29.4	19.0		11.6		48.4						
Change Period (Y+Rc), s	4.6	* 4.6		* 4.2		4.6						
Max Green Setting (Gmax), s	17.3	* 14		* 13		38.4						
Max Q Clear Time (g_c+I1), s	6.4	16.4		7.3		2.0						
Green Ext Time (p_c), s	0.2	0.0		0.2		1.7						

Intersection Summary		
HCM 6th Ctrl Delay		70.0
HCM 6th LOS		E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	317	0	263	0	0	0	0	604	125	188	308	0
Future Volume (veh/h)	317	0	263	0	0	0	0	604	125	188	308	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		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	420	0	185				0	636	132	198	324	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	542	0	245				0	852	176	589	2459	0
Arrive On Green	0.16	0.00	0.16				0.00	0.29	0.29	0.11	0.23	0.00
Sat Flow, veh/h	3478	0	1572				0	3031	608	1781	3618	0
Grp Volume(v), veh/h	420	0	185				0	387	381	198	324	0
Grp Sat Flow(s),veh/h/ln	1739	0	1572				0	1791	1754	1781	1763	0
Q Serve(g_s), s	7.0	0.0	6.8				0.0	11.8	11.8	6.2	4.4	0.0
Cycle Q Clear(g_c), s	7.0	0.0	6.8				0.0	11.8	11.8	6.2	4.4	0.0
Prop In Lane	1.00		1.00				0.00		0.35	1.00		0.00
Lane Grp Cap(c), veh/h	542	0	245				0	519	509	589	2459	0
V/C Ratio(X)	0.78	0.00	0.76				0.00	0.75	0.75	0.34	0.13	0.00
Avail Cap(c_a), veh/h	742	0	335				0	519	509	589	2459	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	0.75	0.75	0.00
Uniform Delay (d), s/veh	24.3	0.0	24.2				0.0	19.3	19.3	20.6	8.7	0.0
Incr Delay (d2), s/veh	2.3	0.0	3.8				0.0	9.4	9.7	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	2.8	0.0	2.6				0.0	5.9	5.8	2.6	1.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	0.0	28.1				0.0	28.7	29.0	20.7	8.8	0.0
LnGrp LOS	C	A	C				A	C	C	C	A	A
Approach Vol, veh/h		605						768			522	
Approach Delay, s/veh		27.0						28.9			13.3	
Approach LOS		C						C			B	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		46.5			24.5	22.0		13.5				
Change Period (Y+Rc), s		4.6			4.6	* 4.6		4.2				
Max Green Setting (Gmax), s		38.4			14.3	* 17		12.8				
Max Q Clear Time (g_c+I1), s		6.4			8.2	13.8		9.0				
Green Ext Time (p_c), s		0.9			0.1	0.9		0.4				

Intersection Summary		
HCM 6th Ctrl Delay		24.0
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	16.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	17	30	7	38	134	59	392	12	86	329	29
Future Vol, veh/h	51	17	30	7	38	134	59	392	12	86	329	29
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	6	0	0	0	3	1	2	1	9	0	3	3
Mvmt Flow	58	19	34	8	43	152	67	445	14	98	374	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	13.1	16	17.4	15.4
HCM LOS	B	C	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	75%	0%	4%	100%	0%	0%
Vol Thru, %	0%	100%	92%	25%	0%	21%	0%	100%	79%
Vol Right, %	0%	0%	8%	0%	100%	75%	0%	0%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	59	261	143	68	30	179	86	219	139
LT Vol	59	0	0	51	0	7	86	0	0
Through Vol	0	261	131	17	0	38	0	219	110
RT Vol	0	0	12	0	30	134	0	0	29
Lane Flow Rate	67	297	162	77	34	203	98	249	158
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.146	0.602	0.332	0.193	0.074	0.429	0.213	0.512	0.317
Departure Headway (Hd)	7.827	7.298	7.377	8.986	7.786	7.597	7.851	7.391	7.241
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	457	493	486	398	458	472	456	486	495
Service Time	5.586	5.057	5.136	6.764	5.564	5.362	5.61	5.15	5
HCM Lane V/C Ratio	0.147	0.602	0.333	0.193	0.074	0.43	0.215	0.512	0.319
HCM Control Delay	11.9	20.6	13.8	13.9	11.2	16	12.7	17.7	13.4
HCM Lane LOS	B	C	B	B	B	C	B	C	B
HCM 95th-tile Q	0.5	3.9	1.4	0.7	0.2	2.1	0.8	2.9	1.3

Intersection	
Intersection Delay, s/veh	25.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	78	69	62	63	56	13	56	201	81	27	318	45
Future Vol, veh/h	78	69	62	63	56	13	56	201	81	27	318	45
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, %	0	4	5	3	2	0	6	1	2	0	1	0
Mvmt Flow	94	83	75	76	67	16	67	242	98	33	383	54
Number of Lanes	0	1	1	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	14.5	12.8	18.4	42.4
HCM LOS	B	B	C	E

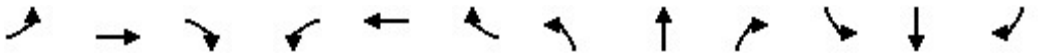
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	22%	0%	53%	0%	100%	8%	7%
Vol Thru, %	78%	0%	47%	0%	0%	74%	82%
Vol Right, %	0%	100%	0%	100%	0%	17%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	257	81	147	62	57	75	390
LT Vol	56	0	78	0	57	6	27
Through Vol	201	0	69	0	0	56	318
RT Vol	0	81	0	62	0	13	45
Lane Flow Rate	310	98	177	75	68	91	470
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.619	0.17	0.394	0.147	0.163	0.201	0.886
Departure Headway (Hd)	7.191	6.276	8.01	7.084	8.579	7.961	6.789
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	502	570	448	505	417	450	531
Service Time	4.95	4.034	5.775	4.847	6.349	5.731	4.842
HCM Lane V/C Ratio	0.618	0.172	0.395	0.149	0.163	0.202	0.885
HCM Control Delay	21	10.3	15.9	11.1	13	12.7	42.4
HCM Lane LOS	C	B	C	B	B	B	E
HCM 95th-tile Q	4.1	0.6	1.8	0.5	0.6	0.7	10

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	22	13	6	60	34	10	89	1	16	155	104
Future Vol, veh/h	50	22	13	6	60	34	10	89	1	16	155	104
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	0	4	7	0	0	0	0	3	0	0	2	2
Mvmt Flow	64	28	17	8	77	44	13	114	1	21	199	133
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	9.1	9	10.9
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	59%	6%	6%
Vol Thru, %	89%	26%	60%	56%
Vol Right, %	1%	15%	34%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	85	100	275
LT Vol	10	50	6	16
Through Vol	89	22	60	155
RT Vol	1	13	34	104
Lane Flow Rate	128	109	128	353
Geometry Grp	1	1	1	1
Degree of Util (X)	0.175	0.157	0.176	0.435
Departure Headway (Hd)	4.917	5.196	4.955	4.441
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	724	684	717	807
Service Time	2.985	3.275	3.033	2.492
HCM Lane V/C Ratio	0.177	0.159	0.179	0.437
HCM Control Delay	9	9.3	9.1	10.9
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.6	0.6	0.6	2.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	92	2	236	291	374	0	0	648	287
Future Volume (veh/h)	0	0	0	92	2	236	291	374	0	0	648	287
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.96
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				1900	1900	1885	1885	1900	0	0	1885	1900
Adj Flow Rate, veh/h				96	2	246	303	390	0	0	675	299
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				0	0	1	1	0	0	0	1	0
Cap, veh/h				322	2	284	606	2561	0	0	744	330
Arrive On Green				0.18	0.18	0.18	0.68	1.00	0.00	0.00	0.31	0.31
Sat Flow, veh/h				1810	13	1599	1795	3705	0	0	2473	1054
Grp Volume(v), veh/h				96	0	248	303	390	0	0	508	466
Grp Sat Flow(s),veh/h/ln				1810	0	1612	1795	1805	0	0	1791	1642
Q Serve(g_s), s				3.6	0.0	11.7	6.5	0.0	0.0	0.0	21.2	21.2
Cycle Q Clear(g_c), s				3.6	0.0	11.7	6.5	0.0	0.0	0.0	21.2	21.2
Prop In Lane				1.00		0.99	1.00		0.00	0.00		0.64
Lane Grp Cap(c), veh/h				322	0	287	606	2561	0	0	560	514
V/C Ratio(X)				0.30	0.00	0.87	0.50	0.15	0.00	0.00	0.91	0.91
Avail Cap(c_a), veh/h				367	0	327	606	2561	0	0	560	514
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	0.85	0.85	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				27.8	0.0	31.2	9.4	0.0	0.0	0.0	25.7	25.7
Incr Delay (d2), s/veh				0.2	0.0	17.5	0.2	0.1	0.0	0.0	20.9	22.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.5	0.0	5.7	1.9	0.0	0.0	0.0	11.9	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				28.0	0.0	48.7	9.6	0.1	0.0	0.0	46.6	48.0
LnGrp LOS				C	A	D	A	A	A	A	D	D
Approach Vol, veh/h					344			693			974	
Approach Delay, s/veh					42.9			4.3			47.3	
Approach LOS					D			A			D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	30.9	29.0		18.1		59.9						
Change Period (Y+Rc), s	4.6	* 4.6		* 4.2		4.6						
Max Green Setting (Gmax), s	22.3	* 24		* 16		53.4						
Max Q Clear Time (g_c+I1), s	8.5	23.2		13.7		2.0						
Green Ext Time (p_c), s	0.1	0.5		0.2		1.1						

Intersection Summary	
HCM 6th Ctrl Delay	31.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	155	325	0	0	0	0	465	132	317	454	0
Future Volume (veh/h)	185	155	325	0	0	0	0	465	132	317	454	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.96	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	1900	1900	1885				0	1885	1900	1885	1900	0
Adj Flow Rate, veh/h	192	268	269				0	511	145	348	499	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	1				0	1	0	1	0	0
Cap, veh/h	358	376	316				0	819	231	593	2488	0
Arrive On Green	0.20	0.20	0.20				0.00	0.30	0.30	0.44	0.92	0.00
Sat Flow, veh/h	1810	1900	1598				0	2825	770	1795	3705	0
Grp Volume(v), veh/h	192	268	269				0	334	322	348	499	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1598				0	1791	1710	1795	1805	0
Q Serve(g_s), s	7.4	10.3	12.7				0.0	12.5	12.7	11.4	1.1	0.0
Cycle Q Clear(g_c), s	7.4	10.3	12.7				0.0	12.5	12.7	11.4	1.1	0.0
Prop In Lane	1.00		1.00				0.00		0.45	1.00		0.00
Lane Grp Cap(c), veh/h	358	376	316				0	537	513	593	2488	0
V/C Ratio(X)	0.54	0.71	0.85				0.00	0.62	0.63	0.59	0.20	0.00
Avail Cap(c_a), veh/h	483	507	426				0	537	513	593	2488	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.70	0.70	0.00
Uniform Delay (d), s/veh	28.1	29.2	30.2				0.0	23.5	23.5	17.9	1.1	0.0
Incr Delay (d2), s/veh	0.5	1.6	9.2				0.0	5.3	5.7	0.7	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	3.1	4.6	5.4				0.0	5.9	5.8	4.2	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	30.8	39.3				0.0	28.8	29.3	18.6	1.2	0.0
LnGrp LOS	C	C	D				A	C	C	B	A	A
Approach Vol, veh/h		729						656			847	
Approach Delay, s/veh		33.3						29.0			8.3	
Approach LOS		C						C			A	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		58.4			30.4	28.0		19.6				
Change Period (Y+Rc), s		4.6			4.6	* 4.6		4.2				
Max Green Setting (Gmax), s		48.4			18.3	* 23		20.8				
Max Q Clear Time (g_c+I1), s		3.1			13.4	14.7		14.7				
Green Ext Time (p_c), s		1.5			0.1	1.3		0.8				

Intersection Summary		
HCM 6th Ctrl Delay		22.6
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	16.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	89	44	79	23	45	86	89	290	14	154	438	52
Future Vol, veh/h	89	44	79	23	45	86	89	290	14	154	438	52
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	2
Mvmt Flow	91	45	81	23	46	88	91	296	14	157	447	53
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	14.6	15.7	15	17.7
HCM LOS	B	C	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	67%	0%	15%	100%	0%	0%
Vol Thru, %	0%	100%	87%	33%	0%	29%	0%	100%	74%
Vol Right, %	0%	0%	13%	0%	100%	56%	0%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	89	193	111	133	79	154	154	292	198
LT Vol	89	0	0	89	0	23	154	0	0
Through Vol	0	193	97	44	0	45	0	292	146
RT Vol	0	0	14	0	79	86	0	0	52
Lane Flow Rate	91	197	113	136	81	157	157	298	202
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.213	0.433	0.245	0.332	0.174	0.361	0.345	0.612	0.407
Departure Headway (Hd)	8.424	7.91	7.819	8.805	7.753	8.272	7.911	7.398	7.245
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	425	454	457	407	460	432	453	486	495
Service Time	6.205	5.691	5.6	6.594	5.542	6.061	5.683	5.17	5.016
HCM Lane V/C Ratio	0.214	0.434	0.247	0.334	0.176	0.363	0.347	0.613	0.408
HCM Control Delay	13.5	16.7	13.1	16	12.2	15.7	14.8	21.2	14.9
HCM Lane LOS	B	C	B	C	B	C	B	C	B
HCM 95th-tile Q	0.8	2.1	1	1.4	0.6	1.6	1.5	4	2

Intersection	
Intersection Delay, s/veh	15.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	49	62	100	79	25	72	281	125	23	242	24
Future Vol, veh/h	41	49	62	100	79	25	72	281	125	23	242	24
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	5	0	0	1	1	0	1	1	1	0	2	0
Mvmt Flow	42	50	63	102	81	26	73	287	128	23	247	24
Number of Lanes	0	1	1	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	11.3	12	16.9	16.7
HCM LOS	B	B	C	C

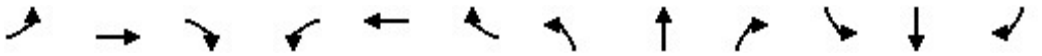
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	0%	46%	0%	100%	9%	8%
Vol Thru, %	80%	0%	54%	0%	0%	69%	84%
Vol Right, %	0%	100%	0%	100%	0%	22%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	353	125	90	62	90	114	289
LT Vol	72	0	41	0	90	10	23
Through Vol	281	0	49	0	0	79	242
RT Vol	0	125	0	62	0	25	24
Lane Flow Rate	360	128	92	63	92	116	295
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.633	0.195	0.194	0.116	0.196	0.228	0.529
Departure Headway (Hd)	6.328	5.514	7.62	6.579	7.692	7.066	6.557
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	566	644	474	548	469	511	554
Service Time	4.122	3.307	5.326	4.285	5.392	4.766	4.557
HCM Lane V/C Ratio	0.636	0.199	0.194	0.115	0.196	0.227	0.532
HCM Control Delay	19.5	9.7	12.2	10.1	12.3	11.8	16.7
HCM Lane LOS	C	A	B	B	B	B	C
HCM 95th-tile Q	4.4	0.7	0.7	0.4	0.7	0.9	3.1

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	131	52	25	3	39	16	25	92	7	22	82	70
Future Vol, veh/h	131	52	25	3	39	16	25	92	7	22	82	70
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, %	0	0	0	0	0	0	0	1	0	0	0	0
Mvmt Flow	138	55	26	3	41	17	26	97	7	23	86	74
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	8.2	8.9	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	63%	5%	13%
Vol Thru, %	74%	25%	67%	47%
Vol Right, %	6%	12%	28%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	124	208	58	174
LT Vol	25	131	3	22
Through Vol	92	52	39	82
RT Vol	7	25	16	70
Lane Flow Rate	131	219	61	183
Geometry Grp	1	1	1	1
Degree of Util (X)	0.174	0.289	0.081	0.23
Departure Headway (Hd)	4.8	4.757	4.753	4.524
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	744	753	749	791
Service Time	2.849	2.803	2.81	2.568
HCM Lane V/C Ratio	0.176	0.291	0.081	0.231
HCM Control Delay	8.9	9.7	8.2	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	1.2	0.3	0.9



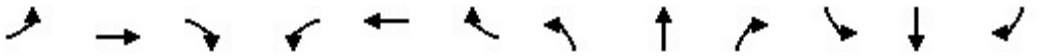
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	121	3	139	387	541	0	0	407	503
Future Volume (veh/h)	0	0	0	121	3	139	387	541	0	0	407	503
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.93
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				127	3	146	407	569	0	0	428	529
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				218	4	199	738	2566	0	0	426	353
Arrive On Green				0.13	0.13	0.13	0.82	1.00	0.00	0.00	0.24	0.24
Sat Flow, veh/h				1739	33	1583	1795	3618	0	0	1870	1469
Grp Volume(v), veh/h				127	0	149	407	569	0	0	428	529
Grp Sat Flow(s),veh/h/ln				1739	0	1615	1795	1763	0	0	1777	1469
Q Serve(g_s), s				4.1	0.0	5.3	4.4	0.0	0.0	0.0	14.4	14.4
Cycle Q Clear(g_c), s				4.1	0.0	5.3	4.4	0.0	0.0	0.0	14.4	14.4
Prop In Lane				1.00		0.98	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				218	0	203	738	2566	0	0	426	353
V/C Ratio(X)				0.58	0.00	0.74	0.55	0.22	0.00	0.00	1.00	1.50
Avail Cap(c_a), veh/h				371	0	345	738	2566	0	0	426	353
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	0.50	0.50	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.8	0.0	25.3	3.5	0.0	0.0	0.0	22.8	22.8
Incr Delay (d2), s/veh				0.9	0.0	1.9	0.3	0.1	0.0	0.0	44.5	239.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.6	0.0	2.0	1.0	0.0	0.0	0.0	10.9	28.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				25.7	0.0	27.2	3.8	0.1	0.0	0.0	67.3	262.3
LnGrp LOS				C	A	C	A	A	A	A	F	F
Approach Vol, veh/h					276			976			957	
Approach Delay, s/veh					26.5			1.6			175.1	
Approach LOS					C			A			F	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	29.3	19.0		11.7		48.3						
Change Period (Y+Rc), s	4.6	* 4.6		* 4.2		4.6						
Max Green Setting (Gmax), s	17.3	* 14		* 13		38.4						
Max Q Clear Time (g_c+I1), s	6.4	16.4		7.3		2.0						
Green Ext Time (p_c), s	0.2	0.0		0.3		1.7						

Intersection Summary		
HCM 6th Ctrl Delay		79.9
HCM 6th LOS		E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	517	0	376	0	0	0	0	601	122	236	303	0
Future Volume (veh/h)	517	0	376	0	0	0	0	601	122	236	303	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		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	667	0	264				0	633	128	248	319	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	742	0	335				0	856	173	487	2256	0
Arrive On Green	0.21	0.00	0.21				0.00	0.29	0.29	0.09	0.21	0.00
Sat Flow, veh/h	3478	0	1572				0	3046	596	1781	3618	0
Grp Volume(v), veh/h	667	0	264				0	384	377	248	319	0
Grp Sat Flow(s),veh/h/ln	1739	0	1572				0	1791	1756	1781	1763	0
Q Serve(g_s), s	11.2	0.0	9.5				0.0	11.6	11.7	8.0	4.4	0.0
Cycle Q Clear(g_c), s	11.2	0.0	9.5				0.0	11.6	11.7	8.0	4.4	0.0
Prop In Lane	1.00		1.00				0.00		0.34	1.00		0.00
Lane Grp Cap(c), veh/h	742	0	335				0	519	509	487	2256	0
V/C Ratio(X)	0.90	0.00	0.79				0.00	0.74	0.74	0.51	0.14	0.00
Avail Cap(c_a), veh/h	742	0	335				0	519	509	487	2256	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	0.69	0.69	0.00
Uniform Delay (d), s/veh	23.0	0.0	22.3				0.0	19.2	19.3	23.5	10.3	0.0
Incr Delay (d2), s/veh	13.5	0.0	10.8				0.0	9.1	9.4	0.3	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	5.5	0.0	4.2				0.0	5.8	5.7	3.6	1.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	0.0	33.1				0.0	28.3	28.6	23.7	10.4	0.0
LnGrp LOS	D	A	C				A	C	C	C	B	A
Approach Vol, veh/h		931						761			567	
Approach Delay, s/veh		35.6						28.5			16.2	
Approach LOS		D						C			B	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		43.0			21.0	22.0		17.0				
Change Period (Y+Rc), s		4.6			4.6	* 4.6		4.2				
Max Green Setting (Gmax), s		38.4			14.3	* 17		12.8				
Max Q Clear Time (g_c+I1), s		6.4			10.0	13.7		13.2				
Green Ext Time (p_c), s		0.9			0.1	0.9		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		28.3	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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	51	17	30	8	38	127	59	392	11	77	425	29
Future Vol, veh/h	51	17	30	8	38	127	59	392	11	77	425	29
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	6	0	0	0	3	1	2	1	9	0	3	3
Mvmt Flow	58	19	34	9	43	144	67	445	13	88	483	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	13.5	16.7	18.5	19.4
HCM LOS	B	C	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	75%	0%	5%	100%	0%	0%
Vol Thru, %	0%	100%	92%	25%	0%	22%	0%	100%	83%
Vol Right, %	0%	0%	8%	0%	100%	73%	0%	0%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	59	261	142	68	30	173	77	283	171
LT Vol	59	0	0	51	0	8	77	0	0
Through Vol	0	261	131	17	0	38	0	283	142
RT Vol	0	0	11	0	30	127	0	0	29
Lane Flow Rate	67	297	161	77	34	197	88	322	194
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.151	0.623	0.342	0.2	0.077	0.433	0.192	0.666	0.395
Departure Headway (Hd)	8.088	7.558	7.642	9.311	8.109	7.923	7.912	7.452	7.331
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	443	475	470	384	439	452	452	483	489
Service Time	5.856	5.327	5.41	7.104	5.9	5.701	5.68	5.22	5.098
HCM Lane V/C Ratio	0.151	0.625	0.343	0.201	0.077	0.436	0.195	0.667	0.397
HCM Control Delay	12.3	22.1	14.4	14.4	11.6	16.7	12.6	24	14.8
HCM Lane LOS	B	C	B	B	B	C	B	C	B
HCM 95th-tile Q	0.5	4.2	1.5	0.7	0.2	2.1	0.7	4.8	1.9

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	332	173	421	470
Demand Flow Rate, veh/h	342	177	430	474
Vehicles Circulating, veh/h	498	424	262	247
Vehicles Exiting, veh/h	223	268	578	354
Ped Vol Crossing Leg, #/h	8	12	5	10
Ped Cap Adj	0.999	0.998	0.999	0.999
Approach Delay, s/veh	9.6	6.1	7.9	8.3
Approach LOS	A	A	A	A

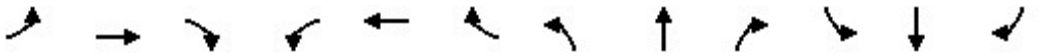
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	342	177	430	474
Cap Entry Lane, veh/h	830	895	1056	1073
Entry HV Adj Factor	0.970	0.980	0.978	0.992
Flow Entry, veh/h	332	173	421	470
Cap Entry, veh/h	805	876	1032	1062
V/C Ratio	0.412	0.198	0.407	0.443
Control Delay, s/veh	9.6	6.1	7.9	8.3
LOS	A	A	A	A
95th %tile Queue, veh	2	1	2	2

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	22	13	6	60	34	10	89	1	16	155	104
Future Vol, veh/h	50	22	13	6	60	34	10	89	1	16	155	104
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	0	4	7	0	0	0	0	3	0	0	2	2
Mvmt Flow	64	28	17	8	77	44	13	114	1	21	199	133
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	9.1	9	10.9
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	59%	6%	6%
Vol Thru, %	89%	26%	60%	56%
Vol Right, %	1%	15%	34%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	85	100	275
LT Vol	10	50	6	16
Through Vol	89	22	60	155
RT Vol	1	13	34	104
Lane Flow Rate	128	109	128	353
Geometry Grp	1	1	1	1
Degree of Util (X)	0.175	0.157	0.176	0.435
Departure Headway (Hd)	4.917	5.196	4.955	4.441
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	724	684	717	807
Service Time	2.985	3.275	3.033	2.492
HCM Lane V/C Ratio	0.177	0.159	0.179	0.437
HCM Control Delay	9	9.3	9.1	10.9
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.6	0.6	0.6	2.2



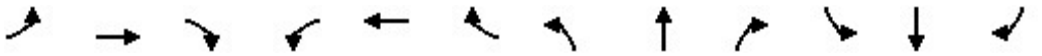
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	93	2	236	464	586	0	0	648	287
Future Volume (veh/h)	0	0	0	93	2	236	464	586	0	0	648	287
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.96
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				1900	1900	1885	1885	1900	0	0	1885	1900
Adj Flow Rate, veh/h				97	2	246	483	610	0	0	675	299
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				0	0	1	1	0	0	0	1	0
Cap, veh/h				322	2	284	606	2561	0	0	744	330
Arrive On Green				0.18	0.18	0.18	0.68	1.00	0.00	0.00	0.31	0.31
Sat Flow, veh/h				1810	13	1599	1795	3705	0	0	2473	1054
Grp Volume(v), veh/h				97	0	248	483	610	0	0	508	466
Grp Sat Flow(s),veh/h/ln				1810	0	1612	1795	1805	0	0	1791	1642
Q Serve(g_s), s				3.6	0.0	11.7	14.7	0.0	0.0	0.0	21.2	21.2
Cycle Q Clear(g_c), s				3.6	0.0	11.7	14.7	0.0	0.0	0.0	21.2	21.2
Prop In Lane				1.00		0.99	1.00		0.00	0.00		0.64
Lane Grp Cap(c), veh/h				322	0	287	606	2561	0	0	560	514
V/C Ratio(X)				0.30	0.00	0.87	0.80	0.24	0.00	0.00	0.91	0.91
Avail Cap(c_a), veh/h				367	0	327	606	2561	0	0	560	514
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	0.55	0.55	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				27.9	0.0	31.2	10.8	0.0	0.0	0.0	25.7	25.7
Incr Delay (d2), s/veh				0.2	0.0	17.5	3.8	0.1	0.0	0.0	20.9	22.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.5	0.0	5.7	3.8	0.0	0.0	0.0	11.9	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				28.1	0.0	48.6	14.6	0.1	0.0	0.0	46.6	48.0
LnGrp LOS				C	A	D	B	A	A	A	D	D
Approach Vol, veh/h					345			1093			974	
Approach Delay, s/veh					42.9			6.5			47.3	
Approach LOS					D			A			D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	30.9	29.0		18.1		59.9						
Change Period (Y+Rc), s	4.6	* 4.6		* 4.2		4.6						
Max Green Setting (Gmax), s	22.3	* 24		* 16		53.4						
Max Q Clear Time (g_c+I1), s	16.7	23.2		13.7		2.0						
Green Ext Time (p_c), s	0.2	0.5		0.2		1.8						

Intersection Summary		
HCM 6th Ctrl Delay		28.2
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	507	155	431	0	0	0	0	543	127	331	448	0
Future Volume (veh/h)	507	155	431	0	0	0	0	543	127	331	448	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.96	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	1900	1900	1885				0	1885	1900	1885	1900	0
Adj Flow Rate, veh/h	414	465	373				0	597	140	364	492	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	1				0	1	0	1	0	0
Cap, veh/h	479	503	423				0	857	200	473	2246	0
Arrive On Green	0.26	0.26	0.26				0.00	0.30	0.30	0.35	0.83	0.00
Sat Flow, veh/h	1810	1900	1598				0	2951	668	1795	3705	0
Grp Volume(v), veh/h	414	465	373				0	374	363	364	492	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1598				0	1791	1733	1795	1805	0
Q Serve(g_s), s	17.0	18.6	17.5				0.0	14.4	14.5	14.1	2.2	0.0
Cycle Q Clear(g_c), s	17.0	18.6	17.5				0.0	14.4	14.5	14.1	2.2	0.0
Prop In Lane	1.00		1.00				0.00		0.39	1.00		0.00
Lane Grp Cap(c), veh/h	479	503	423				0	537	520	473	2246	0
V/C Ratio(X)	0.86	0.92	0.88				0.00	0.70	0.70	0.77	0.22	0.00
Avail Cap(c_a), veh/h	483	507	426				0	537	520	473	2246	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.70	0.70	0.00
Uniform Delay (d), s/veh	27.3	27.9	27.5				0.0	24.1	24.2	23.2	2.7	0.0
Incr Delay (d2), s/veh	14.2	22.3	18.1				0.0	7.3	7.6	4.9	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	8.8	11.0	8.4				0.0	7.0	6.8	5.9	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.6	50.2	45.6				0.0	31.4	31.8	28.2	2.9	0.0
LnGrp LOS	D	D	D				A	C	C	C	A	A
Approach Vol, veh/h		1252						737			856	
Approach Delay, s/veh		46.0						31.6			13.6	
Approach LOS		D						C			B	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		53.1			25.1	28.0		24.9				
Change Period (Y+Rc), s		4.6			4.6	* 4.6		4.2				
Max Green Setting (Gmax), s		48.4			18.3	* 23		20.8				
Max Q Clear Time (g_c+I1), s		4.2			16.1	16.5		20.6				
Green Ext Time (p_c), s		1.4			0.1	1.3		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		32.5
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	23.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	89	44	79	22	45	121	89	490	13	143	438	52
Future Vol, veh/h	89	44	79	22	45	121	89	490	13	143	438	52
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	2
Mvmt Flow	91	45	81	22	46	123	91	500	13	146	447	53
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	17.1	20.8	27.7	22.8
HCM LOS	C	C	D	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	67%	0%	12%	100%	0%	0%
Vol Thru, %	0%	100%	93%	33%	0%	24%	0%	100%	74%
Vol Right, %	0%	0%	7%	0%	100%	64%	0%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	89	327	176	133	79	188	143	292	198
LT Vol	89	0	0	89	0	22	143	0	0
Through Vol	0	327	163	44	0	45	0	292	146
RT Vol	0	0	13	0	79	121	0	0	52
Lane Flow Rate	91	333	180	136	81	192	146	298	202
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.228	0.79	0.424	0.379	0.201	0.494	0.364	0.701	0.467
Departure Headway (Hd)	9.051	8.533	8.48	10.052	8.987	9.261	8.988	8.471	8.315
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	396	423	425	357	398	389	400	426	432
Service Time	6.814	6.296	6.243	7.83	6.764	7.035	6.752	6.234	6.078
HCM Lane V/C Ratio	0.23	0.787	0.424	0.381	0.204	0.494	0.365	0.7	0.468
HCM Control Delay	14.5	36.8	17.4	18.9	14	20.8	16.8	28.9	18.2
HCM Lane LOS	B	E	C	C	B	C	C	D	C
HCM 95th-tile Q	0.9	6.9	2.1	1.7	0.7	2.6	1.6	5.3	2.4

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	257	241	517	315
Demand Flow Rate, veh/h	259	243	522	320
Vehicles Circulating, veh/h	378	439	188	320
Vehicles Exiting, veh/h	262	271	449	362
Ped Vol Crossing Leg, #/h	14	13	5	15
Ped Cap Adj	0.998	0.998	0.999	0.998
Approach Delay, s/veh	6.7	7.1	8.2	7.0
Approach LOS	A	A	A	A

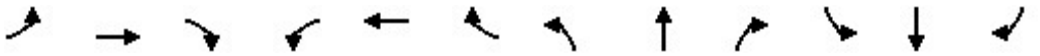
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	259	243	522	320
Cap Entry Lane, veh/h	938	882	1139	996
Entry HV Adj Factor	0.992	0.991	0.991	0.985
Flow Entry, veh/h	257	241	517	315
Cap Entry, veh/h	929	873	1128	978
V/C Ratio	0.277	0.276	0.459	0.322
Control Delay, s/veh	6.7	7.1	8.2	7.0
LOS	A	A	A	A
95th %tile Queue, veh	1	1	2	1

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	131	52	24	3	39	16	24	92	7	22	82	70
Future Vol, veh/h	131	52	24	3	39	16	24	92	7	22	82	70
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, %	0	0	0	0	0	0	0	1	0	0	0	0
Mvmt Flow	138	55	25	3	41	17	25	97	7	23	86	74
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	8.2	8.9	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	63%	5%	13%
Vol Thru, %	75%	25%	67%	47%
Vol Right, %	6%	12%	28%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	123	207	58	174
LT Vol	24	131	3	22
Through Vol	92	52	39	82
RT Vol	7	24	16	70
Lane Flow Rate	129	218	61	183
Geometry Grp	1	1	1	1
Degree of Util (X)	0.173	0.288	0.081	0.23
Departure Headway (Hd)	4.797	4.756	4.748	4.52
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	744	752	750	791
Service Time	2.846	2.805	2.807	2.565
HCM Lane V/C Ratio	0.173	0.29	0.081	0.231
HCM Control Delay	8.9	9.7	8.2	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	1.2	0.3	0.9



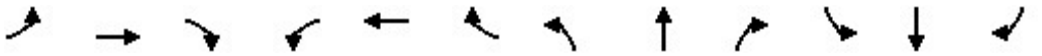
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	125	3	139	390	541	0	0	407	503
Future Volume (veh/h)	0	0	0	125	3	139	390	541	0	0	407	503
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.93
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				132	3	146	411	569	0	0	428	529
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				218	4	199	738	2566	0	0	426	353
Arrive On Green				0.13	0.13	0.13	0.82	1.00	0.00	0.00	0.24	0.24
Sat Flow, veh/h				1739	33	1583	1795	3618	0	0	1870	1469
Grp Volume(v), veh/h				132	0	149	411	569	0	0	428	529
Grp Sat Flow(s),veh/h/ln				1739	0	1615	1795	1763	0	0	1777	1469
Q Serve(g_s), s				4.3	0.0	5.3	4.5	0.0	0.0	0.0	14.4	14.4
Cycle Q Clear(g_c), s				4.3	0.0	5.3	4.5	0.0	0.0	0.0	14.4	14.4
Prop In Lane				1.00		0.98	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				218	0	203	738	2566	0	0	426	353
V/C Ratio(X)				0.60	0.00	0.73	0.56	0.22	0.00	0.00	1.00	1.50
Avail Cap(c_a), veh/h				371	0	345	738	2566	0	0	426	353
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	0.50	0.50	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.8	0.0	25.3	3.5	0.0	0.0	0.0	22.8	22.8
Incr Delay (d2), s/veh				1.0	0.0	1.9	0.3	0.1	0.0	0.0	44.5	239.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.7	0.0	2.0	1.0	0.0	0.0	0.0	10.9	28.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				25.8	0.0	27.2	3.8	0.1	0.0	0.0	67.3	262.3
LnGrp LOS				C	A	C	A	A	A	A	F	F
Approach Vol, veh/h					281			980			957	
Approach Delay, s/veh					26.6			1.7			175.1	
Approach LOS					C			A			F	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	29.3	19.0		11.7		48.3						
Change Period (Y+Rc), s	4.6	* 4.6		* 4.2		4.6						
Max Green Setting (Gmax), s	17.3	* 14		* 13		38.4						
Max Q Clear Time (g_c+I1), s	6.5	16.4		7.3		2.0						
Green Ext Time (p_c), s	0.2	0.0		0.3		1.7						

Intersection Summary		
HCM 6th Ctrl Delay		79.6
HCM 6th LOS		E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	517	0	380	0	0	0	0	604	125	236	308	0
Future Volume (veh/h)	517	0	380	0	0	0	0	604	125	236	308	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		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	668	0	267				0	636	132	248	324	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	742	0	335				0	852	176	487	2256	0
Arrive On Green	0.21	0.00	0.21				0.00	0.29	0.29	0.09	0.21	0.00
Sat Flow, veh/h	3478	0	1572				0	3031	608	1781	3618	0
Grp Volume(v), veh/h	668	0	267				0	387	381	248	324	0
Grp Sat Flow(s),veh/h/ln	1739	0	1572				0	1791	1754	1781	1763	0
Q Serve(g_s), s	11.2	0.0	9.7				0.0	11.8	11.8	8.0	4.5	0.0
Cycle Q Clear(g_c), s	11.2	0.0	9.7				0.0	11.8	11.8	8.0	4.5	0.0
Prop In Lane	1.00		1.00				0.00		0.35	1.00		0.00
Lane Grp Cap(c), veh/h	742	0	335				0	519	509	487	2256	0
V/C Ratio(X)	0.90	0.00	0.80				0.00	0.75	0.75	0.51	0.14	0.00
Avail Cap(c_a), veh/h	742	0	335				0	519	509	487	2256	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	0.64	0.64	0.00
Uniform Delay (d), s/veh	23.0	0.0	22.4				0.0	19.3	19.3	23.5	10.3	0.0
Incr Delay (d2), s/veh	13.7	0.0	11.6				0.0	9.4	9.7	0.2	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	5.5	0.0	4.3				0.0	5.9	5.8	3.6	1.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	0.0	34.0				0.0	28.7	29.0	23.7	10.4	0.0
LnGrp LOS	D	A	C				A	C	C	C	B	A
Approach Vol, veh/h		935						768			572	
Approach Delay, s/veh		35.9						28.9			16.1	
Approach LOS		D						C			B	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		43.0			21.0	22.0		17.0				
Change Period (Y+Rc), s		4.6			4.6	* 4.6		4.2				
Max Green Setting (Gmax), s		38.4			14.3	* 17		12.8				
Max Q Clear Time (g_c+I1), s		6.5			10.0	13.8		13.2				
Green Ext Time (p_c), s		0.9			0.1	0.9		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		28.6
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	18.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	17	30	9	38	134	59	392	12	86	425	29
Future Vol, veh/h	51	17	30	9	38	134	59	392	12	86	425	29
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	6	0	0	0	3	1	2	1	9	0	3	3
Mvmt Flow	58	19	34	10	43	152	67	445	14	98	483	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	13.7	17.3	18.9	19.7
HCM LOS	B	C	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	75%	0%	5%	100%	0%	0%
Vol Thru, %	0%	100%	92%	25%	0%	21%	0%	100%	83%
Vol Right, %	0%	0%	8%	0%	100%	74%	0%	0%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	59	261	143	68	30	181	86	283	171
LT Vol	59	0	0	51	0	9	86	0	0
Through Vol	0	261	131	17	0	38	0	283	142
RT Vol	0	0	12	0	30	134	0	0	29
Lane Flow Rate	67	297	162	77	34	206	98	322	194
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.152	0.63	0.348	0.202	0.078	0.456	0.217	0.672	0.398
Departure Headway (Hd)	8.173	7.643	7.722	9.412	8.208	7.977	7.979	7.519	7.397
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	438	472	464	379	434	450	449	480	485
Service Time	5.946	5.416	5.495	7.209	6.004	5.759	5.752	5.292	5.17
HCM Lane V/C Ratio	0.153	0.629	0.349	0.203	0.078	0.458	0.218	0.671	0.4
HCM Control Delay	12.4	22.7	14.6	14.6	11.7	17.3	13	24.5	15
HCM Lane LOS	B	C	B	B	B	C	B	C	B
HCM 95th-tile Q	0.5	4.3	1.5	0.7	0.3	2.3	0.8	4.9	1.9

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	333	174	421	470
Demand Flow Rate, veh/h	343	178	430	474
Vehicles Circulating, veh/h	498	424	263	248
Vehicles Exiting, veh/h	224	269	578	354
Ped Vol Crossing Leg, #/h	8	12	5	10
Ped Cap Adj	0.999	0.998	0.999	0.999
Approach Delay, s/veh	9.7	6.1	7.9	8.3
Approach LOS	A	A	A	A

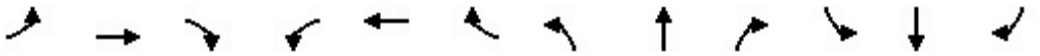
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	343	178	430	474
Cap Entry Lane, veh/h	830	895	1055	1071
Entry HV Adj Factor	0.970	0.980	0.978	0.992
Flow Entry, veh/h	333	174	421	470
Cap Entry, veh/h	805	876	1031	1061
V/C Ratio	0.414	0.199	0.408	0.443
Control Delay, s/veh	9.7	6.1	7.9	8.3
LOS	A	A	A	A
95th %tile Queue, veh	2	1	2	2

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	22	13	6	60	34	10	89	1	16	155	104
Future Vol, veh/h	50	22	13	6	60	34	10	89	1	16	155	104
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	0	4	7	0	0	0	0	3	0	0	2	2
Mvmt Flow	64	28	17	8	77	44	13	114	1	21	199	133
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	9.1	9	10.9
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	59%	6%	6%
Vol Thru, %	89%	26%	60%	56%
Vol Right, %	1%	15%	34%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	85	100	275
LT Vol	10	50	6	16
Through Vol	89	22	60	155
RT Vol	1	13	34	104
Lane Flow Rate	128	109	128	353
Geometry Grp	1	1	1	1
Degree of Util (X)	0.175	0.157	0.176	0.435
Departure Headway (Hd)	4.917	5.196	4.955	4.441
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	724	684	717	807
Service Time	2.985	3.275	3.033	2.492
HCM Lane V/C Ratio	0.177	0.159	0.179	0.437
HCM Control Delay	9	9.3	9.1	10.9
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.6	0.6	0.6	2.2



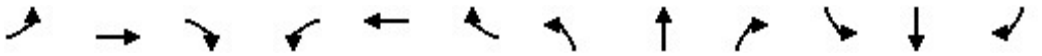
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	98	2	236	469	586	0	0	648	287
Future Volume (veh/h)	0	0	0	98	2	236	469	586	0	0	648	287
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.96
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				1900	1900	1885	1885	1900	0	0	1885	1900
Adj Flow Rate, veh/h				102	2	246	489	610	0	0	675	299
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				0	0	1	1	0	0	0	1	0
Cap, veh/h				322	2	284	606	2561	0	0	744	330
Arrive On Green				0.18	0.18	0.18	0.68	1.00	0.00	0.00	0.31	0.31
Sat Flow, veh/h				1810	13	1599	1795	3705	0	0	2473	1054
Grp Volume(v), veh/h				102	0	248	489	610	0	0	508	466
Grp Sat Flow(s),veh/h/ln				1810	0	1612	1795	1805	0	0	1791	1642
Q Serve(g_s), s				3.8	0.0	11.7	15.2	0.0	0.0	0.0	21.2	21.2
Cycle Q Clear(g_c), s				3.8	0.0	11.7	15.2	0.0	0.0	0.0	21.2	21.2
Prop In Lane				1.00		0.99	1.00		0.00	0.00		0.64
Lane Grp Cap(c), veh/h				322	0	287	606	2561	0	0	560	514
V/C Ratio(X)				0.32	0.00	0.87	0.81	0.24	0.00	0.00	0.91	0.91
Avail Cap(c_a), veh/h				367	0	327	606	2561	0	0	560	514
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	0.53	0.53	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				27.9	0.0	31.2	10.9	0.0	0.0	0.0	25.7	25.7
Incr Delay (d2), s/veh				0.2	0.0	17.5	4.0	0.1	0.0	0.0	20.9	22.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.6	0.0	5.7	3.9	0.0	0.0	0.0	11.9	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				28.1	0.0	48.6	14.9	0.1	0.0	0.0	46.6	48.0
LnGrp LOS				C	A	D	B	A	A	A	D	D
Approach Vol, veh/h					350			1099			974	
Approach Delay, s/veh					42.7			6.7			47.3	
Approach LOS					D			A			D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	30.9	29.0		18.1		59.9						
Change Period (Y+Rc), s	4.6	* 4.6		* 4.2		4.6						
Max Green Setting (Gmax), s	22.3	* 24		* 16		53.4						
Max Q Clear Time (g_c+I1), s	17.2	23.2		13.7		2.0						
Green Ext Time (p_c), s	0.2	0.5		0.2		1.8						

Intersection Summary		
HCM 6th Ctrl Delay		28.2
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	507	155	436	0	0	0	0	548	132	331	454	0
Future Volume (veh/h)	507	155	436	0	0	0	0	548	132	331	454	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.96	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	1900	1900	1885				0	1885	1900	1885	1900	0
Adj Flow Rate, veh/h	415	465	376				0	602	145	364	499	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	1				0	1	0	1	0	0
Cap, veh/h	479	503	423				0	852	205	473	2246	0
Arrive On Green	0.26	0.26	0.26				0.00	0.30	0.30	0.35	0.83	0.00
Sat Flow, veh/h	1810	1900	1598				0	2933	682	1795	3705	0
Grp Volume(v), veh/h	415	465	376				0	379	368	364	499	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1598				0	1791	1730	1795	1805	0
Q Serve(g_s), s	17.1	18.6	17.6				0.0	14.7	14.7	14.1	2.3	0.0
Cycle Q Clear(g_c), s	17.1	18.6	17.6				0.0	14.7	14.7	14.1	2.3	0.0
Prop In Lane	1.00		1.00				0.00		0.39	1.00		0.00
Lane Grp Cap(c), veh/h	479	503	423				0	537	519	473	2246	0
V/C Ratio(X)	0.87	0.92	0.89				0.00	0.71	0.71	0.77	0.22	0.00
Avail Cap(c_a), veh/h	483	507	426				0	537	519	473	2246	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	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	27.3	27.9	27.6				0.0	24.2	24.3	23.2	2.7	0.0
Incr Delay (d2), s/veh	14.5	22.3	19.2				0.0	7.6	8.0	4.9	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	8.8	11.0	8.6				0.0	7.1	7.0	5.9	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.8	50.2	46.7				0.0	31.8	32.2	28.1	2.9	0.0
LnGrp LOS	D	D	D				A	C	C	C	A	A
Approach Vol, veh/h		1256						747			863	
Approach Delay, s/veh		46.4						32.0			13.5	
Approach LOS		D						C			B	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		53.1			25.1	28.0		24.9				
Change Period (Y+Rc), s		4.6			4.6	* 4.6		4.2				
Max Green Setting (Gmax), s		48.4			18.3	* 23		20.8				
Max Q Clear Time (g_c+I1), s		4.3			16.1	16.7		20.6				
Green Ext Time (p_c), s		1.5			0.1	1.3		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		32.7
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	24.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	89	44	79	23	45	131	89	490	14	154	438	52
Future Vol, veh/h	89	44	79	23	45	131	89	490	14	154	438	52
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	2
Mvmt Flow	91	45	81	23	46	134	91	500	14	157	447	53
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	17.4	22.2	28.8	23.5
HCM LOS	C	C	D	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	67%	0%	12%	100%	0%	0%
Vol Thru, %	0%	100%	92%	33%	0%	23%	0%	100%	74%
Vol Right, %	0%	0%	8%	0%	100%	66%	0%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	89	327	177	133	79	199	154	292	198
LT Vol	89	0	0	89	0	23	154	0	0
Through Vol	0	327	163	44	0	45	0	292	146
RT Vol	0	0	14	0	79	131	0	0	52
Lane Flow Rate	91	333	181	136	81	203	157	298	202
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.232	0.802	0.433	0.385	0.205	0.527	0.397	0.71	0.473
Departure Headway (Hd)	9.182	8.663	8.606	10.201	9.135	9.343	9.098	8.579	8.424
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	391	417	418	351	392	386	394	420	426
Service Time	6.952	6.433	6.376	7.987	6.92	7.126	6.87	6.351	6.196
HCM Lane V/C Ratio	0.233	0.799	0.433	0.387	0.207	0.526	0.398	0.71	0.474
HCM Control Delay	14.7	38.6	17.8	19.3	14.3	22.2	17.8	29.9	18.6
HCM Lane LOS	B	E	C	C	B	C	C	D	C
HCM 95th-tile Q	0.9	7.1	2.1	1.8	0.8	3	1.9	5.4	2.5

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	258	242	517	315
Demand Flow Rate, veh/h	260	244	522	320
Vehicles Circulating, veh/h	378	439	189	321
Vehicles Exiting, veh/h	263	272	449	362
Ped Vol Crossing Leg, #/h	14	13	5	15
Ped Cap Adj	0.998	0.998	0.999	0.998
Approach Delay, s/veh	6.7	7.1	8.2	7.0
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	260	244	522	320
Cap Entry Lane, veh/h	938	882	1138	995
Entry HV Adj Factor	0.992	0.991	0.991	0.985
Flow Entry, veh/h	258	242	517	315
Cap Entry, veh/h	929	873	1127	977
V/C Ratio	0.278	0.277	0.459	0.322
Control Delay, s/veh	6.7	7.1	8.2	7.0
LOS	A	A	A	A
95th %tile Queue, veh	1	1	2	1

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	131	52	25	3	39	16	25	92	7	22	82	70
Future Vol, veh/h	131	52	25	3	39	16	25	92	7	22	82	70
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, %	0	0	0	0	0	0	0	1	0	0	0	0
Mvmt Flow	138	55	26	3	41	17	26	97	7	23	86	74
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	8.2	8.9	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	63%	5%	13%
Vol Thru, %	74%	25%	67%	47%
Vol Right, %	6%	12%	28%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	124	208	58	174
LT Vol	25	131	3	22
Through Vol	92	52	39	82
RT Vol	7	25	16	70
Lane Flow Rate	131	219	61	183
Geometry Grp	1	1	1	1
Degree of Util (X)	0.174	0.289	0.081	0.23
Departure Headway (Hd)	4.8	4.757	4.753	4.524
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	744	753	749	791
Service Time	2.849	2.803	2.81	2.568
HCM Lane V/C Ratio	0.176	0.291	0.081	0.231
HCM Control Delay	8.9	9.7	8.2	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	1.2	0.3	0.9