TRANSPORTATION IMPACT AND OPERATIONAL ANALYSIS - DRAFT

MEDICAL OFFICE BUILDING

SANTA CRUZ, CALIFORNIA

Prepared for:

PMB
ADVANCING HEALTHCARE REAL ESTATE

Prepared by:

Kimley»Horn

May 2021
197165001

May 2021
197165001

TRANSPORTATION IMPACT AND OPERATIONAL ANALYSIS - DRAFT

FOR

MEDICAL OFFICE BUILDING

Prepared for:
PDP Santa Cruz, LLC
3394 Carmel Mountain Road, Suite 200
San Diego, California 92121

Prepared by:
Kimley-Horn and Associates, Inc.
10 South Almaden Boulevard, Suite 1250
San Jose, California 95113
669-800-1979

197165001

Contents

EXECUTIVE SUMMARY 1
Project Overview 1
Vehicle Miles Traveled (CEQA Analysis) 3
Background 4
Analyzing MOB VMT 5
Scenarios 7
Scenario A Methodology 8
Scenario A Analysis 10
Scenario A Results 10
Methodology for Scenario B 12
Scenario B Analysis 13
Scenario B Results 14
Conclusion 15
Transportation Demand Management (Non-CEQA Analysis) 15
Pedestrian, Bicycle and Transit Mobility (Non-CEQA Analysis) 19
Parking Supply and Demand Evaluation (Non-CEQA Analysis) 20
Local Mobility Analysis (Non-CEQA Analysis) 22
Transportation Improvement Area Fees (Non-CEQA Analysis) 31
Other Transportation Analysis 32
Summary of Favorable Transportation Considerations 32

1. INTRODUCTION 1
Project Description 1
Project Transportation Improvements 2
Report Approach 7
Report Organization 7

2. VEHICLE MILES TRAVELED 8
Background 8
Analyzing MOB VMT 9
Scenarios 11
Scenario A Methodology 12
Scenario A Analysis 16
Scenario A Results 17
Methodology for Scenario B 19

Scenario B Analysis 22
Scenario B Results...24
Conclusion 25

3. TRANSPORTATION DEMAND MANAGEMENT (NON-CEQA ANALYSIS)......................27

Employee-Focused TDM Measures 27
Member-Focused TDM Measures...29
Other TDM Considerations...32

4. TRANSIT, BICYCLE, AND TRANSIT MOBILITY (NON-CEQA ANALYSIS)......................33

Pedestrian-Oriented Policies: 33
Bicycle-Oriented Policies:..33
Project Transportation Improvements...34
Pedestrian Mobility..35
Bicycle Mobility 36
Transit Mobility..38
Transit Vehicle Delay 40
Summary of Findings 41

5. PARKING SUPPLY AND DEMAND EVALUATION (NON-CEQA ANALYSIS)..................42

Proposed Parking Supply..42
Santa Cruz County Code Parking Requirements 42
Proposed Tenant's Typical Parking Standards..44
Other Parking Considerations 44
Parking Evaluation Summary of Findings...46

6. LOCAL MOBILITY ANALYSIS (LOS) (NON-CEQA ANALYSIS) 48

Level of Service (LOS) 48
Analytical Methods and Information 52
Existing Conditions..52
Trip Generation Estimates...62
Project Transportation Improvements...69
Existing Plus Project Conditions...72
Near Term Conditions 87
Cumulative Conditions 104
Highway 1 Overcrossing and 41st Avenue Corridor Improvements..................................125

7. HIGHWAY 1 AND HIGHWAY 17 OPERATIONAL EVALUATION (NON-CEQA ANALYSIS) 128

Highway 1 129

Highway 17 138

8. TRANSPORTATION IMPROVEMENT AREA FEES (NON-CEQA ANALYSIS)...............142

9. OTHER TRANSPORTATION ANALYSIS...145

Transportation Hazards...145

APPENDICES..146

Figures

Figure ES-F1 – Typical Effect of a MOB on VMT ES-6

Figure F-1 – Project Location Map 5

Figure F-2 – Project Site Plan 6

Figure F-3 – Typical Effect of a MOB on VMT 10

Figure F-4 – Proposed Tenant Facility Locations 17

Figure F-6 – Existing and Population Growth Member Locations for the Proposed Tenant 23

Figure F-7 – Other Healthcare System Patient Locations...24

Figure F-8 – Planned Chanticleer Bike Bridge 37

Figure F-9 – Existing Conditions Lane Geometry and Intersection Control...............................57

Figure F-10 – Existing Conditions Peak Hour Turning Movement Volumes...............................58

Figure F-11 – Project Trip Distribution...67

Figure F-12 – Net Project Peak Hour Trip Assignment...68

Figure F-13 – Existing Plus Project Conditions Lane Geometry and Intersection Control..........80

Figure F-14 – Existing Plus Project Conditions Peak Hour Turning Movement Volumes...........81

Figure F-15 – Near Term Conditions Lane Geometry and Intersection Control 89

Figure F-16 – Near Term Conditions Peak Hour Turning Movement Volumes 90

Figure F-17 – Near Term Plus Project Conditions Lane Geometry and Intersection Control 97

Figure F-18– Near Term Plus Project Conditions Peak Hour Turning Movement Volumes 98

Figure F-19 – Cumulative (2040) Conditions Lane Geometry and Intersection Control 107

Figure F-20 – Cumulative (2040) Conditions Peak Hour Turning Movement Volumes 108

Figure F-21 – Cumulative (2040) Plus Project Conditions Lane Geometry and Intersection Control..112

Figure F-22 – Cumulative (2040) Plus Project Conditions Peak Hour Turning Movement Volumes 113

Figure F-23 – Change in 2040 Daily Volumes Due to Potential 17th Avenue Overcrossing 127

Figure F-24 – Typical Peak-Hour Congestion along SR 1 (Source: Google Maps)..................131

Tables

Table ES-T1 – Total Vehicle Miles Traveled by Scenario..ES-4
Table ES-T2 – Total Vehicle Miles Traveled by Scenario..ES-11
Table ES-T3 – Total Vehicle Miles Traveled ES-14
Table ES-T4 – Total Vehicle Miles Traveled ES-15
Table ES-T5 – TDM Trip Calculations..ES-17
Table ES-T6 – TDM Measure Summary ES-18
Table ES-T7 – Parking Spaces Provided by the Project..ES-20
Table ES-T8 – County MOB Parking Requirements...ES-21
Table ES-T9 – County Required ADA Accessible Parking ES-21
Table ES-T10 – Project ADA Accessible Parking...ES-22
Table ES-T11 – Study Intersections...ES-24
Table ES-T12 – Project Deficiencies and Improvements..ES-26
Table ES-T13 – Transportation Improvement Area Fee Calculations................................ES-32
Table ES-T14 – Summary of Benefits ES-33
Table T-1 – Trip Generation Rate Comparison for Medical Office Buildings 13
Table T-2 – Population Demand for Medical Services 16
Table T-3 – Total Vehicle Miles Traveled by Scenario 18
Table T-4 – Location of Competing Other Healthcare Provider Facilities............................21
Table T-5 – Total Vehicle Miles Traveled by Medical Facility and Service Type 25
Table T-6 – Total Vehicle Miles Traveled by Scenario 26
Table T-7 – TDM Measure Summary...31
Table T-8 – TDM Trip Calculations 32
Table T-9 – Summary of Near-Term Conditions Transit Delay 41
Table T-10 – Parking Spaces Provided by the Project..42
Table T-11 – Santa Cruz County Code Parking Requirements (Chapter 13.10) 43
Table T-12 – County Required ADA Accessible Parking 43
Table T-13 – Project ADA Accessible Parking...44
Table T-14 – ITE Parking Generation (Medical Office) 45

Table T-15 – ITE Parking Generation (Clinic) 45
Table T-16 – Municipal Parking Requirement Comparison 46
Table T-17 – Intersection Level of Service Definitions 49
Table T-18 - 2016 vs. 2019 Traffic Count Comparison......56
Table T-19 – Existing Conditions Intersection Level of Service......61
Table T-20 – Project Trip Generation 65
Table T-21 – Base Critical Gaps......71
Table T-22 – Average Available Gaps 71
Table T-23 – Soquel Drive & Paul Sweet Road / Hwy 1 On-Off-Ramps (Intersection #4) Critical Movement v/c Calculation......73
Table T-24 – Soquel Avenue / 40th Avenue & Gross Road (Intersection #9) Critical Movement v/c Calculation......74
Table T-25 – 41st Avenue & Highway 1 Southbound Ramps (Intersection #14) Critical Movement v/c Calculation......75
Table T-26 – 41st Avenue & Gross Road (Intersection #15) Critical Movement v/c Calculation 76
Table T-27 – Brommer Street & 30th Avenue (Intersection #24) Critical Movement v/c Calculation 78
Table T-28 – Existing Plus Project Conditions Intersection Level of Service......82
Table T-29 – Improved Existing Plus Project Conditions Intersection Level of Service 83
Table T-30 – Near Term Conditions Intersection Level of Service 91
Table T-31 – Soquel Drive & Paul Sweet Road / Hwy 1 On-Off- Ramps (Intersection #4) Critical Movement v/c Calculation......93
Table T-32 – Soquel Avenue / 40th Avenue & Gross Road (Intersection #9) Critical Movement v/c Calculation......94
Table T-33 – 41st Avenue & Highway 1 Southbound Ramps (Intersection #14) Critical Movement v/c Calculation......94
Table T-34 – 41st Avenue & Gross Road (Intersection #15) Critical Movement v/c Calculation 95
Table T-35 – Brommer Street & 30th Avenue (Intersection #24) Critical Movement v/c Calculation 96
Table T-36 – Near Term Plus Project Conditions Intersection Level of Service 99
Table T-37 – Improved Near Term Plus Project Conditions Conclusions......100

Table T-38 – Cumulative (2040) Conditions Intersection Level of Service 109

Table T-39 – Soquel Drive & Paul Sweet Road / Hwy 1 On-Off Ramps (Intersection #4) Critical Movement v/c Calculation 115

Table T-40 – Soquel Avenue / 40th Avenue & Gross Road (Intersection #9) Critical Movement v/c Calculation 117

Table T-41 – 41st Avenue & Highway 1 Southbound Ramps (Intersection #14) Critical Movement v/c Calculation 118

Table T-42 – 41st Avenue & Gross Road (Intersection #15) Critical Movement v/c Calculation 118

Table T-43 – Brommer Street & 30th Avenue (Intersection #24) Critical Movement v/c Calculation 119

Table T-44 – Cumulative Plus Project Conditions Intersection Level of Service 121

Table T-45 – Improved Cumulative Plus Project Conditions Conclusions 123

Table T-46 – Highway 1 Baseline Measures of Effectiveness (Peak Hour) 129

Table T-47 – Existing Plus Project Conditions Segment Analysis (Highway 1) 133

Table T-48 – Near Term Plus Project Conditions Segment Analysis (Highway 1) 134

Table T-49 – Cumulative Plus Project Conditions Segment Analysis (Highway 1) 135

Table T-50 – Existing Plus Project Conditions Segment Analysis (Highway 17) 140

Table T-51 – Near Term Plus Project Conditions Segment Analysis (Highway 17) 140

Table T-52 – Cumulative Plus Project Conditions Segment Analysis (Highway 17) 141

Table T-53 – Transportation Improvement Area Fee Calculations 143

APPENDICES

APPENDIX A.	EXISTING CONDITIONS TRAFFIC COUNTS
APPENDIX B.	EXISTING CONDITIONS SYNCHRO OUTPUT SHEETS
APPENDIX C.	EXISTING PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS
APPENDIX D.	NEAR TERM CONDITIONS SYNCHRO OUTPUT SHEETS
APPENDIX E.	NEAR TERM PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS
APPENDIX F.	CUMULATIVE CONDITIONS SYNCHRO OUTPUT SHEETS
APPENDIX G.	CUMULATIVE PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS
APPENDIX H.	IMPROVED CONDITIONS SYNCHRO OUTPUT SHEETS
APPENDIX I.	SOQUEL AVENUE STRIPING IMPROVEMENT CONCEPT LAYOUTS
APPENDIX J.	SIGNAL WARRANT WORKSHEETS
APPENDIX K.	FULL SCCRTP IMPROVEMENT LIST
APPENDIX L.	PENDING PROJECTS LIST
APPENDIX M.	DIAGONAL DIVERTER & WAYFINDING SIGNAGE CONCEPT LAYOUTS AND TRAVEL TIMES
APPENDIX N.	HIGHWAY 1 INTERCHANGE LAYOUTS
APPENDIX O.	HIGHWAY CAPACITY SOFTWARE (HCS) INPUTS AND RESULTS
APPENDIX P.	SR 1 HOV LANE WIDENING PROJECT SUPPLEMENTAL REPORT (MAY 2010)
APPENDIX Q.	SIMILAR KAISER MEDICAL OFFICE TRIP GENERATION COUNT DATA
APPENDIX R.	PIVOTAL MARKET DATA
APPENDIX S.	PROPOSED TENANT MEMBERSHIP FORECASTS
APPENDIX T.	PROJECT AND NO PROJECT MEMBERSHIP BASIS
APPENDIX U.	SOUTHBOUND HIGHWAY 1 & SOQUEL AVENUE IMPROVEMENTS SYNCHRO OUTPUT SHEETS
APPENDIX V.	TRUCK TURNING TEMPLATE
APPENDIX W.	VIRTUAL CARE BACKUP
APPENDIX X.	17TH AVENUE OVERCROSSING MODEL RESULTS
APPENDIX Y.	COUNTY OF SANTA CRUZ VMT/TDM POLICY
APPENDIX Z.	DETAILED VMT ANALYSIS METHODOLOGY

Kimley»Horn

EXECUTIVE SUMMARY

This study presents the Transportation Impact and Operational Analysis ("TIOA") findings for the proposed Medical Office Building ("MOB") Project (the "Project") at 5940 Soquel Avenue in the County of Santa Cruz ("County"), California. It is proposed that Kaiser Permanente ("Kaiser" or "Proposed Tenant") will occupy the Project if PDP Santa Cruz, LLC (the "Applicant") is successful in obtaining Project entitlements The TIOA covers two key components: (1) a vehicle miles traveled ("VMT") analysis required by the California Environmental Quality Act ("CEQA") that evaluates the amount and distance of automobile travel associated with the Project, and (2) a mobility analysis that evaluates the Project's impacts on automobile delay and traffic congestion, which is not relevant to CEQA, but is relevant to a consideration of the Project's consistency with the County of Santa Cruz's 1994 General Plan and Local Coastal Plan ("General Plan"). Kaiser-related data and assumptions were used to inform the VMT analysis.[1] The VMT analysis separately breaks down the traffic impacts associated with the Proposed Tenant's employees that will provide healthcare and support services in the Project and its patients, visitors and non-clinical affiliated members ("Members") traveling to the Project.

Project Overview

Project Setting

The Project proposes to construct a new MOB and parking garage that will be located in the southwest quadrant of the intersection of Soquel Avenue & Mattison Lane, which is approximately ¾ miles west of the 41st Avenue & Soquel Avenue intersection and ¾ miles east of the Soquel Drive & Soquel Avenue intersection. Development of a MOB at the Project site will fill a service gap that the Proposed Tenant currently has in the County, which causes many of its Members to travel out of the County and to the Proposed Tenant's facilities in the City of San Jose Metropolitan Area ("San Jose") for health care. Consequently, the Project is expected to reduce traffic along Highway 17 to/from those San Jose facilities while providing a centrally located MOB that offers a wide range of health services to the residents of the County.

The Project site is currently leased to a variety of light industrial uses including a towing service, an outdoor vehicle storage area, and a concrete subcontractor. If the Project is successful in obtaining its entitlements, then all of the existing structures will be removed prior to construction of the Project.

[1] Kaiser Permanente ("Kaiser") is proposed to occupy and operate the Project if the Project is approved. Therefore, Kaiser-specific data and assumptions were used in this TIOA to provide the most accurate information possible about the Project's potential transportation-related impacts. Considering the Project's size and location, it is believed that there would be a reduction in VMT for any healthcare services provider that may occupy the Project because medical uses primarily serve pre-existing needs (i.e., they do not generate new trips so much as meet existing demand). Because of this, when a new facility is introduced, most often it can be presumed to reduce trip lengths. The primary reason for this is because a typical doctor visit is assumed to occur regardless of the proximity of the facility, but the proximity of the facility will determine the length of that trip and the resultant impact to the overall transportation system.

Project Description

The Project proposes to construct a MOB, containing approximately 160,000 square feet of gross building floor area, and a parking garage. The parking garage is proposed to contain 730 vehicle parking spaces, 47 of which will be designated as clean air vehicle spaces and equipped with future electric vehicle charging capabilities and 38 motorcycle spaces. Within the parking garage on the first level, 160 bike spaces including 124 racks and 36 lockers are proposed. In addition, the Project will also provide 6 surface vehicle parking spaces adjacent to the parking garage.

The Project also proposes to construct two access points along Soquel Avenue. The main Project driveway will be signalized and will provide full access to the site as shown in the Project site plan. A secondary driveway, east of the main driveway, will provide an access point for pickups and deliveries, as well as quiet ambulatory ingress and egress. The parking garage will not be accessible from the secondary driveway. Thus, it is not anticipated that employees or Members will utilize the secondary driveway. The secondary driveway will be stop-controlled on the northbound approach from the site and will be located along the easterly site boundary.

Project Operations

The Project's standard business hours will be from 8:30 AM to 5:30 PM Monday through Friday, with two minor exceptions. The first is urgent care, which will comprise approximately 9,600 square feet or 6 percent of the programmed square footage, and is anticipated to operate 24 hours per day, 7 days per week. The second is the post anesthesia care unit, which will compose approximately 4,800 square feet, or 3 percent of the programed square footage, and may operate beyond standard business hours 5 days a week depending on the medical condition of a Member. The Project is planning to provide the following programs and services, which could include, but are not limited to: Obstetrics, Head and Neck Surgery, Surgery, Urology, Endocrinology, Gastroenterology, Hematology/Oncology, Infectious Diseases, Rheumatology, Nephrology, Pulmonology, Sleep Lab, Orthopedics, Podiatry, Pain Medicine, Physical Medicine and Rehabilitation, Primary Care (Internal Medicine or Family Practice), Dermatology, Allergy, Urgent Care, Chemotherapy Infusion, Audiology, Optometry, Ophthalmology, Imaging, Pharmacy, Laboratories, Sterile Processing, Blood Bank, Recovery, Building Support, Café, Vision Essentials, Administrative Offices, and Conference Spaces.

Project Mobility Improvements

The Project will provide numerous mobility improvements, including the following:

<u>Main Traffic Driveway Signal</u>: The Project site will be accessed from Soquel Avenue. The Project will construct one main signalized driveway entrance for employees and Members, which will provide access to the patient loading and unloading area, as well as the proposed parking garage. The main driveway will include a protected westbound left-turn pocket and eastbound right-turn pocket into the Project site from Soquel Avenue, as well as northbound left- and right-turn lanes exiting the Project site.

Soquel Avenue Two-Way Left-Turn Lane Striping Improvements: The Project will implement approximately 3,500 feet of Two-Way Left-Turn Lane ("TWLTL") striping (and restriping) along Soquel Avenue from Paul Minnie Avenue to the existing creek crossing (east of Mattison Lane).

Green Bike Lanes Along Soquel Avenue: The Project will provide approximately 4,200 feet of Class 2 bike lane with green colored striping along Soquel Avenue from Paul Minnie Avenue to just east of Mattison Lane.

Sidewalk Installation Along Soquel Avenue: The Project will construct American with Disabilities Act ("ADA") compliant sidewalks along the north Project frontage (south side of Soquel Avenue), which will extend along the south side of Soquel Avenue and fill an existing gap in the County's sidewalk network.

Soquel Avenue / 40th Avenue & Gross Road: The Project will install a diagonal diverter extending from the northwest corner to the southeast corner at this intersection. The diverter will prevent cut through traffic on Gross Road through the residential neighborhood, and eliminate the congestion caused by the all-way stop currently existing at the intersection.

41st Avenue & Gross Road Overhead Wayfinding Signage: The Project will install overhead signs and roadway markings to improve lane selection and use on the eastbound approach of Gross Road. The lane selection would be for southbound Highway 1 and northbound Highway 1 movements. The Project will also install a physical barrier between the limit line and the diverge of the Highway 1 southbound on-ramp on 41st Avenue. This barrier will prevent vehicles from jumping the queue for southbound on-ramp traffic and improve bicycle rider safety in the Class II bike lane at the Highway 1 southbound on-ramp at 41st Avenue.

Vehicle Miles Traveled (CEQA Analysis)

This chapter documents the Vehicle Miles Traveled ("VMT") analysis completed for the Project. The Project will be part of a network of medical facilities that provide various general and specialized medical services for the Proposed Tenant's Member-based medical system. As such, this analysis considers how the introduction of the Project, including its location and the nature of the services provided, affects the Proposed Tenant's Members' VMT. The Proposed Tenant's service area that was evaluated includes existing facilities which serve Members residing in the County. While most of the Proposed Tenant's existing facilities are located within the County, others are located outside of the County in locations such as Gilroy and San Jose. The facilities outside of the County are used by Members needing specialized services not provided by facilities inside the County. The Project, which will be located within the County along Soquel Avenue, is planned to provide expanded services so that only a small portion of the Proposed Tenant's Members will have to travel to facilities outside of the County. As described herein and shown in **Table ES-T1** below, the Project will result in a reduction of at least 20,322 vehicle miles traveled, and thus will have a less than significant impact on transportation.

Table ES-T1 – Total Vehicle Miles Traveled by Scenario

Analysis Scenario	Combined Total
Patient + Employee Vehicle Miles Traveled (VMT)	
A1: Existing No Project	**121,843**
A2: Existing Plus Project	**77,426**
Net Reduction in VMT	**-44,416**
A3: 2040 No Project	**121,168**
A4: 2040 Plus Project	**75,862**
Net Reduction in VMT	**-45,306**
B1: Cumulative No Project	**96,184**
B2: Cumulative Plus Project	**75,862**
Net Reduction in VMT	**-20,322**

Definitions

The following definitions are provided for the purpose of having a common understanding of the analysis provided within this section:

Existing Members: Current Members of the Proposed Tenant's healthcare system.

Healthcare Consumer: Consumers of healthcare services in the County, including Members and Other Healthcare Systems' patients.

Members: The Proposed Tenant's patients, visitors and non-clinical affiliated members. Collectively, as the context requires, the term "Members" may refer to Existing Members, Population Growth Members and Transferee Members.

Population Growth Members: Member growth that will occur over time via population growth.

Other Healthcare Systems: Sutter Health and Dignity Health.

Transferee Member: Member growth attributable to patients switching from Other Healthcare Systems to the Proposed Tenant.

Background

In 2013 and 2018, respectively, CEQA and its implementing guidelines ("CEQA Guidelines") were significantly amended regarding the methods by which lead agencies are to evaluate a project's transportation impacts. As described in CEQA Guidelines Section 15064.3(a):

> *Generally, vehicle miles travelled is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact.*

The CEQA Guidelines have eliminated traffic congestion and automobile delay from the list of issues required to be analyzed as part of a potential project's CEQA analysis and instead clarify that the appropriate criteria for analyzing a potential project's transportation impacts is VMT. This is because California needs to reduce VMT to achieve the State's long-term greenhouse gas ("GHG") reduction climate goals. Half of California's GHG emissions come from the transportation sector; therefore, reducing VMT is an effective climate strategy.[2] A VMT-focused transportation analysis encourages a reduction in VMT, as opposed to the former approach of evaluating transportation impacts based on level of service ("LOS") impacts, which often leads to roadway improvements that increase roadway capacity and, consequently, can induce more VMT, traffic and GHG emissions.[3]

Effective July 1, 2020, CEQA Guidelines section 15064.3(c) now requires lead agencies to assess transportation impacts based on VMT. On June 16, 2020, the County adopted its own thresholds based on the requirements of CEQA (Public Resources Code section 21099) and the CEQA Guidelines.[4] As further described below, the threshold of significance, methodology, and analysis provided for in this section are based upon these adopted thresholds and the associated direction from County staff.

Analyzing MOB VMT

As required by the California State legislature pursuant to SB 743, the California Governor's Office of Planning and Research ("OPR") prepared guidance to facilitate the adoption of VMT thresholds of significance by California jurisdictions. Although the 2018 Guidance[5] does not specifically discuss MOBs, it does address the approach for analyzing land uses with the attributes of a MOB:

> *For office projects that feature a customer component, such as a government office that serves the public, a lead agency can analyze the customer VMT component of the project using the methodology for retail development (see below).*

Santa Cruz County provided for this VMT analysis approach in its VMT thresholds adopted on June 16, 2020.[6] Based on County requirements, MOB's are classified under the heading of "All

[2] California Air Resources Board (Nov. 2018) 2018 Progress Report on California's Sustainable Communities and Climate Protection Act, pp. 4, 5.

[3] *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018), California Governor's Office of Planning and Research, Page 5 [addition of through lanes, including general purpose lanes, HOV lanes, peak period lanes, auxiliary lanes or lanes through grade-separated interchanges would likely lead to measurable and substantial increases in vehicle travel]).

[4] Board of Supervisors of the County of Santa Cruz, Resolution No. 146-2020, adopted June 16, 2020.

[5] *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018), California Governor's Office of Planning and Research, Page 5

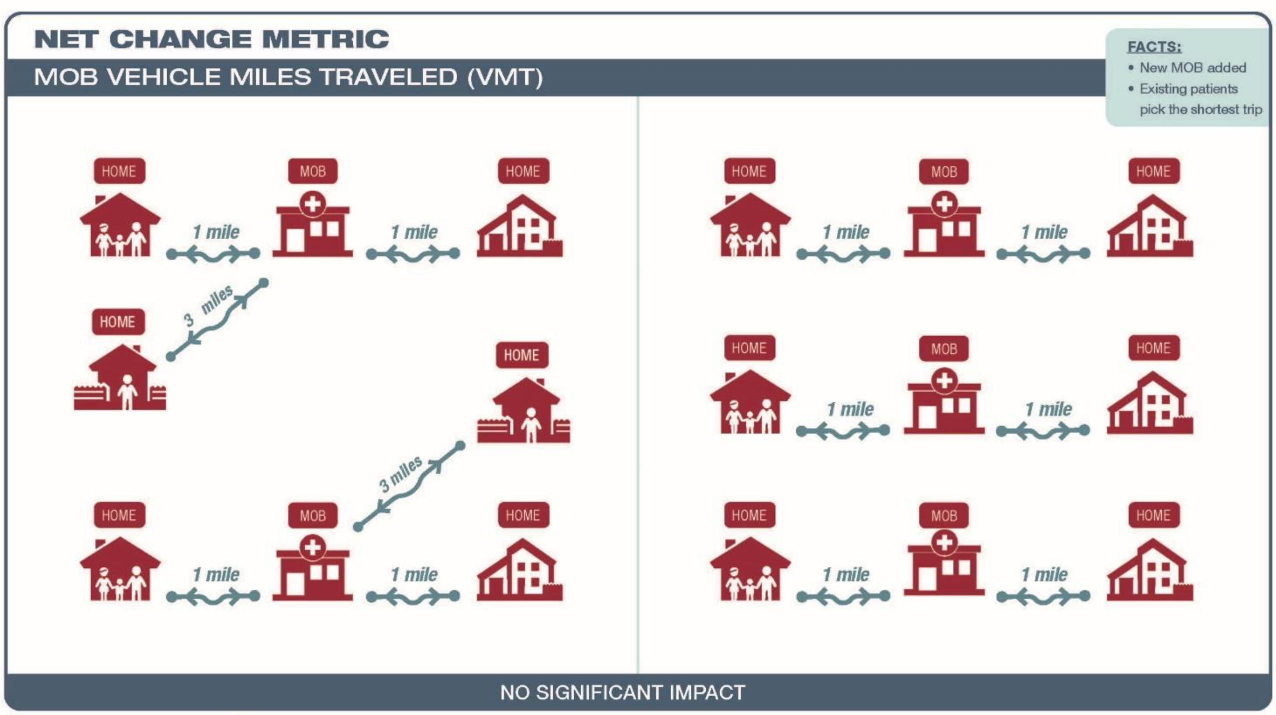
[6] Board of Supervisors of the County of Santa Cruz, Resolution No. 146-2020, adopted June 16, 2020 providing that a project will have a significant transportation impact unless it generates VMT meeting the following thresholds: (i) Residential Projects: 15 percent below Countywide per capita average VMT; (ii) Office and Service Projects: 15 percent below the Countywide per employee average VMT; (iii) Retail Projects: no net increase in the Countywide average VMT; (v) All Other Land Uses: no net increase in VMT. The Project is not a Residential or Retail Project and should not be classified as an "Office and Service Project" either for purposes of analyzing VMT given that an "Office

other land uses," which provides for a threshold of significance of "no net increase in VMT". Accordingly, the Project will not have a significant transportation impact under CEQA if it results in no net increase in VMT.

The basic concept behind this analysis approach is that MOB's are similar to local retail uses in that they primarily serve pre-existing needs (i.e., they do not generate new trips, instead they meet a demand that would exist with or without the Project). Based on this, it can be presumed that the introduction of a new MOB will result in existing trips being redistributed, potentially resulting in shorter trip lengths when the MOB opens for service and is geographically located in-between existing healthcare facilities. Given that the relative number of trips is constant, shorter trip lengths result in a VMT reduction. Essentially, a typical doctor visit is assumed to occur regardless of the proximity of the facility, but the proximity of the facility will determine the length of that trip and the resultant impact to the overall transportation system. Subsequently, this characteristic is used in this analysis to calculate the potential net increases or decrease in the overall VMT when the Project is constructed.

Figure ES-F1, below, demonstrates the concept described in this section visually and the measure of a "Net Change" in VMT as the metric by which the Project's potential transportation impact is determined.

Figure ES-F1 – Typical Effect of a MOB on VMT



and Service Project" is typically analyzed with respect to employee travel patterns, whereas travel associated with a MOB is dominated by patient, rather than employee trips.

As shown in the above graphic, the introduction of a new MOB often has the effect of redistributing existing patient trips in a manner that reduces average trip lengths, thereby resulting in a VMT reduction (i.e. trip segments that were 3 miles prior to the new MOB are reduced to 1 mile with the addition of the new MOB).

Scenarios

This TIOA provides two separate and independent analyses of the Project under the threshold of "no net increase in VMT."

The first analysis, identified as "Scenario A," considers the effect of the Project on the Proposed Tenant's Members. This scenario represents the Proposed Tenant's goal of providing nearly all medical services required by its Santa Cruz County Members in the geographical boundaries of the County itself. This will benefit the Proposed Tenant's Members residing in the County by providing improved access to necessary medical services, thereby reducing the percentage of trips that travel to the San Jose area for specialized services. Members that travel outside of the County necessarily add substantial VMT to the existing system. These trips will be reduced with the construction of the Project. Based on the forecasted data provided by the Proposed Tenant, it is estimated that the number of Member trips accessing services outside of the County will be significantly reduced when the Project becomes operational (from 29% without the Project to 2.4% with the Project, as shown below).

The second analysis, identified as "Scenario B," provides a more conservative VMT analysis by also considering the potential for Healthcare Consumers from Other Healthcare Systems to become Transferee Members who also receive healthcare services at the Project (in addition to the Proposed Tenant's Existing Members and Population Growth Members).

The two scenarios are described in more detail below.

Scenario A

Under Scenario A, the following is considered:

A1: **Existing No Project:** VMT is evaluated under existing conditions (i.e., baseline). Specifically, VMT for Existing Members is determined based on current patterns, where most Members receive care at one of the Proposed Tenant's facilities in the County, but where almost 29-percent of Existing Member trips travel out of the County predominantly to receive specialized services. There are no new employees (because there is no Project) so employee VMT is based on the Proposed Tenant's existing facility locations in and outside of the County.

A2: **Existing Plus Project:** VMT is evaluated under exiting conditions, but with the addition of the Project. VMT for Members is determined based on the assumption that most Members receive care at the Project or one of the Proposed Tenant's existing facilities in the County. In this scenario, only about 2.4-percent of Members needing specific and highly specialized services that will not be provided at the Project continue to travel out of the County and the remaining Members currently traveling out of the County are redirected to the Project instead. VMT associated with Project employees is also included. For purposes of this analysis, it is assumed that the Project is fully occupied and operational.

A3: No Project 2040: 2040 VMT is evaluated based on a Healthcare Consumer distribution that represents forecasted 2040 household locations, which thereby impacts trip lengths (i.e., more density means shorter trip lengths because a higher concentration of people live near services). Members receive care at one of the Proposed Tenant's facilities in the County, but almost 29-percent of Member trips travel out of the County to receive specialized services. There are no new employees (because there is no Project) so employee VMT is based on existing facility locations.

A4: Plus Project 2040: 2040 VMT is evaluated based on a Healthcare Consumer distribution that represents forecasted 2040 household locations and assumes the addition of the Project. VMT for Members is determined based on the assumption that care is received at the Project or one of the Proposed Tenant's existing facilities in the County. In this scenario, most Members receive specialized services at the Project and about 2.4-percent of Members continue to travel out of the County for specific and highly specialized services that will not be provided at the Project. VMT associated with Project employees is also included.

Scenario A Methodology

Santa Cruz County Travel Demand Model ("SCC TDM") data and related modeling techniques were used as the principle tool to determine VMT. Travel demand models are broadly considered to be the most accurate of available tools to assess VMT. Based on data provided by the Proposed Tenant about the facilities its Members in the County currently utilize, as well as limitations of the SCC TDM (i.e., it does not include areas outside of the County), a hybrid approach that relied on both the SCC TDM and other spatial analysis techniques was developed to meet the County's VMT analysis requirements. This approach accounted for the unique trip distribution and trip generation characteristics of the Project, as well as for the portion of VMT that would occur outside of the area covered by the SCC TDM.

Assumptions and Facts - Scenario A

The following assumptions and facts are applicable to the analysis for Scenario A:

1. The trip distribution (i.e., trip length), used for the calculation of VMT and trip generation was developed based on the assumption that all patients travel to the closest facility that provides the medical services they require. Although some individuals may select a less optimal choice based on personal preference, the probability of this would likely be no different under any Scenario A condition (or Scenario B condition). Given this and the fact that there is not a sufficient basis or data to undertake such analysis, the TIOA reflects the assumption that the most optimal medical facility location, based on distance, is always selected by a Healthcare Consumer. It is further assumed that existing facilities of both the Proposed Tenant and Other Healthcare Systems can accommodate the demand for medical services based on this approach to trip distribution.

2. In order to account for the effect of the Project on Healthcare Consumers, VMT from a variety of sources are considered, including for Members and employees of existing healthcare facilities operated by the Proposed Tenant inside and outside of the County.
3. The facilities selected for this analysis are based on market data[7] (as further described in Assumption #8) developed that tracked the number of visits by service required at facilities operated by the Proposed Tenant. This includes six facilities located outside of the County and six facilities, including the Project, located within the County.
4. Based on information provided by the Proposed Tenant, approximately 29-percent of current Member trips are estimated to be served by facilities located outside of the County currently, mostly seeking services that the Proposed Tenant currently does not provide within the County. Based on information provided by the Proposed Tenant, when the Project becomes operational, it is assumed that trips to facilities outside of the County will be reduced to about 2.4-percent of the total Member trips. These trips would be for highly specialized services that are not expected to be available at the Project, such as pediatric neurology or spine surgery. With the Project, it is assumed that other specialized services required by Members will be provided by the Project.
5. Based on data provided by the Proposed Tenant, it is understood that on average, the Project will employ 300 individuals per day. For the purposes of this VMT analysis, only employee commute trips were accounted for as a part of the VMT analysis. This equates to 600 total Project trips (i.e., 2 times 300 one-way trips), as all employee trips were conservatively assumed to be single occupancy trips for purposes of this analysis.
6. Employee trip generation is based on the proportion of employees (300 total) that matches the allocation of Healthcare Consumers to each healthcare facility, regardless of system. The origin of employees is based on the existing Longitudinal Employer-Household Dynamics (LEHD) data.
7. Other trips, such as deliveries, were assumed to be minor in number and are adequately represented in terms of VMT by Healthcare Consumer and/or employee trips included the analysis (the full trip generation, as used for this analysis, accounts for all Project trips). It is assumed that other elements of the analysis are a reasonable proxy for minor differences in any trip lengths.
8. This TIOA VMT analysis separates Member trips among 28 different services based on market data provided by the Applicant.

[7] Market data refers to data provided by the Proposed Tenant as to what services are provided in specific facilities operated by the Proposed Tenant.

9. The Proposed Tenant's membership forecasts for its Santa Cruz County MOBs for 2020 through 2040 were used as the basis for determining what percentage of trips were distributed amongst Members. This data is provided in **Appendix S**.

Scenario A Analysis

As described above, Scenario A evaluates the effect of the Project on the Proposed Tenant's Members. To determine the impact of the addition of the Project on the total VMT for the Proposed Tenant's Members, the distance traveled by each Member to the facility that provides the service required was determined for both Existing and 2040 Conditions. This distance was then multiplied by the number of trips the Proposed Tenant's Members and employees in Santa Cruz County take in an average day to each of the Proposed Tenant's facilities. This was completed both for Project an No Project conditions.

The number of trips analyzed under Scenario A represents both the estimated current trip generation of existing facilities and the full utilization of the Project facility as determined based on the daily trip generation rate for Clinics (same rate as used in the TIOA) included in the *Trip Generation Manual, 10th Edition* published by the Institute of Transportation Engineers (ITE). Based on information provided by the Proposed Tenant it is understood that for the No Project scenario, nearly 29-percent of Member trips include facilities outside of the County, while only 2.4-percent of member trips include facilities outside of the County in the Plus Project scenario. Once the number of daily trips was determined for all facilities, the trips were distributed to the Member and corresponding employee locations throughout the County based on an optimized solution which considers both the availability of a service for a given facility as well as the proximity of that facility to a Member. Member locations are based on the Existing and 2040 population locations provided by the Santa Cruz County Travel Demand Model (SCC TDM), while the employee locations are based on Census employment data. The resultant trips were then multiplied by the distance of the shortest travel time to each facility to determine VMT in the aggregate for each scenario. A more detailed explanation of this methodology is provided in **Appendix Z**.

Scenario A Results

The VMT results for Healthcare Consumers under Scenario A are summarized below in **Table ES-T2**. For both Scenario A.2 (Existing Plus Project) and Scenario A.4 (2040 Plus Project conditions), the Project results in a net reduction of more than 44,000 VMT per day. The table includes VMT for both Member and employee trips. The results reflect that with the addition of the Project, there is a reduction in VMT, primarily due to the reduction in trips to facilities outside of the County as compared to the No Project scenarios.

Table ES-T2 – Total Vehicle Miles Traveled by Scenario

Analysis A		Patient Vehicle Miles Traveled (VMT)	Employee Vehicle Miles Traveled (VMT)	Combined Total
Existing	A1: Existing No Project	97,275	24,567	121,843
	A2: Existing Plus Project	53,300	24,126	77,426
	Net Reduction in VMT	***-43,975***	***-441***	***-44,416***
2040	A3: 2040 No Project	96,601	24,567	121,168
	A4: 2040 Plus Project	51,736	24,126	75,862
	Net Reduction in VMT	***-44,864***	***-441***	***-45,306***

SCENARIO B ANALYSIS

As noted above, Scenario B considers a conservative approach to defining the No Project condition. Scenario B is predicated on a set of circumstances where a significant catalyst for growth results from patients of Other Healthcare Systems transferring to the Proposed Tenant's system as new Members once the Project is constructed (i.e., Transferee Members) to receive healthcare services at the Project. Accordingly, in the No Project condition for Scenario B (B1), VMT associated with these Transferee Members is allocated to Other Healthcare Systems in the Project condition for Scenario B (B2), VMT associated with these Transferee Members is allocated to the Project instead because they have become Healthcare Consumers that receive healthcare services at the Project.[8] Given that a variety of considerations influence the growth of medical networks, including employer/employee selection, cost, and personal preferences, the transfer of patients from Other Healthcare Systems to become Transferee Members of the Proposed Tenant contemplated in this Scenario B represents the most conservative analysis.

B1: Cumulative No Project: 2040 VMT is evaluated based on a Healthcare Consumer distribution that represents forecasted 2040 household locations. In this scenario, Member trips are adjusted to account for Existing Members and Population Growth Members (i.e., new Members projected based on projected population growth). Most Existing Members and Population Growth Members receive care at one of the Proposed Tenant's facilities in the County, but almost 29-percent of Existing Member and Population Growth Member trips travel out of the County to receive medical services, since those specialized services are not offered at existing facilities in the County There are no new employees (because there is no Project) so employee VMT is based on existing facility locations. Under this Scenario B1, Transferee Members remain with the Other Healthcare System in which they are assumed to belong and their VMT contribution is estimated based on their use of that system.

B2: Cumulative Plus Project: Under this condition, Transferee Members have transferred to the Proposed Tenant's membership base and are reflected in the Project's VMT, rather than in VMT attributable to the Other Healthcare Providers. VMT for Existing

[8] The Scenario A Existing No Project and No Project 2040, in contrast, assume that all Members in the No Project condition receive healthcare at one of the Proposed Tenant's existing facilities.

Members and Population Growth Members is determined based on the assumption that care is received at the Project or at one of the Proposed Tenant's facilities in the County. In this scenario, most Members receive specialized services at the Project and very few continue to travel out of the County for specific and highly specialized services that will not be provided at the Project. VMT associated with employees is also included.

Methodology for Scenario B

The methodology described above for estimating VMT for Scenario A, including with respect to Project trip generation, also applies to the Scenario B analysis. Like Scenario A, the Scenario B analysis is also based on the accommodation of 6,106 Project trips (representing the same number of Members and employees). As such, the Scenario B analysis only considers the circumstances of Transferee Members and Population Growth Members that are forecasted to join the Proposed Tenant's network, as well as Members currently within the Proposed Tenant's network residing within the County. This basis maintains an "apples-to-apples" comparison basis for the two scenarios as required by SB 743.[9]

As discussed further in Chapter 2, this TIOA VMT analysis utilizes a trip generation rate based on the ITE Trip Generation Manual that overstates the VMT of the Project by 37-percent, as compared to traffic counts collected from area MOBs. This overly conservative ITE rate likely results in a substantial decrease (37-percent) for Transferee Members' VMT under Scenario B.2's (Cumulative Plus Project) condition as compared to Scenario B.1 Cumulative No Project condition. For purposes of providing the most conservative analysis possible as part of this TIOA, however, this likely trip reduction is not considered in this report's VMT analysis, which instead is based on ITE trip generation rates.

Assumptions and Facts - Scenario B

The assumptions and facts that are specific to Scenario B are provided below:

1. All of the Assumptions and Facts applicable to Scenario A also apply to Scenario B and are incorporated herein by reference, except Assumptions Number 2 (VMT sources) and 9 (membership forecasts) provided in Scenario A are modified as provided below.
2. In order to account for the effect of the Project on Healthcare Consumers, VMT from a variety sources are considered, including those for Existing Members, Population Growth Members, Transferee Members and healthcare facilities in the County. This is a modification for Scenario A, Assumption No. 2 in that it evaluates VMT impacts associated with Other Healthcare Systems based on market data

[9] *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018), California Governor's Office of Planning and Research, Page 16

provided by Pivotal Analytics[10] for Cumulative No Project and Cumulative plus Project conditions.

3. The Proposed Tenant's Membership forecasts for its in-County MOBs for 2020 through 2040 was used as the basis for determining what percentage of trips were distributed across each of the three sources of Members (i.e., Existing Members, Population Growth Members or Transferee Members). These data are provided in **Appendix T**. This is a modification for Scenario A, Assumption No. 9 modified for Scenario B in order to provide for the consideration of Existing Members, Population Growth Members and Transferee Members.
4. The Proposed Tenant's Member growth under Scenario B.2 cumulative conditions (Population Growth Members) is based on the population growth percentage between 2019 and 2040, as provided for in the SCC TDM. **Appendix S** contains a detailed breakdown of these values.
5. Transferee Members that are Healthcare Consumers of Other Healthcare Systems under the Cumulative No Project condition have 33 facilities to choose from, 18 for 15 for Dignity Health ("Healthcare System A") and Sutter Health ("Healthcare System B").

Scenario B Analysis

Generally, Scenario B follows the same analytical techniques outlined under the Scenario A analysis above. The primary differences between the two scenario analyses is the analysis of the prior trip patterns of Transferee Members under the Cumulative No Project condition (when they are participants in Other Healthcare Systems) versus their trip patterns under the Cumulative Plus Project condition (after they become Members that receive health care at the Project).

The number of Existing Members in 2020 and the Proposed Tenant's projected membership in 2040 for Santa Cruz County, as provided by the Proposed Tenant, was used as the basis for distributing Members across each of the three member sources: Existing Members, Population Growth Members, and Transferee Members. As shown in **Appendix** S, the 2020 Membership is estimated to be 35,071, while the 2040 Membership is projected to be 87,729, for a 20-year growth of 52,658 Members. The SCC TDM was used as the basis to determine the population growth over the same period. It was determined that the population would grow by approximately 12.5 percent. As with Scenario A, the SCC TDM population distribution is the basis for the determination of Healthcare Consumer origins.

To determine Population Growth Members, the 2020 membership was multiplied by the population growth percentage for the County, resulting in a Membership growth of 4,394. The remaining growth of 48,264 is assumed to be the result of Transferee Members. As a result, the Cumulative Plus Project conditions assume that Membership is made up of 40-percent Existing Members, 5-percent Population Growth Members, and 55-percent Transferee Members, as

[10] Market data for Other Healthcare Systems is based on insurance claims data provided by Pivotal Analytics regarding patient demand by service type and the types of services offered by Other Healthcare Systems.

shown in **Appendix T**. Under the Scenario B.1 Cumulative No Project conditions, the 55-percent of Transferee Member are analyzed as participants in Other Healthcare Systems.

As with Scenario A, the Applicant-provided market data were the basis of identifying the distribution of Member visits by service type and by facility for Scenario B1 and Scenario B2. Similarly, the data shows that almost 29-percent of Existing Members and Population Growth Members would travel outside the County for specialized services under the Scenario B.1 Cumulative No Project Condition and almost 2.4-percent of total Member trips would continue to travel outside the County under the Scenario B.2 Cumulative Plus Project condition for the purposes of obtaining highly specialized services that are not expected to be provided by the Project.

VMT for the Scenario B.1 Cumulative No Project and the Scenario B.2 Cumulative Plus Project condition was calculated in the same manner as Scenario A (see **Appendix Z** for more details). The primary difference being that the Cumulative No Project condition considers the VMT of Transferee Members as it relates to Other Healthcare Systems. Employees were also handled consistently with Scenario A.

Scenario B Results

The VMT results for Healthcare Consumers under Scenario B are summarized in **Table ES-T3.** For Scenario B.2 (Cumulative Plus Project) conditions, the Project results in a net reduction of more than 20,000 VMT per day. The table includes the effect of Transferee Members leaving Other Healthcare Providers to become new Proposed Tenant Members receiving care at the Project instead. VMT was calculated for both Member trips and employee trips. The results reflect that with the addition of the Project in the Scenario B.2 (Cumulative Plus Project) condition, there is a reduction in VMT primarily due to trips outside the County being significantly reduced as compared to the B.1 (Cumulative No Project scenario).

Table ES-T3 – Total Vehicle Miles Traveled

Analysis B	Combined Total
Patient Vehicle Miles Traveled (VMT)	
B1: Cumulative No Project	**70,906**
B2: Cumulative Plus Project	**51,736**
Net Reduction in VMT	**-19,169**
Employee Vehicle Miles Traveled (VMT)	
B1: Cumulative No Project	**25,279**
B2: Cumulative Plus Project	**24,126**
Net Reduction in VMT	**-1,152**
Patient + Employee Vehicle Miles Traveled (VMT)	
B1: Cumulative No Project	**96,184**
B2: Cumulative Plus Project	**75,862**
Net Reduction in VMT	**-20,322**

With the addition of the Project, the Healthcare Consumers allocated to Healthcare System A and Healthcare System B become Transferee Members and their trips are diverted from the Other Healthcare Systems to the Project. VMT associated with Healthcare Consumers that currently are, and that after construction of the Project will continue to be patients of the Healthcare System A or Healthcare System B are not reflected in this Table.

Conclusion

Conclusion: As shown in **Table ES-T4** below, under all conditions for the Scenario A and Scenario B analyses, the Project results in a net VMT reduction. In Scenario A, which focuses on VMT associated with Members who receive services at the Proposed Tenant's existing facilities should the Project not be constructed, the Project results in reduction of 44,416 VMT in the Scenario A.2 (Existing Plus Project) condition and a reduction of 35,306 VMT in the Scenario A.4 (2040 Plus Project) condition as shown in **Table ES-T2**. In Scenario B, which provides a more conservative analysis that considers the VMT associated with Existing, Population Growth and Transferee Members, the Project results in a reduction of 20,322 VMT in the Scenario B.2 (Cumulative Plus Project) condition as shown in **Table ES-T3**. In both Scenario A and Scenario B, this ultimate reduction in VMT with the Project is primarily due to the reduction in the number of trips outside the County for specialized services since the majority of those services will be provided by the Project.

Table ES-T4 – Total Vehicle Miles Traveled

Analysis Scenario	Combined Total
Patient + Employee Vehicle Miles Traveled (VMT)	
A1: Existing No Project	**121,843**
A2: Existing Plus Project	**77,426**
Net Reduction in VMT	**-44,416**
A3: 2040 No Project	**121,168**
A4: 2040 Plus Project	**75,862**
Net Reduction in VMT	**-45,306**
B1: Cumulative No Project	**96,184**
B2: Cumulative Plus Project	**75,862**
Net Reduction in VMT	**-20,322**

Based on the results of this TIOA analysis, the Project would not result in a net increase in VMT and, accordingly, would not have a significant transportation impact under CEQA.

Transportation Demand Management (Non-CEQA Analysis)

Transportation Demand Management ("TDM") measures are programs that can be implemented to reduce single occupancy vehicle ("SOV") travel to and from homes or places of work by offering travelers mode choice options. TDM options are intended to reduce roadway congestion and provide more choices for how to travel, both of which will assist in promoting business, providing access to opportunity, and improving the quality of life across the state. The County recognizes the value of TDM measures in its General Plan[11] and Trip Reduction Ordinance.[12]

The Project has no significant transportation impacts under CEQA (as assessed by VMT), and therefore is not legally required to provide or incorporate TDM measures to mitigate such impacts. Nonetheless, the Project will voluntarily implement TDM measures to reduce reliance on SOVs and to assist in achieving state and local GHG reduction commitments, preserving the environment, improving health and safety, and reducing congestion on local streets and highways. The trip generation assumptions used in this TIOA to analyze the Project's impacts on County roadways were not discounted to account for the implementation of TDM.

The Project proposes a targeted TDM strategy focusing on separate measures for employees and Members, as summarized below.

Employee-Focused TDM Measures

The Project proposes to provide the following TDM benefits to **employees**:

- Bike Share Program
- Commute Management Platform and Rideshare Support
- Emergency Ride Home Program
- TDM Coordinator
- Safe, Well-Lit, and Accessible Pedestrian/Bicycle Facilities along Soquel Avenue

Based on the information identified in **Table** , it is anticipated that the TDM measures would reduce employee trip generation by approximately 15.5 percent.

Member-Focused TDM Measures

The Project will also provide the following TDM measures intended to benefit **Members**:

- Virtual Care Strategy
- Safe, Well-Lit, and Accessible Pedestrian/Bicycle Facilities along Soquel Avenue

Based on information identified in **Table ES-T5**, it is anticipated that these TDM measures would reduce Member trip generation by approximately 20.5 percent.

It should be noted that since the Project proposes to implement and fund the TDM improvements described above, it is anticipated that trip generation estimates provided in this TIOA and used in the operational LOS analyses are very conservative because it does not incorporate the anticipated TDM measures in the overall analysis. In fact, with implementation of the TDM measures, it is anticipated that the Project will generate fewer trips than as analyzed in this TIOA, roughly on the order of 1,165 daily trips. This estimate is based on 300 employees working at the Project making trips during the AM and PM peak hours. The remainder of the daily 6,106 trips are made by Members and project support services (i.e., deliveries, pickups and drop-offs) of which

[11] See Policy 3.12.4.

[12] See Santa Cruz County Code, § 5.52.010 *et seq.*

5% of the project support service trips are excluded from the TDM trip calculations shown below in **Table ES-T5**.

Table ES-T5 – TDM Trip Calculations

TDM Trip Calculations	Daily trips	AM trips	PM trips	% TDM	Daily trips	AM trips	PM trips
					TDM Trips		
Project Trip Generation	*6106*	*590*	*525*				
Employee Trips	600	300	300	15.50%	93	47	47
Member and Project Support Service Trips	5506	290	225				
Project Support Service Trip Reduction (5%)	-275	-15	-11				
Net Member Trips	5231	275	214	20.50%	1072	56	44
Total TDM Trips					**1165**	**103**	**91**

Moreover, trip generation rates used in this TIOA are based on ITE assumptions as discussed with County staff. As further described in **CHAPTER 2. VEHICLE MILES TRAVELED** on Page 8 of this report, traffic data was collected at comparable facilities at the County's request (**Appendix Q**).

The traffic counts collected indicate that ITE assumptions overstate actual trip generation by between 23 percent and 52 percent. Based on implementation of TDM and the potential overestimation of trips utilizing ITE assumptions, it is likely that operational deficiencies to the local transportation will be substantially less than what is published in this TIOA.

Table ES-T6 – TDM Measure Summary

TDM Measure	Description	TDM Type	Estimated Trip Reduction (%)	Trip Reduction Source
Employees Only				
Bike Share Program	Bicycle share programs provide convenient rental bicycles to users. This allows urban residents and visitors to bicycle without needing to purchase, store and maintain a bike.	Incentive	4%	Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association, August 2010.
Commute Management Platform (Ride Amigos or similar service) and Rideshare Support	Increases vehicle occupancy by providing ride-share matching services, designating preferred parking for ride-share participants, designing adequate passenger loading/unloading and waiting areas for ride-share vehicles, and providing a website or message board to connect riders and coordinate rides.	Incentive	2.5%	This service is already available to employees in the County and would only be a continuation/extension to employees at the Project.
Emergency Ride Home Program (ERH)	Provides an occasional subsidized ride to commuters who use alternative modes and eliminates a common constraint to the use of alternative modes. Guaranteed ride home for people if they need to go home in the middle of the day due to an emergency or stay late and need a ride at a time when transit service is not available. ERH programs may use taxies, company vehicles or rental cars.	Incentive	3%	Guaranteed Ride Home Programs: A Study of Program Characteristics, Utilization, and Cost by William B. Menczer (Federal Transit Administration); Guaranteed Ride Home Program Evaluation 2013 by Alameda CTC.
On-site TDM Program Coordinator and TDM marketing materials	A TDM coordinator to monitor overall program progress, marketing and public outreach to promote awareness of TDM program.	Infrastructure	4%	Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association, August 2010.
Safe, well-lit, and accessible pedestrian/bicycle facilities	Enhance the route for employees walking or bicycling to transit (typically off-site). Implements pedestrian network improvements throughout and around the Project site that encourages people to walk.	Infrastructure	2%	Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association, August 2010.
Estimated Total Trip Reduction for Employees Only			**15.5%**	
Members Only				
Virtual Care Strategy	Resources to allow Members to access healthcare services or communicate with healthcare staff through online or off-site programs.	Infrastructure	20%	Based on the Proposed Tenant's ongoing program results. See Appendix W.
Safe, well-lit, and accessible pedestrian/bicycle facilities	Enhance the route for Members walking or bicycling to transit (typically off-site). Implements pedestrian network improvements throughout and around the Project site that encourages people to walk.	Infrastructure	0.5%	Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association, August 2010.
Estimated Total Trip Reduction for Members Only			**20.5%**	

Notes:
1. An Incentive is a measure that would entice a candidate employee or patient to make a mode shift choice and reduce their SOV trips.
2. Infrastructure type is a physical feature that makes it more enticing for an employee or patient to make a mode choice from SOV to an alternative mode.
*3. TDM reduction percentages are consistent with the County's most recent VMT reduction strategies. The County TDM Policy is Attached in **Appendix Z**.*

Pedestrian, Bicycle and Transit Mobility (Non-CEQA Analysis)

Pedestrian Mobility

No sidewalk currently exists along the Project site frontage along Soquel Avenue. The Project will construct ADA-compliant sidewalks and ramps along its frontage on the south side of Soquel Avenue, which will extend west and east beyond its frontage and connect to existing sidewalk facilities along Soquel Avenue. These improvements will fill a critical gap in the County's pedestrian facility network and will improve pedestrian connectivity along Soquel Avenue. Additionally, internal pedestrian connections will link the Project's entrance with the parking areas, as well as the Soquel Avenue frontage. Lighting will be installed to enhance the safety and usability of new pedestrian paths of travel. Therefore, with construction of the Project and sidewalk improvements, employees and Members choosing to walk to the site would not be adversely affected based on pedestrian mobility, accessibility, or safety.

These improvements will further pedestrian travel policies set forth in the General Plan, including those that: require adequate lighting for pedestrian movement; require dedication and construction of walkways for through pedestrian traffic and internal pedestrian circulation in new development; provide for pedestrian movement in the design of parking areas; and incorporate ADA standards in the design of new projects. (General Plan, Policies 3.10.1-3.10.10.)

Bicycle Mobility

The Project will provide approximately 4,200 feet of Class 2 bike lane along Soquel Avenue from Paul Minnie Avenue to just east of Mattison Lane, as illustrated in concept drawings included in **Appendix I**. These proposed improvements would improve safety and fill critical gaps in the County's bicycle network, as well as provide bicycle access to the Project site via Soquel Avenue. Striping for the bike lane will be colored green, which is expected to reduce collisions by 19 percent, according to a study on Safety Performance Functions for Bicycle Crashes in New Zealand and Australia (2011), further described in the **Bicycle Mobility** section of this TIOA on page 36. This results in a reduction of approximately two bike collisions out of every 10 bike collisions. Restriping the improved Class 2 bike lanes is a safety improvement per NCHRP.

These bicycle mobility improvements further General Plan policies addressing the bikeway system and bikeway safety by furthering the bikeway network's integration with other modes of transportation, including transit stations and other activity centers, and designing and constructing bikeways in accordance with County, Caltrans and state standards. (General Plan, Policies 3.8.1-3.8.4, 3.9.1-3.9.3.)

The Project will support bike share initiatives within the County once a bike rental service is implemented.

Transit Mobility

METRO currently does not have plans or funding to construct a bus stop and run a transit route along Soquel Avenue near the Project site. A ¼-mile walk (around 5 minutes) to a bus stop is typically considered the maximum acceptable distance for average transit riders, as documented in the USDOT Federal Highway Administration's "Course on Bicycle and Pedestrian

Transportation" Coursebook[13]. The closest bus stops are approximately 1 mile walking distance, which is approximately a 20 minute walk or a 7 minute bike ride according to Google Maps. These bus stops are located at the intersections of 7th Avenue/Soquel Drive, 7th Avenue/Capitola Road, and at the Transit Center at the Capitola Mall. METRO buses are equipped with bike racks.

Transit service directly to the Project site will be available for disabled persons via the METRO operated ParaCruz service according to personal communication with METRO ParaCruz on 8/11/2020. Santa Cruz METRO ParaCruz is a shared-ride service, providing door-to-door public transportation for people who have a temporary or permanent physical, cognitive, or psychiatric disability that prevents them from making some or all of their trips on METRO's fixed route bus system. Lift Line, a program operated by Community Bridges, also provides free door-to-door rides to qualifying seniors and people with disabilities needing transportation to medical appointments throughout the County, and this service is expected to be available to qualified Members utilizing the Project.

Summary of Findings

The Project's on-site and off-site improvements will improve pedestrian and bicycle mobility, and the roadway improvements that will be constructed as part of the Project will improve transit mobility. Therefore, the Project will not adversely affect local pedestrian, bicycle, and/or transit facilities and will implement several General Plan goals relative to pedestrian and bicycle mobility.

Parking Supply and Demand Evaluation (Non-CEQA Analysis)

The Project will construct a five-level parking garage, which will include a total of 730 vehicle parking stalls (including 619 standard spaces, 67 ADA spaces and 47 clean air vehicle spaces (including three ADA spaces). 38 motorcycle spaces will be provided in the parking garage as well**.** A total of 160 bike spaces will also be provided, consisting of 36 bike locker spaces and 124 bike rack spaces. In addition, the Project will also provide 6 surface vehicle parking spaces adjacent to the parking garage. The Project is providing a total of 736 parking spaces (garage + surface), which is 24 spaces more than the minimum Code required parking. **Table ES-T7** summarizes the Project's proposed parking supply.

Table ES-T7 – Parking Spaces Provided by the Project

Land Use Description	Type	Rate	No. of Units	Spaces Provided by the Project
Medical Office	Vehicle Parking	1 space per 217.4 square feet of gross floor area	160,000 square feet	736
	Bike Parking	1 space per 1,000 square feet of gross floor area		160

[13] See https://safety.fhwa.dot.gov/ped_bike/univcourse/pdf/swless124.pdf.

Section 13.10.552 of the County's Code requires one vehicle parking space per 225 square feet of gross floor area. The Code also requires one bike parking space per 1,000 square feet of gross floor area.

The Project will construct approximately 160,000 square feet of medical office uses. Therefore, based on **Table ES-T8**, the County Code requires the Project to provide at least 712 vehicle parking spaces, and 160 bike parking spaces.

Table ES-T8 – County MOB Parking Requirements				
Land Use Description	**Type**	**Rate**	**No. of Units**	**Spaces Required**
Medical Office	Vehicle Parking	1 space per 225 square feet of gross floor area	160,000 square feet	712
	Bike Parking	1 space per 1,000 square feet of gross floor area		160

In addition to the above general parking requirements, the County's Code requires that for a project proposing between 501 and 1,000 parking spaces, two percent of the total spaces be ADA accessible. However, because the Project is a medical office, the County Planning department is requiring the Project to provide the following ADA parking requirements based on the Applicant's Development Review Group meeting conducted on November 8, 2018 (**Table ES-T9** below):

- Approximately 3% of the parking spaces that serve the Project's employees shall be ADA accessible per California Building Code 11B-208
- Approximately 11% of the parking spaces that serve the Project's Members and visitors shall be ADA accessible per California Building Code 11B-208.2.1

Table ES-T9 – County Required ADA Accessible Parking					
Project Functional Program Summary	**Building Area (Square Feet)**	**% of building**	**Total New Parking Spaces**	**California Building Code ADA Space Requirement (Project ADA Space Requirement)**	**Accessible Parking Requirement**
TOTAL Employees	48,405	30%	223	11B-208 (3%)	7
TOTAL Members/Visitors	111,595	70%	513	11B-208.2.1 (11%)	56
Project TOTAL	160,000	100%	736		63

As shown in **Table ES-T10** below, the Project is providing four more ADA parking spaces than required by the County Planning Department to accommodate for future flexibility in Potential Tenant's programming requirements.

Table ES-T10 – Project ADA Accessible Parking	
Project ADA Parking Space Summary	
County Required ADA Accessible Spaces	63
Project Proposed ADA Accessible Spaces	67
Additional ADA Accessible Spaces Above County Requirement	+4

Local Mobility Analysis (Non-CEQA Analysis)

The County'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 more accurately update and apply the County's impact fee program. 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 at the request of the County for informational purposes only and not for purposes of evaluating the Project's transportation impacts under CEQA.

Level of Service

LOS is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. LOS analyses model whether deficient operations along the local transportation network would occur as a result of a proposed project. Thus, a detailed operational (i.e., LOS and other traffic operational measures) analysis was conducted as part of this TIOA to determine whether an acceptable LOS would be maintained with the addition of the Project. Potential improvements were identified where deficient/unacceptable LOS would likely occur within the County due to the Project.

Although not required by the General Plan, for informational purposes only, this report considers LOS standards of the County and other agencies having jurisdiction over roadways and intersections located outside the County that will be impacted by the Project. Applicable LOS standards are set forth below.

(a) *Santa Cruz County*

Project-related deficiencies at study intersections occur:

- If the intersection operates at an acceptable LOS (i.e., LOS A, B, C, or D) without the Project during the weekday peak hour and degrades to an unacceptable LOS (i.e. LOS E or F) with the Project during the weekday peak hour; or
- If the intersection operates at an unacceptable LOS (i.e., LOS E or F) without the Project during the weekday peak hour, and the volume to capacity ("v/c") ratio of the sum of all critical movements at the intersection increases by 1 percent or more with the Project.

(b) *City of Santa Cruz*

An intersection maintained by City of Santa Cruz operates at an acceptable level of service if it maintains a LOS D or better at signalized intersections. (City of Santa Cruz 2030 General Plan, Chapter 5, Mobility Element, p.55, Goal M.3.1.3, M3.1.4.)

(c) *City of Capitola*

An intersection maintained by City of City of Capitola operates at an acceptable level of service if it maintains a LOS C, with the exception of the Village Area, Bay Avenue, and 41st Avenue (for which there is no LOS standard).

(d) *California Department of Transportation (Caltrans)*

Caltrans no longer requires a LOS analysis for CEQA purposes due to the enactment of SB 743. However, for informational purposes only, a LOS-based analysis of Caltrans facilities is provided using the previously applied LOS standards for Caltrans and the County:

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.

In addition, volume to capacity ratios ("v/c ratios") were also considered in this study's freeway analysis because the study freeway network is considerably oversaturated during the peak periods (with and without the Project) and roadway density measures of effectiveness do not provide accurate representations of congestion conditions for oversaturated facilities. The v/c ratios reflect the actual volume demand, which is higher than what is observed in one peak hour (the peak period occurs over several hours), versus the roadway capacity.

Study Intersections and Freeway Segments

The study intersections identified below in **Table ES-T11** were selected for LOS analysis based on Project trip generation, estimated trip distribution, and guidance from County staff. The Project trip distribution was developed based on current traffic patterns in the study area, the local travel demand model, and knowledge of the study area.

Table ES-T11 – Study Intersections

#	Intersection	#	Intersection
1	Soquel Ave & Capitola Rd[1]	14	41st Ave & Hwy 1 SB Ramps[2]
2	Soquel Ave & 7th Ave[4]	15	41st Ave & Gross Rd[2]
3	Soquel Dr / Soquel Ave & Soquel Ave[3]	16	41st Ave & Clares St[4]
4	Soquel Dr & Paul Sweet Rd / Hwy 1 On-Off Ramps[3]	17	41st Ave & Capitola Rd[4]
5	Soquel Ave & Hwy 1 SB On-Off Ramps[4]	18	41st Ave & Brommer St/Jade St[4]
6	Soquel Ave & 17th Ave[4]	19	Capitola Rd & 7th Avenue[4]
7	Soquel Ave & Chanticleer[4]	20	Capitola Rd & 17th Avenue[4]
8	Soquel Ave & Project Driveway[1]	21	Capitola Rd & Chanticleer Ave[4]
9	Soquel Ave / 40th Ave & Gross Rd[1]	22	Capitola Rd and 30th Ave[4]
10	40th Ave & Deanes Ln (NOT STUDIED)[5]	23	Brommer St & 17th Ave[1]
11	40th Ave & Clares St (NOT STUDIED[5]	24	Brommer St & 30th Ave[4]
12	41st Ave & Soquel Dr[2]	25	17th Ave & Portola Dr[4]
13	41st Ave & Hwy 1 NB Ramps[2]		

Notes:

1. *Count data collected on May 17, 2018*
2. *Count data collected on October 18, 2016*
3. *Count data collected on March 6, 2018*
4. *Count data collected October 3, 2018*
5. *Intersection #10 and #11 were not analyzed in this analysis because the Project is not expected to distribute traffic to these intersections since a barrier exists at 40th Avenue and Deans Lane and the Project does not propose to remove it (nor are any pending plans to remove the barrier). In all subsequent sections in this report, these two intersections are labelled as "Not Studied."*

The following freeway segments were analyzed using Highway Capacity Software ("HCS"), which is based on *Highway Capacity Manual 6th Edition (HCM 6), October 2016* methodologies, an industry standard:

1. Highway 1 – Morrissey Blvd to Soquel Dr
2. Highway 1 – Soquel Dr to 41st Ave
3. Highway 1 – 41st Ave to Porter St/Bay Ave
4. Highway 17 – Pasatiempo Overcrossing to Highway 1

Analytical Methods and Information

The LOS analysis uses methods defined in the *HCM 6* and *Synchro 10* traffic analysis software, the latter of which is consistent with HCM 6. HCM 6 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.

Project-related deficiencies are determined by comparing conditions without the Project to those with the Project. Project-related deficiencies at study intersections are created when traffic from the Project causes the LOS to fall below the LOS standard identified for the County in Chapter 6 of this report. LOS analyses for study intersections maintained by agencies other than the County are provided for information purposes only. The LOS analysis set forth herein evaluates the following scenarios: Existing Conditions, the Existing Plus Project, Near Term Conditions, Near Term Plus Project, Cumulative Conditions and Cumulative Plus Project.

LOS Results

Detailed operational effects associated with the forecasted Project traffic were evaluated for weekday AM and PM peak one-hour periods, which is consistent with accepted County guidelines and industry standards. Traffic data was collected during typical weekdays when local schools were in session and the weather was fair. Traffic data is collected over a peak period (two hours or more) and then the busiest one hour is analyzed. This is consistent with industry standard and HCM requirements. Given that County peak periods extend well over more than just one AM or PM peak hour, this analysis represents the busiest one hour during each peak period (i.e., the peak hour of the peak period conditions). In general, the PM peak period experiences higher delays in the County and around the Project site than the AM peak period.

The LOS findings were used to identify measures to improve vehicular delays, decrease travel times, and/or prevent cut-through traffic and measures/improvements that would provide operational benefits to the local roadway network. LOS deficiencies and potential identified improvements are summarized in **Table ES-T12** below.

Table ES-T12 – Project Deficiencies and Improvements

Int #	Location	Condition	Deficiency caused by the Addition of the Project Traffic	Improvement
#3	Soquel Drive / Soquel Avenue & Soquel Avenue	Cumulative and Cumulative Plus Project	The addition of the Project traffic worsens the LOS from C to D in the PM and cause a deficiency.	Caltrans plans to widen Highway 1/Soquel Drive interchange. One westbound left-turn lane, one westbound right-turn lane, and a new southbound Highway 1 off-ramp will be constructed at this intersection. A conceptual layout is shown in Appendix O. These improvements are currently not funded, are not included in the County Capital Improvement Project (CIP), and may be constructed after 2040. The Cumulative deficiency will remain until the improvement is constructed. The State Route 1 HOV Lane Widening Project Supplemental Report (May 2010) analyzed these improvements for the Santa Cruz Route 1 Tier I and Tier II FEIR and the results are included in Appendix P for reference. More detail on the EIR https://sccrtc.org/projects/streets-highways/hwy1corridor/environmental-documents. **The deficiency is anticipated to be eliminated with implementation of the Caltrans improvements.**
#7	Soquel Avenue / Chanticleer Avenue	Cumulative and Cumulative Plus Project Conditions	The addition of Project traffic worsens the side street LOS from Chanticleer Avenue from LOS D to LOS F in the PM.	The Project will restripe Soquel Avenue to include a continuous TWLTL from the Highway 1 SB Ramps past Chanticleer Avenue. The installation of this measure will provide sufficient space for waiting and or weaving for vehicles heading northbound on Soquel Avenue. In addition, the installation of the signal will also improve gaps in the traffic flow in the northbound direction. This is an improvement over the current very short 50-foot merge lane that is inadequate to accommodate these movements in the future. **The improvement will remove the deficiency caused by the Project.**
#9	Soquel Avenue / 40th Avenue & Gross Road	Existing and Existing Plus Project Conditions	The addition of Project traffic worsens the LOS from E to F in the PM. The critical v/c increases by more than 1% on all the critical approach movements.	Install a diagonal diverter extending from the northwest corner to the southeast corner at this intersection. Residents in the neighborhood would exit the neighborhood at Rodeo Gulch Drive onto Soquel Avenue. If this improvement is not installed, cut through traffic along Gross Road and the delay at the 41st Avenue intersection will continue and degrade further in the future until the freeway is improved. The diverter will prevent cut through traffic on Gross Road through the residential neighborhood and eliminate the congestion caused by the all-way stop at the intersection. Queues at this intersection are expected to shorten with these recommended improvements. This commute is slightly longer than the direct connection to 41st Avenue via Gross Road, but the benefits of removing cut through traffic through the neighborhood and the improvement of operations at the Gross Road/40th Avenue intersection, warrants the installation of this improvement. With this
		Near Term and Near Term Plus Project Conditions	The addition of Project traffic worsens the LOS from E to F in the PM. The critical v/c increases by more than 1% on all the critical approach movements.	

Table ES-T12 – Project Deficiencies and Improvements

Int #	Location	Condition	Deficiency caused by the Addition of the Project Traffic	Improvement
		Cumulative and Cumulative Plus Project Conditions	In the PM, the addition of Project traffic increases the average delay from 54.3 seconds per vehicle to 105.9 seconds per vehicle and the LOS remains at F. The critical v/c increases by more than 1% on all the approach critical movements.	improvement, traffic flow at this intersection would then be governed by the signal at Gross Road & 41st Avenue where additional improvements are recommended. **With the improvement, all movements would be uncontrolled; therefore, no delay would be attributed to this intersection (i.e., the only delay would be incurred at the 41st Avenue & Gross Road signalized intersection). This improvement would cause travel time from Soquel Dr and Rodeo Gulch Rd to SB Hwy 1 on-ramp to decrease by approximately 44% when comparing Existing (no Project) to Existing Plus Project conditions. In addition, the current cut-through traffic along Gross Road through the neighborhood would also be eliminated.**
#15	41st Avenue & Gross Road (City of Capitola jurisdiction and Caltrans control	Existing and Existing Plus Project Conditions	The LOS remains at D during the AM and PM with the addition of the Project. The average delay increases from 36.5 to 43.1 seconds per vehicle in the AM and from 46.8 to 51.7 seconds per vehicle in the PM. The critical v/c increases by more than 1% on all the critical approach movements.	The City of Capitola received a grant to install an adaptive signal system along 41st Avenue and this intersection is included in its implementation plan. In addition, the Project would install overhead signs and roadway markings to improve lane selection and use on the eastbound approach of Gross Road. The lane selection would be for southbound Highway 1 and northbound Highway 1 movements. See Appendix N for the conceptual layout for improvement details. A barrier would be installed between Gross Road and Highway 1 Southbound Ramps. The barrier would be installed between the eastbound through lane over the freeway and the eastbound right-turn lane onto the freeway southbound on-ramp. This barrier installation would require a Caltrans encroachment permit/approval. It can only be installed if approved by Caltrans. The adaptive signal system would provide better coordination of traffic flow along the corridor because it measures real time vehicular demand and proportions/ adjusts signal timing. Even without the adaptive system, the installation of the barrier will prevent vehicles from jumping the queue for southbound on-ramp traffic and reduce vehicular conflicts. This improvement would also improve bicycle rider safety in the Class II bike lane at the Highway 1 southbound on-ramp at 41st Avenue and reduce bicycle conflicts.
		Near Term and Near Term Plus Project Conditions	The addition of Project traffic worsens the LOS from E to F in the PM. The critical v/c increases by more than 1% on all the critical approach movements.	

Table ES-T12 – Project Deficiencies and Improvements

Int #	Location	Condition	Deficiency caused by the Addition of the Project Traffic	Improvement
		Cumulative and Cumulative Plus Project Conditions	The addition of Project traffic worsens the LOS from E to F in the AM. The critical v/c increases by more than 1% on all the critical approach movements.	The State Route 1 HOV Lane Widening Project Supplemental Report (May 2010) analyzed these improvements for the Santa Cruz Route 1 Tier I and Tier II FEIR and the results are included in Appendix P for reference. These improvements will also improve operations at the intersections because of the close spacing of the intersection to the Highway 1 / 41^{st} Avenue interchange. https://sccrtc.org/projects/streets-highways/hwy1corridor/environmental-documents. If the Project installs the Caltrans improvement and the overhead signage and the barrier, the existing deficiency and the deficiencies caused by the Project will be reduced and/or eliminated. Conditions at this intersection would be further improved by the City of Capitola's planned signal improvements as well as the planned Highway 1 improvements. **<u>Although this intersection is not subject to General Plan LOS policy because it is not a County intersection the Project proposes improvements that will eliminate the Project caused deficiency.</u>**
#24	Brommer Street & 30^{th} Avenue	Existing and Existing Plus Project Conditions	The intersection operates at LOS F in PM Peak without Project and continues to operate at LOS F with the Project. The average delay increases from 38.4 seconds per vehicle to 39.1 seconds per vehicle with the addition of Project traffic. The critical v/c increases by more than 1% on the northbound and southbound critical movements.	Install signal control with permissive left-turn phasing. Peak Hour Signal Warrant #3 based on California Manual on Uniform Traffic Control Devices (CAMUTCD) is satisfied with Existing Conditions traffic and in Existing plus Project Conditions traffic. With existing geometry, signal control, eastbound/westbound split phasing, and permissive left-turn phasing, this intersection would operate at acceptable LOS with Cumulative plus Project conditions traffic volumes. The Peak Hour Signal Warrant #3 evaluation is included in Appendix J. **<u>For Existing Conditions, the intersection will improve the PM delay by 17.1 seconds per vehicle with installation of the signal.</u>** **<u>For Near Term Conditions the intersection will improve the PM delay by 30.9 seconds per vehicle with installation of the signal.</u>** **<u>For Cumulative Conditions the intersection will improve the PM delay by 19.3 seconds per vehicle with installation of the signal.</u>**

Table ES-T12 – Project Deficiencies and Improvements

Int #	Location	Condition	Deficiency caused by the Addition of the Project Traffic	Improvement
		Near Term and Near Term Plus Project Conditions	The intersection operates at LOS F in PM Peak without Project and continues to operate at LOS F with the Project. The average delay increases from 55.7 seconds per vehicle to 56.5 seconds per vehicle with the addition of Project traffic. The critical v/c increases by more than 1% on the northbound and southbound critical movements.	**Installation of a signal control with permissive left-turn phasing would cause the intersection to operate at an acceptable LOS in the Existing Plus Project and Near Term Plus Project and Cumulative Plus Project Conditions. The Project will pay a fair share of 14% towards the improvement and the Project will eliminate its incremental addition to the LOS deficiency (Project Trips through intersection / All Future trips through intersection).**
		Cumulative and Cumulative Plus Project Conditions	The intersection operates at LOS F in PM Peak without Project and continues to operate at LOS F with the Project. The average delay increases from 41.2 seconds per vehicle to 41.9 seconds per vehicle with the addition of Project traffic. The critical v/c increases by more than 1% on the northbound and southbound critical movements.	

LOS Conclusions

County Intersections - Existing Plus Project, Near Term Plus Project and Cumulative Plus Project. The Project is not fully consistent with the County's LOS policy because, although the Project does not cause any County intersections to degrade from an acceptable LOS to an unacceptable LOS, it does cause the v/c ratio at any critical movement operating at an unacceptable LOS to increase by 1 percent or more with the Project.

- In the Existing Plus Project, Near Term Plus Project and Cumulative Plus Project scenarios, the Project will increase delays at the Soquel Avenue / 40th Avenue & Gross Road intersection (Intersection #9) which will already be operating at an unacceptable LOS without the Project. The Project will install a diagonal diverter extending from the northwest corner to the southeast corner at this intersection to eliminate the all-way stop. This improvement will eliminate the LOS deficiency. The improvement will also improve traffic conditions along other nearby roadways, reducing the time it takes to travel from Soquel Drive & Rodeo Gulch Road to the southbound Highway 1 on-ramp from 8.15 minutes to 4.53 minutes.

- In the Existing Plus Project, Near Term Plus Project and Cumulative Plus Project scenarios, the Project will cause the Brommer Street & 30th Avenue intersection (Intersection #24) to exacerbate the LOS E and/or F deficient conditions by adding delay, if no improvements are installed. The critical movement v/c increases by more than 1% for the northbound and southbound critical volumes. Installation of a signal control with permissive left-turn phasing would cause the intersection to operate at an acceptable LOS. The Project will pay a fair share of 14% towards the improvement and the Project will eliminate its incremental addition to the LOS deficiency (Project Trips through intersection / All Future trips through intersection).

- In the Cumulative Plus Project Condition, the Project would cause the Soquel Avenue / Chanticleer Avenue (Intersection #7) delays during the PM peak hour for the northbound movement of this intersection to go from 25.6 seconds (LOS D) to 53.1 seconds (LOS F) if no improvements were installed. However, the Project will install approximately 3,500 feet of TWLTL striping (and restriping) along Soquel Avenue from Paul Minnie Avenue to the existing creek crossing (east of Mattison Lane). With this improvement, the intersection would operate at LOS C with 20.9 seconds of delay in the Cumulative Plus Project condition. Therefore, the Project will eliminate this LOS deficiency.
    - As noted above, the TWLTL eliminates the deficiency for the northbound movement of this intersection in the Cumulative Plus Project condition and the LOS will improve from F to D.

Transportation Improvement Area Fees (Non-CEQA Analysis)

The Project is required to pay Transportation Improvement Area fees ("TIA Fees") based on daily net new trips. The Project is located within the Live Oak TIA fee area and fees collected in this area are currently (as of August 2020) assessed at $300 per net new daily trip to fund roadside improvements and $300 per net new daily trip to fund transportation improvements.

The Project is expected to generate 6,106 gross daily trips based on ITE assumptions, as shown on **Table ES-T13** below and described further in Chapter 6 of this TIOA. As described in the Transportation Demand Management chapter (Chapter 3), the Project will implement a TDM program that is expected to reduce trips by 15.5 percent for employees and 20.5 percent for Members. For purposes of calculating TIA Fees, however, no reduction will be taken initially for the implementation of TDM measures. If TDM measures are proven to be effective, as evidenced by driveway counts to be performed after construction of the Project, a partial refund of TIA fees may be given to the Applicant to the extent it is shown that the actual trips to the Project site are less than what are assumed in this TIOA.

Table ES-T-13, below, provides a summary of existing trip credits, Project trips, and applicable TIA fee amounts:

- A **gross TIA fee of $3,663,600** is estimated for the Project based on the assumption that it will generate 6,106 gross daily trips. This includes transportation improvement fees (6,106 trips x $300 = $1,831,800) and roadside improvement fees (6,106 trips x $300 = $1,831,800).
- A **total fee credit of $80,400** is estimated for the existing 134 trips per day generated from the light industrial land uses on the Project site that will be relocated/demolished prior to construction of the Project. This includes transportation improvement fees ($40,200) and roadside improvement fees ($40,200).
- Therefore, considering the above fee credit, it is estimated that **the Project will be responsible for paying a total of $3,583,200** (i.e., $3,663,600 gross impact fee minus $80,400 total fee credit = $3,583,200) in County TIA Fees.

Table ES-T13 – Transportation Improvement Area Fee Calculations						
ITE classification for Existing and Project Uses	**Roadside Improvement Fee**			**Transportation Improvement Fee**		**Total**
Project	**Daily Trips**	**Fee per Trip ($)**	**Total ($)**	**Fee per Trip ($)**	**Total ($)**	**Total Fee ($)**
Clinic (Project use)	6,106	$300	$1,831,800	$300	$1,831,800	$3,663,600
Credit	**Daily Trips**	**Credit per Trip ($)**	**Total ($)**	**Credit per Trip ($)**	**Total ($)**	**Total Credit ($)**
Light Industrial (Existing Use)	134	$300	$40,200	$300	$40,200	$80,400
Net Project TIA Fees (i.e., Potential Project Fees–Credit Fees)		**$1,791,600**		**$1,791,600**		**$3,583,200**

Other Transportation Analysis

Transportation Hazards

All geometric improvements identified in this study as Project improvements will be designed and constructed per industry, local agency, and Caltrans standards and are not anticipated to substantially increase hazards or result in incompatible uses. The installation of the barrier between the through lane and the right-turn lane along the section between Gross Road and the Southbound On-Ramp on 41st Avenue in the northbound direction will reduce conflicts between vehicles that jump the queue and reduce conflicts between vehicles and bicycles.

Emergency Access

The Project has two driveways off Soquel Avenue. These driveways both provide Emergency Vehicle access. Moreover, the Project will install a number of traffic improvements that will improve circulation in the Project vicinity. As such, the Project will not result in inadequate emergency access.

Summary of Favorable Transportation Considerations

The following **Table ES-T14** provides a summary of expected transportation benefits arising from the Project as further described in this TIOA.

Table ES-T14 – Summary of Benefits

#	Benefit
1	Reduced VMT
	The Project will reduce VMT by approximately over 35,000 vehicle-miles per day under the Scenario A analysis (i.e., 44,416 for Existing Plus Project and 35,306 for the 2040 Plus Project) and by more than 20,000 vehicle miles per day (i.e., 20,322 for Cumulative Plus Project) under the Scenario B analysis, including eliminating a significant number of trips associated with Healthcare Consumers traveling to San Jose for healthcare services
2	Transportation Demand Management (TDM) Program
	The Project will implement a robust TDM program for employees that will include a bike share program, commute management platform and rideshare support, emergency ride home benefit, TDM coordinator, and safe, well-lit and accessible pedestrian/bicycle facilities along Soquel Avenue. In addition, TDM measures will be employed for Members, including the availability of virtual care strategy that will reduce the number of trips that Members will make to the Project site, and safe, well-lit and accessible pedestrian/bicycle facilities along Soquel Avenue. In all, it is anticipated that the proposed TDM measures could result in a trip reduction of approximately 15.5 percent employee trips and 20.5 percent Member trips.
3	Soquel Avenue Sidewalk and Crosswalk Construction
	The Project will construct ADA-compliant sidewalk and curb ramps along its frontage on the south side of Soquel Avenue, which will extend west and east beyond its frontage and connect to existing sidewalk facilities along Soquel Avenue. These improvements will fill a critical gap in the County's pedestrian facility network and will improve pedestrian connectivity along Soquel Avenue.
4	Soquel Avenue Class II Bike Lanes
	The Project will install approximately 4,200 feet of Class II bike lanes along Soquel Avenue from Paul Minnie Avenue to just east of Mattison Lane. These improvements will include restriping existing bike lanes and adding new green bike lane striping. It is anticipated that providing the green bike lanes would improve the safety of bicyclists by approximately 19 percent. The provision of these bike lanes will close the gap to the major new Chanticleer Avenue Highway 1 bicycle and pedestrian overcrossing towards Soquel Drive, close to the Project site. From a regional connectivity standpoint, this is a major improvement for bicyclists in the County.
5	Construct Traffic Signal at Main Project Driveway
	The Project will construct a traffic signal at the Main Project Driveway. This improvement will benefit motorists traveling along Soquel Avenue and wishing to access local side-street stop-controlled roads along Soquel Avenue (such as Mattison Lane and Chanticleer Avenue) with a benefit of increased gaps for turning onto/or off-of Soquel Ave.
6	Soquel Avenue Two-Way Left-Turn Lane
	The Project will implement approximately 3,500 feet of Two-Way Left-Turn Lane ("TWLTL") striping (and restriping) along Soquel Avenue from Paul Minnie Avenue to the existing creek crossing (east of Mattison Lane). Providing TWLTL along this segment of roadway will provide drivers the ability to make left-turns out of adjacent side-streets in two movements, rather than crossing two lanes of traffic at the same time.
7	Soquel Avenue & 40th Avenue / Gross Road Diverter
	The Project will construct a diagonal diverter at the intersection of Soquel Avenue & Gross Road. This diverter would improve operations at this intersection and the Gross Road & 41st Avenue intersection by reducing vehicle queues and delays. In addition, existing cut-through traffic through the Gross Road and 40th Avenue neighborhoods would no longer be possible. Travel time from Soquel Drive & Rodeo Gulch Road to SB Highway 1 would be improved from 8.15 minutes in Existing Only conditions to 4.53 minutes in Existing Plus Project conditions with this improvement.

Table ES-T14 – Summary of Benefits	
#	**Benefit**
8	41st Avenue & Gross Road Overhead Wayfinding Signage and Lane Channelization Barrier
The Project will install overhead signs and roadway markings to improve lane selection and use of the eastbound approach along Gross Road. The lane selection would be for southbound Highway 1 and eastbound 41st Avenue movements. A physical barrier will also be installed between the limit line and the diverge of the Highway 1 southbound on-ramp on 41st Avenue. The installation of signage and roadway markings will improve operations in the area by reducing weaving amongst travel lanes on eastbound 41st Avenue. In addition, the barrier improvement will improve traffic operations in the area by preventing vehicles from jumping the queue for southbound on-ramp traffic as well as improve bicycle rider safety in the Class II bike lane at the Highway 1 southbound on-ramp at 41st Avenue.	
9	Highway 17 Safety Effect
Construction of the Project will require that only 1.15% of Member trips to travel along Highway 17 to receive health care services in the San Jose area because they will be served at the Project site, thereby decreasing traffic along Highway 17 and consequently decreasing potential traffic collisions by a proportional 0.65 percent (approximately).	
10	Transportation Improvement Area Fees
The Project will pay TIA Fees based on ITE trip generation assumptions, even though actual trips will be lower due to the implementation of Project TDM measures. In addition, no reduction in trip generation will be requested upfront for the implementation of TDM measures. The County of Santa Cruz collects Transportation Improvement Area Fees for new development in the Live Oak area. This fee includes both a transportation improvement fee to fund improvements to transportation infrastructure and a roadside improvement fee to fund roadside-related improvements. Based on the trip generation for the project, the Transportation Impact and Operational Analysis estimates this combined fee payment to be $3,583,200. The fees would be utilized to contribute toward needed roadway or roadside improvements as determined by the Department of Public Works to maintain operations, safety, and bicycle/pedestrian connectivity based on County's Capital Improvement Program, corridor plans, and active transportation plans. The Department of Public Works may also require additional improvements to pedestrian and bicycle facilities in the nearby network and may apply the Transportation Improvement Area Fees toward these improvements. If the Applicant demonstrates, through driveway counts, that actual generated trips are less than what was assumed for purposes of calculating TIA Fees, then the Applicant may be entitled to a refund for the corresponding overpayment of fees.	
11	41st Avenue
The Project will contribute towards the potential installation of long-term planned improvements along the 41st Avenue corridor, which includes improvements along 41st Avenues between Clares Street and Cory Street to facilitate north-south vehicular, pedestrian and bicycle circulation. These proposed future improvements along the 41st Avenue roadway would be supported by additional improvements along Gross Road, 40th Avenue, and Clares Street; as well as at the intersections of Soquel Avenue and Gross Road, Gross Road and 41st, Auto Plaza Drive and 41st, Clares Street and 40th Avenue, and Clares Street and 41st Avenue. The improvements include signal modifications, intersection control changes, restriping, sidewalk and bicycle lane improvements, and installation of a cycle track on 41st Avenue between Gross Road and Cory Street on the Highway 1 overpass.	
12	Brommer Street & 30th
The project applicant has also proposed a fair share contribution toward improvements at the intersection of Brommer Street and 30th Avenue to install traffic signal controls with permissive left-turn phasing. Installation of the signal would occur within the existing road right-of-way. Existing stop signs at the intersection would be removed. Installation of a signal control with permissive left-turn phasing would cause the intersection to operate at an acceptable LOS.	

Table ES-T14 – Summary of Benefits	
#	Benefit
The Project will pay an approximately 14% fair share payment or $105,000 (i.e. $750,000*14%=$105,000) towards the potential installation of a signal at the intersection.	

1. INTRODUCTION

This Transportation Impact and Operational Analysis ("TIOA") reports the findings of the traffic analysis conducted for the proposed Medical Office Building ("MOB") Project (the "Project") at 5940 Soquel Avenue in the County of Santa Cruz ("County"), California. The TIOA covers two key components: (1) a vehicle miles traveled ("VMT") analysis required by the California Environmental Quality Act ("CEQA") that evaluates the amount and distance of automobile travel associated with the Project, and (2) a mobility analysis that evaluates the Project's impacts on automobile delay and traffic congestion, which is not relevant to CEQA but is relevant to a consideration of the Project's consistency with the County's General Plan. It is proposed that Kaiser Permanente ("Kaiser" or "Proposed Tenant") will occupy the Project if PDP Santa Cruz, LLC (the "Applicant") is successful in obtaining Project entitlements. Kaiser-related data and assumptions were used to inform the VMT analysis,[14] which are set forth in **Appendix S** to this document. The VMT analysis separately breaks down the traffic impacts associated with the Proposed Tenant's employees that will provide healthcare and support services in the Project ("employees") and its patients, visitors and non-clinical affiliated members ("Members") traveling to the Project.

This TIOA was prepared based on meetings with County Planning Department and Public Works staff, comments provided by the local community during two open house community meetings held on December 13, 2018 and January 30, 2019, and agency and public comments received in response to the Project's Notice of Preparation published on March 24, 2020. County Staff also provided comments to a draft Transportation Impact Study Assumptions Memorandum prepared be Kimley-Horn and Associates, which was finalized and dated September 19, 2018. This study complies with CEQA and Santa Cruz County, City of Santa Cruz, City of Capitola, and California Department of Transportation (Caltrans) traffic study guidelines and criteria.

Project Description

The Project proposes to construct a MOB, containing approximately 160,000 square feet of gross building floor area, and a parking garage as shown in **Figure F-1**. The parking garage is proposed to contain 730 vehicle parking spaces, 47 of which will be designated as clean air vehicle spaces equipped with future electric vehicle charging capabilities and 38 motorcycle spaces. Within the parking garage on the first level, 160 bike spaces including 124 racks and 36 lockers are proposed. In addition, the Project will also provide 6 surface vehicle parking spaces adjacent to the parking garage.

[14] Kaiser Permanente ("Kaiser") is proposed to occupy and operate the Project if the Project is approved. Therefore, Kaiser-specific data and assumptions were used in this TIOA to provide the most accurate information possible about the Project's potential transportation-related impacts. Considering the Project's size and location, it is believed that there would be a reduction in VMT for any healthcare services provider that may occupy the Project because medical uses primarily serve pre-existing needs (i.e., they do not generate new trips so much as meet existing demand). Because of this, when a new facility is introduced most often it can be presumed to reduce trip lengths. The primary reason for this is because a typical doctor visit is assumed to occur regardless of the proximity of the facility, but the proximity of the facility will determine the length of that trip and the resultant impact to the overall transportation system.

The Project also proposes to construct two access points along Soquel Avenue. The main Project driveway will be signalized and will provide full access to the site as shown in the Project site plan. A secondary driveway, east of the main driveway, will provide an access point for pickups and deliveries, as well as quiet ambulatory ingress and egress. The parking garage will not be accessible from the secondary driveway. Thus, it is not anticipated that employees or Members will utilize the secondary driveway. The secondary driveway will be stop-controlled on the northbound approach from the site and will be located along the easterly site boundary.

The Project's standard business hours will be from 8:30 AM to 5:30 PM Monday through Friday, with two minor exceptions. The first is urgent care, which will comprise approximately 9,600 square feet or 6 percent of the programmed square footage, and is anticipated to operate 24 hours per day, 7 days per week. The second is the post anesthesia care unit, which will compose approximately 4,800 square feet, or 3 percent of the programed square footage, and may operate beyond standard business hours 5 days a week depending on the medical condition of a Member.

The Project is planning to provide the following programs and services, which could include, but are not limited to: Obstetrics, Head and Neck Surgery, Surgery, Urology, Endocrinology, Gastroenterology, Hematology/Oncology, Infectious Diseases, Rheumatology, Nephrology, Pulmonology, Sleep Lab, Orthopedics, Podiatry, Pain Medicine, Physical Medicine and Rehabilitation, Primary Care (Internal Medicine or Family Practice), Dermatology, Allergy, Urgent Care, Chemotherapy Infusion, Audiology, Optometry, Ophthalmology, Imaging, Pharmacy, Laboratories, Sterile Processing, Blood Bank, Recovery, Building Support, Café, Vision Essentials, Administrative Offices and Conference Spaces.

Project Transportation Improvements

Project Site Access and Circulation

The Project site will be accessed from Soquel Avenue. The Project will construct one main signalized driveway entrance for employees and Members, which will provide access to the patient loading and unloading area, as well as the proposed parking garage. The main driveway will include a protected westbound left-turn pocket and eastbound right-turn pocket into the Project site from Soquel Avenue, as well as northbound left- and right-turn lanes exiting the Project site.

A secondary driveway will also be constructed east of the main entrance for deliveries, pickups, and ambulances. The secondary driveway south leg will be stop controlled and Soquel Avenue traffic will be free flow. The secondary driveway will experience very low and infrequent volumes throughout the day and no signal is anticipated for this location.

As shown in the Project site plan **Figure F-2**, the Project will construct a roadway through the center of the site, with the Project parking garage on the west side of the site and the MOB on the east side of the site. The parking garage will have two entrances/exits, one at the northeast end of the garage and one at the southeast end.

A Member drop-off/pick-up zone will be provided near the main building entrance and accessed via the main Project Driveway. The drop-off/pick-up zone will provide capacity for approximately seven vehicles at a time.

For motorists traveling to the site, the north entrance/exit will allow for free right-turn movements into the garage. Traffic wishing to bypass the main garage entrance will use the southbound through lane, which will be stop-controlled, rather than the free southbound right-turn to bypass the main garage entrance and continue south. Motorists bypassing the main garage driveway will then access the secondary garage driveway or continue around to the drop-off/pick-up zone adjacent to the MOB. For motorists wishing to park in the garage after dropping-off Members in the loading/unloading zone adjacent to the MOB, motorists will have the opportunity to make a northbound right-turn at the north garage entrance/exit at turn into the garage to seek a parking space.

For motorists leaving the site, both garage exits will be stop controlled. The north entrance/exit will allow for the most direct route to leaving the site, by permitting motorists to make an eastbound right turn, which will bring them to the proposed Soquel Avenue & Project Driveway signal. For travelers exiting from the south garage driveway, motorists would take an eastbound right turn, travel north past the drop-off/pick-up area, stop at the northbound through stop-controlled movement at the north garage entrance/exit, and then continue to the Soquel Avenue & Project Driveway signal.

An east/west high visibility pedestrian crosswalk will be provided across the south leg of the north garage entrance/exit. Pedestrians will be able to utilize this proposed crosswalk to access the MOB after parking their vehicles and bikes. The Project will construct wayfinding signage to direct pedestrians to the crosswalk. Conflicting traffic will be stop controlled and pedestrians will have the right of way to cross at this location.

Bikes will access the site via the Soquel Avenue & Project Driveway signalized intersection, traveling south and parking near the north parking garage entrance/exit, as shown in **Figure F-2**. After parking their bikes at the designated bike parking area, pedestrians will utilize the previously discussed east/west pedestrian crosswalk to access the Project site.

The Project will also construct ADA-compliant sidewalks along the north Project frontage (south side of Soquel Avenue), which will extend along the south side of Soquel Avenue and fill the existing gap in the County's sidewalk network.

Project Mobility Improvements

The Project will provide numerous mobility improvements, including the following:

<u>Main Traffic Driveway Signal</u>: The Project site will be accessed from Soquel Avenue. The Project will construct one main signalized driveway entrance for employees and Members, which will provide access to the patient loading and unloading area, as well as the proposed parking garage. The main driveway will include a protected westbound left-turn pocket and eastbound right-turn pocket into the Project site from Soquel Avenue, as well as northbound left- and right-turn lanes exiting the Project site.

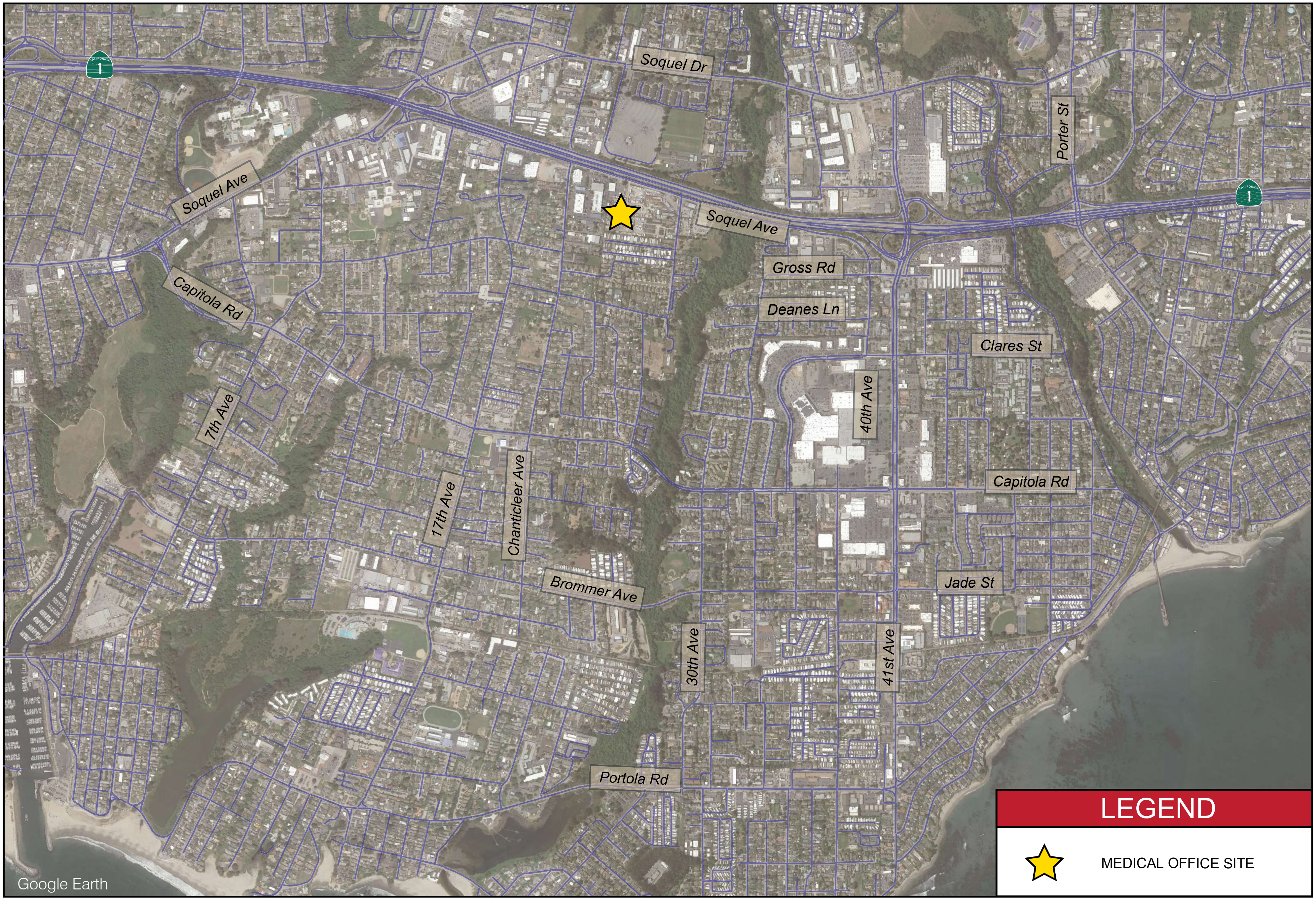
Soquel Avenue Two-Way Left-Turn Lane Striping Improvements: The Project will implement approximately 3,500 feet of Two-Way Left-Turn Lane (“TWLTL”) striping (and restriping) along Soquel Avenue from Paul Minnie Avenue to the existing creek crossing (east of Mattison Lane).

Green Bike Lanes Along Soquel Avenue: The Project will provide approximately 4,200 feet of Class 2 bike lane with green colored striping along Soquel Avenue from Paul Minnie Avenue to just east of Mattison Lane.

Sidewalk Installation Along Soquel Avenue: The Project will construct ADA-compliant sidewalks along the north Project frontage (south side of Soquel Avenue), which will extend along the south side of Soquel Avenue and fill an existing gap in the County’s sidewalk network.

Soquel Avenue / 40th Avenue & Gross Road: The Project will install a diagonal diverter extending from the northwest corner to the southeast corner at this intersection. The diverter will prevent cut through traffic on Gross Road through the residential neighborhood, and eliminate the congestion caused by the all-way stop currently existing at the intersection.

41st Avenue & Gross Road Overhead Wayfinding Signage: The Project will install overhead signs and roadway markings to improve lane selection and use on the eastbound approach of Gross Road. The lane selection would be for southbound Highway 1 and northbound Highway 1 movements. The Project will also install a physical barrier between the limit line and the diverge of the Highway 1 southbound on-ramp on 41st Avenue. This barrier will prevent vehicles from jumping the queue for southbound on-ramp traffic and improve bicycle rider safety in the Class II bike lane at the Highway 1 southbound on-ramp at 41st Avenue.

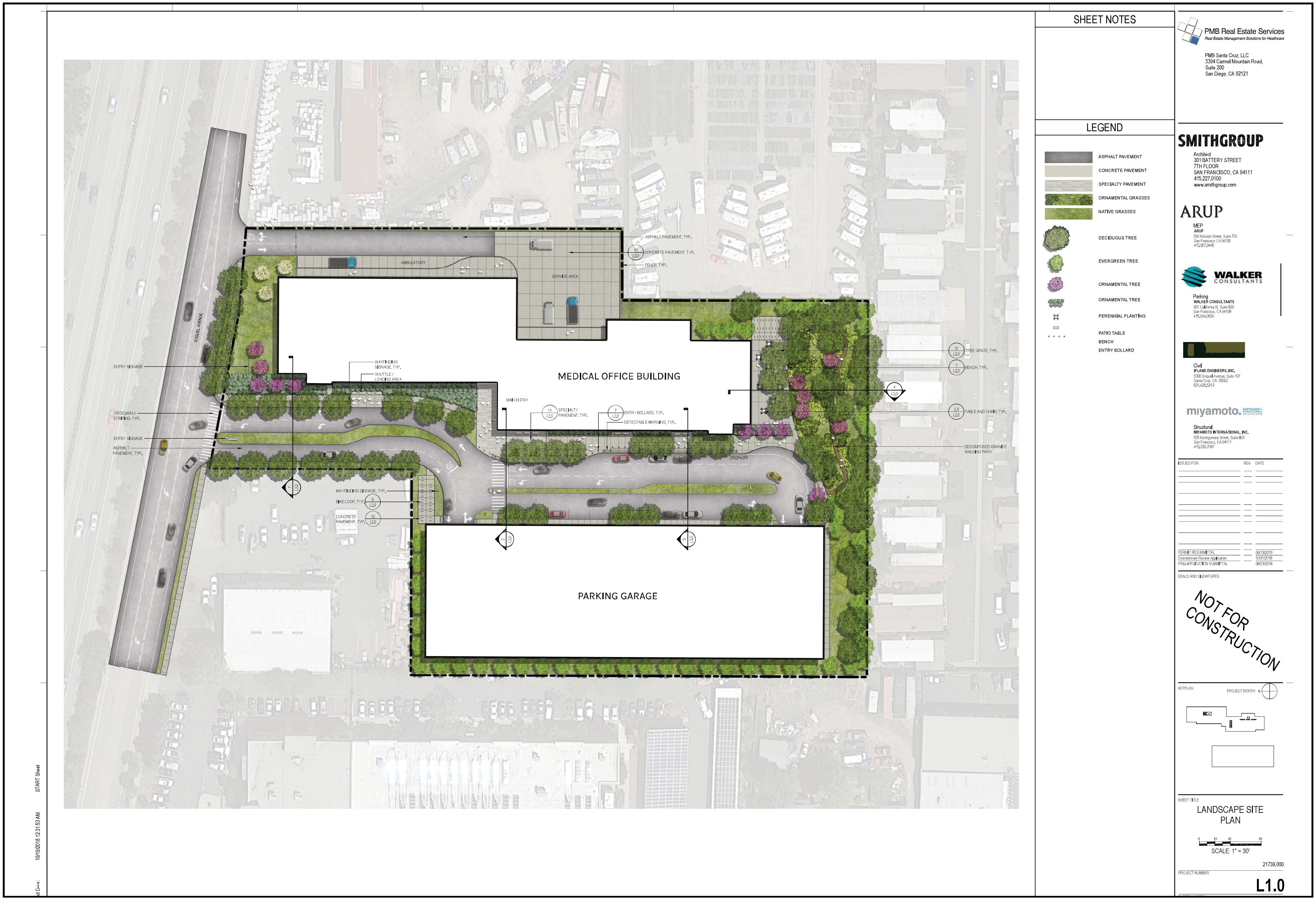


Kimley»Horn
Expect More. Experience Better.

Medical Office Building

Figure 1

Project Location Map



Kimley»Horn
Expect More. Experience Better.

Medical Office Building

Figure 2

Project Site Plan

Report Approach

The analysis in this report is broken down into two key components: a VMT-based analysis required by CEQA, and a mobility-based analysis that is provided for evaluating consistency with the County's General Plan, but which is not relevant for evaluating the significance of transportation-related environmental impacts. More specifically, in addition to the VMT analyses, this report considers transportation demand management ("TDM") measures, pedestrian, bicycle and transit mobility, parking supply and demand evaluation, local mobility analysis, Highway 1 and Highway 17 analyses, transportation impact area fees, and other transportation analyses for the Project.

Report Organization

This report is organized as follows:

Chapter 2 (Vehicle Miles Traveled) discusses the methodology, assumptions, analysis, and findings of the Project's specific vehicle miles traveled evaluation.

Chapter 3 (Transportation Demand Management) describes potential TDM measures that the Project will implement to reduce the Project's trip generation and parking demand.

Chapter 4 (Pedestrian, Bicycle and Transit Mobility) presents the Project's potential effects on pedestrian, bicycle, and transit mobility.

Chapter 5 (Parking Supply and Demand Evaluation) describes the Project's proposed on-site parking supply. County Code requirements, ITE parking demand estimates, and a parking requirement comparison of other local communities are also presented in this chapter to evaluate the sufficiency of the proposed parking supply given anticipated demand.

Chapter 6 (Local Mobility Analysis) discusses the Project's trip generation characteristics, as well as the methodologies and assumptions used to estimate trip credits and net Project traffic added to the study roadway network. The Project's impact on the level of service ("LOS") of various intersections in the study area under Existing Conditions, Existing Plus Project Conditions, Near Term Conditions with and without the Project and Cumulative Conditions with and without the Project are also discussed.

Chapter 7 (Highway 1 and Highway 17 Evaluation) presents an evaluation of Highway 1 and Highway 17 study segment operational characteristics with and without the Project for Existing, Near Term, and Cumulative development conditions. Furthermore, the Project's potential effects on safety, as well as a discussion of Caltrans' planned improvements along Highway 1, are also included in this chapter.

Chapter 8 (Transportation Improvement Area Fees) provides estimates of the Project's Transportation Improvement Area fee responsibilities.

Chapter 9 (Other Transportation Analysis) provides a discussion of potential traffic hazards and emergency access associated with the Project.

A technical appendix is also attached containing information provided by the Applicant and Proposed Tenant to support the VMT analysis, traffic count data, future Highway 1 improvement details, concept layouts, signal warrants, and operational analysis output sheets.

2. VEHICLE MILES TRAVELED

This chapter documents the Vehicle Miles Traveled ("VMT") analysis completed for the Project. The Project will be part of a network of medical facilities that provide various general and specialized medical services for the Proposed Tenant's Member-based medical system. As such, this analysis considers how the introduction of the Project, including its location and the nature of the services provided, affects the Proposed Tenant's Members' VMT. The Proposed Tenant's service area that was evaluated includes existing facilities which serve Members residing in the County. While most of the Proposed Tenant's existing facilities are located within the County, others are located outside of the County in locations such as Gilroy and San Jose. The facilities outside of the County are used by members needing specialized services not provided by facilities inside the County. As described herein, the Project will result in a reduction of at least 20,322 vehicle miles traveled, and thus will have a less than significant impact on transportation. The Project, which will be located within the County along Soquel Avenue, is planned to provide expanded services so that only a small portion of the Proposed Tenant's Members will have to travel to facilities outside of the County.

Definitions

The following definitions are provided for the purpose of having a common understanding of the analysis provided within this section:

Existing Members: Current Members of the Proposed Tenant's healthcare system.

Healthcare Consumer: Consumers of healthcare services in the County, including Members and Other Healthcare Systems' patients.

Members: The Proposed Tenant's patients, visitors and non-clinical affiliated members. Collectively, as the context requires, the term "Members" may refer to Existing Members, Population Growth Members and Transferee Members.

Population Growth Members: Member growth that will occur over time via population growth.

Other Healthcare Systems: Sutter Health and Dignity Health.

Transferee Member: Member growth attributable to patients switching from Other Healthcare Systems to the Proposed Tenant.

Background

In 2013 and 2018, respectively, CEQA and its implementing guidelines ("CEQA Guidelines") were significantly amended regarding the methods by which lead agencies are to evaluate a project's transportation impacts. As described in CEQA Guidelines Section 15064.3(a):

> *Generally, vehicle miles travelled is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided*

in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact.

The CEQA Guidelines have eliminated traffic congestion and automobile delay from the list of issues required to be analyzed as part of a potential project's CEQA analysis and instead clarify that the appropriate criteria for analyzing a potential project's transportation impacts is VMT. This is because California needs to reduce VMT to achieve the State's long-term greenhouse gas ("GHG") reduction climate goals. Half of California's GHG emissions come from the transportation sector; therefore reducing VMT is an effective climate strategy.[15] A VMT-focused transportation analysis encourages a reduction in VMT, as opposed to the former approach of evaluating transportation impacts based on level of service ("LOS") impacts, which often leads to roadway improvements that increase roadway capacity and, consequently, can induce more VMT, traffic and GHG emissions.[16]

Effective July 1, 2020, CEQA Guidelines section 15064.3(c) now requires lead agencies to assess transportation impacts based on VMT. On June 16, 2020, the County adopted its own thresholds based on the requirements of CEQA (Public Resources Code section 21099) and the CEQA Guidelines.[17] As further described below, the threshold of significance, methodology, and analysis provided for in this section are based upon these adopted thresholds and the associated direction from County staff.

Analyzing MOB VMT

As required by the California State legislature pursuant to SB 743, the California Governor's Office of Planning and Research ("OPR") prepared guidance to facilitate the adoption of VMT thresholds of significance by California jurisdictions. Although the 2018 Guidance[18] does not specifically discuss MOBs, it does address the approach for analyzing land uses with the attributes of a MOB:

For office projects that feature a customer component, such as a government office that serves the public, a lead agency can analyze the customer VMT component of the project using the methodology for retail development (see below).

Santa Cruz County provided for this VMT analysis approach in its VMT thresholds adopted on June 16, 2020.[19] Based on County requirements, MOB's are classified under the heading of "All

[15] California Air Resources Board (Nov. 2018) 2018 Progress Report on California's Sustainable Communities and Climate Protection Act, pp. 4, 5.

[16] *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018), California Governor's Office of Planning and Research, Page 5 [addition of through lanes, including general purpose lanes, HOV lanes, peak period lanes, auxiliary lanes or lanes through grade-separated interchanges would likely lead to measurable and substantial increases in vehicle travel]).

[17] Board of Supervisors of the County of Santa Cruz, Resolution No. 146-2020, adopted June 16, 2020.

[18] *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018), California Governor's Office of Planning and Research, Page 5

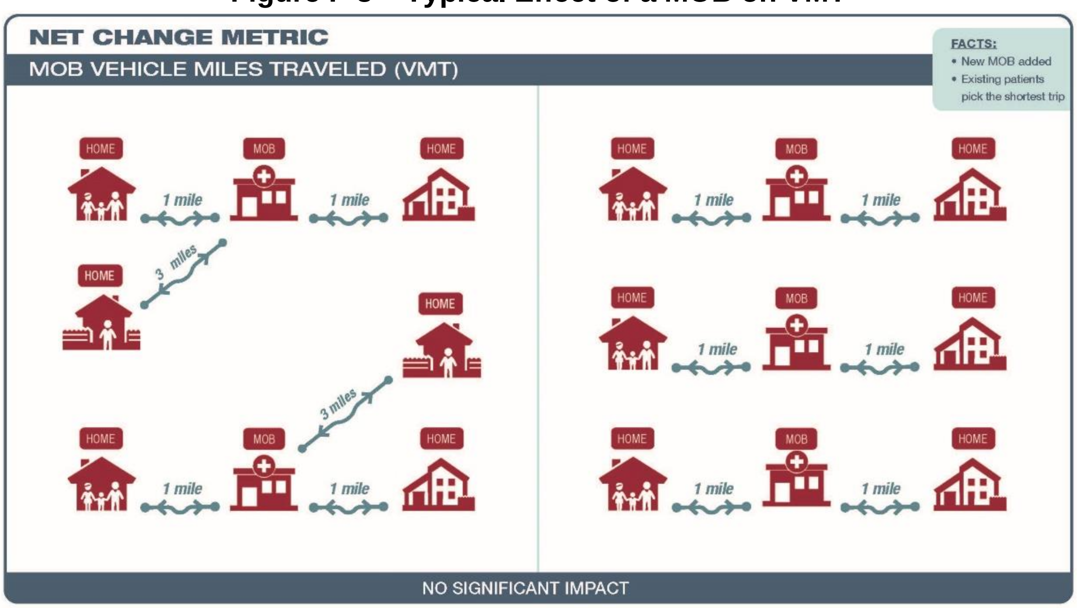
[19] Board of Supervisors of the County of Santa Cruz, Resolution No. 146-2020, adopted June 16, 2020 providing that a project will have a significant transportation impact unless it generates VMT meeting the following thresholds: (i)

other land uses," which provides for a threshold of significance of "no net increase in VMT". Accordingly, the Project will not have a significant transportation impact under CEQA if it results in no net increase in VMT.

The basic concept behind this analysis approach is that MOB's are similar to local retail uses in that they primarily serve pre-existing needs (i.e., they do not generate new trips, instead they meet a demand that would exist with or without the Project). Based on this, it can be presumed that the introduction of a new MOB will result in existing trips being redistributed, potentially resulting in shorter trip lengths when the MOB opens for service and is geographically located in-between existing healthcare facilities. Given that the relative number of trips is constant, shorter trip lengths result in a VMT reduction. Essentially, a typical doctor visit is assumed to occur regardless of the proximity of the facility, but the proximity of the facility will determine the length of that trip and the resultant impact to the overall transportation system. Subsequently, this characteristic is used in this analysis to calculate the potential net increases or decrease in the overall Project VMT when the Project is constructed.

Figure F-3, below, demonstrates the concept described in this section visually and the measure of a "Net Change" in VMT as the metric by which the Project's potential transportation impact is determined.

Figure F-3 – Typical Effect of a MOB on VMT



As shown in the above graphic, the introduction of a new MOB often has the effect of redistributing existing patient trips in a manner that reduces average trip lengths, thereby resulting in a VMT

Residential Projects: 15 percent below Countywide per capita average VMT; (ii) Office and Service Projects: 15 percent below the Countywide per employee average VMT; (iii) Retail Projects: no net increase in the Countywide average VMT; (v) All Other Land Uses: no net increase in VMT. The Project is not a Residential or Retail Project and should not be classified as an "Office and Service Project" either for purposes of analyzing VMT given that an "Office and Service Project" is typically analyzed with respect to employee travel patterns, whereas travel associated with a MOB is dominated by patient, rather than employee trips.

reduction. (i.e. trip segments that were 3 miles prior to the new MOB are reduced to 1 mile with the addition of the new MOB).

Scenarios

This TIOA provides two separate and independent analyses of the Project under the threshold of "no net increase in VMT."

The first analysis, identified as "Scenario A," considers the effect of the Project on the Proposed Tenant's Members. This scenario represents the Proposed Tenant's goal of providing nearly all medical services required by its Santa Cruz County Members in the geographical boundaries of the County itself. This will benefit the Proposed Tenant's Members residing in the County by providing improved access to necessary medical services, thereby reducing the percentage of trips that travel to the San Jose area for specialized services. Members that travel outside of the County necessarily add substantial VMT to the existing system. These trips will be reduced with the construction of the Project. Based on the forecasted data provided by the Proposed Tenant, it is estimated that the number of Member trips accessing services outside of the County will be significantly reduced when the Project becomes operational (from 29% without the Project to 2.4% with the Project, as shown below).

The second analysis, identified as Scenario B, provides a more conservative VMT analysis by also considering the potential for Healthcare Consumers from Other Healthcare Systems to become Transferee Members who also receive healthcare services at the Project (in addition to the Proposed Tenant's Existing Members and Population Growth Members).

The two scenarios are described in more detail below.

Scenario A

Under Scenario A, the following is considered:

A1: Existing No Project: VMT is evaluated under existing conditions (i.e., baseline). Specifically, VMT for Existing Members is determined based on current patterns, where most Members receive care at one of the Proposed Tenant's facilities in the County, but where almost 29-percent of Existing Member trips travel out of the County predominantly to receive specialized services. There are no new employees (because there is no Project) so employee VMT is based on the Proposed Tenant's existing facility locations in and outside of the County.

A2: Existing Plus Project: VMT is evaluated under exiting conditions, but with the addition of the Project. VMT for Members is determined based on the assumption that most Members receive care at the Project or one of the Proposed Tenant's existing facilities in the County. In this scenario, only about 2.4-percent of Members needing specific and highly specialized services that will not be provided at the Project continue to travel out of the County and the remaining Members currently traveling out of the County are redirected to the Project instead. VMT associated with Project employees is also included. For purposes of this analysis, it is assumed that the Project is fully occupied and operational.

A3: No Project 2040: 2040 VMT is evaluated based on a Healthcare Consumer distribution that represents forecasted 2040 household locations, which thereby impacts trip lengths because a higher concentration of people live near services, thus shortening trip lengths. Members receive care at one of the Proposed Tenant's facilities in the County, but almost 29-percent of Member trips travel out of the County to receive specialized services. There are no new employees (because there is no Project) so employee VMT is based on existing facility locations.

A4: Plus Project 2040: 2040 VMT is evaluated based on a Healthcare Consumer distribution that represents forecasted 2040 household locations and assumes the addition of the Project. VMT for Members is determined based on the assumption that care is received at the Project or one of the Proposed Tenant's existing facilities in the County. In this scenario, most Members receive specialized services at the Project and about 2.4-percent of Members continue to travel out of the County for specific and highly specialized services that will not be provided at the Project. VMT associated with Project employees is also included.

Scenario A Methodology

Santa Cruz County Travel Demand Model ("SCC TDM") data and related modeling techniques were used as the principle tool to determine VMT. Travel demand models are broadly considered to be the most accurate of available tools to assess VMT. Based on data provided by the Proposed Tenant about the facilities its Members in the County currently utilize, as well as limitations of the SCC TDM (i.e., it does not include areas outside of the County), a hybrid approach that relied on both the SCC TDM and other spatial analysis techniques was developed to meet the County's VMT analysis requirements. This approach accounted for the unique trip distribution and trip generation characteristics of the Project, as well as for the portion of VMT that would occur outside of the area covered by the SCC TDM.

Project Trip Generation

As described in more detail below, for purposes of maintaining a conservative analysis, this TIOA assumes that the Project will produce 6,106 daily trips based on the trip generation rate for Clinics (the same rate as used in the TIOA). However, this number likely overstates the actual Project trip generation since, based on previously collected trip generation data for the Proposed Tenant, the Project is forecasted to produce significantly fewer trips than that. As shown in the trip generation comparison **Table T-1** below, the average number of trips per 1,000 square-feet (sf) of similar sites operated by the Proposed Tenant in the vicinity of the Project is 24.21 daily trips. For the proposed 160,000 s.f. Project, this equates to approximately 3,874 daily trips, or only about 63-percent of the number of trips assumed and used in this VMT analysis. Trip generation is discussed in greater detail in Chapter 3.

The trip generation rate for the Project is understood to be lower than typical MOBs as a result of several unique operational characteristics specific to the Proposed Tenant, including:

- Not requiring referrals for out-of-network specialty care,
- Extensive use of telemedicine,
- Grouping visits and providing multiple services at one site, and
- An emphasis on preventative care.

Note that the lower trip generation rate described above was not used as the basis of the VMT analysis contained herein and that the analysis is instead based on the typical trip generation characteristics of a Clinic as described in the current ITE Trip Generation Manual. As such, it is reasonable to assume that this TIOA analysis overstates the VMT of the Project (as compared to a typical MOB as defined by ITE) by approximately 37-percent (i.e., 63% is Proposed Tenant trip generation data). For purposes of this VMT analysis, Scenario A and Scenario B are based on the accommodation of the same total number of Project trips (representing the same number of Members and 300 employees). As such, existing conditions and future conditions analysis only consider the circumstances of Members that are forecasted to join the Proposed Tenant's network and Members currently within the Proposed Tenant's network residing within the County. This basis maintains an "apples-to-apples" comparison basis for the scenarios as required by SB 743.[20]

Table T-1 – Trip Generation Rate Comparison for Medical Office Buildings

		Independent Variable		Daily Trips		AM PEAK HOUR TRIPS						PM PEAK HOUR TRIPS					
Development	Data Source	Size[4]	Unit	Rate	TOTAL DAILY	Rate	% Entering	% Exiting	Trips Entering	Trips Exiting	TOTAL AM	Rate	% Entering	% Exiting	Trips Entering	Trips Exiting	TOTAL PM
Proposed Project																	
Kaiser MOB	ITE LUC 630 (Clinic)[1]	160.000	KSF	38.16	6,106	3.69	78%	22%	461	130	591	3.28	29%	71%	152	373	525
	ITE LUC 720 (MOB)[2]	160.000	KSF	34.80	5,568	2.78	78%	22%	347	98	445	4.10	39%	61%	256	400	656
Similar Sites (2019)[3]																	
Sutter/PAMF (Urgent Care)	Counts	67.000	KSF	46.03	3,084	4.51	57%	43%	172	130	302	3.51	36%	64%	84	151	235
Sutter/PAMF (OB Office)	Counts	63.306	KSF	16.85	1,067	1.04	50%	50%	33	33	66	1.44	32%	68%	29	62	91
Skyport MOB (Kaiser)	Counts	143.700	KSF	17.65	2,537	1.54	68%	32%	150	71	221	1.52	23%	77%	51	167	218
Dublin MOB (Kaiser)	Counts	215.000	KSF	16.28	3,501	1.41	83%	17%	251	53	304	1.46	30%	70%	93	220	313
Similar Sites Average:		***122.252***	***KSF***	***24.21***	--	***2.13***	***64%***	***36%***	--	--	--	***1.98***	***30%***	***70%***	--	--	--

Notes:
1. ITE Land Use Code 630 (Clinic) was used in the Santa Cruz SMOB study at County Guidance base on ITE 10th Edition Data.
2. ITE Land Use Code 720 (Medical Office Building) was used in the Santa Cruz Assumptions Memo based on ITE 10th Edition Data.
3. Similar sites driveway counts were performed on October 22, 2019 and used to determine trip generation characteristics.
4. Building size information provided by applicant.
5. Trip generation is discussed in greater detail in Chapter 3.

Assumptions and Facts - Scenario A

The following assumptions and facts are applicable to the analysis for Scenario A:

A1. The trip distribution (i.e., trip length), used for the calculation of VMT and trip generation was developed based on the assumption that all patients travel to the closest facility that provides the medical services they require. Although some individuals may select a less optimal choice based on personal preference, the probability of this would likely be no different under any Scenario A condition (or Scenario B condition). Given this and the fact that there is not a sufficient basis or data to undertake such analysis, the TIOA reflects the assumption that the

[20] *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018), California Governor's Office of Planning and Research, Page 16

most optimal medical facility location, based on distance, is always selected by a Healthcare Consumer. It is further assumed that existing facilities of both the Proposed Tenant and Other Healthcare Systems can accommodate the demand for medical services based on this approach to trip distribution.

A2. In order to account for the effect of the Project on Healthcare Consumers, VMT from Members and employees of existing healthcare facilities operated by the Proposed Tenant inside and outside of the County.

A3. The facilities selected for this analysis are based on market data[21] (as further described in Assumption #8) that tracked the number of visits by service required at facilities operated by the Proposed Tenant. This includes six facilities located outside of the County and six facilities, including the Project, located within the County.

A4. Based on information provided by the Proposed Tenant, approximately 29-percent of current Member trips are estimated to be served by facilities located outside of the County currently, mostly seeking services that the Proposed Tenant currently does not provide within the County. Based on information provided by the Proposed Tenant, when the Project becomes operational, it is assumed that trips to facilities outside of the County will be reduced to about 2.4-percent of the total Member trips. These trips would be for highly specialized services that are not expected to be available at the Project, such as pediatric neurology or spine surgery. With the Project, it is assumed that other specialized services required by Members will be provided by the Project.

A5. Based on data provided by the Proposed Tenant, it is understood that on average, the Project will employ 300 individuals per day. For the purposes of this VMT analysis, only employee commute trips were accounted for as a part of the VMT analysis. This equates to 600 total Project trips (i.e., 2 times 300 one-way trips), as all employee trips for purposes of this analysis were conservatively assumed to be single occupancy trips.

A6. Employee trip generation for the Project is based on the proportion of employees (300 total) that matches the allocation of Healthcare Consumers to each healthcare facility, regardless of system. The origin of employees is based on the existing Longitudinal Employer-Household Dynamics (LEHD) data.

A7. Other trips, such as deliveries, were assumed to be minor in number and are adequately represented in terms of VMT by a Healthcare Consumer and/or employee trips included the analysis (the full trip generation, as used for this analysis, accounts for all Project trips). It is assumed that other elements of the analysis are a reasonable proxy for minor differences in any trip lengths.

[21] Market data refers to data provided by the Proposed Tenant as to what services are provided in specific facilities operated by the Proposed Tenant.

A8. This TIOA VMT analysis separates Member trips among twenty-eight different services based on market data provided by the Applicant. This data provided is based on a market analysis produced by Pivotal Analytics for specific medical services and is summarized in **Table T-2,** below. Pivotal Analytics[22] provided Kimley-Horn with industry standard data that shows Healthcare Consumer information for the County and facilities located outside of the County operated by the Proposed Tenant used by Members located within the County. Pivotal Analytics is based on insurance claims data and together with the market data provided by the Proposed Tenant provides a comprehensive analysis of all medical services provided to residents of the County, including those of the Proposed Tenants and Healthcare Consumers served by other healthcare systems. The data provides current and future healthcare demand for services by service line using insurance claims information provided by healthcare insurance companies and demographic information provided by Geolytics.[23] Additional data detail is provided in **Appendix R**.

A9. The Proposed Tenant's membership forecasts for its Santa Cruz County MOBs for 2020 through 2040 were used as the basis for determining what percentage of trips were distributed amongst Members. This data is provided in **Appendix S**.

[22] The Pivotal Analytics platform employs claims-based service utilization rates provided by Optum (a health insurance company with access to insurance claims data across the United States), and trended local population demographic data provided by Geolytics (one of the largest US census aggregators) as a basis for these calculations.

[23] Geolytics is one of the largest US census aggregators.

Table T-2 – Population Demand for Medical Services

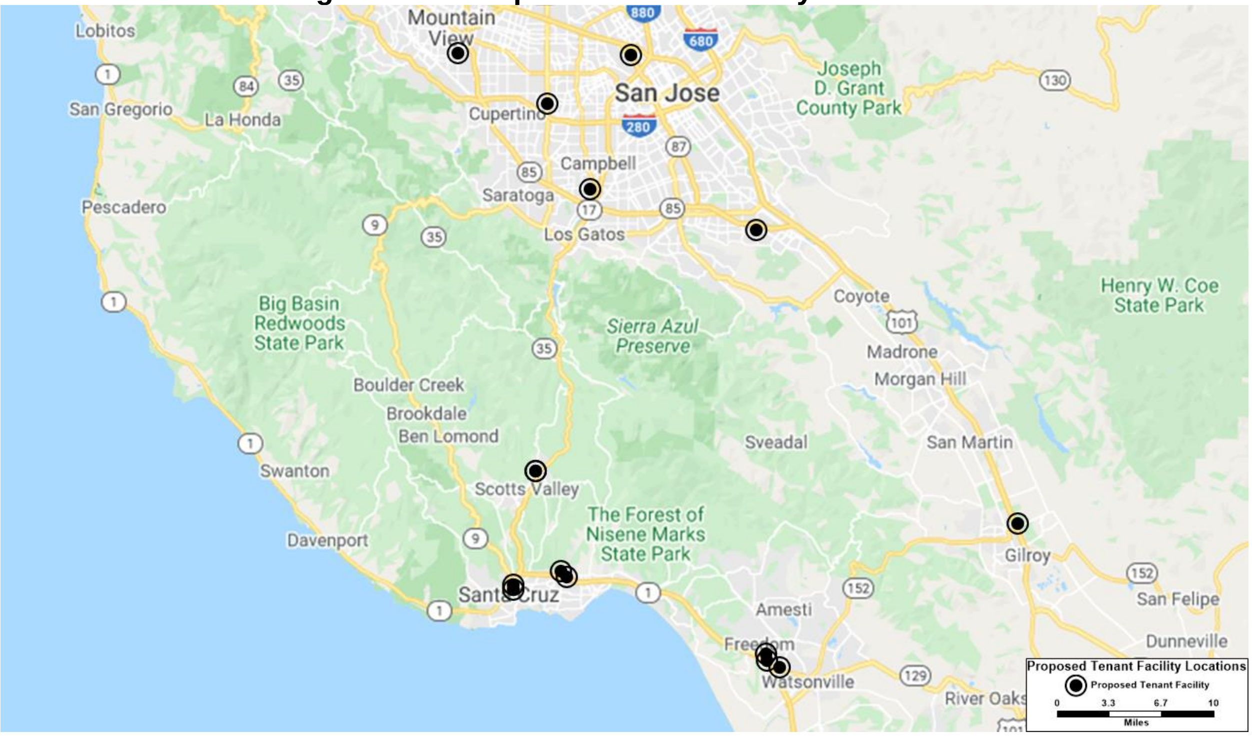
Service	Distribution of Total Visits	Total Visits
Cardiology - Outpatient	2.80%	16,074
Cosmetic Procedures - Outpatient	0.22%	1,263
Dermatology - Outpatient	2.80%	16,098
Endocrinology - Outpatient	0.29%	1,638
ENT - Outpatient	1.22%	6,980
Evaluation and Management - Outpatient	49.80%	286,044
Gastroenterology - Outpatient	1.36%	7,784
General Surgery - Outpatient	0.50%	2,845
Gynecology & Obstetrics	1.84%	10,544
Lab - Outpatient	4.08%	23,410
Miscellaneous Services - Outpatient	5.61%	32,206
Nephrology - Outpatient	0.25%	1,432
Neurology - Outpatient	0.62%	3,567
Neurosurgery - Outpatient	0.06%	316
Oncology - Outpatient	0.73%	4,183
Ophthalmology - Outpatient	2.58%	14,846
Orthopedics - Outpatient	1.81%	10,389
Pain Management - Outpatient	0.71%	4,106
Physical Therapy/Rehabilitation - Outpatient	3.09%	17,769
Podiatry - Outpatient	0.34%	1,936
Psychiatry - Outpatient	4.00%	22,970
Pulmonology - Outpatient	0.39%	2,259
Radiology - Outpatient	10.65%	61,187
Spine - Outpatient	0.09%	490
Thoracic Surgery - Outpatient	0.01%	69
Trauma - Outpatient	2.80%	16,105
Urology - Outpatient	1.05%	6,055
Vascular - Outpatient	0.32%	1,843
	100%	574,408

Scenario A Analysis

As described above, Scenario A evaluates the effect of the Project on the Proposed Tenant's Members. To determine the impact of the addition of the Project on the total VMT for the Proposed Tenant's Members, the distance traveled by each Member to the facility that provides the service required was determined for both Existing and 2040 Conditions. The location of each of the Proposed Tenant's facilities can be seen in **Figure F-4** below. This distance was then multiplied by the number of trips the Proposed Tenant's Members and employees in Santa Cruz County take in an average day to each of the Proposed Tenant's facilities. This was completed both for Project an No Project conditions.

The number of trips analyzed under Scenario A represents both the estimated current trip generation of existing facilities and the full utilization of the Project facility as determined based on the daily trip generation rate for Clinics (the same rate as used in the TIOA) included in the *Trip Generation Manual, 10th Edition* published by the Institute of Transportation Engineers (ITE). Based on information provided by the Applicant it is understood that for the No Project scenario, nearly 29-percent of Member trips include facilities outside of the County, while only 2.4-percent of member trips include facilities outside of the County in the Plus Project scenario. Once the number of daily trips was determined for all facilities, the trips were distributed to the Member and corresponding employee locations throughout the County based on an optimized solution which considers both the availability of a service for a given facility as well as the proximity of that facility to a Member. Member locations are based on the Existing and 2040 population locations provided by the Santa Cruz County Travel Demand Model (SCC TDM), while the employee locations are based on Census employment data. The resultant trips were then multiplied by the distance of the shortest travel time to each facility to determine VMT in the aggregate for each scenario. A more detailed explanation of this methodology is provided in **Appendix Z**.

Figure F-4 – Proposed Tenant Facility Locations



Scenario A Results

The VMT results for Healthcare Consumers under Scenario A are summarized below in **Table T-3.** For both Scenario A.2 (Existing Plus Project) and Scenario A.4 2040 (2040 Plus Project) conditions, the Project results in a net reduction of more than 44,000 VMT per day. The table includes VMT for both Member and employee trips. The results reflect that with the addition of the Project, there is a reduction in VMT, primarily due to the reduction in trips to facilities outside of the County as compared to the No Project scenarios.

Table T-3 – Total Vehicle Miles Traveled by Scenario

Analysis A		Patient Vehicle Miles Traveled (VMT)	Employee Vehicle Miles Traveled (VMT)	Combined Total
Existing	A1: Existing No Project	97,275	24,567	121,843
	A2: Existing Plus Project	53,300	24,126	77,426
	Net Reduction in VMT	***-43,975***	***-441***	***-44,416***
2040	A3: 2040 No Project	96,601	24,567	121,168
	A4: 2040 Plus Project	51,736	24,126	75,862
	Net Reduction in VMT	***-44,864***	***-441***	***-45,306***

SCENARIO B ANALYSIS

As noted above, Scenario B considers a conservative approach to defining the No Project condition. Scenario B is predicated on a set of circumstances where a significant catalyst for growth results from patients of Other Healthcare Systems transferring to the Proposed Tenant's system as new Members once the Project is constructed (i.e., Transferee Members) to receive healthcare services at the Project. Accordingly, in the No Project condition for Scenario B (B1), VMT associated with these Transferee Members is allocated to Other Healthcare Systems in the Project condition for Scenario B (B2), VMT associated with these Transferee Members is allocated to the Project instead because they have become Healthcare Consumers that receive healthcare services at the Project.[24] Given that a variety of considerations influence the growth of medical networks, including employer/employee selection, cost, and personal preferences, the transfer of patients from Other Healthcare Systems to become Transferee Members of the Proposed Tenant contemplated in this Scenario B likely represents the most conservative analysis.

B1: Cumulative No Project: 2040 VMT is evaluated based on a Healthcare Consumer distribution that represents forecasted 2040 household locations. In this scenario, Member trips are adjusted to account for Existing Members and Population Growth Members (i.e., new Members projected based on projected population growth). Most Existing Members and Population Growth Members receive care at one of the Proposed Tenant's facilities in the County, but almost 29-percent of Existing Member and Population Growth Member trips travel out of the County to receive medical services, since those specialized services are not offered at existing facilities in the County. There are no new employees (because there is no Project) so employee VMT is based on existing facility locations. Under this Scenario B1, Transferee Members remain with the Other Healthcare System in which they are assumed to belong and their VMT contribution is estimated based on their use of that system.

B2: Cumulative Plus Project: Under this condition, Transferee Members have transferred to the Proposed Tenant's membership base and the Project and are reflected in the Project's VMT, rather than in VMT attributable to the Other Healthcare Providers. VMT for Existing Members and Population Growth Members is determined based on the assumption that

[24] The Scenario A Existing No Project and No Project 2040, in contrast, assume that all Members in the No Project condition receive healthcare at one of the Proposed Tenant's existing facilities.

care is received at the Project or at one of the Proposed Tenant's facilities in the County. In this scenario, most Members receive specialized services at the Project and very few continue to travel out of the County for specific and highly specialized services that will not be provided at the Project. VMT associated with employees is also included. From a mathematical standpoint, this Scenario B2 is identical to Scenario A: Plus Project 2040 and has the same resultant VMT.

Methodology for Scenario B

The methodology described above for estimating VMT for Scenario A, including with respect to Project trip generation, also applies to the Scenario B analysis. Like Scenario A, the Scenario B analysis is also based on the accommodation of 6,106 Project trips (representing the same number of Members and employees). As such, the Scenario B analysis only considers the circumstances of Transferee Members and Population Growth Members that are forecasted to join the Proposed Tenant's network, as well as Members currently within the Proposed Tenant's network residing within the County. This basis maintains an "apples-to-apples" comparison basis for the two scenarios as required by SB 743.[25]

As noted with respect to Scenario A, this TIOA VMT analysis utilizes a trip generation rate based on the ITE Trip Generation Manual that overstates the VMT of the Project by 37-percent, as compared to traffic counts collected from area MOBs (see **Table T-4**). This overly conservative ITE rate likely results in a substantial decrease (37-percent) for Transferee Members' VMT under Scenario B.2's (Cumulative Plus Project) condition as compared to Scenario B.1 Cumulative No Project condition. For purposes of providing the most conservative analysis possible as part of this TIOA, however, this likely trip reduction is not considered in this report's VMT analysis, which instead is based on ITE trip generation rates instead.

Assumptions and Facts - Scenario B

The assumptions and facts that are specific to Scenario B are provided below:

B1. All of the Assumptions and Facts applicable to Scenario A also apply to Scenario B and are incorporated herein by reference, except Assumptions Number 2 (VMT sources) and 9 (membership forecasts) provided in Scenario A are modified as provided below.

B2. In order to account for the effect of the Project on Healthcare Consumers, VMT from a variety sources are considered, including those for Existing Members, Population Growth Members, Transferee Members, and healthcare facilities in the County. As such, VMT estimates for Scenario B presented for Cumulative No Project and Cumulative plus Project conditions include VMT to existing healthcare facilities in the County and to the Project. (This is a modification for

[25] *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018), California Governor's Office of Planning and Research, Page 16

Scenario A, Assumption No. 2 in order to provide for the consideration of Transferee Members and Population Growth Members.)

B3. The Proposed Tenant's Membership forecasts for its in-County MOBs for 2020 through 2040 was used as the basis for determining what percentage of trips were distributed across each of the three sources of Members (i.e., Existing Members, Population Growth Members or Transferee Members). These data are provided in **Appendix T**. This is a modification for Scenario A, Assumption No. 9 modified for Scenario B in order to provide for the consideration of Existing Members, Population Growth Members and Transferee Members.

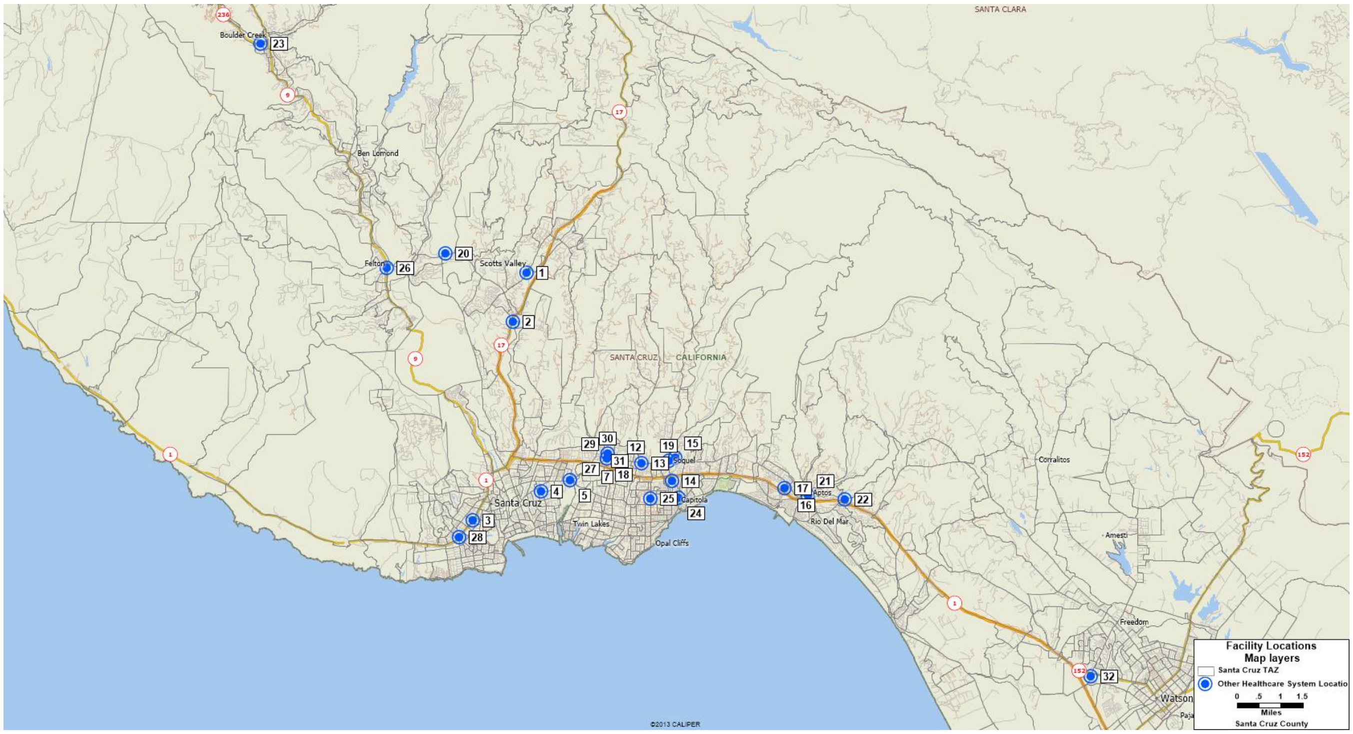
B4. The Proposed Tenant's Member growth under Cumulative conditions (Population Growth Members) is based on the population growth percentage between 2019 and 2040, as provided for in the SCC TDM.

B5. Transferee Members that are Healthcare Consumers of Other Healthcare Systems under the Cumulative No Project condition have 33 facilities to choose from, 15 for Dignity Health ("Healthcare System A") and 18 for Sutter Health ("Healthcare System B"). The location for all facilities of the Other Healthcare Systems are summarized in **Table T-4** and **Figure 5**.

Table T-4 – Location of Competing Other Healthcare Provider Facilities

Location Letter	Name	Group	Street	City
A	Dignity Health Medical Group	Dignity Health	1066 South Green Valley Road	Watsonville
B	Dignity Health Medical Group	Dignity Health	575 Auto Center Dr	Watsonville
C	Dominican 1595 Center	Dignity Health	1595 Soquel Drive	Santa Cruz
D	Dominican Family Practice	Dignity Health	4700 Soquel Dr	Soquel
E	Dominican Family Practice - Aptos	Dignity Health	9515 Soquel Drive	Aptos
F	Dominican Family Practice - Boulder Creek	Dignity Health	13350 Big Basin Way	Boulder Creek
G	Dominican Family Practice - Capitola	Dignity Health	528 Capitola Ave	Capitola
H	Dominican Family Practice - Dominican Way	Dignity Health	1779 Dominican Way	Santa Cruz
I	Dominican Family Practice - Westside	Dignity Health	2018 Mission Street	Santa Cruz
J	Dominican Hospital	Dignity Health	1555 Soquel Drive	Santa Cruz
K	Dominican Obstretrics & Gynecology	Dignity Health	1505 Soquel Drive	Santa Cruz
L	Dominican Pediatrics & Urgent Care	Dignity Health	1820 41st Ave	Capitola
M	Dominican Urology	Dignity Health	1667 Dominican Way	Santa Cruz
N	Frederick St	Dignity Health	700 Frederick Street	Santa Cruz
O	Primary Care in your Neighborhood	Dignity Health	223 Mt. Hermon Road	Scotts Valley
P	Aptos Center	Sutter	7600 Old Dominion Court	Aptos
Q	Aptos Walk-In Care	Sutter	26 Rancho Del Mar	Aptos
R	Capitola Center Lab	Sutter	815 Bay Ave	Capitola
S	Commercial Crossing Center	Sutter	2850 Commercial Crossing	Santa Cruz
T	Freedom PAMF	Sutter	160 Green Valley Road	Freedom
U	Santa Cruz Allergy	Sutter	3035 North Main Street	Soquel
V	Santa Cruz Cardiothoracic Surgery	Sutter	1575 Soquel Drive	Santa Cruz
W	Santa Cruz Center	Sutter	2025 Soquel Ave	Santa Cruz
X	Santa Cruz Chanticleer Center (2907)	Sutter	2907 Chanticleer Ave	Santa Cruz
Y	Santa Cruz Chanticleer Center (2911)	Sutter	2911 Chanticleer Ave	Santa Cruz
Z	Santa Cruz Gastroenterology	Sutter	1662 Dominican Way	Santa Cruz
AA	Santa Cruz Neurology	Sutter	1661 Soquel Drive	Santa Cruz
AB	Santa Cruz Physical Therapy	Sutter	1529 Seabright Ave	Santa Cruz
AC	Scotts Valley Center	Sutter	4663 Scotts Valley Drive	Scotts Valley
AD	Scotts Valley El Rancho Drive Center	Sutter	2980 El Rancho Drive	Santa Cruz
AE	Soquel Center	Sutter	2950 Research Park Drive	Santa Cruz
AF	Watsonville PAMF	Sutter	550 S Green Valley Rd	Watsonville
AG	Westside Center	Sutter	1301 Mission Street	Santa Cruz

Figure F-5 – Other Healthcare Provider Facility Locations



Scenario B Analysis

Generally, Scenario B follows the same analytical techniques outlined under the Scenario A analysis above. The primary differences between the two scenario analyses is the analysis of the prior trip patterns of Transferee Members under the Cumulative No Project condition (when they are participants in Other Healthcare Systems) versus their trip patterns under the Cumulative Plus Project condition (after they become Members that receive health care at the Project).

The number of Existing Members in 2020 and the Proposed Tenant's projected membership in 2040 for Santa Cruz County, as provided by the Proposed Tenant, was used as the basis for distributing Members across each of the three member sources: Existing Members, Population Growth Members, and Transferee Members. The 2020 Membership is estimated to be 35,071, while the 2040 Membership is projected to be 87,729, for a 20-year growth of 52,658 Members as shown in **Appendix S**. The SCC TDM was used as the basis to determine the population growth over the same period. It was determined that the population would grow by approximately 12.5 percent. As with Scenario A, the SCC TDM population distribution is the basis for the determination of Healthcare Consumer origins.

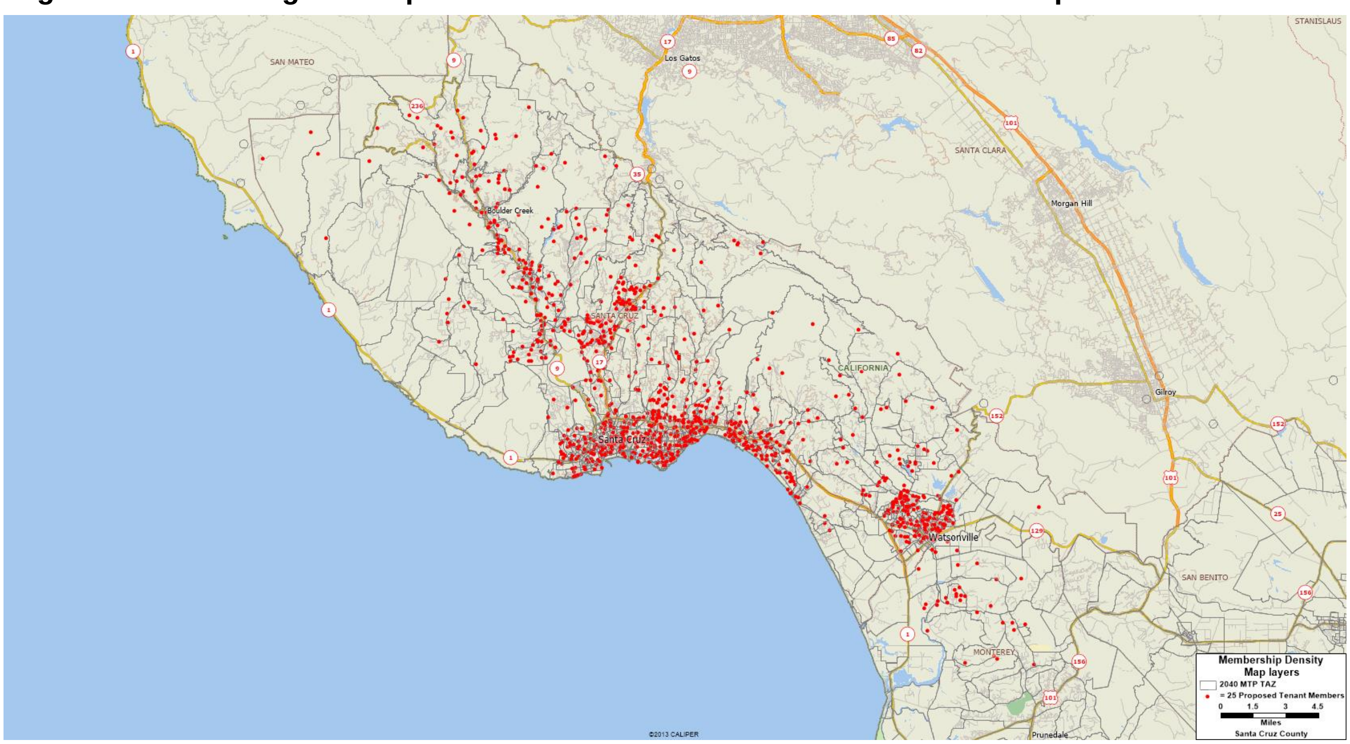
To determine Population Growth Members, the 2020 membership was multiplied by the population growth percentage for the County, resulting in a Membership growth of 4,394. The remaining growth of 48,264 is assumed to be the result of Transferee Members. As a result, the Cumulative Plus Project conditions assume that Membership is made up of 40-percent Existing Members, 5-percent Population Growth Members, and 55-percent Transferee Members as shown in **Appendix T**. Under the Scenario B.1 Cumulative No Project conditions, the 55-percent of Transferee Member are analyzed as participants in Other Healthcare Systems.

As with Scenario A, the Applicant-provided market data were the basis of identifying the distribution of Member visits by service type and by facility for Scenario B1 and Scenario B2. Similarly, the data shows that almost 29-percent of Existing Members and Population Growth Members would travel outside the County for specialized services under the Scenario B.1 Cumulative No Project Condition and almost 2.4-percent of total Member trips would continue to travel outside the County under the Scenario B.2 Cumulative Plus Project condition for the purposes of obtaining highly specialized services that are not expected to be provided by the Project.

Figure F-6 displays the locations of Existing Members and Population Growth Members by TAZs (denoted as grey-lined areas defined in the travel demand model for land use forecasting) with each dot representing 25 Members. **Figure F-7** displays the locations of Transferee Members that would otherwise receive care from Other Healthcare Providers by TAZ in density groupings of 25 Members. **Appendix R** includes information related to the basis of the assumption for continued use of the San Jose facility.

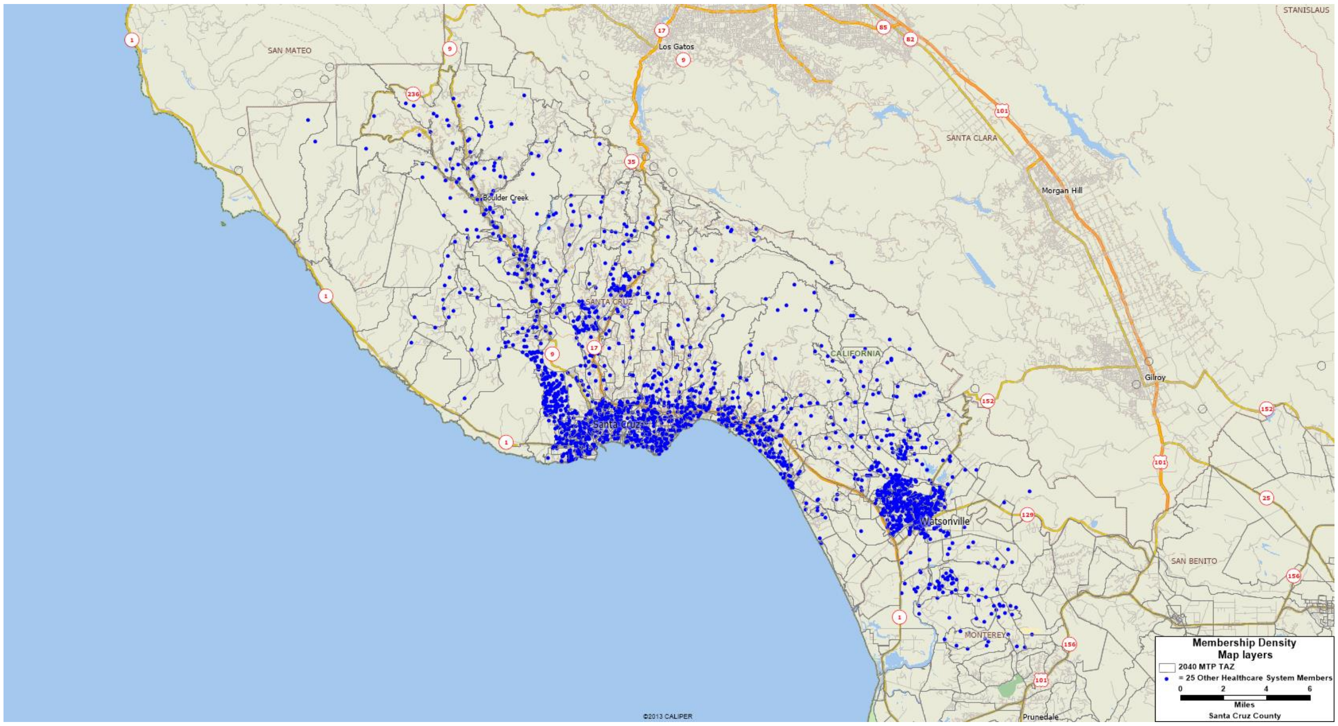
VMT for the Scenario B.1 Cumulative No Project and the Scenario B.2 Cumulative Plus Project condition was calculated in the same manner as Scenario A (see **Appendix Z** for more details). The primary difference being that the Cumulative No Project condition considers the VMT of Transferee Members as it relates to Other Healthcare Systems. Employees were also handled consistently with Scenario A.

Figure F-6 – Existing and Population Growth Member Locations for the Proposed Tenant



Kimley»Horn

Figure F-7 – Other Healthcare System Patient Locations



Scenario B Results

The VMT results for Healthcare Consumers under Scenario B are summarized in **Table T-5.** For Scenario B.2 (Cumulative Plus Project) conditions, the Project results in a net reduction of more than 20,000 VMT per day. The table includes the effect of Transferee Members leaving Other Healthcare Providers to become new Proposed Tenant Members receiving care at the Project instead. VMT was calculated for both Member trips and employee trips. The results reflect that with the addition of the Project in the Scenario B.2 (Cumulative Plus Project) condition, there is a reduction in VMT primarily due to trips outside the County being significantly reduced as compared to the B.1 (Cumulative No Project scenario).

Table T-5 – Total Vehicle Miles Traveled by Medical Facility and Service Type

Analysis B	Combined Total
Patient Vehicle Miles Traveled (VMT)	
B1: Cumulative No Project	**70,906**
B2: Cumulative Plus Project	**51,736**
Net Reduction in VMT	**-19,169**
Employee Vehicle Miles Traveled (VMT)	
B1: Cumulative No Project	**25,279**
B2: Cumulative Plus Project	**24,126**
Net Reduction in VMT	**-1,152**
Patient + Employee Vehicle Miles Traveled (VMT)	
B1: Cumulative No Project	**96,184**
B2: Cumulative Plus Project	**75,862**
Net Reduction in VMT	**-20,322**

With the addition of the Project, the Healthcare Consumers allocated to Healthcare System A and Healthcare System B become Transferee Members and their trips are diverted from the Other Healthcare Systems to the Project. VMT associated with Healthcare Consumers that currently are, and that after construction of the Project will continue to be patients of the Healthcare System A or Healthcare System B are not reflected in this Table.

Conclusion

Conclusion: As shown in **Table T-6** below, under all conditions for the Scenario A and Scenario B analyses, the Project results in a net VMT reduction. In Scenario A, which focuses on VMT associated with Members who receive services at the Proposed Tenant's existing facilities should the Project not be constructed, the Project results in reduction of 44,416 VMT in the Scenario A.2 (Existing Plus Project) condition and a reduction of 35,306 VMT in the Scenario A.4 (2040 Plus Project) condition as shown in **Table T-3**. In Scenario B, which provides a more conservative analysis that considers the VMT associated with Existing, Population Growth and Transferee Members, the Project results in a reduction of 20,322 VMT in the Scenario B.2 (Cumulative Plus Project) condition as shown in **Table T-5**. In both Scenario A and Scenario B, this ultimate reduction in VMT with the Project is primarily due to the reduction in the number of trips traveling outside the County for specialized services since the majority of those services are provided by the Project.

Table T-6 – Total Vehicle Miles Traveled by Scenario

Analysis Scenario	Combined Total
Patient + Employee Vehicle Miles Traveled (VMT)	
A1: Existing No Project	**121,843**
A2: Existing Plus Project	**77,426**
Net Reduction in VMT	**-44,416**
A3: 2040 No Project	**121,168**
A4: 2040 Plus Project	**75,862**
Net Reduction in VMT	**-45,306**
B1: Cumulative No Project	**96,184**
B2: Cumulative Plus Project	**75,862**
Net Reduction in VMT	**-20,322**

Based on the results of this TIOA analysis, the Project would not result in a net increase in VMT and, accordingly, would not have a significant transportation impact under CEQA.

3. TRANSPORTATION DEMAND MANAGEMENT (NON-CEQA ANALYSIS)

Transportation Demand Management ("TDM") measures are programs that can be implemented to reduce single occupancy vehicle ("SOV") travel to and from homes or places of work by offering travelers mode choice options. TDM options are intended to reduce roadway congestion and provide more choices for how to travel, both of which will assist in promoting business, providing access to opportunity, and improving the quality of life across the state. The County recognizes the value of TDM measures in its General Plan[26] and Trip Reduction Ordinance.[27]

The Project has no significant transportation impacts under CEQA (as assessed by VMT), and therefore is not legally required to provide or incorporate TDM measures to mitigate such impacts. Nonetheless, the Project will voluntarily implement TDM measures to reduce reliance on SOVs and to assist in achieving state and local GHG reduction commitments, preserving the environment, improving health and safety and reducing congestion on local streets and highways. The trip generation assumptions used in this TIOA to analyze the Project's impacts on County roadways were not discounted to account for the implementation of TDM.

The Project proposes a targeted TDM strategy focusing on separate measures for employees and Members, as described in detail below.

Employee-Focused TDM Measures

The Project proposes to provide the following TDM benefits to **employees**:

- Bike Share Program
- Commute Management Platform and Rideshare Support
- Emergency Ride Home Program
- TDM Coordinator
- Safe, Well-Lit, and Accessible Pedestrian/Bicycle Facilities along Soquel Avenue

Bike Share Program: To encourage employees to utilize transportation mode alternatives to SOVs, the Project proposes to fund the implementation of a Bike Share Program when available in the County. The program might include subsidized or discounted monthly memberships or other incentives to encourage bike commuting by employees. In addition to the bike share service, employees can also ride their own bikes to work, or take their own bike as a "first-mile, last-mile" service and complete the main trip on the METRO bus, placing their bike on a bus bike rack. An employee's trip comprises the entire journey from origin to destination. Employees may use a number of modes (types) of transport to complete the journey – they may walk, drive, ride a bicycle, - in many cases - combine a number of these modes. The METRO bus service would form the core of the trip, but they would complete the first and last portion on their own. For example, they must first bike to a bus stop, then take

[26] See Policy 3.12.4

[27] See Santa Cruz County Code, §5.52.010 *et seq.*

the bus, disembark at a stop closest to the Project site, then finish their trip on their bike. This is referred to as the first and last mile of the employee trip.

The Project will also install 4,200 feet of Class II bike lanes along Soquel Avenue to facilitate safe routes of travel to the Project site by bicycle. The Project will provide a designated area close to the front door for bikes to be parked. Though not specifically targeted to Members, bike share services will also be available when implemented by the County to Members wishing to travel to the Project from serviceable bike stations.

Commute Management Platform and Rideshare Support: The County has launched the Ride Amigos commute management platform for people that work in the County. Ride Amigos is a web-based service that includes ride matching and engagement through the gamification[28] of SOV alternatives. This type of platform engages users and provides up-to-date commuting data to TDM administrators. Employees in the County can sign up to participate. The service will connect drivers with riders, allowing employees the opportunity to carpool together or with other commuters in the Santa Cruz area. Participants may also use the Ride Amigos platform to log SOV alternatives, such as carpool, bicycle trips and transit trips. The Proposed Tenant's TDM coordinator would work with the County to engage employees on the platform to encourage the use of alternative SOV modes through the platform's gamification functions. This measure would be implemented at no cost to employees.

To encourage ridesharing, the Project will have designated preferred parking for ride-share participants and be designed to provide adequate passenger loading/unloading and waiting areas for ride-share vehicles.

Emergency Ride Home Program: The Emergency Ride Home Program is a service that the Applicant (or Proposed Tenant) will register for and fund. Employees that commute to work using SOV alternatives will be able to take advantage of a free ride home in emergency situations should they be unable to take their alternative mode of travel home. This service would be, and is typically, capped at a predetermined maximum number of rides per period (such as month, quarter, or year) for each employee. Ecology Action is currently providing these services in the County. It is anticipated that the Proposed Tenant will subscribe to the organization, but the Proposed Tenant may also provide funding to its employees for taxi or Uber/Lyft emergency trips instead.

TDM Coordinator and Marketing Materials: The Proposed Tenant currently has TDM program Coordinators at its other facilities and provides marketing/informational materials to its employees at these locations. The TDM Coordinators encourage employees to sign up and utilize the available TDM resources and benefits provided by the Proposed Tenant. TDM Coordinators also measure and monitor program progress. Where applicable, they administer employee commute surveys. The Proposed Tenant (or other Project operator) will extend these services to the Project site to encourage and educate employees about the availability

[28] A marketing technique to encourage engagement with a product of service.

of alternative modes of commute. The TDM Coordinator will also work closely with the County to engage employees through the County commute management platform.

Safe, Well-Lit, and Accessible Pedestrian/Bicycle Facilities: The Project proposes to construct off-site pedestrian and bike facility improvements along Soquel Avenue, as discussed in detail in the Pedestrian, Bicycle and Transit Mobility Chapter (Chapter 4) of this TIOA. These active transportation improvements will be funded by the Project and are anticipated to provide substantial benefits and connectivity to employees that wish to travel to/from the Project on foot, from transit facilities or by bike. These improvements will enhance the local sidewalk and bicycle network and address existing pedestrian/bicycle deficiencies in the County.

Based on the data sources identified in **Table T-7**, it is anticipated that the TDM measures mentioned above and shown in detail in **Table T-7** would reduce Project employee trip generation by approximately 15.5 percent.

Member-Focused TDM Measures

In addition to the above TDM measures targeted at employees, the Project will also provide the following TDM measures intended to benefit **Members**:

- Virtual Care Strategy
- Safe, Well-Lit, and Accessible Pedestrian/Bicycle Facilities

Virtual Care Strategy: The Proposed Tenant allows Members the opportunity to conduct appointments with their medical practitioners virtually over the internet. This highly successful program is already in use and the ability to conduct appointments virtually removes the need for many Members to travel to and from physical medical offices. Particularly with the recent implications of COVID-19, virtual doctor's appointments have become the norm, and this manner of communication is anticipated to remain heavily utilized into the future, especially for more routine appointments. The Proposed Tenant anticipates extending this virtual care service to Members wishing to meet with medical practitioners based at the Project site. A target of 20 percent of all patient visits being accessed through the virtual care program is being established by the Applicant.

Safe, Well-Lit, and Accessible Pedestrian/Bicycle Facilities: The off-site pedestrian and bike facility improvements that will be funded by the Project along Soquel Avenue, and discussed as part of the employee TDM improvements above, will also provide a benefit to Members. Such active transportation improvements are anticipated to provide real benefits and connectivity to Members and visitors that wish to travel to/from the site on foot or by bike. These improvements will also improve the local sidewalk and bicycle network and address existing pedestrian/bicycle deficiencies in the County. The TDM trip reduction for Members could be as high as 0.5 percent for the off-site pedestrian and bike facility improvements, as described in **Table T-7**.

Fewer numbers of ill or infirm Members are expected to bike or walk to the site to receive care. As discussed further in the Pedestrian, Bicycle, and Transit Mobility Chapter (Chapter 4), Members that are senior citizens or that have temporary or permanent physical, cognitive, or psychiatric disabilities may be eligible to receive free or low cost door-to-door transportation to the Project via the METRO-operated ParaCruz service or the Lift Line program operated by Community Bridges. To be as conservative as possible, the Project does not assume any reduction in SOV use associated with these programs and therefore does not account for this as a Project TDM measure.

Based on data sources identified in **Table T-7**, it is anticipated that the above TDM measures would reduce Member trip generation by approximately 20.5 percent.

Table T-7 – TDM Measure Summary

Transportation Demand Management Measure	Description	TDM Type	Estimated Trip Reduction (%)	Trip Reduction Source
Employees Only				
Bike Share Program	Bicycle share programs provide convenient rental bicycles to users. This allows urban residents and visitors to bicycle without needing to purchase, store and maintain a bike.	Incentive	4%	Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association, August 2010.
Commute Management Platform (Ride Amigos or similar service) and Rideshare Support	Increases vehicle occupancy by providing ride-share matching services, designating preferred parking for ride-share participants, designing adequate passenger loading/unloading and waiting areas for ride-share vehicles, and providing a website or message board to connect riders and coordinate rides.	Incentive	2.5%	This service is already available to employees in the County and would only be a continuation/extension to employees at the Project.
Emergency Ride Home Program (ERH)	Provides an occasional subsidized ride to commuters who use alternative modes and eliminates a common constraint to the use of alternative modes. Guaranteed ride home for people if they need to go home in the middle of the day due to an emergency or stay late and need a ride at a time when transit service is not available. ERH programs may use taxies, company vehicles or rental cars.	Incentive	3%	Guaranteed Ride Home Programs: A Study of Program Characteristics, Utilization, and Cost by William B. Menczer (Federal Transit Administration); Guaranteed Ride Home Program Evaluation 2013 by Alameda CTC.
On-site TDM Program Coordinator and TDM marketing materials	A TDM coordinator to monitor overall program progress, marketing and public outreach to promote awareness of TDM program.	Infrastructure	4%	Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association, August 2010.
Safe, well-lit, and accessible pedestrian/bicycle facilities	Enhance the route for employees walking or bicycling to transit (typically off-site). Implements pedestrian network improvements throughout and around the Project site that encourages people to walk.	Infrastructure	2%	Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association, August 2010.
		Estimated Total Trip Reduction for Employees Only	**15.5%**	
Members Only				
Virtual Care Strategy	Resources to allow Members to access healthcare services or communicate with healthcare staff through online or off-site programs.	Infrastructure	20%	Based on the Proposed Tenant's ongoing program results See Appendix W.
Safe, well-lit, and accessible pedestrian/bicycle facilities	Enhance the route for Members walking or bicycling to transit (typically off-site). Implements pedestrian network improvements throughout and around the Project site that encourages people to walk.	Infrastructure	0.5%	Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association, August 2010.
		Estimated Total Trip Reduction for Members Only	**20.5%**	

Notes:
1. An Incentive is a measure that would entice a candidate employee or patient to make a mode shift choice and reduce their Single SOV trips.
2. Infrastructure type is a physical feature that makes it more enticing for an employee or patient to make a mode choice from SOV to an alternative mode.
3. TDM reduction percentages are consistent with the County's most recent VMT reduction strategies. The County TDM Policy is Attached in Appendix Y.

Other TDM Considerations

Since the Project proposes to voluntarily implement and fund the TDM improvements described above, it is anticipated that trip generation estimates provided in this TIOA and used in the operational LOS analyses are very conservative because it does not incorporate the anticipated TDM measures in the overall analysis. In fact, with implementation of the TDM measures, it is anticipated that the Project will generate fewer trips than as analyzed in this TIOA, roughly on the order of 1165 Daily trips. This estimate is based on 300 employees working at the Project making trips during the AM and PM peak hours. The remainder of the daily 6,106 trips are made by Members and project support services (i.e. deliveries, pickups and drop-offs) of which 5% of the project support service trips are excluded from the TDM trip calculations shown in **Table T-8**.

Table T-8 – TDM Trip Calculations

TDM Trip Calculations	Daily trips	AM trips	PM trips	% TDM	Non-peak hour trips	AM trips	PM trips
					TDM Trips		
Project Trip Generation	*6106*	*590*	*525*				
Employee Trips	600	300	300	15.50%	93	47	47
Member and Project Support Service Trips	5506	290	225				
Project Support Service Trip Reduction (5%)	-275	-15	-11				
Net Member Trips	5231	275	214	20.50%	1072	56	44
Total TDM Trips					**1165**	**103**	**91**

Moreover, trip generation rates used in this TIOA are based on ITE assumptions. As further described in Section 6 of this report, traffic data was collected at comparable facilities at the County's request. Those traffic counts indicate that ITE assumptions overstate actual trip generation by 23 percent to 52 percent. Based on implementation of TDM and the potential overestimation of trips utilizing ITE assumptions, it is likely that operational deficiencies to the local transportation will be substantially less than what is published in this TIOA.

Given the above, once the Project is constructed and fully operational, it is expected that the Project will monitor actual trip generation through a formalized driveway traffic count program. These counts would be collected at regular intervals, at a frequency to be mutually agreed upon with the County, and would be used to compare against the trip generation estimates published in this study, which are based on ITE data and which do not incorporate or assume TDM reductions. If future driveway counts demonstrate that the Project generates fewer trips than were assumed for the purposes of calculating TIA fees, then the Applicant / Proposed Tenant may receive a refund for the corresponding overpayment.

In addition, it is expected that an anonymous employee commute survey would be conducted annually for as long as the TDM program is implemented in order to assess the employee-focused measures and for internal planning purposes. A summary report of information collected from the annual survey could be provided to the County upon request.

4. TRANSIT, BICYCLE, AND TRANSIT MOBILITY (NON-CEQA ANALYSIS)

The Project was evaluated to determine if it would adversely affect adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks) or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by transit, bicycle, or pedestrian facilities and plans. The County's General Plan contains several policies related to transit, bicycle and transit mobility, including the following:

Pedestrian-Oriented Policies:

Policy 3.10.3 Require adequate lighting for pedestrian and transit patron's movement where appropriate.

Policy 3.10.4 Require dedication and construction of walkways for through pedestrian traffic and internal pedestrian circulation in new developments where appropriate.

Policy 3.10.7 Provide for pedestrian movement in the design of parking areas.

Policy 3.10.8 Incorporate ADA standards in design of new projects and reconstruction where applicable. Prohibit landscaping and all other obstacles, such as telephone poles and fire hydrants, which would prevent pedestrian movement within this walkway. Require the use of materials which will provide an all-weather surface for walking.

Policy 3.10.10 All new development shall incorporate ADA standards into the design, where applicable.

Bicycle-Oriented Policies:

Policy 3.8.1 Plan a bikeway network to integrate with other modes of transportation (train or transit stations and Park and Ride lots, etc.) in order to encourage and support the use of bicycling and reduce the use of motor vehicles.

Policy 3.8.4 Encourage the provision of bicycle racks, showers, lockers and other storage facilities at destinations, where practical and economically feasible, when reviewing discretionary permits for major activity centers and employer sites.

Policy 3.9.1 Design and construction regional bikeways in accordance with County and Caltrans standards in order to maximize safety and minimize potential conflicts with pedestrians and motor vehicles.

Policy 3.9.2 Construct and mark bicycle routes in conformance with state standards. Limit the number of driveways where feasible in new developments to reduce the potential for automobile-bicycle conflicts.

Policy 3.9.3 Limit on-street parking where the need for a clear bike lane exists. Strip all arterials for bike lanes and strictly enforce parking limitations.

Project Transportation Improvements

Project Site Access and Circulation

The Project site will be accessed from Soquel Avenue. The Project will construct one main signalized driveway entrance for employees and Members, which will provide access to the patient loading and unloading area, as well as the proposed parking garage. The main driveway will include a protected westbound left-turn pocket and eastbound right-turn pocket into the Project site from Soquel Avenue, as well as northbound left- and right-turn lanes exiting the Project site. A peak hour signal warrant for the main driveway indicates that a signal is warranted per the California Manual on Uniform Traffic Control Devices ("CAMUTCD") guidelines and the peak hour warrant analysis worksheet is included in **Appendix J.** Note that roundabouts require more right of way than signals and a roundabout at this driveway would not be feasible due to Highway 1 right-of-way constraints.

A secondary driveway will also be constructed east of the main entrance for deliveries, pickups, and ambulances. The secondary driveway south leg will be stop controlled and Soquel Avenue traffic will be free flow. The secondary driveway will experience very low and infrequent volumes throughout the day and no signal is anticipated for this location.

As shown in the Project site plan in **Figure F-2**, the Project will construct a roadway through the center of the site, with the Project parking garage on the west side of the site and the MOB on the east side of the site. The parking garage will have two entrances/exits, one at the northeast end of the garage and one at the southeast end.

A patient drop-off/pick-up zone will be provided near the main building entrance and accessed via the main Project Driveway. The drop-off/pick-up zone will provide capacity for approximately seven vehicles at a time.

For motorists traveling to the site, the north entrance/exit will allow for free right-turn movements into the garage. Traffic wishing to bypass the main garage entrance will use the southbound through lane, which will be stop-controlled, rather than the free southbound right-turn to bypass the main garage entrance and continue south. Motorists bypassing the main garage driveway will then have the opportunity to access the secondary garage driveway or continue around to the drop-off/pick-up zone adjacent to the MOB. For motorists wishing to park in the garage after dropping-off Members in the loading/unloading zone adjacent to the MOB, motorists will have the opportunity to make a northbound right-turn at the north garage entrance/exit at turn into the garage to seek a parking space.

For motorists leaving the site, both garage exits will be stop controlled. The north entrance/exit will allow for the most direct route to leaving the site, by permitting motorists to make an eastbound right turn, which will bring them to the proposed Soquel Avenue & Project Driveway signal. For travelers exiting from the south garage driveway, motorists would take an eastbound right turn, travel north past the drop-off/pick-up area, stop at the northbound through stop-controlled movement at the north garage entrance/exit, and then continue to the Soquel Avenue & Project Driveway signal.

An east/west high visibility pedestrian crosswalk will be provided across the south leg of the north garage entrance/exit. Pedestrians will be able to utilize this proposed crosswalk to access the MOB after parking their vehicles and bikes. The Project will construct wayfinding signage to direct pedestrians to the crosswalk. Conflicting traffic will be stop controlled and pedestrians will have the right of way to cross at this location.

Bikes will access the site via the Soquel Avenue & Project Driveway signalized intersection, traveling south and parking near the north parking garage entrance/exit, as shown in **Figure F-2**. After parking their bikes at the designated bike parking area, pedestrians will utilize the previously discussed east/west pedestrian crosswalk to access the Project site.

The Project will also construct ADA-compliant sidewalk along the north Project frontage (south side of Soquel Avenue), which will extend along the south side of Soquel Avenue and fill the existing gap in the County's sidewalk network.

Off-site Mobility Improvements - Soquel Avenue Two-Way Left-Turn Lane Striping Improvements Project

The Project will implement approximately 3,500 feet of "TWLTL striping (and restriping) along Soquel Avenue from Paul Minnie Avenue to the existing creek crossing (east of Mattison Lane). These striping improvements will include restriping of the existing bike lanes and the addition of new green bike lane striping. Conceptual layouts for these Project improvements are included in **Appendix I**.

Pedestrian Mobility

Existing Conditions

Pedestrian facilities are characterized as sidewalk and crosswalks. No sidewalk currently exists along the Project site frontage along Soquel Avenue. Sidewalk exists just east of the Project site along the south side of Soquel Avenue in front of the Kraft's Body Shop and west of the Project site along the south side of Soquel Avenue in front of the Live Oak Business Park, which includes the County of Santa Cruz Sheriff's Office. Other than the sidewalk gap near the Project described above and sections of Mattison Lane, all local streets within ½-mile of the Project site have existing sidewalks. Crosswalks near the Project site include crosswalks at Soquel Avenue & 17th Avenue, Chanticleer Avenue & Soquel Avenue, and Rodeo Gulch Road & Soquel Avenue intersections.

Planned Improvements

The Project will construct ADA-compliant sidewalks and ramps along its frontage on the south side of Soquel Avenue, which will extend west and east beyond its frontage and connect to existing sidewalk facilities along Soquel Avenue. These improvements will fill a critical gap in the County's pedestrian facility network and will improve pedestrian connectivity along Soquel Avenue. Additionally, internal pedestrian connections will link the Project's entrance with the parking areas, as well as the Soquel Avenue frontage. Adequate lighting will be installed to enhance the safety and usability of new pedestrian paths of travel. Therefore, with construction of the Project and sidewalk improvements, employees and Members choosing to walk to the site would not be adversely affected based on pedestrian mobility, accessibility, or safety.

These improvements will further pedestrian travel policies set forth in the General Plan, including to require adequate lighting for pedestrian movement; require dedication and construction of walkways for through pedestrian traffic and internal pedestrian circulation in new development; provide for pedestrian movement in the design of parking areas; and incorporate ADA standards in the design of new projects. (General Plan, Policies 3.10.1-3.10.10.)

Bicycle Mobility

Existing Conditions

Existing Class I, II, and III bikeway facilities (within ½ mile of the Project site) are discussed below:

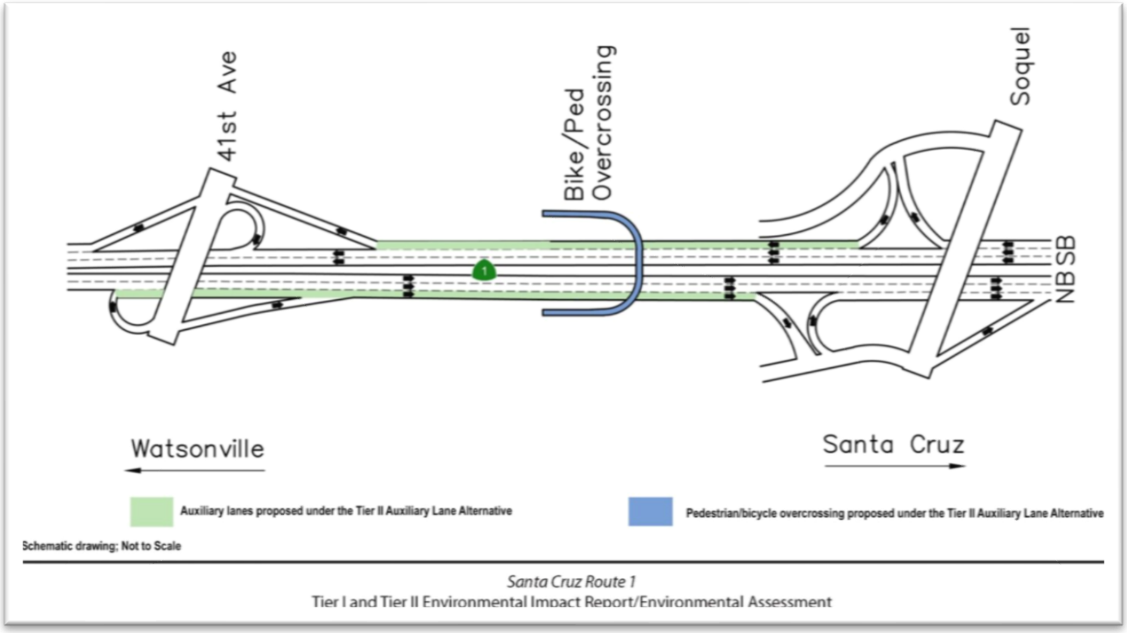
Class I facilities are paved bicycle paths that are physically separated from the vehicular travel lane. No Class I facilities exist near the Project site.

Class II facilities, which are striped bike lanes along the street, exist along Soquel Avenue in eastbound and westbound directions, adjacent to the Project site. Class II bike lanes also exist along both sides of Chanticleer Avenue (approximately ¼ miles west of the Project site) and 17th Avenue (approximately ½ miles west of the Project site).

Class III bicycle facilities are bike routes denoted by signs that are shared with vehicles along the roadway. Class III bicycle facilities currently exist along Paul Minnie Road, approximately ½ miles west of the Project site.

A bike and pedestrian overcrossing project is currently in final design and is expected to extend over Highway 1 and connect to Chanticleer Avenue on the north and south sides of Highway 1. The planned pedestrian and bike bridge are included in **Figure F-8**.

Figure F-8 – Planned Chanticleer Bike Bridge



Planned Improvements

The County's 2040 Regional Transportation Plan ("RTP") identifies the area of Soquel Avenue in the Project vicinity for striping/restriping as a bike connector in the future. The Project will provide approximately 4,200 feet of Class 2 bike lane along Soquel Avenue from Paul Minnie Avenue to just east of Mattison Lane, as illustrated in concept drawings included in **Appendix I.** These proposed improvements would improve safety and fill critical gaps in the County's bicycle network, as well as provide bicycle access to the Project site via Soquel Avenue. Striping for the bike lane will be colored green. Installation of colored and non-colored bicycle lanes at signalized intersections was evaluated in the Safety Performance Functions for Bicycle Crashes in New Zealand and Australia (2011) study[29], which concluded that colored and non-colored bike lanes that were installed on facilities that previously had no bike striping and where cyclists shared the roadway with motor vehicles could realize a crash reduction factor ("CRF") of 39 and a CRF of 20, respectively. This equates to a 39 percent reduction in collisions when colored bike lanes are installed and a 20 percent reduction in collisions when non-colored bike lanes are installed. It is therefore estimated that restriping existing bike lanes at intersections along Soquel Avenue and adding green paint would reduce collisions by approximately 19 percent. This results in a reduction of approximately two bike collisions out of every 10 bike collisions. With future construction of the Chanticleer bike bridge, bike traffic along Soquel Avenue is expected to increase substantially and the added benefit is therefore significant.

Parking will not be allowed along the bike lane within the Project's frontage, which will enhance bicyclist safety by reducing the potential for bicycle-vehicle conflicts.

[29] Turner, S., Wood, G., Hughes, T., & Singh, R. (2011). Safety Performance Functions for Bicycle Crashes in New Zealand and Australia. *Transportation Research Record*, *2236*(1), 66–73. https://doi.org/10.3141/2236-08

As discussed in the Transportation Demand Management Chapter (Chapter 3) of this TIOA, the Project would provide bicycle racks, showers, and lockers to facilitate bike travel to the Project site.

These bicycle mobility improvements advance General Plan policies addressing the bikeway system and bikeway safety by furthering the bikeway network's integration with other modes of transportation, including transit stations and other activity centers; and designing and constructing bikeways in accordance with County, Caltrans and state standards. (General Plan, Policies 3.8.1-3.8.4, 3.9.1-3.9.3.)

Transit Mobility

Existing Conditions

The Santa Cruz Metropolitan Transit District (METRO) provides transit services throughout the County and between the cities of Santa Cruz, Capitola, Watsonville, and Scotts Valley. The Project site is located in the general service area for METRO. However, good sidewalk connectivity does not currently exist between the existing METRO bus stops and the Project site (though they will be installed with the Project), and the closest bus stops to the Project site are located approximately one-mile walking distance away at the intersections of 7th Avenue/Soquel Drive, 7th Avenue/Capitola Road, and at the Transit Center at the Capitola Mall. METRO does not currently provide any routes that travel adjacent to the Project site along Soquel Avenue. Existing METRO routes and bus stops closest to the Project site are summarized below.

The Amtrak Highway 17 Express (Route 17) serves south Santa Cruz County and provides public transit that connects the County to the City of San Jose, with stops at the Santa Cruz Metro, the Cavallaro Transit Center in Scotts Valley, Diridon Station, and East Santa Clara & South 6th intersection in San Jose. This express route primarily operates along Highway 17. The closest stop to the Project site is located approximately one mile west of the site at the Park & Ride lot along Paul Sweet Road, northwest of Soquel Drive.

The Capitola Road/Watsonville Route (Route 69) serves south Santa Cruz County and provides public transit that connects the cities of Santa Cruz and Watsonville. It operates along Capitola Road, 41st Avenue, Soquel Drive, and Highway 1. The closest stop to the Project site is located approximately one-mile walking distance east of the site along 41st Avenue (south of the Gross Road intersection).

The Santa Cruz/Watsonville Route (Route 71) serves south Santa Cruz County and provides public transit to the cities of Santa Cruz, Capitola and Watsonville. It operates along Soquel Drive and Soquel Avenue and the closest stop to the Project site is located approximately 1 mile west of the site on Soquel Avenue (just east of the 7th Street intersection) and approximately 1 mile west of the site along Soquel Drive at the Paul Sweet Road/Hwy 1 Southbound ramps intersection.

Planned Improvements

The Project does not propose any transit improvements. As noted, bus stops are located approximately one mile from the Project site.

METRO currently does not have plans or funding to construct a bus stop and run a transit route along Soquel Avenue near the Project site. A ¼- - ½-mile walk (5-10 minutes) to a bus stop is typically considered the maximum acceptable distance for average transit riders as documented in the USDOT Federal Highway Administration's "Course on Bicycle and Pedestrian Transportation" Coursebook[30].

The closest bus stops are approximately 1-mile walking distance, which is about a 20-minute walk, or a 7-minute bike ride according to Google Maps. These bus stops are located at the intersections of 7th Avenue/Soquel Drive, 7th Avenue/Capitola Road, and at the Transit Center at the Capitola Mall. METRO buses are equipped with bike racks. As discussed in the Transportation Demand Management Chapter (Chapter 3) of this report, the Project will also support bike share services.

According to 2006-2010 U.S. Census data cited by the SCCRTC's Regional Transportation Plan, approximately 3 percent of Healthcare Consumers use transit to travel to work. The analysis typically represents the highest level of transit ridership during the day, with other periods being lower. If it is conservatively assumed (from the standpoint of transit demand) that 3 percent of the proposed Tenant's employees and Members use transit during the peak hours of the day, it would represent approximately 18 passengers (0.03*590 gross AM peak hour trips = 18 passengers) during the weekday AM peak period and 16 passengers (0.03*525 gross PM peak hour trips = 16 passengers) during the weekday PM peak period, which would have a minor impact on transit mobility, accessibility, or safety at any of the study intersections.

Transit service directly to the Project site will be available for disabled persons via the METRO-operated ParaCruz service. Santa Cruz METRO ParaCruz is a shared-ride service, providing door-to-door public transportation for people who have a temporary or permanent physical, cognitive, or psychiatric disability that prevents them from making some or all of their trips on METRO's fixed route bus system. It is anticipated that this transit service will be available to employees and Members qualifying for ParaCruz services according to personal communication between Applicant and with METRO ParaCruz on 8/11/2020.

Pricing is generally comparable to METRO fares. Lift Line, a program operated by Community Bridges, also provides free door-to-door rides to qualifying seniors and people with disabilities needing transportation to medical appointments throughout Santa Cruz County. To provide a conservative analysis, this report does not quantify or assume any reduction in trips or VMT associated with employees and Members that might utilize ParaCruz and Lift Line services to travel to the Project.

[30] Federal Highway Administration. FHWA Course on Bicycle and Pedestrian Transportation Instructor's Guide. https://safety.fhwa.dot.gov/ped_bike/univcourse/pdf/swless124.pdf.

Ongoing discussion will be conducted with METRO, the Applicant and Proposed Tenant with regards to a transit service or closer bus stop location to the Project site. If ridership on METRO increases, a new route or even a feeder shuttle service to the Capitola Mall Transit Station may be considered as a first-mile, last-mile service.

Transit Vehicle Delay

The Project would result in a net reduction in VMT and therefore will have a less than significant impact on transportation. CEQA no longer considers delay, congestion and other level of service-oriented considerations when evaluating whether a Project will have a significant impact on the environment. (Public Resources Code, §21099(b)(2); CEQA Guidelines, §15064.3(a).) Nevertheless, for information purposes only, an analysis of the Project's potential to result in transit vehicle delays is provided below.

Transit vehicle delay was determined for each transit route within the study area based on the traffic data and the LOS analysis as indicated in Near Term Conditions section of Chapter 6. Transit vehicles for the routes in the study area are expected to use the shared right-of-way with other motorists. Since the Project is anticipated to increase vehicle delay at the study intersections (as further described in the Local Mobility Analysis Chapter (Chapter 7) of this report), transit vehicle delay may increase as well for Plus Project conditions. The change in vehicle transit delay from Near-Term Conditions to Near-Term Plus Project Conditions are described below and in **Table T-9**. Vehicle transit delay was not determined for Cumulative Conditions because the incremental delay due to the Project is less in future conditions and thus, the maximum transit delay is reflected in Near-Term Conditions.

Table T-9 shows the difference in delay between the Near-Term and Near-Term Plus Project Conditions for each transit route direction during the AM and PM peak hours. As shown in **Table T-9**, all routes experience an increase in delay with the addition of the Project, with a maximum increase in transit delay of 17.9 seconds in the AM peak hour and 12.4 seconds in the PM peak hour for Route 69A. This increase in transit delay for each route is minimal and should not significantly affect the overall schedule for the transit routes.

Based on the analysis below, Route 71 will experience a maximum increase in delay of 2.7 seconds and 6.8 seconds in the eastbound direction during the AM peak hour and PM peak hour, respectively along Soquel Avenue/Soquel Drive between Capitola Road and 41st Avenue. Route 69A and 69W will experience a maximum increase in delay of 4.0 seconds in the westbound direction during the AM peak hour and 8.7 seconds in the eastbound direction during the PM peak hour along Capitola Road between Soquel Avenue and 41st Avenue. Lastly, Route 69W will experience a maximum increase in delay of 13.5 seconds and 3.4 seconds in the westbound direction during the AM and PM peak hour, respectively, along 41st Avenue between Capitola Road and Soquel Drive. This increase in transit delay for each route is minimal and should not significantly affect the overall schedule for the transit routes.

Table T-9 – Summary of Near-Term Conditions Transit Delay

Route	To/From	Direction[1]		Difference in Delay (sec)			
				AM Peak		PM Peak	
		1	2	Direction 1	Direction 2	Direction 1	Direction 2
55	Capitola Mall to Via Pacifica in City of Aptos	EB	WB	2.0	1.0	0.9	0.7
66	Capitola Mall to Santa Cruz Metro Center (via 17th Ave)	EB	WB	1.9	4.6	5.5	4.9
68	Capitola Mall to Santa Cruz Metro Center (via Broadway and Portola Dr)	EB	WB	1.7	1.1	2.4	0.5
69A	Santa Cruz Metro Center to Watsonville Transit Center (via Airport Blvd)	EB	WB	2.2	17.9	12.4	7.5
69W	Santa Cruz Metro Center to Watsonville Transit Center (via Main St)	EB	WB	2.8	17.5	10.1	7.3
71	Santa Cruz Metro Center to Watsonville Transit Center	EB	WB	2.7	0.2	6.8	0.6

Notes:
[1]NB – Northbound, SB – Southbound, EB – Eastbound, WB – Westbound

Summary of Findings

This chapter of the TIOA evaluated pedestrian, bicycle, and transit networks in the Project vicinity and whether negative effects to these networks would be caused by the Project. As discussed in this chapter, the Project proposes to construct on-site and off-site improvements in compliance with adopted County standards that will improve pedestrian and bicycle mobility, and roadway improvements that will improve transit mobility. Therefore, the Project will not adversely affect local pedestrian, bicycle, and/or transit facilities and will implement several County General Plan goals relative to pedestrian and bicycle mobility.

5. PARKING SUPPLY AND DEMAND EVALUATION (NON-CEQA ANALYSIS)

Although parking is not considered an environmental impact criterion under CEQA requirements, a parking analysis was completed and presented in this chapter of the TIOA for information purposes.

Proposed Parking Supply

The Project will construct a five-level parking garage, which will include a total of 730 vehicle parking stalls (including 619 standard spaces, 67 ADA spaces and 47 clean air vehicle spaces (including three ADA spaces). 38 motorcycle spaces will be provided in the parking garage as well**.** A total of 160 bike spaces will also be provided, consisting of 36 bike locker spaces and 124 bike rack spaces. In addition, the Project will also provide 6 surface vehicle parking spaces adjacent to the parking garage. The Project is providing a total of 736 parking spaces (garage + surface), which is 24 spaces more than the minimum Code required parking. **Table T-10** summarizes the Project's proposed parking supply.

Table T-10 – Parking Spaces Provided by the Project

Land Use Description	Type	Rate	No. of Units	Spaces Provided by the Project
Medical Office	Vehicle Parking	1 space per 217.4 square feet of gross floor area	160,000 square feet	736
	Bike Parking	1 space per 1,000 square feet of gross floor area		160

There is currently insufficient parking to satisfy parking demands for some establishments in the immediate vicinity of the Project site. As such, the Project's parking garage will be sized to satisfy all parking on-site to avoid further constraining the availability of parking in the surrounding area.

The following sections discuss County Code parking requirements, ITE Parking Generation 5th Edition recommendations, and the Proposed Tenant's parking design standards.

Santa Cruz County Code Parking Requirements

On-site parking in this section was evaluated based on the Project description and the requirements stated in *Santa Cruz County Code Section 13.10*[31]*.*

[31] The Santa Cruz County Code is current through Ordinance 5331, passed April 14, 2020.

The County's Code requires 1 vehicle parking space per 225 square feet of gross floor area. The Code also requires 1 bike parking space per 1,000 square feet of gross floor area.

The Project will construct approximately 160,000 square feet of medical office uses. **Table T-11** summarizes the parking requirements based on the County's Code.

For instance, Section 13.10.552 of the County's Code requires one vehicle parking space per 225 square feet of gross floor area. The Code also requires one bike parking space per 1,000 square feet of gross floor area. Based on the above requirements, the Project is required to provide 712 vehicle parking spaces and 160 bike parking spaces. However, the Project is providing 736 parking spaces, which is 24 spaces more than the minimum code required parking. In addition, a total of 38 motorcycle spaces will be provided in the parking garage.

Table T-11 – Santa Cruz County Code Parking Requirements (Chapter 13.10)

Land Use Description	Type	Rate	No. of Units	Spaces Required
Medical Office	Vehicle Parking	1 space per 225 square feet of gross floor area	160,000 square feet	712
	Bike Parking	1 space per 1,000 square feet of gross floor area		160

In addition to the above general parking requirements, the County's Code requires that for a project proposing between 501 and 1,000 parking spaces, two percent of the total spaces be ADA accessible. However, because the Project is a medical office, the County Planning Department is requiring the Project to provide the following ADA parking requirements based on the Applicant's Development Review Group meeting conducted on November 8, 2018 (**Table T-12** below):

- Approximately 3% of the parking spaces that serve the Project's employees shall be ADA accessible per California Building Code 11B-208
- Approximately 11% of the parking spaces that serve the Project's Members and visitors shall be ADA accessible per California Building Code 11B-208.2.1

Table T-12 – County Required ADA Accessible Parking

Project Functional Program Summary	Project Building Area (Square Feet)	% of Building Area	Total New Parking Spaces	California Building Code ADA Space Requirement (Project ADA Space Requirement)	Accessible Parking Requirement
TOTAL Employees	48,405	30%	223	11B-208 (3%)	7
TOTAL Members/Visitors	111,595	70%	513	11B-208.2.1 (11%)	56
Project TOTAL	160,000	100%	736		63

As shown in **Table T-13** below, the Project is providing four more ADA parking spaces than required by the County Planning Department to accommodate for future flexibility in Potential Tenant's programming requirements.

Table T-13 – Project ADA Accessible Parking	
Project ADA Parking Space Summary	
County Required ADA Accessible Spaces	63
Project Proposed ADA Accessible Spaces	67
Additional ADA Accessible Spaces Provided Above County Requirement	+4

Proposed Tenant's Typical Parking Standards

It is the Proposed Tenant's customary standard to park all of its outpatient facilities at a ratio 1 space per 200 square feet of gross floor area (1:5), which would require a total of 800 parking spaces for the Project. However, considering the breadth of the Project's TDM programs and the fact that the planned intensity of medical services would require longer stays (and therefore less turnover in parking spaces) than other outpatient facilities, the Project is proposing 64 less spaces (approximately 12.5%) than its healthcare systemwide standard.

Other Parking Considerations

ITE Parking Generation Parking Recommendations

On-site parking in this section was evaluated based on the Project description and recommendations from the *Institute of Transportation Engineers Parking Generation 5th Edition* (dated January 2019). ITE provides parking recommendations for a variety of land uses based on empirical data collected from surveyed sites that include a variety of facilities. This analysis considers two potential ITE land use codes to evaluate parking: i) Land Use code 630 for a "Clinic" use, which was utilized to evaluate trip generation and provides a conservative analysis because it assumes a higher trip generation for site, and ii) Land Use Code 720, for a "medical office building" use, which assumes a lower trip generation rate and accordingly recommends a lower parking standard.

ITE provides parking rates based on both average and 85th percentile demand. The average demand rate is the weighted average number of parked vehicles at a development site per one unit of the independent variable. The 85th percentile demand is the point at which 85 percent of the values fall at or below and at which 15 percent of the values are above. Therefore, the 85th percentile represents a more conservative (i.e. higher) demand estimate than the weighted average demand and indicates the parking demand that would occur 85 percent of the time.

ITE parking data is provided for Medical Office Buildings (Land Use 720). The data indicates that weekday 85th percentile parking demand is 4.59 spaces per 1,000 square feet of gross floor area

("GFA") for Medical Office Buildings. Average peak period demand is 3.23 spaces per 1,000 square feet GFA.

Given that the Project will construct approximately 160,000 square feet of medical office uses, **Table T-14** summarizes ITE parking recommendations.

Table T-14 – ITE Parking Generation (Medical Office)				
Land Use Description	**Type**	**No. of Units**	**Avg. Demand[32]**	**85th Percentile Demand[33]**
	ITE Recommendations			
Medical Office (LU 720)[34]	Vehicle Parking	160,000 square feet	517	734
Total Parking Provided by the Project			**736**	

Based on **Table T-14**, the Project is recommended to provide a minimum of 517 vehicle parking spaces based on average peak period parking demand and 734 spaces based on the 85th percentile parking demand. The Project proposes to provide a total of 736 parking spaces. Therefore, the Project would provide parking generally consistent with ITE recommendations.

Clinic (Land Use 630) ITE trip generation assumptions were used for the TIOA to provide a more conservative trip generation rate for the Project. For informational purposes, ITE parking data is provided for Clinic (Land Use 630) below. The data for Clinic uses indicates that weekday 85th percentile parking demand is 4.77 spaces per 1,000 square feet of GFA for Medical Office Buildings. Average peak period demand is 3.89 spaces per 1,000 square feet GFA. **Table T-15** summarizes ITE parking recommendations based on Clinic land uses.

Table T-15 – ITE Parking Generation (Clinic)				
Land Use Description	**Type**	**No. of Units**	**Avg. Demand[32]**	**85th Percentile Demand[33]**
	ITE Recommendations			
Clinic (LU 630)[34]	Vehicle Parking	160,000 square feet	622	763
Total Parking Provided by the Project			**736**	

Based on **Table T-15** the Project is recommended to provide a minimum of 622 vehicle parking spaces based on average peak period parking demand and 763 spaces based on the 85th percentile parking demand. The Project proposes to provide a total of 736 parking spaces. Therefore, the Project would provide enough parking to serve average demand, however the

[32] Average peak rate = 3.23 spaces per 1,000 sq. ft.
[33] 85th percentile rate = 4.59 spaces per 1,000 sq. ft.
[34] Medical Office (ITE LU 720)

proposed Parking would not be sufficient to serve the 85th Percentile Demand under the ITE clinic rate (which is not governing).

Similar Bay Area Jurisdictional Parking Requirements

Parking code requirements for various jurisdictions in the Santa Cruz, Monterey Bay, and San Jose areas were evaluated to provide a comparison to County rates. The below parking requirements were selected due to the similarities between their communities and County where the Project is proposed. **Table T-16** below provides a summary of the various requirements for information purposes only since parking requirements for other jurisdictions are not binding upon or relevant to parking requirements in the County's jurisdiction.

Table T-16 – Municipal Parking Requirement Comparison

Maintaining Agency	Description	Off-Street Parking Requirement				
County of Santa Cruz	Medical Offices	1	space	per	225	SQFT
City of Santa Cruz	Medical and dental clinics and offices	1	space	per	200	SQFT
City of Capitola	Medical Offices and Clinics	1	space	per	300	SQFT
City of Monterey	Offices, Medical or Dental	1	space	per	275	SQFT
City of Santa Clara	Medical and Dental Offices	1	space	per	300	SQFT
City of Sunnyvale	Medical Clinic	1	space	per	200	SQFT
City of San Jose	Medical Clinic / Out-Patient Facility	1	space	per	250	SQFT
City of Mountain View	Clinics, offices, labs, greater than 20ksf	1	space	per	225	SQFT
County of Monterey	Medical Clinic / Office	1	space	per	200	SQFT
County of Santa Clara	Clinics	1	space	per	200	SQFT
	Average	**1**	**space**	**per**	**238**	**SQFT**

Parking Evaluation Summary of Findings

This section evaluated the Project's proposed parking supply and compared it to the following four requirement/recommendation thresholds:

- County Code Parking Requirement
- Proposed Tenant's Typical Parking Standard
- ITE Parking Generation Parking Recommendations
- Similar Bay Area Jurisdictional Parking Requirements

As described above, the Project will provide 736 vehicular parking spaces. This proposed parking supply will provide sufficient parking to comply with County Code and will be consistent with ITE Medical Office LU 720 recommendations, though there will be fewer parking spaces than the Proposed Tenant typically would provide in a similarly sized MOB. With the implementation of TDM and considering the healthcare services expected to be provided at the Project, the Proposed Tenant believes 736 parking spaces will nevertheless be adequate to support the MOB.

The 736 parking spaces provided with the Project should also be sufficient to avoid impacting off-street parking along nearby streets and neighborhoods.

6. LOCAL MOBILITY ANALYSIS (LOS) (NON-CEQA ANALYSIS)

This TIOA does not just analyze transportation impacts under CEQA. It also provides a local mobility analysis to evaluate consistency with County requirements set forth in the County's General Plan. The County'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 more accurately update and apply the County's impact fee program. 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 at the request of the County for informational purposes only and not for purposes of evaluating the Project's transportation impacts under CEQA.

Level of Service (LOS)

LOS is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. See **Table T-17** below for a more detailed description of LOS definitions. LOS analyses model whether deficient operations along the local transportation network would occur as a result of a proposed project. Thus, a detailed operational (i.e., LOS and other traffic operational measures) analysis was conducted as part of this TIOA to determine whether an acceptable LOS would be maintained with the addition of Project traffic. Potential improvements are identified where deficient/unacceptable LOS would likely occur within the County due to the Project.

Table T-17 – Intersection Level of Service Definitions			
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.			

County Regulations

The County's General Plan Circulation Element requires an LOS analysis. Objective 3.12 "Level of Service" provides that development shall not create traffic that exceeds acceptable levels of service on surrounding roadways. As described herein, there are deficient roadways currently existing in the vicinity of the Project; the Project does not *create* deficiencies. The General Plan contains the following LOS policies:

3.12.1. Level of Service (LOS) Policy

In reviewing the traffic impacts of a proposed development project or proposed roadway improvements, LOS C should be considered the objective, but LOS D is the minimum acceptable (where costs, right-of-way requirements, or environmental impacts of maintaining LOS under this policy are excessive, capacity enhancement may be considered infeasible).[35]

---

[35] The LOS Policy also requires consideration of consistency with the Congestion Management Plan, but the County is no longer governed by a Congestion Management Plan.

Proposed development projects that would cause LOS at an intersection or on an uninterrupted highway segment to fall below D during the weekday peak hour will be required to mitigate their traffic impacts. Proposed development projects that would add traffic at intersections or on highways segments already at LOS E or F shall also be required to mitigate any traffic volume resulting in a 1% increase in the v/c ratio of the sum of all critical movements.

3.12.2 Level of Service (LOS) Calculation Methods

Utilize the most current Highway Capacity Manual ("HCM") Operations Methodology for all existing levels of service analysis.

3.12.3. Transportation Improvement Area Fees as Mitigation Measures

Payment of an approved Transportation Improvement Area Fee proportional to the forecast trip generation will be required.

3.12.4. Reduced Traffic Generation

Forecast traffic generation for purposes of development project review may be reduced ("discounted") If proposed development can demonstrate lower than average traffic rates. For example, if the development site is adjacent to transit corridors, will have an effective Transportation Demand Management (TDM) program, or is in a mixed-use development, it is reasonable to expect lower-than-average auto use.

Based on the foregoing, for the purposes of this analysis, the following conditions would result in Project-related LOS deficiencies at County intersections:

- If the intersection operates at an acceptable LOS (i.e., LOS A, B, C, or D) without the Project during the weekday peak hour and degrades to an unacceptable LOS (i.e. LOS E or F) with the Project during the weekday peak hour.
- If the intersection operates at an unacceptable LOS (i.e., LOS E or F) without the Project during the weekday peak hour, and the volume/capacity (v/c) ratio of any movements at the intersection increases by 1 percent or more with the Project. [36]

Other Agency LOS Standards

Although not required by the County's General Plan, this TIOA considers LOS standards of other agencies having jurisdiction over roadways and intersections located outside the County that will be impacted by the Project as requested by the County for informational purposes. Applicable LOS standards for those other agencies are set forth below.

[36] The LOS Policy described in the General Plan refers to the "sum of all critical movements" at such an intersection increasing by more than 1%. As a matter of practice, the County does not sum critical movements at an intersection. The County LOS Policy is outdated and, pursuant to modern industry standards, the County considers whether the v/c ratio at any critical movement at the intersection increases by more than 1% to analyze the deficiency and will produce the actual deficiency on a movement, rather than summing all the movements and then calculating a weighted average. This method of calculating each critical movement individually has been approved and utilized in other studies by the County Public Works Department and generally provides for a more conservative analysis.

(a) *California Department of Transportation (Caltrans)*

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." [37]

For informational purposes only, 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.[38] This study relies on the Highway 1 EIR for future improvements, which did assess safety.[39]

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.

In addition, v/c ratios on the freeways were also considered in this study's freeway analysis because the study freeway network is considerably oversaturated during the peak periods (with and without the Project) and roadway density measures of effectiveness do not provide accurate representations of congestion conditions for oversaturated facilities. The characteristics of density, roadway geometry, congestion, speed and flow are interrelated and is used to calculate the v/c. High speeds have lower density, and low speeds higher density. Congestion is significant at low speeds, similar to what is experienced on Highway 1 in Santa Cruz during the peak and off-peak periods. There is an optimum density that occur at about 55-60 miles per hour, per the HCM.

(b) *City of Santa Cruz*

The City of Santa Cruz is also required to apply a VMT-based metric for evaluating transportation impacts on the environment pursuant to CEQA. Like the County, however, the City of Santa Cruz has a General Plan goal of striving to maintain a LOS D or better at signalized intersections, but

---

[37] California Department of Transportation. May 20, 2020. Vehicle Miles Traveled-Focused Transportation Impact Study Guide. Pages 4-5. https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-05-20-approved-vmt-focused-tisg-a11y.pdf

[38] California Department of Transportation. Senate Bill (SB) 743 Implementation. Website Accessed August 31, 2020.

[39] Santa Cruz County Regional Transportation Commission. Highway 1 Corridor Investment Program. Website Accessed August 31, 2020.

will accept a lower level of service and higher congestion at major regional intersections if necessary improvements would be prohibitively costly or result in significant, unacceptable environmental impacts. (City of Santa Cruz 2030 General Plan, Chapter 5, Mobility Element, p.55, Goal M.3.1.3, M3.1.4.) Any evaluation of the Project's LOS impact on City of Santa Cruz streets is for informational purposes only.

(c) *City of Capitola*

The City of Capitola is also 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 (for which there is no LOS 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 for informational purposes only.

Analytical Methods and Information

This LOS analysis uses methods defined in the *Highway Capacity Manual (HCM)* and *Synchro 10* traffic analysis software. HCM 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 T-17** relates the operational characteristics associated with each LOS category for signalized and unsignalized intersections.

Project-related deficiencies are determined by comparing conditions without the Project to those with the Project. Project-related deficiencies at study intersections are created when traffic from the Project causes the LOS to fall below the LOS standard identified for the County in the **County Regulations** section on page 46 LOS impacts on non-County maintained roadways and intersections are provided for informational purposes only and not for purposes of evaluating consistency with the County's LOS policy.

The LOS analysis set forth herein evaluates the following scenarios: Existing Conditions, Existing Plus Project, Near Term Conditions, Near Term Plus Project, Cumulative Conditions, and Cumulative Plus Project.

Existing Conditions

Existing Roadway Network

The Project will distribute traffic to a number of principal roadways within the study area. A description of these roadways is included below:

Highway 1, also known as State Route 1, is a four-lane divided freeway in the Project vicinity that extends along the California coast and connects major cities including San Francisco, Santa Cruz, Monterey, San Luis Obispo, and Los Angeles to coastal communities. In the Project vicinity, Highway 1 is a major commuter and tourist route and has a posted speed limit of 65 miles per hour in the study area.

As a general note, SR 1 operates at a deficient LOS, but minor improvements to SR 1 are not recommended in this report because of the following:

SR 1 and the interchanges in the County were constructed many years ago pursuant to older standards and constraints, which have resulted in many mainline freeway sections and interchanges of SR 1 not being compliant with current Caltrans standards. These older improvements served Healthcare Consumers and visitors well for many years, but traffic growth and accidents have now resulted in severe congestion during the peak hours. No major freeway improvements have been made to increase capacity along the mainline to the south. The non-standard features of the existing interchanges, ramps and the main line, including over- and under-crossings, have necessitated evaluation under the Highway 1 EIR as found in the **Highway 1 Planned Improvements** section on page 136 of this report. The Highway 1 EIR identified substantial challenges and improvements to alleviate the congestion. The Highway 1 EIR did not identify low cost or small improvements, even at the interchanges or at the ramps, because these would result in Design Exceptions per Caltrans requirements and most likely would not be approved. Caltrans and Santa Cruz RTC has over the last few years conducted the EIR studies to identify improvements to the freeway and the interchanges, and the Highway 1 EIR was certified in December 2018.[40] The cost of these improvements are extensive and the final designs and construction of the auxiliary lanes are in process as a more permanent and effective fix. "Band-aid" improvements, i.e., lengthening or widening an on-ramp, will require design exceptions and must be substandard and may not result in real benefits to the Highway 1 system.

Highway 17 is a divided freeway in the Project vicinity. It extends from Highway 1 in the City of Santa Cruz to I-280 in San Jose. Highway 17 has a posted speed limit of 65 miles per hour in the study area and a cross section that varies from four to six lanes.

Soquel Avenue is an east-west arterial roadway that begins in Downtown Santa Cruz and extends eastward and continues to Highway 1 ramps, where it becomes a two-lane collector roadway extending past the Project site and terminates in the east at Gross Road.

In the Project vicinity, the roadway primarily provides access to industrial and retail land uses and is currently being utilized as a cut-through route during the PM peak periods when southbound Highway 1 is congested. Residential collector roadways including Paul Minnie Avenue, 17th Avenue, Chanticleer Avenue, Mattison Lane, and South Rodeo Gulch Road intersect the collector segment of Soquel Avenue in the Project vicinity. Soquel Avenue is primarily a two-lane undivided roadway with a 35 mile per hour posted speed limit, except for an approximately 1,700-foot

[40] See Highway 1 Corridor Investment Program website at https://sccrtc.org/projects/streets-highways/hwy1corridor/ for additional information and documents.

segment near the Highway 1 southbound on- and off-ramps, where it varies between three and four lanes of undivided roadway and has a 25 mile per hour posted speed limit.

Soquel Drive is an east-west arterial roadway that begins at the existing Highway 1 overcrossing and extends eastward to Aptos, providing access to Highway 1 and connecting residential, retail and commercial land uses throughout Santa Cruz County, Soquel, and Aptos. In the Project vicinity, Soquel Drive has a 35 mile per hour posted speed limit, is a four-lane to two-lane, undivided arterial and has a two-way left-turn lane between Thurber Lane and Paul Sweet Road.

41st Avenue is a north-south arterial roadway that begins at Soquel Drive in the County and continues south to East Cliff Drive. 41st Avenue also provides access to Highway 1 and connects many residential, retail, and commercial land uses. North of the Highway 1 ramps, 41st Avenue is a four-lane divided arterial with a 25 mile per hour posted speed limit. South of the Highway 1 ramps, 41st Avenue is a six-lane divided arterial with a 35 mile per hour posted speed limit.

Capitola Road is an approximately 2.5-mile east-west arterial roadway that extends from Soquel Avenue in the west to Wharf Road in the east. The roadway's primary function is to provide connections to the two major arterials of Soquel Avenue / Soquel Drive and 41st Avenue, as well as to provide access to residential land uses and Capitola Mall in the east. Capitola Road is a four-lane divided roadway from Soquel Avenue to 7th Avenue and from 30th Avenue to 41st Avenue. From 7th Avenue to 30th Avenue, Capitola Road varies between two-lane and four-lane undivided roadway, with some segments including a two-way left-turn lane. The posted speed limit on the roadway varies between 25 miles per hour and 35 miles per hour.

Brommer Street is an approximately 1.75-mile east-west collector roadway that extends from 7th Avenue in the west to 41st Avenue in the east. The roadway primarily provides access to residential land uses and some local businesses. Brommer Street is a two-lane undivided roadway with a 25 mile per hour posted speed limit along its extent.

17th Avenue is a north-south collector roadway that extends from Soquel Avenue in the north to Cliff Drive / Portola Drive in the south. The roadway provides access to residential and local business land uses, as well as parks and schools. A two-way left-turn lane exists along the Capitola Road to Kinsley Street segment of this roadway. 17th Avenue is a two-lane undivided roadway with a 30 mile per hour posted speed limit. When school children are present, the speed limit is 25 miles per hour.

Mattison Lane is a short collector roadway that intersects 17th Avenue and Soquel Avenue, south of Highway 1. North of Highway 1, Mattison Lane extends from the Good Shepherd School to Soquel Drive. North and south roadway segments are separated by Highway 1 and do not connect. The south segment primarily serves residential land uses and some local businesses. The north segment provides access to residential land uses and the Good Shepherd School. Both segments are two-lane undivided roadways. The north segment has a 25 mile per hour posted speed limit. The south segment does not have a posted speed limit but is assumed to be 25 miles per hour as well.

Chanticleer Avenue is a north-south roadway that extends from Soquel Avenue in the north to Kinsley Street in the south. Residential land uses are located along the roadway, as well as Chanticleer Avenue Park, Live Oak Elementary School, and local businesses. It is a two-lane undivided roadway with a 25 mile per hour posted speed limit.

Paul Minnie Road is an approximately 1,500-foot-long north-south roadway that extends from Soquel Avenue in the north to Rodriguez Street in the south. Residential land uses are located along the roadway, as well as the Live Oak School District and Green Acres Elementary School. It is a two-lane undivided roadway with speed humps and a 25 mile per hour posted speed limit.

Rodriguez Street is an approximately 4,000-foot-long east-west collector circuitous local street that extends from the Capitola Road Extension in the west to Chanticleer Avenue in the east. The roadway provides access to the adjacent residential land uses and intersects Capitola Road Extension, 7th Avenue, Jose Avenue, Koopmans Avenue, Paul Minnie Avenue, 17th Avenue, and Chanticleer Avenue, as well multiple cul-de-sacs. Three of the mid-segment intersections are all-way stop controlled. It is a two-lane undivided roadway with a 25 mile per hour posted speed limit.

Existing Peak-Hour Turning Movement Volumes

Weekday intersection turning movement volumes were collected for existing conditions LOS at the study intersections on the following days:

- Tuesday, October 18, 2016
- Tuesday, March 6, 2018
- Thursday, May 17, 2018
- Wednesday, October 3, 2018

Table T-18 identifies the dates that data were collected at each specific intersection.

These counts included vehicles, bicycles, and pedestrians. Volumes for study intersections were collected during the AM and PM peak periods of 7:00-9:00 AM and 4:00-6:00 PM, respectively. All traffic counts were collected when local schools were in session and the weather was fair.

Field observations were conducted when count data was collected to observe queues and existing traffic patterns. Data and field visits indicate that peak traffic flow occurs for extended periods of time (typically from 7:00-9:00 AM and 4:00-7:00 PM). The highest one-hour morning (AM) and one-hour afternoon/evening (PM) peaks were selected for analysis, consistent with County guidance.

Peak hour volumes at each intersection’s respective peak were conservatively used in this analysis, therefore, some volume imbalances were observed between study intersections. Where imbalances occurred, volumes were conservatively increased above what was counted. Thus, in some instances, peak hour volumes shown in operational analysis worksheets could indicate somewhat higher traffic volumes than what is shown in traffic count summary data included in **Appendix A.** U-turns are analyzed (and illustrated in all figures) as left turns since HCM methodologies do not support analysis of U-turns.

Existing conditions lane geometry and intersection control is shown in **Figure 9**. Existing peak hour turning movement volumes are shown in **Figure F-10.** Intersection volume data sheets for all traffic counts are provided in **Appendix A.**

(d) *Count Data Comparison (2016 vs. 2019)*

The analyses conducted in this study rely on traffic count data collected in October 2016 for four study intersections. After the existing conditions analysis was completed, newer data became available at the four intersections. This newer data was collected on October 24, 2019 for purposes of comparison to the 2016 counts.

A comparison of the 2016 and 2019 datasets is summarized in **Table T-18** to illustrate how traffic volumes changed between 2016 and 2019 at the four study intersections that assumed 2016 data for analysis.

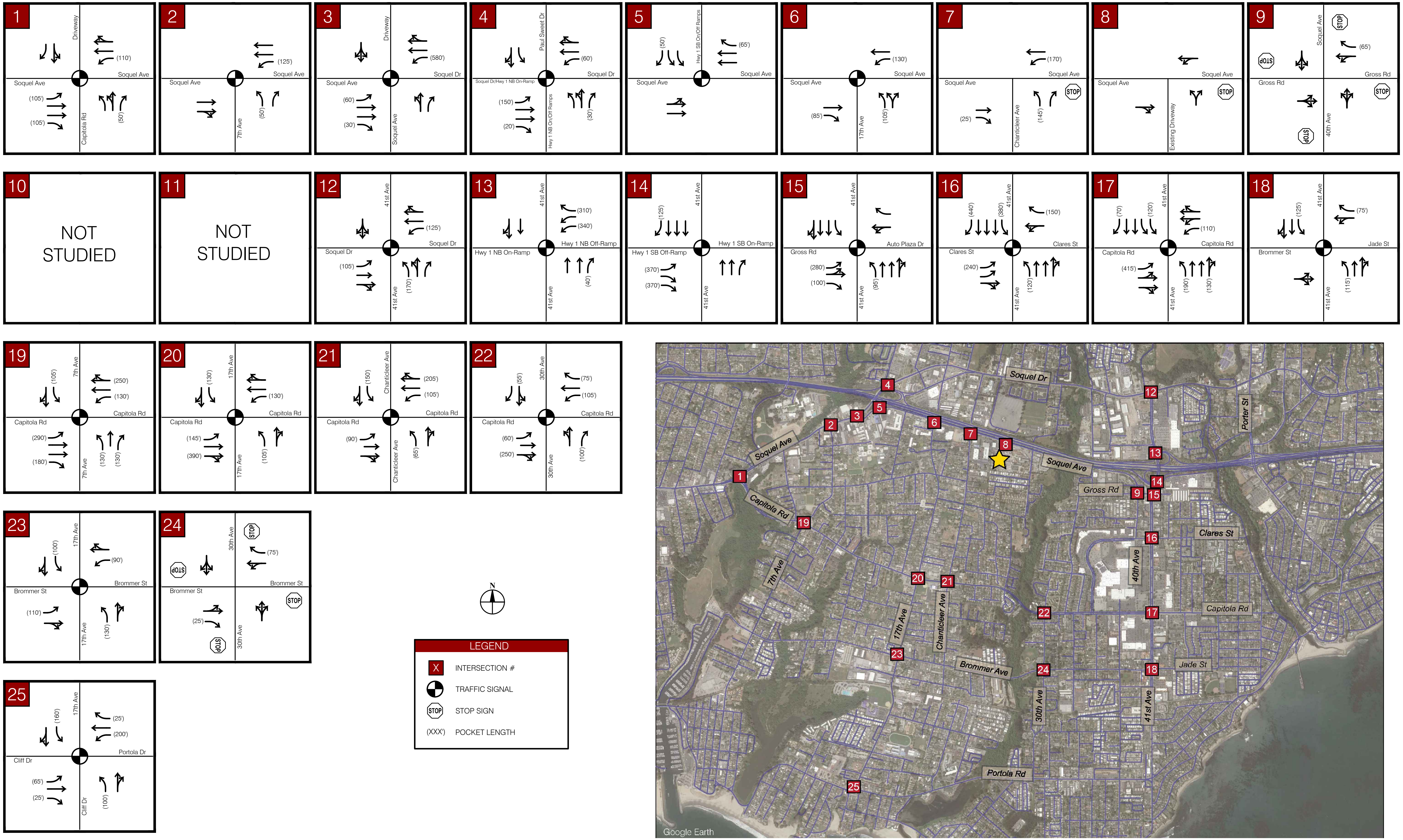
Table T-18 - 2016 vs. 2019 Traffic Count Comparison

#	Intersection	AM Intersection Volume		PM Intersection Volume		Total Intersection Volume		Growth Per Annum
		2016	2019	2016	2019	2016	2019	
12	41st Ave & Soquel Dr	2,106	2,110	2,130	2,168	4,236	4,278	0.33%
13	41st Ave & Hwy 1 NB Ramps	2,709	2,750	2,962	2,590	5,671	5,340	-1.98%
14	41st Ave & Hwy 1 SB Ramps	3,161	3,192	3,605	3,307	6,766	6,499	-1.33%
15	41st Ave & Gross Rd	2,896	2,930	3,444	3,183	6,340	6,113	-1.21%

The summary data provided in the table above indicate that between 2016 and 2019, traffic volumes at 41st Avenue & Soquel Drive (Intersection #12) increased during the AM and PM peak hours. The compound annual growth for the combined AM and PM peak hours was approximately 0.33% per annum. The findings of this comparison would also apply to 2018 count data since they fall in the range of the data evaluated in **Table T-18** and the 2018 data are thus reliable for use in this analysis.

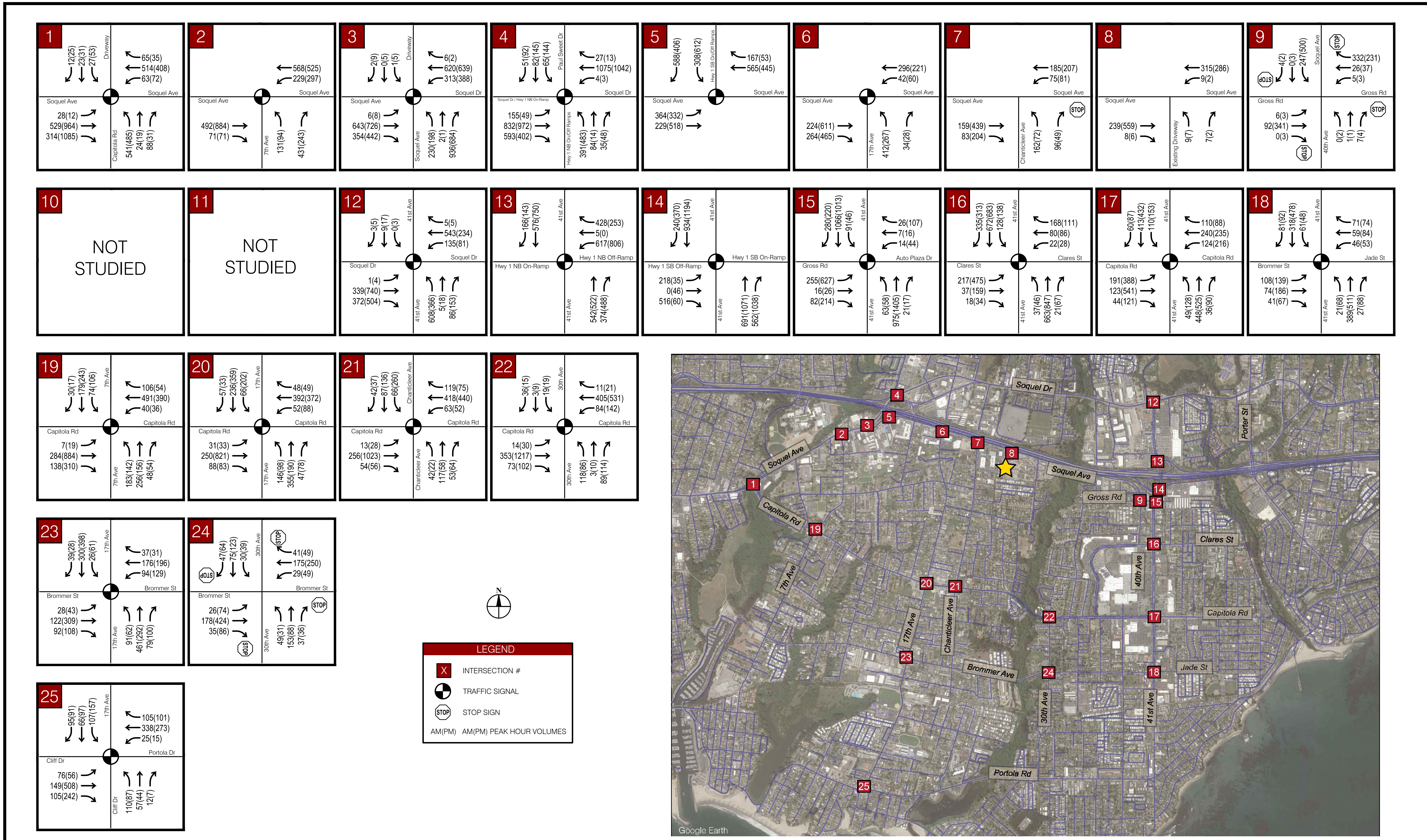
Data at the 41st Avenue & Highway 1 Ramps (Intersections #13 & #14) and 41st Avenue & Gross Road (Intersection #15) are mixed and indicate that during the AM peak hour, volumes at each study intersection increased slightly between 2016 and 2019, however, PM peak hour volumes indicates a decrease between 2016 and 2019. Thus, PM peak hour count data at intersections #13, #14, and #15 show a decrease in traffic.

The compound annual growth for the combined AM and PM peak hours for 41st Avenue & Hwy 1 NB Ramps was approximately -1.98% per annum, 41st Avenue & Hwy 1 SB Ramps was approximately -1.33% per annum, and 41st Avenue & Gross Road was approximately -1.21%. In conclusion, this fluctuation in traffic volumes is negligible and the volumes analyzed are representative of 2019/2020 conditions.



Kimley»Horn
Expect More. Experience Better.

Medical Office Building
Figure F-9
Existing Conditions Lane Geometry and Intersection Control



Kimley»Horn
Expect More. Experience Better.

Medical Office Building
Figure F-10
Existing Conditions Peak Hour Turning Movement Volumes

Existing Level of Service at Study Intersections

Traffic operations were evaluated at the study intersections based on existing lane geometry, traffic control, and peak hour traffic volumes. Oversaturated flows were observed when traffic count data was collected during weekday AM and PM Peak periods at the intersection of Soquel Avenue / 40th Avenue & Gross Road. The southbound left-turn queue during the PM peak period was observed to extend roughly 2,500 feet northwest of the intersection (over the bridge). Due to metering and demand exceeding capacity and standing queues, the existing traffic count data does not reflect the traffic demand, but rather, the traffic service volumes. The unserved queue is the true demand at the signal. PM peak hour vehicle volumes were therefore increased beyond intersection turning movement count data indicated in **Appendix A** to reflect this demand (rather than service volume) based on field observations and 24-hour tube count data, which was collected along Soquel Avenue west of Mattison Lane. The model was verified by comparing existing queues observed in the field and SimTraffic microsimulation queuing, which stochastically models vehicle arrival and queuing patterns.

In addition, queues at the Highway 1 SB Ramps at Soquel Drive overflow in the PM and cars use Soquel Avenue as a potential shortcut/bypass/alternative to Highway 1. In the morning queues overflow at the Highway 1 NB Ramps with Soquel Drive. In the AM, the congestion on the freeway is in the northbound direction and in the PM, in the southbound direction. In general, congestion on Highway 1 causes failure of traffic operational conditions at the interchanges. Traffic also overflows from Highway 1 to parallel corridors like Soquel Drive, Soquel Avenue, Capitola Avenue, Brommer Street and Portola Avenue.

Due to heavy freeway congestion, southbound off-ramp volumes at 41st Avenue are low during the PM peak for existing conditions. If traffic flow on the freeway improves, off-ramp volumes are expected to increase.

All study intersections currently operate at an acceptable LOS during existing conditions, except for the following:

- Soquel Drive & Paul Sweet Road / Highway 1 On-Off Ramps (Intersection #4) (AM & PM Peaks)
- Soquel Avenue / 40th Avenue & Gross Road (Intersection #9) (PM Peak)
- 41st Avenue & Highway 1 SB Ramps (Intersection #14) (AM Peak)
- 41st Avenue & Gross Road (Intersection #15) (AM & PM Peaks)
- Brommer Street & 30th Avenue (Intersection #24) (PM Peak)

Analysis results are summarized in **Table T-19** and Synchro output sheets are provided in **Appendix B.**

Since the first draft report was compiled in 2019, Caltrans has changed the lane assignment at the intersection of Soquel Avenue & Highway 1 SB On- and Off-Ramp (Intersection #5) to include an exclusive eastbound left-turn lane. The approach lanes were restriped to include a separate left-turn lane and a separate through lane. Signal timing sheets available at that time were changed to reflect the new lane configuration and phasing optimized to obtain a representative

LOS. This change resulted in an improvement of delay from 27.1 seconds to 20.3 seconds for the AM peak hour and from 27.7 seconds to 21.3 seconds for the PM peak hour. The LOS remains a LOS C for both peak hours. Synchro output sheets are provided in **Appendix U**.

Table T-19 – Existing Conditions Intersection Level of Service

#	Intersection	Maintaining Agency	Control Type	Existing Conditions					
				AM Peak Hour			PM Peak Hour		
				Movement	Delay	LOS	Movement	Delay	LOS
1	Soquel Ave & Capitola Rd	CSC	Signal	-	31.4	C	-	29.2	C
2	Soquel Ave & 7th Ave	SCC	Signal	-	16.8	B	-	17.1	B
3	Soquel Dr / Soquel Ave & Soquel Ave	Caltrans	Signal	-	29.5	C	-	30.9	C
4	Soquel Dr & Paul Sweet Rd / Hwy 1 On-Off Ramps	Caltrans	Signal	-	**51.6**	**D**	-	**36.7**	**D**
5	Soquel Ave & Hwy 1 SB On-Off Ramps	Caltrans	Signal	-	27.1	C	-	27.7	C
6	Soquel Ave & 17th Ave	SCC	Signal	-	8.7	A	-	9.5	A
7	Soquel Ave & Chanticleer	SCC	SSSC	-	5.4	A	-	2.7	A
	Worst Approach			NB	13.7	B	NB	16.9	C
8	Soquel Ave & MOB Driveway	SCC	SSSC	-	0.4	A	-	0.2	A
	Worst Approach			NB	11.3	B	NB	14.0	B
9	Soquel Ave / 40th Ave & Gross Rd	SCC	AWSC	-	10.9	B	-	**36.5**	**E**
11	40th Ave & Deanes Ln	NOT STUDIED							
12	40th Ave & Clares St	NOT STUDIED							
12	41st Ave & Soquel Dr	SCC	Signal	-	23.7	C	-	38.0	D
13	41st Ave & Hwy 1 NB Ramps	Caltrans	Signal	-	18.3	B	-	14.9	B
14	41st Ave & Hwy 1 SB Ramps	Caltrans	Signal	-	**36.7**	**D**	-	7.5	A
15	41st Ave & Gross Rd	Caltrans	Signal	-	**36.6**	**D**	-	**46.8**	**D**
16	41st Ave & Clares St	Capitola	Signal	-	22.6	C	-	26.8	C
17	41st Ave & Capitola Rd	Capitola	Signal	-	24.2	C	-	35.0	D
18	41st Ave & Brommer St/Jade St	Capitola	Signal	-	18.6	B	-	27.6	C
19	Capitola Rd & 7th Avenue	SCC	Signal	-	18.5	B	-	21.0	C
20	Capitola Rd & 17th Avenue	SCC	Signal	-	19.9	B	-	27.1	C
21	Capitola Rd & Chanticleer Ave	SCC	Signal	-	15.8	B	-	23.0	C
22	Capitola Rd and 30th Ave	Capitola	Signal	-	20.3	C	-	25.4	C
23	Brommer St & 17th Ave	SCC	Signal	-	21.6	C	-	26.3	C
24	Brommer St & 30th Ave	SCC	AWSC	-	12.0	B	-	**38.4**	**E**
25	17th Ave & Portola Dr	SCC	Signal	-	19.4	B	-	20.2	C

Notes:

1. Analysis performed using HCM 6th Edition methodologies.

2. Delay indicated in seconds/vehicle.

3. Signal = Signal Control; AWSC = All-Way Stop Control; SSSC = Side-Street Stop Control

4. CSC = City of Santa Cruz; Caltrans = California Department of Transportation; SCC = Santa Cruz County; Capitola = City of Capitola

5. CSC LOS standard is D; Caltrans LOS standard is C; SCC LOS standard is D; Capitola does not have a LOS standard for 41st Avenue.

*6. Intersections that operate below maintaining agency's LOS standard are highlighted and shown in **bold.***

7. Intersection #14 operates at LOS A in the PM because traffic to the intersection is controlled/metered at intersections #13 and #15. Intersections #14 and #15 are operated on one signal controller, managed by Caltrans. Caltrans' main objective is to avoid off-ramp queue spillback into the Highway 1 mainline.

8. Intersection #5 shows overall LOS as acceptable. See Analysis section on page 72 for additional detail.

9. Intersection #10 and #11 were not analyzed in this analysis because the Project is not expected to distribute traffic to these intersections, since a barrier exists at 40th Avenue and Deans Lane and the Project does not propose to remove it (nor are any plans to remove the barrier pending).

Trip Generation Estimates

Trip generation estimates were developed for this Project using the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (2017)* and existing driveway counts at the Project site. A trip is defined in *Trip Generation* as a single or one-directional vehicle movement with 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).

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.

Internal capture reductions are typically considered for mixed-use developments and developments with complementary land uses to account for trips made within the developments. Because there is only one proposed land use for this development, Medical Office, no internal capture trip reductions were assumed.

The new Project will generate some brand-new trips on the road network due to population growth. However, most of the trips will consist of diverted trips from other medical facilities either in Santa Cruz County or Santa Clara County. This is because constructing the new Project will not create additional demand for healthcare services in the County. Instead, it will redistribute trips for healthcare services that are already existing on the roadway network. Locating the MOB at the Project site improves destination proximity for many Healthcare Consumers that are currently traveling to Santa Clara County for healthcare services of the type that the Project will provide in Santa Cruz County (which will also result in shorted trips and reduced VMT).

Due to the diverted trip phenomenon described above, study intersections closest to the site will experience new Project trips fully, with minimal diverted trips. For study intersections further from the Project site, some Project trips will actually be diverted trips that travel through the intersections without the Project. This analysis conservatively assumes that all Project trips through the study intersections are new trips and does not take any reductions for the existing trips to existing medical facilities. Thus, the operating conditions reported for study intersections closest to the Project site will accurately show the anticipated delay and LOS, while study intersections further from the Project site will be somewhat conservative due to diverted trips not being accounted for and removed from existing volumes.

Gross Project Trip Generation

ITE Land Use Code 630 (Clinic) was assumed for the Project trip generation estimates which is the most conservative trip generation rate that could be used for the Project. ITE land use data is based on empirical data collected from surveyed sites that included a variety of facilities including labs, supporting pharmacies, and a wide range of services, which most closely match the Project description. Based on this data and methodologies, the Project is expected to generate 6,106 gross daily trips, including 590 gross AM peak hour trips (460 in / 130 out) and 525 gross PM peak hour trips (152 in / 373 out).

The trip generation estimates described above are based on the empirical ITE data and therefore include all Member trips, including those associated with patients, visitors, deliveries, pickups, staff trips, etc. It should also be noted that the Project is proposed to be an outpatient only facility and no overnight hospital services are provided. Hospitals that have overnight stay in the County include Dignity Health, Watsonville Community Hospital, and Sutter Health.

Trip Credits

Existing traffic counts were collected at the driveway to the existing site from Soquel Avenue and the volumes were subtracted from gross Project trips as a credit to estimate the trip generation for the Project. It should be noted that the existing site access from Soquel Avenue provides access to the entire parcel, of which, only a portion will be redeveloped as part of the Project.

The daily existing trips were estimated using peak hour driveway count data at the driveway to the existing light industrial uses and assuming PM peak hour trips represent approximately 10 percent of the daily trips, which is a reasonable assumption based on experience and industry best practices (when daily data is unavailable). The driveway where existing counts were collected is currently used by roughly 6.63 acres of industrial uses. The Project proposes to occupy approximately 5.22 acres; therefore, the existing trip credit was reduced by roughly 21 percent ([6.63-5.22]/6.63=0.21) to account for the existing land uses that will not be demolished to facilitate construction of the Project.

Based on the data and assumptions described above, existing trip credit estimates assumed in the analysis include 134 daily trips, including 26 AM peak hour trips (13 in / 13 out), and 13 PM peak hour trips (6 in / 7 out).

Net Project Trip Generation

The net trip generation assumes trip credits for the existing light industrial use, as discussed above. The Project is therefore expected to generate a net of 5,972 daily trips, including 564 trips (447 in / 117 out) during the AM peak hour and 512 trips (146 in / 366 out) during the PM peak hour. **Table T-20** summarizes trip generation estimate for the Project.

**This trip generation estimate does not attempt to quantify the redistribution of trips that is expected to occur from trips that would otherwise be made to MOBs in the San Jose area and to other MOBs in the immediate area. As explained in the introduction to the Trip Generation Estimates Section of this TIOA, the proposed MOB will be redirecting trips that are already using the road network. The VMT Chapter (Chapter 2) of this report evaluates the redistribution of trips that are expected to occur due to MOBs in the Santa Cruz County and San Jose areas.*

***Transportation demand management ("TDM") measures will be implemented with the Project which would potentially reduce Project trips. Trip generation and assignment were not reduced to reflect this reduction.*

Trip Generation Comparison

As requested by the County, traffic data was collected at four medical office sites that provide similar services as the Project. Traffic data collected at the driveways of these four sites was used to estimate trip generation rates, which were then compared to the trip generation rates obtained from ITE data. A summary of the results (including driveway counts) is included in **Table T-20.** The trip generation rates of the four sites were observed to be considerably less (ranging from 23 percent to 52 percent less) than the ITE LUC 630 trip generation rates assumed in this study. Thus, the ITE trip generation rates used in this study present a conservative trip generation estimate and the actual Project trip generation could be substantially lower than what is analyzed and assumed in this TIOA.

Table T-20 – Project Trip Generation													
Land Uses[1]	ITE Land Use Code	Project Size		Daily Trips	AM Peak Hour				PM Peak Hour				
					Total Peak Hour	IN	/	OUT	Total Peak Hour	IN	/	OUT
Trip Generation Rates												
Clinic	630	-	1000 Sq. Ft.	38.16	3.69	78%	/	22%	3.28	29%	/	71%
Existing Conditions												
Driveway Count	-	-	-	170	33	17	/	16	17	8	/	9
Reduce non-Project eastern portion (21%)	-	-	-	-36	-7	-4	/	-3	-4	-2	/	-2
Total Existing Conditions Trip Credit	**-**	**-**	**-**	**134**	**26**	**13**	**/**	**13**	**13**	**6**	**/**	**7**
Proposed Conditions												
Clinic	630	160	1000 Sq. Ft.	6106	590	460	/	130	525	152	/	373
Net Project Trips				**5,972**	**564**	**447**	**/**	**117**	**512**	**146**	**/**	**366**

Notes:

1. Trip generation rates published by Institute of Transportation Engineers (ITE), "Trip Generation," 10th Edition, 2017.

Trip Distribution and Assignment

Project trips are expected to utilize regional roadways, major arterials, and local collector roads to access the Project site. Trip distribution assumptions were developed based on consultation with County staff, SCCRTC Average Daily Traffic volumes, Caltrans Average Annual Daily Traffic volumes, the local travel demand model, and knowledge of the study area.

The following summarizes Project trip distribution assumptions which are also presented graphically in **Figure F-.**

- 19% north along Highway 1
- 10% south along Highway 1
- 16% west along Soquel Avenue
- 9% west along Capitola Road
- 11% west along Brommer Avenue
- 5% east along Soquel Drive
- 9% east along Capitola Road
- 5% east along Jade Street
- 5% east along Cliff Drive
- 11% distributed south throughout local neighborhoods

The Project will construct two access points along Soquel Avenue and all travel to/from the site will utilize those two driveways. Approximately 67 percent of Project trips are anticipated to travel to/from the Project site via west Soquel Avenue and approximately 33 percent of Project trips are estimated to travel to/from the Project site via east Soquel Avenue.

Note that there are two different distribution markers in this figure - double arrowhead and quadruple arrowhead. The double arrowhead markers indicate the assumption that Project trips will travel to/from the Project site along these routes and does not necessarily indicate that Project trip origins and destinations are along these routes. The quadruple distribution marker indicates that Project trip origins and destinations are assumed to be in proximity to the markers. Thus, as indicated in **Figure F-** this analysis assumes that approximately 5 percent of Project trips are destined for and will originate from the local neighborhoods approximately southwest of the Project site. Similarly, approximately 6 percent of Project trips are destined for and will originate from the local neighborhoods approximately southeast of the Project site.

Figure F- shows the net Project trip assignment for AM and PM peak hour periods that would occur at study intersections during all Plus Project conditions based on the net new Project trip generation estimates as well as the Project trip distribution assumptions described above.

Kimley»Horn
Expect More. Experience Better.

N

Medical Office Building

Figure F-11

Project Trip Distribution

Project Transportation Improvements

Project Site Access and Circulation

The Project site will be accessed from Soquel Avenue. The Project will construct one main signalized driveway entrance for employees and Members, which will provide access to the patient loading and unloading area, as well as the proposed parking garage. The main driveway will include a protected westbound left-turn pocket and eastbound right-turn pocket into the Project site from Soquel Avenue, as well as northbound left- and right-turn lanes exiting the Project site. A peak hour signal warrant for the main driveway indicates that a signal is warranted per the CAMUTCD guidelines and the peak hour warrant analysis worksheet is included in **Appendix J**. Note that roundabouts require more right of way than signals and a roundabout at this driveway would not be feasible due to Highway 1 right-of-way constraints.

A secondary driveway will also be constructed east of the main entrance for deliveries, pickups, and ambulances. The secondary driveway south leg will be stop controlled and Soquel Avenue traffic will be free flow. The secondary driveway will experience very low and infrequent volumes throughout the day and no signal is anticipated for this location.

As shown in the Project site plan in **Figure F-2**, the Project will construct a roadway through the center of the site, with the Project parking garage on the west side of the site and the MOB on the east side of the site. The parking garage will have two entrances/exits, one at the northeast end of the garage and one at the southeast end.

A patient drop-off/pick-up zone will be provided near the main building entrance and accessed via the main Project Driveway. The drop-off/pick-up zone will provide capacity for approximately seven vehicles at a time.

For **motorists traveling to the site**, the north entrance/exit will allow for free right-turn movements into the garage. Traffic wishing to bypass the main garage entrance will use the southbound through lane, which will be stop-controlled, rather than the free southbound right-turn to bypass the main garage entrance and continue south. Motorists bypassing the main garage driveway will then have the opportunity to access the secondary garage driveway or continue around to the drop-off/pick-up zone adjacent to the MOB. For motorists wishing to park in the garage after dropping-off Members in the loading/unloading zone adjacent to the MOB, motorists will have the opportunity to make a northbound right-turn at the north garage entrance/exit at turn into the garage to seek a parking space.

For **motorists leaving the site**, both garage exits will be stop controlled. The north entrance/exit will allow for the most direct route to leaving the site, by permitting motorists to make an eastbound right turn, which will bring them to the proposed Soquel Avenue & Project Driveway signal. For travelers exiting from the south garage driveway, motorists would take an eastbound right turn, travel north past the drop-off/pick-up area, stop at the northbound through stop-controlled movement at the north garage entrance/exit, and then continue on to the Soquel Avenue & Project Driveway signal.

An east/west high visibility pedestrian crosswalk will be provided across the south leg of the north garage entrance/exit. Pedestrians will be able to utilize this proposed crosswalk to access the MOB after parking their vehicles and bikes. The Project will construct wayfinding signage to direct pedestrians to the crosswalk. Conflicting traffic will be stop controlled and pedestrians will have the right of way to cross at this location.

Bikes will access the site via the Soquel Avenue & Project Driveway signalized intersection, traveling south and parking near the north parking garage entrance/exit, as shown in **Figure F-2**. After parking their bikes at the designated bike parking area, pedestrians will utilize the previously discussed east/west pedestrian crosswalk to access the Project site.

The Project will also construct an ADA-compliant sidewalk along the north Project frontage (south side of Soquel Avenue), which will extend along the south side of Soquel Avenue and fill the existing gap in the County's sidewalk network.

On-site parking is evaluated in detail in CHAPTER 5 on page 42 of this report.

Project Off-Site Mobility Improvements

The following offsite improvements will be implemented by the Project:

(e) *Green Bike Lanes Along Soquel Avenue*

The Project will install 4,200 feet of green striped Class II bike lanes along Soquel Avenue, as described in the Pedestrian, Bicycle and Transit Mobility Chapter (Chapter 4) of this report.

(f) *Soquel Avenue Two-Way Left-Turn Lane Striping Improvements*

The Project will implement approximately 3,500 feet of TWLTL striping (and restriping) along Soquel Avenue from Paul Minnie Avenue to the existing creek crossing (east of Mattison Lane). These striping improvements will include restriping of the existing bike lanes and the addition of new green bike lane striping. Conceptual layouts for these Project improvements are included in **Appendix I**.

(g) *Measure of Effectiveness - Two-Way Left-Turn Lane along Soquel Avenue*

Vehicle gap availability and acceptance is typically used to determine if motorists will have sufficient gaps in opposing vehicle traffic. Critical gap acceptance is evaluated in this section and compared to the vehicular flow rate of the opposing movements for motorists entering or exiting stop-controlled side-streets along Soquel Avenue.

Critical gap is defined in 2000 Highway Capacity Manual ("HCM") as the minimum acceptable time interval (in seconds) that is necessary to allow the entry of a vehicle movement. When the observed gap is less, then motorists are forced to wait longer to find acceptable gaps to enter the traffic stream. If the required gap is greater than the available gap, then vehicles will be forced to either choose a gap that is too small or will reroute to another intersection. Both choices are considered unsafe. **Table T-21** indicates the base critical gaps by movement type for two-lane streets, as published in the HCM 2000.

Table T-21 – Base Critical Gaps	
Vehicle Movement	**Base Single Movement Critical Gap (s)**
	Two-Lane Major Street
Left turn from major	4.1
Right turn from minor	6.2
Through traffic on minor	6.5
Left turn from minor	7.1

Soquel Avenue from Paul Minnie Avenue to the existing creek crossing (east of Mattison Lane) primarily consists of two undivided lanes. Traffic signal control exists at the 17th Avenue intersection. Motorists that desire to make northbound left turns from side-streets (or driveways) onto Soquel Avenue are required to wait for gaps in both eastbound and westbound traffic along Soquel Avenue. Motorists that desire to make a southbound right turn must only wait for a gap in eastbound traffic along Soquel Avenue.

Average available gaps were estimated using existing conditions traffic volumes along Soquel Avenue and compared to existing plus Project traffic volumes and corresponding gaps. As shown in **Table T-22**, striping a two-way left-turn lane along Soquel Avenue would provide motorists a measurable benefit giving them the opportunity to make northbound left-turn movements from the site in two stages, which would provide higher average gap times than existing conditions and is an improvement over the existing conditions, when gaps in both directions has to be available at the same time.

Table T-22 – Average Available Gaps

Intersection	Movement	Opposing Vehicle Movement	AM Peak Hour			PM Peak Hour		
			Opposing Vehicle		HCM Base Critical Gap	Opposing Vehicle		HCM Base Critical Gap
			Volume (vph)	Gap (sec per veh)		Volume (vph)	Gap (sec per veh)	
Existing Volumes & Existing Striping (Single movements)								
Soquel Ave & Paul Minnie Rd	NBL	WBT+EBT	1269	2.8	7.1	1628	2.2	7.1
	NBR	EBT	537	6.7	6.2	850	4.2	6.2
Existing Plus Project Volumes & Two-Way Left-Turn Lane Striping (Two Stage Left-Turn Movement)								
Soquel Ave & Paul Minnie Rd	NBL	WBT	771	4.7	N/A	617	5.8	N/A
		EBT	682	5.3		1178	3.1	
	NBR	EBT	682	5.3	6.2	1178	3.1	6.2

**Analysis represents volumes near Soquel Avenue & Paul Minnie Avenue intersection.*

As shown above, Existing volumes and striping provides motorists wishing to make left-turns and right-turns from Paul Minnie Road onto Soquel Avenue average vehicle gaps of approximately 2.8 seconds and 6.7 seconds during the AM Peak Hour, respectively. During the PM Peak Hour, northbound left and northbound rights have 2.2 second and 4.2 second average gaps, respectively. These gaps are insufficient when compared to the HCM Base Critical Gap.

As shown above, Existing Plus Project volumes and two-way left-turn lane striping provides motorists wishing to make left turns the opportunity to make the desired left turn onto Soquel

Avenue in two movements – where the driver crosses opposing eastbound traffic and enters the two-way left-turn lane, and then waits for a gap in westbound traffic to enter the westbound Soquel Avenue traffic stream. The addition of the signal at the Project driveway may create additional gaps in the traffic stream for vehicles to enter Soquel Avenue from the driveways and the other side streets, including this one at Paul Minnie Road.

Existing Plus Project Conditions

Analysis

Traffic operations were evaluated at the study intersections for Existing Plus Project conditions. **Figure F-13** shows the Existing Plus Project lane geometry and traffic control and **Figure F-14** shows the Existing Plus Project peak hour traffic volumes.

No study intersections would degrade from acceptable LOS (without the Project) to unacceptable LOS (with the Project). However, the following intersections currently operating at deficient conditions will degrade further with the addition of Project traffic, as shown in **Table T-23**.

- Soquel Avenue / 40th Avenue & Gross Road (Intersection #9) (PM Peak)
- 41st Avenue & Highway 1 SB Ramps (Intersection #14) (AM Peak)
- 41st Avenue & Gross Road (Intersection #15) (AM & PM Peaks)
- Brommer Street & 30th Avenue (Intersection #24) (PM Peak)

Note that the intersection analysis of Soquel Avenue and Highway 1 Southbound On- and Off-Ramps (#5) do not show a deficiency for the **overall** average delay and LOS. However, field observations indicate that the southbound off-ramp queue spills back onto the auxiliary lane/ existing lane on the freeway in the PM peak period. This is partly due to drivers trying to bypass the freeway congestion via Soquel Avenue or Capitola Road. The reconstruction of the interchange is expected to eliminate the queueing back onto the freeway. The increases in delay from the Project occur in the non-peak flow direction and do not result in deficiencies at the intersection.

The average delay per vehicle at the intersection of Soquel Avenue/Highway 1 is acceptable. However, due to congestion on Highway 1 in the PM in the southbound direction, the queue on the off-ramp overflows. This queue results primarily from traffic leaving the freeway and taking the local streets to go to their destination, or bypass the freeway and continue on frontage roads, i.e., Soquel Avenue and Soquel Drive to bypass the freeway congestion.

The below-described improvements would improve traffic operation at intersections 9, 14, 15 and 24, which currently operate at deficient conditions will degrade further with the addition of Project traffic. Pursuant to the County's General Plan LOS Policy 3.12.1, the Project will contribute to the deficiency at County maintained intersections already operating at an unacceptable LOS if the v/c ratio of the sum of all critical movements at the following intersections increase by 1% or more with the Project, in which case the General Plan LOS Policy requires mitigation or other improvement to address the deficiency. The v/c analysis is inapplicable to this intersection, however, if improvements can eliminate operational deficiencies by causing intersections to operate at LOS D or better.

- Soquel Dr & Paul Sweet Road / Hwy 1 On-Off Ramps (Intersection #4) The Project would not contribute any delay to this intersection during the AM or PM peak hour. The Project does not increase the v/c by more than one percent in any of the peak hours as indicated in **Table T-23.**

Table T-23 – Soquel Drive & Paul Sweet Road / Hwy 1 On-Off-Ramps (Intersection #4) Critical Movement v/c Calculation

Intersection 4				
AM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Existing (v/c)	2.174	0.828	1.696	1.263
Existing + Project (v/c)	2.176	0.828	1.696	1.263
v/c Change	***0.09%***	***0.00%***	***0.00%***	***0.00%***
PM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Existing (v/c)	1.372	0.944	1.772	1.420
Existing + Project (v/c)	1.373	0.947	1.772	1.420
v/c Change	***0.07%***	***0.32%***	***0.00%***	***0.00%***

<u>Thus, the Project does not cause any new deficiency at the study intersections and no improvement is required.</u>

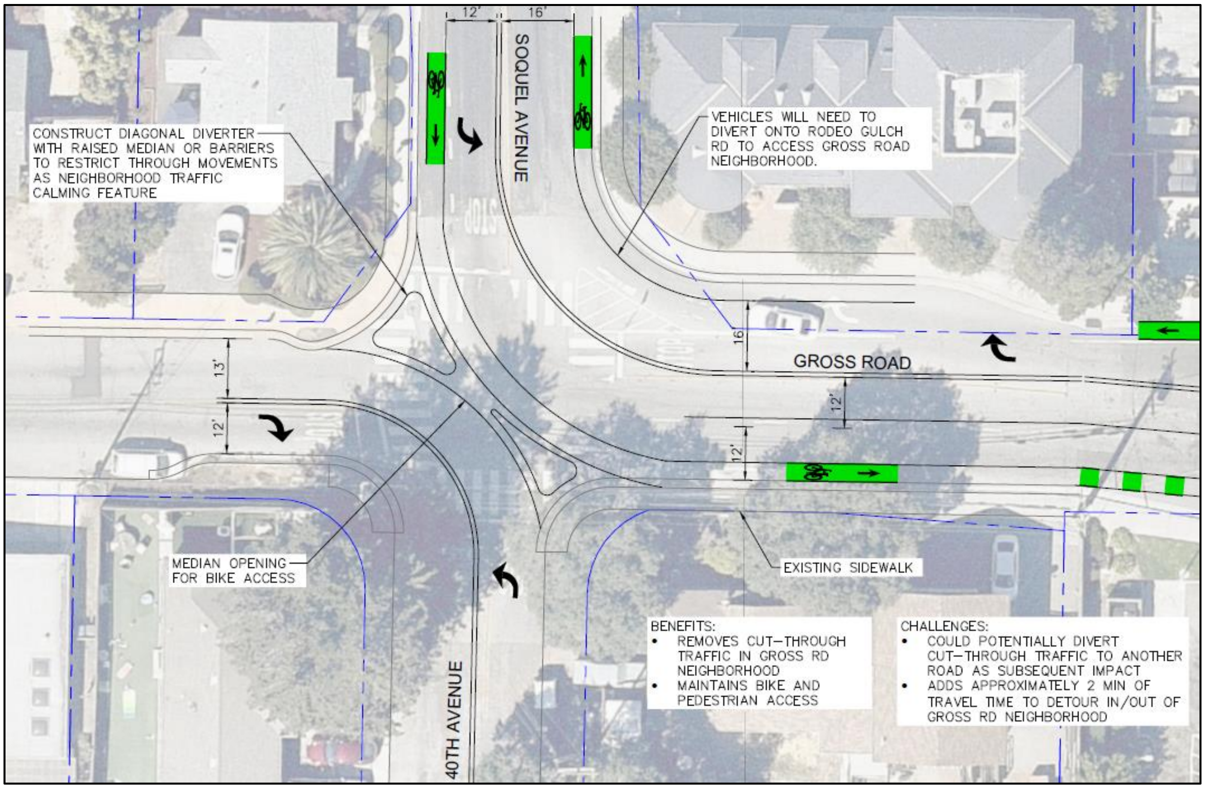
- Soquel Avenue / 40th Avenue & Gross Road (Intersection #9). During the PM peak hour, the Project would cause delays at this intersection to go from 36.5 seconds (LOS E) to 78.4 sections (LOS F) if no improvements were installed, but installation of the diverter proposed below would eliminate the intersection (and any associated) LOS deficiency.
  - It is recommended to install a diagonal diverter extending from the northwest corner to the southeast corner at this intersection. The diverter will prevent cut through traffic on Gross Road through the residential neighborhood, and eliminate the congestion caused by the all-way stop at the intersection. Residents in the neighborhood would then exit the neighborhood at Rodeo Gulch Drive onto Soquel Avenue. This commute is slightly longer than the direct connection to 41st Avenue via Gross Road, but the benefits of removing cut through traffic through the neighborhood, and the improvement of operations at the Gross Road/40th Avenue intersection, warrants the installation of this improvement. In addition, if this improvement is not installed, cut through traffic on Gross Road and the delay at the intersection will continue and even worsen in the future, until the freeway is improved. The Project does increase the v/c by more than one percent in both the

AM or PM Peak times as indicated below in **Table T-24** (v/c ratio increase 10.09-23.57% at critical movements).

Table T-24 – Soquel Avenue / 40th Avenue & Gross Road (Intersection #9) Critical Movement v/c Calculation

Intersection 9				
AM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Existing (v/c)	0.199	0.199	0.393	0.393
Existing + Project (v/c)	0.224	0.224	0.485	0.485
v/c Change	***12.56%***	***12.56%***	***23.41%***	***23.41%***
PM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Existing (v/c)	0.803	0.803	0.997	0.997
Existing + Project (v/c)	0.884	0.884	1.232	1.232
v/c Change	***10.09%***	***10.09%***	***23.57%***	***23.57%***

- Installation of the diverter would eliminate both the cut through traffic and the adverse delay at the intersection, improving the potential operational deficiencies and eliminating any LOS deficiency. Without the Project, it would also improve the existing condition during the PM peak hour. The traffic flow at this intersection would then be governed by the signal at Gross Road & 41st Avenue, where additional improvements are recommended. The long cycle length at the 41st Avenue intersection results currently in queues spilling into the Gross Road intersection. These queues are expected to shorten from 8.15 minutes to 4.53 minutes with these recommended improvements, as shown in the graphic below. The installation of the diverter will result in additional traffic being added to the intersection of Rodeo Gulch Road and Soquel Avenue. The increase in traffic will add delay for vehicles on the northbound approach wanting to turn left or right onto Soquel Avenue. This delay is not anticipated to be substantial and during the PM peak hour, courtesy gaps will be taken to cross the queue that forms in the eastbound direction.
- The Project causes delay to increase at Intersection #9 if no improvements are made. The recommended improvement installs a diverter, which makes all movement free. Thus, no delay would be attributed to this intersection. With installation of the diverter, <u>the LOS deficiency would be eliminated</u>.



- 41st Avenue & Highway 1 Southbound Ramps (Intersection #14). During the AM peak hour, the Project would cause delays at this intersection to go from 36.7 seconds (LOS D) to 41.6 sections (LOS D). This is a Caltrans managed facility operating at LOS D and therefore evaluated (pursuant to now outdated standards applicable prior to adoption of VMT thresholds) based on additional delay caused by the Project. The Project does increase the v/c by more than one percent in both the AM or PM Peak times as indicated below in **Table T-25** (v/c ratio increase 8% at one critical movement).

Table T-25 – 41st Avenue & Highway 1 Southbound Ramps (Intersection #14) Critical Movement v/c Calculation				
Intersection 14				
AM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Existing (v/c)	1.25	1.25	0.25	0.30
Existing + Project (v/c)	1.25	1.25	0.27	0.30
v/c Change	***0.00%***	***0.00%***	***8.00%***	***0.00%***
PM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Existing (v/c)	0.60	0.60	0.31	0.45
Existing + Project (v/c)	0.60	0.60	0.31	0.45
v/c Change	***0.00%***	***0.00%***	***0.00%***	***0.00%***

- Caltrans certified the environmental impact report ("EIR") for the Santa Cruz Route 1 Tier 1- Corridor Analysis of High Occupancy Vehicle Lanes and Transportation System Management Alternatives and Tier II- Build Project Analysis of 41st Avenue to Soquel Avenue/Drive Auxiliary Lanes and Chanticleer Avenue Pedestrian-Bicycle Overcrossing, which identifies long-term improvement projects for providing capacity at Highway 1 interchanges. The identified improvements at the 41st Avenue interchange includes ramp widening and improvements and the overcrossing would be widened. These improvements are unconstrained and until funding becomes available, the operational deficiency would remain. Once the improvements are implemented, the facility is expected to operate at acceptable conditions.

- 41st Avenue & Gross Road (Intersection #15). During the AM peak hour, the Project would cause delays at this intersection to go from 36.8 seconds (LOS D) to 43.1 sections (LOS D) and during the PM peak hour, the Project would cause delays to go from 46.8 seconds (LOS D) to 51.7 sections (LOS D). The Project does increase the v/c by more than one percent in both the AM or PM Peak times as indicated below in **Table T-26** Table (v/c ratio increase 1.85-33.58% at critical movements).

Table T-26 – 41st Avenue & Gross Road (Intersection #15) Critical Movement v/c Calculation

Intersection 15				
AM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Existing (v/c)	0.54	0.54	1.37	1.30
Existing + Project (v/c)	0.56	0.55	1.83	1.30
v/c Change	***3.70%***	***1.85%***	***33.58%***	***0.00%***
PM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Existing (v/c)	1.32	1.31	1.26	1.31
Existing + Project (v/c)	1.4	1.38	1.43	1.31
v/c Change	***6.06%***	***5.34%***	***13.49%***	***0.00%***

  - During the PM peak, southbound queues form on Gross Road and Soquel Avenue due to the cut-through traffic on Soquel Avenue trying to bypass the freeway congestion. These queues sometime spill back to Rodeo Gulch Drive on Soquel Avenue. Traffic also cut through the Gross Road neighborhood.
  - The City of Capitola is planning the installation of an adaptive signal system along 41st Avenue, and this intersection is included in the design. The adaptive signal system is funded and would provide better coordination of traffic flow along the corridor because it measures real time vehicular demand and proportions/adjusts signal timing accommodating traffic.

- In addition, the Project would install overhead signs and roadway markings to improve lane selection and use on the eastbound approach of Gross Road. The lane selection would be for southbound Highway 1 and northbound Highway 1 movements. See **Appendix M** for the conceptual layout of this improvement.
- The Project will also install a physical barrier between the limit line and the diverge of the Highway 1 southbound on-ramp on 41st Avenue. This barrier will prevent vehicles from jumping the queue for southbound on-ramp traffic. This improvement would also improve bicycle rider safety in the Class II bike lane at the Highway 1 southbound on-ramp at 41st Avenue.
- This barrier installation would require a Caltrans construction permit and approval. It can only be installed if approved by Caltrans.

- The Project's installation of overhead signs, roadway marking, diagonal diverter, and a physical barrier, as described above, would reduce the travel time from Soquel Drive & Rodeo Gulch Road to the southbound Highway 1 on-ramp from 8.15 minutes under existing conditions to 4.53 minutes with the proposed improvements. <u>The Project thus reduces the existing delay for all the road users at this location. Even without the adaptive signal system, the installation of these features by the Project would improve existing and plus Project conditions, thus eliminating any deficiency caused by the Project.</u>

Alternative Improvement for congestion at 41st Avenue/Gross Road: Removal of the road barrier on 40th Avenue at Deanes Lane

- The location of Gross Road at 41st Avenue results in eastbound afternoon traffic diverting from a congested SR 1 and cutting through the local streets along Soquel Avenue to 41st Avenue. The afternoon eastbound right turn movement at the intersections of Gross Road and 41st Avenue is 248 vehicles in Existing Plus Project conditions and these vehicles travel southbound on 41st Avenue. If the barrier at Deanes Lane is removed, some of this traffic could be expected to travel on 40th Avenue towards Clares Street towards Capitola Mall. Some drivers may also choose to use Clares Street to gain access to 41st Avenue.
- The traffic that would use 40th Avenue instead of 41st Avenue would slightly improve the conditions at the intersection of Gross Road and 41st Avenue, however the heaviest movement at this intersection is the southbound left turns (639 PM peak hour vehicles) and the improvement there would not be noticeable. In addition, the traffic that would divert from Gross Road to 40th Avenue would remain in the long eastbound queues on Soquel Avenue and most probably cut through the Gross Road neighborhood and make an eastbound right turn at Gross Road/ 40th Avenue. Thus, traffic cut-through through the Gross Road neighborhood would increase if the barrier is removed and the diagonal diverter is not installed.
- For the non-peak periods, removing the barrier would benefit access to the Capitola Mall and reroute some traffic from 41st Avenue. It is also anticipated that a signal may be required at the intersection of Clares Street and 40th Avenue to

accommodate the additional traffic demand. The intersection is already congested during peak shopping periods with the current All Way Stop configuration.

- Brommer Street & 30th Avenue (Intersection #24).
    - During the PM peak hour, the Project would cause delays at this intersection to go from 38.4 seconds (LOS E) to 39.1 seconds (LOS E) The Project does increase the v/c by more than one percent in both the AM or PM Peak times as indicated below in **Table T-27** (v/c ratio increasing 0.24-1.81% at critical movements).
    - The LOS deficiency could be eliminated with installation of a signal control with permissive left-turn phasing. Peak Hour Signal Warrant #3 (CAMUTCD) is satisfied with Existing Conditions traffic and in Existing Plus Project Conditions traffic. With existing geometry, signal control, eastbound/westbound split phasing, and permissive left-turn phasing, this intersection would operate at acceptable LOS with Existing Plus Project conditions traffic volumes. The Peak Hour Signal Warrant #3 evaluation is included in **Appendix J**.
    - The Project only contributes 5 trips during the PM peak hour to the intersection and causes less than one second of delay. The proposed improvement would cause the Brommer Street & 30th Avenue intersection to operate at LOS C with the Project.
    - The Project would pay a fair share contribution of 14% to the intersection improvement (i.e., the installation of a signal, since it is deficient already).

Table T-27 – Brommer Street & 30th Avenue (Intersection #24) Critical Movement v/c Calculation

Intersection 24				
AM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Existing (v/c)	0.756	0.756	0.664	0.664
Existing + Project (v/c)	0.760	0.760	0.676	0.676
v/c Change	***0.53%***	***0.53%***	***1.81%***	***1.81%***
PM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Existing (v/c)	1.673	1.673	0.852	0.852
Existing + Project (v/c)	1.677	1.677	0.865	0.865
v/c Change	***0.24%***	***0.24%***	***1.53%***	***1.53%***

Microsimulation Analysis

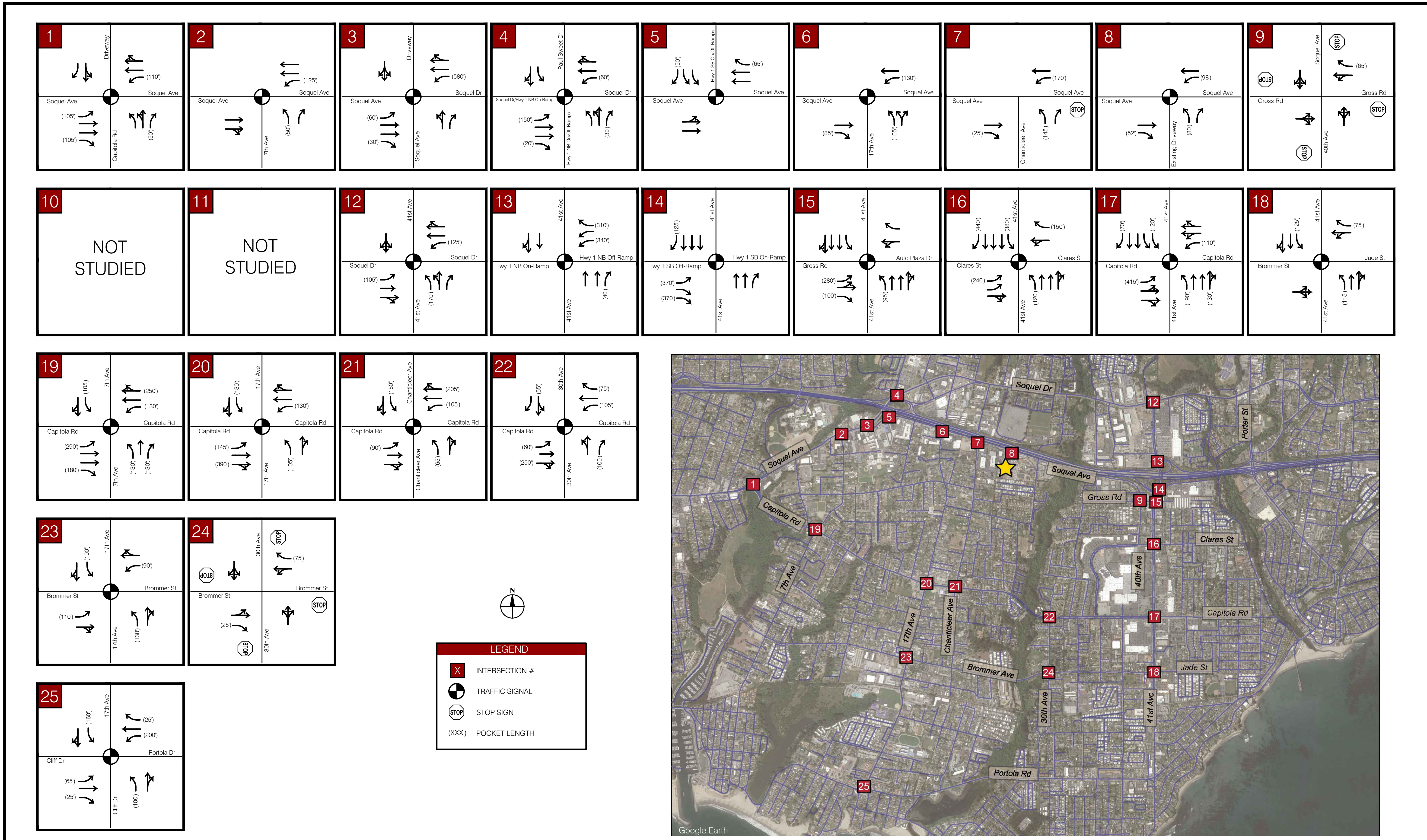
The positive effect of the installation of some of these improvements cannot be evaluated using typical LOS analysis, but must be analyzed using microsimulation methodologies instead. LOS (HCM 6th) is a deterministic traffic analysis methodology, whereas microsimulation (SimTraffic) is a probabilistic/stochastic traffic analysis methodology that can provide more detailed, and statistically based measures of effectiveness.[41]

It is anticipated that some cut-through traffic traveling south along Highway 1 to Capitola and Aptos currently uses Mattison Lane between Soquel Avenue and Capitola Road. This traffic tries to avoid the Gross Road/40th Avenue queuing and congestion. Analysis results from recommended improvements along Soquel Avenue would slightly improve operations (or at a minimum, operations would remain the same). Therefore, it is not anticipated that additional cut-through traffic would divert to Mattison Lane due to the Project. In support of this, it should be noted again that there is a potential decrease in delay from 8 minutes to 4.59 minutes in the PM peak at the Gross Road/40th Avenue and Gross Road 41st Avenue intersections. If the diverter at Gross Road and 40th Avenue is not installed, more existing traffic would potentially divert down Mattison Lane in the future, and a signal may eventually be required at Capitola Road and traffic through the neighborhood may be impacted. A signal may, in turn, create more capacity and then more traffic may divert through the Mattison Road neighborhood.

Existing Plus Project analysis results are presented in **Table T-28**. Synchro output sheets are provided in **Appendix C**. A summary of the improvements for intersections operating at a deficient level of service is indicated in **Table T-29**.

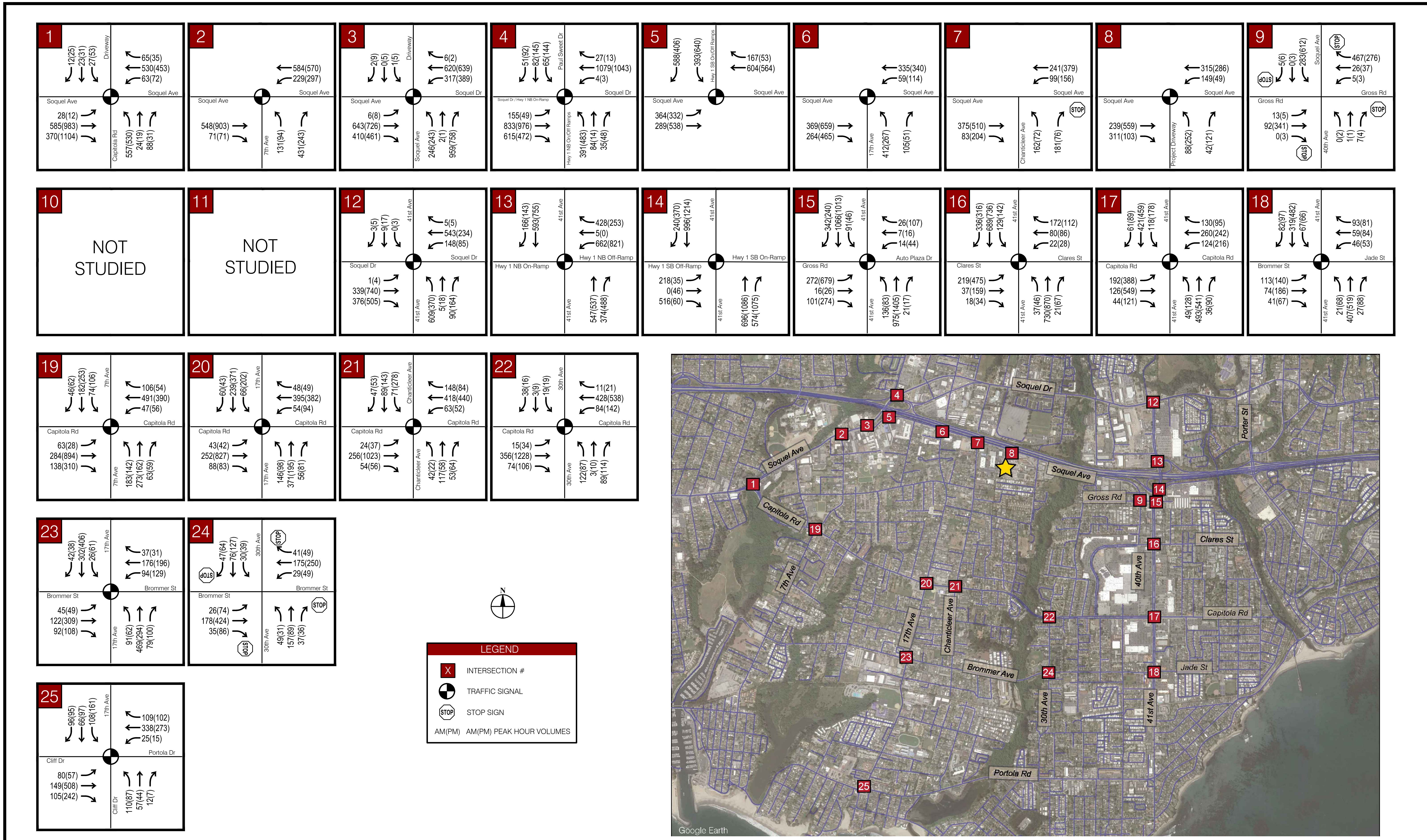
Since the first draft report was compiled in 2019, Caltrans has changed the lane assignment at the intersection of Soquel Avenue & Highway 1 SB On- and Off-Ramp (Intersection #5) to include an exclusive eastbound left-turn lane. The approach lanes were restriped to include a separate left-turn lane and a separate through lane. Signal timing sheets available at that time were changed to reflect the new lane configuration and phasing optimized to obtain a representative LOS. This change resulted in a decrease of delay from 28.2 seconds to 20.7 seconds during the AM peak hour and from 29.4 seconds to 21.8 seconds during the PM peak hour. The LOS remains a LOS C for both peak hours. Synchro output sheets are provided in **Appendix U**.

[41] See http://www.trafficware.com/synchro.html for additional software/modeling details.



Kimley»Horn
Expect More. Experience Better.

Medical Office Building
Figure F-13
Existing Plus Project Conditions Lane Geometry and Intersection Control



Kimley»Horn
Expect More. Experience Better.

Medical Office Building
Figure F-14
Existing Plus Project Conditions Peak Hour Turning Movement Volumes

Kimley»Horn

Table T-28 – Existing Plus Project Conditions Intersection Level of Service

#	Intersection	Maintaining Agency	Control Type	Existing Conditions						Existing Plus Project Conditions					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Movement	Delay	LOS	Movement	Delay	LOS	Movement	Delay	LOS	Movement	Delay	LOS
1	Soquel Ave & Capitola Rd	CSC	Signal	-	31.4	C	-	29.2	C	-	31.9	C	-	30.5	C
2	Soquel Ave & 7th Ave	SCC	Signal	-	16.8	B	-	17.1	B	-	17.7	B	-	17.1	B
3	Soquel Dr / Soquel Ave & Soquel Ave	Caltrans	Signal	-	29.5	C	-	30.9	C	-	30.3	C	-	33.3	C
4	Soquel Dr & Paul Sweet Rd / Hwy 1 On-Off Ramps	Caltrans	Signal	-	51.6	D	-	36.7	D	-	51.6	D	-	36.6	D
5	Soquel Ave & Hwy 1 SB On-Off Ramps	Caltrans	Signal	-	27.1	C	-	27.7	C	-	28.2	C	-	29.4	C
6	Soquel Ave & 17th Ave	SCC	Signal	-	8.7	A	-	9.5	A	-	10.2	B	-	10.8	B
7	Soquel Ave & Chanticleer	SCC	SSSC	-	5.4	A	-	2.7	A	-	7.1	A	-	4.3	A
	Worst Approach			NB	13.7	B	NB	16.9	C	NB	21.3	C	NB	29.7	D
8	Soquel Ave & MOB Driveway	SCC	SSSC / Signal	-	0.4	A	-	0.2	A	-	5.9	A	-	8.4	A
	Worst Approach			NB	11.3	B	NB	14.0	B						
9	Soquel Ave / 40th Ave & Gross Rd	SCC	AWSC	-	10.9	B	-	**36.5**	**E**	-	14.8	B	-	**78.4**	**F**
10	40th Ave & Deanes Ln	NOT STUDIED													
11	40th Ave & Clares St	NOT STUDIED													
12	41st Ave & Soquel Dr	SCC	Signal	-	23.7	C	-	38.0	D	-	24.4	C	-	39.1	D
13	41st Ave & Hwy 1 NB Ramps	Caltrans	Signal	-	18.3	B	-	14.9	B	-	18.4	B	-	15.0	B
14	41st Ave & Hwy 1 SB Ramps	Caltrans	Signal	-	**36.7**	**D**	-	7.5	A	-	**41.6**	**D**	-	8.1	A
15	41st Ave & Gross Rd	Caltrans	Signal	-	**36.6**	**D**	-	**46.8**	**D**	-	**43.1**	**D**	-	**51.7**	**D**
16	41st Ave & Clares St	Capitola	Signal	-	22.6	C	-	26.8	C	-	22.9	C	-	27.0	C
17	41st Ave & Capitola Rd	Capitola	Signal	-	24.2	C	-	35.0	D	-	25.0	C	-	36.0	D
18	41st Ave & Brommer St/Jade St	Capitola	Signal	-	18.6	B	-	27.6	C	-	19.3	B	-	28.6	C
19	Capitola Rd & 7th Avenue	SCC	Signal	-	18.5	B	-	21.0	C	-	20.9	C	-	24.1	C
20	Capitola Rd & 17th Avenue	SCC	Signal	-	19.9	B	-	27.1	C	-	20.5	C	-	28.4	C
21	Capitola Rd & Chanticleer Ave	SCC	Signal	-	15.8	B	-	23.0	C	-	16.3	B	-	24.1	C
22	Capitola Rd and 30th Ave	Capitola	Signal	-	20.3	C	-	25.4	C	-	21.2	C	-	25.9	C
23	Brommer St & 17th Ave	SCC	Signal	-	21.6	C	-	26.3	C	-	22.0	C	-	26.9	C
24	Brommer St & 30th Ave	SCC	AWSC	-	12.0	B	-	**38.4**	**E**	-	12.1	B	**-**	**39.1**	**E**
25	17th Ave & Portola Dr	SCC	Signal	-	19.4	B	-	20.2	C	-	19.5	B	-	20.4	C

Notes:

1. Analysis performed using HCM 6th Edition methodologies.

2. Delay indicated in seconds/vehicle.

3. Signal = Signal Control; AWSC = All-Way Stop Control; SSSC = Side-Street Stop Control

4. CSC = City of Santa Cruz; Caltrans = California Department of Transportation; SCC = Santa Cruz County; Capitola = City of Capitola

5. CSC LOS standard is D; Caltrans LOS standard is C; SCC LOS standard is D; Capitola does not have a LOS standard for 41st Avenue.

6. Intersections that operate below maintaining agency's LOS standard are highlighted and shown in bold.

7. For intersection #4, The Project does not increase intersection delay or increase critical v/c by 1% or more. Thus, no Project deficiency is caused at this location.

8. Intersection #5 shows overall LOS as acceptable. See Analysis section on page 72 for additional detail.

9. Intersection #10 and #11 were not analyzed in this analysis because the Project is not expected to distribute traffic to these intersections, since a barrier exists at 40th Avenue and Deans Lane and the Project does not propose to remove it (nor are any plans to remove the barrier pending).

10. Intersection #14 operates at LOS A in the PM because traffic to the intersection is controlled/metered at intersections #13 and #15. Intersections #14 and #15 are operated on one signal controller, managed by Caltrans. Caltrans' main objective is to avoid off-ramp queue spillback into the Highway 1 mainline.

Table T-29 – Improved Existing Plus Project Conditions Intersection Level of Service

Int#	Location	Condition	Deficiency caused by the Addition of Project Traffic	Improvement
#9	Soquel Avenue / 40th Avenue & Gross Road	Existing and Existing Plus Project Conditions	The addition of Project traffic worsens the LOS from E to F in the PM. The critical v/c increases by more than 1% on all the critical approach movements.	Install a diagonal diverter extending from the northwest corner to the southeast corner at this intersection. Residents in the neighborhood would exit the neighborhood at Rodeo Gulch Drive onto Soquel Avenue. If this improvement is not installed, cut through traffic along Gross Road and the delay at the 41st Avenue intersection will continue and degrade further in the future until the freeway is improved. The diverter will prevent cut through traffic on Gross Road through the residential neighborhood and eliminate the congestion caused by the all-way stop at the intersection. Queues at this intersection are expected to shorten with these recommended improvements. This commute is slightly longer than the direct connection to 41st Avenue via Gross Road, but the benefits of removing cut through traffic through the neighborhood and the improvement of operations at the Gross Road/40th Avenue intersection, warrants the installation of this improvement. With this improvement, traffic flow at this intersection would then be governed by the signal at Gross Road & 41st Avenue where additional improvements are recommended. **With the improvement, all movements would be uncontrolled; therefore, no delay would be attributed to this intersection (i.e., the only delay would be incurred at the 41st Avenue & Gross Road signalized intersection). This improvement would cause travel time from Soquel Dr & Rodeo Gulch Rd to SB Hwy 1 on-ramp to decrease by approximately 44% when comparing Existing (No Project) to Existing Plus Project conditions. See Appendix M for the proposed layout. In addition, the current cut-through traffic along Gross Road through the neighborhood would also be eliminated. With this improvement the deficiency caused by the Project will be eliminated. Existing conditions will also be improved since the queues will be shortened.**

Table T-29 – Improved Existing Plus Project Conditions Intersection Level of Service				
Int#	**Location**	**Condition**	**Deficiency caused by the Addition of Project Traffic**	**Improvement**
#14	41st Avenue & Highway 1 Southbound Ramps	Existing and Existing Plus Project Conditions	The LOS remains at D during the AM with the addition of the Project. The average delay increases from 36.7 t0 41.6 seconds per vehicle in the AM. The critical v/c increases by more than 1% on southbound approach movements.	Caltrans certified the EIR in December 2018 for the *Santa Cruz Route 1 Tier 1-Corridor Analysis of High Occupancy Vehicle Lanes and Transportation System Management Alternatives and Tier II- Build Project Analysis of 41st Avenue to Soquel Avenue/Rive Auxiliary Lanes and Chanticleer Avenue Pedestrian-Bicycle Overcrossing*. The EIR identifies long term improvement projects for providing capacity at the interchanges and along the rail line. The TSM improvements at the 41st Avenue interchange include ramp widening and improvements and the overcrossing would be widened. The TSM improvements are unconstrained (not fully funded) and until funding becomes available, the operational deficiency would remain. **Installation of this improvement is expected to eliminate the deficiency caused by the Project.** **The State Route 1 HOV Lane Widening Project Supplemental Report (May 2010) analyzed these improvements for the Santa Cruz Route 1 Tier I and Tier II FEIR and the results are included in Appendix P for reference. https://sccrtc.org/projects/streets-highways/hwy1corridor/environmental-documents.**

Table T-29 – Improved Existing Plus Project Conditions Intersection Level of Service

Int#	Location	Condition	Deficiency caused by the Addition of Project Traffic	Improvement
#15	41^{st} Avenue & Gross Road (City of Capitola jurisdiction and Caltrans control)		The LOS remains at D during the AM and PM with the addition of the Project. The average delay increases from 36.5 to 43.1 seconds per vehicle in the AM and from 46.8 to 51.7 seconds per vehicle in the PM. The critical v/c increases by more than 1% on all the critical approach movements.	The City of Capitola received a grant to install an adaptive signal system along 41^{st} Avenue and this intersection is included in its implementation plan. In addition, the Project would install overhead signs and roadway markings to improve lane selection and use on the eastbound approach of Gross Road. The lane selection would be for southbound Highway 1 and northbound Highway 1 movements. See **Appendix N** for the conceptual layout for improvement details. A barrier would be installed between Gross Road and Highway 1 Southbound Ramps. The barrier would be installed between the eastbound through lane over the freeway and the eastbound right-turn lane onto the freeway southbound on-ramp. This barrier installation would require a Caltrans encroachment permit/approval. It can only be installed if approved by Caltrans. The adaptive signal system would provide better coordination of traffic flow along the corridor because it measures real time vehicular demand and proportions/adjusts signal timing. Furthermore, a physical barrier will be installed between the limit line and the diverge of the Highway 1 southbound on-ramp on 41^{st} Avenue. This barrier will prevent vehicles from jumping the queue for southbound on-ramp traffic. This improvement would also improve bicycle rider safety in the Class II bike lane at the Highway 1 southbound on-ramp at 41^{st} Avenue. A conceptual layout of these improvements are indicated in Appendix M. **The State Route 1 HOV Lane Widening Project Supplemental Report (May 2010) analyzed these improvements for the Santa Cruz Route 1 Tier I and Tier II FEIR and the results are included in Appendix P for reference. https://sccrtc.org/projects/streets-highways/hwy1corridor/environmental-documents.**

Table T-29 – Improved Existing Plus Project Conditions Intersection Level of Service

Int#	Location	Condition	Deficiency caused by the Addition of Project Traffic	Improvement
#24	Brommer Street & 30^{th}	Existing and Existing Plus Project Conditions	The intersection operates at LOS F in PM Peak without Project and continues to operate at LOS F with Project. The average delay increases from 38.4 seconds per vehicle to 39.1 seconds per vehicle with the addition of Project traffic. The critical v/c increases by more than 1% on the northbound and southbound critical movements.	Install signal control with permissive left-turn phasing. Peak Hour Signal Warrant #3 (CAMUTCD) is satisfied with Existing Conditions traffic and in Existing Plus Project Conditions traffic. With existing geometry, signal control, eastbound/westbound split phasing, and permissive left-turn phasing, this intersection would operate at acceptable LOS with Cumulative Plus Project conditions traffic volumes. The Peak Hour Signal Warrant #3 evaluation is included in Appendix J. **For Existing Conditions, the intersection will improve the PM delay by 17.1 seconds per vehicle with installation of the signal.** **Installation of a signal control with permissive left-turn phasing would cause the intersection to operate at an acceptable LOS. The Project will pay a fair share of 14% towards the improvement and the Project will eliminate its incremental addition to the LOS deficiency (Project Trips through intersection / All Future trips through intersection).**

Conclusions – Existing Plus Project Conditions

The implementation of the improvements described above will remove the deficiencies caused by the Project or will improve the conditions to better than existing conditions.

Near Term Conditions

Near Term Conditions were determined in consultation with County staff and evaluate traffic volumes, transportation network improvements, and operations that would occur by the year 2021. The following development conditions are evaluated in this chapter:

- Near Term Conditions
- Near Term Plus Project Conditions

Near Term Transportation Improvements

Per discussions with the County, as documented in the County's 2040 Regional Transportation Plan ("RTP"), and the 2018/2019 Capital Improvement Program ("CIP"), it is not assumed that any network capacity improvements will be implemented (including new intersections) in the study area by Near Term Conditions. Therefore, Existing Conditions geometries and intersection control are assumed for baseline Near Term conditions. In addition, no Near-Term signalization improvements, such as cycle lengths, offsets, or splits, are assumed for any of the study intersections.

Figure F-15 illustrates the intersection geometry and traffic control assumed in the Near-Term analysis, which are the same as Existing Conditions.

Near Term Traffic Volume Development

Typically, Near Term Conditions can be calculated by either identifying the approved, but not yet constructed projects that would add traffic to a study transportation network in the Near Term or by estimating traffic growth, based on historical or future projections.

Kimley-Horn coordinated with County staff to determine if there were any development projects in the study area that are in various stages of planning or approval. The County provided a list of projects that are in various stages of the planning and approval process. The pending project information provided by the County was used to develop Near Term traffic volume forecasts along with travel demand model growth estimates. The list of pending/approved projects provided by the County is included in **Appendix I**.

Cumulative model plots were reviewed and determined to incorporate reasonable growth assumptions compared to the County's pending and approved projects list in the study area. In addition, increases to the Near-Term volume estimates were also made to account for three relatively large pending projects that are anticipated to be developed within the study area by 2021. Pending development projects manually added to volume growth estimates include the following*:

- Midpen Housing at Capitola Road & 17th Avenue

  - Development Assumption: 57 residential units, 30,178 square foot dental and medical clinic, 1,000 square foot retail facility.
- East Cliff Village Center Redevelopment at East Cliff Drive & 15th Avenue
  - Development Assumption: 12,370 square feet of retail, 2,800 square foot restaurant, 164 units of assisted living/memory care, 60 room hotel, and 180 residential dwelling units.
- Swenson Mixed-Use Development at 7th Avenue & Brommer Street
  - Development Assumption: 40 residential units, up to 100 room visitor accommodations, and 8,500 square feet of commercial space.

In aggregate, traffic volume growth at the study intersections as a result of the combined model estimates and the addition of the three developments described above results in a compound annual growth rate ("CAGR") of approximately 1 percent per annum between Existing and Near-Term analysis conditions. Near Term peak hour volumes are presented in **Figure F-15**.

**Pending development assumptions provided by County Planning Department.*

Near Term Intersection Level of Service

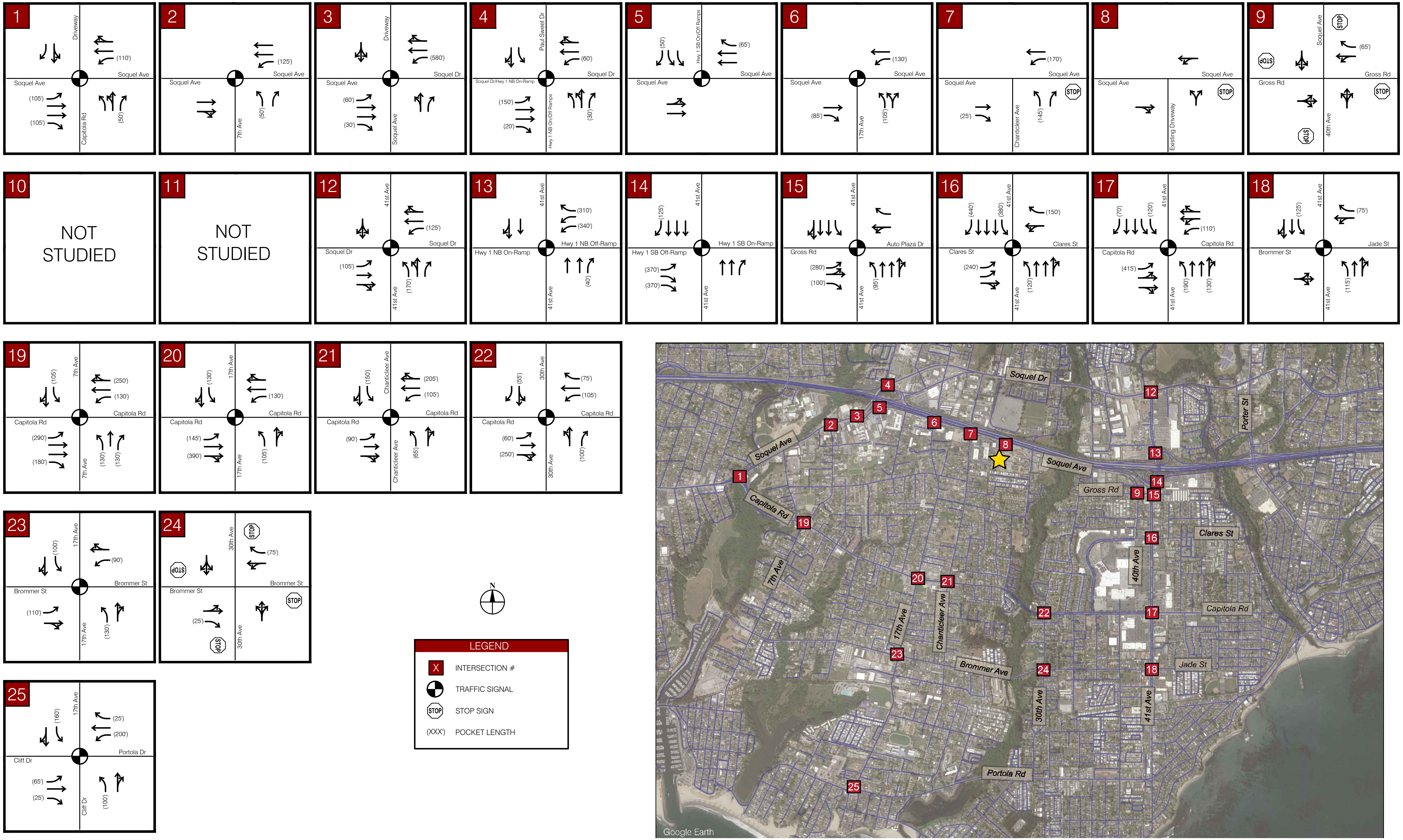
Near Term conditions were evaluated at the study intersections based on lane geometry and traffic control illustrated in **Figure F-15** and peak hour volumes in **Figure F-16**.

The following intersections operate at an unacceptable LOS under Near Term conditions:

- Soquel Drive & Paul Sweet Road / Highway 1 On-Off Ramps (Intersection #4) (AM & PM Peaks)
- Soquel Avenue / 40th Avenue & Gross Road (Intersection #9) (PM Peak)
- 41st Avenue & Highway 1 SB Ramps (Intersection #14) (AM Peak)
- 41st Avenue & Gross Road (Intersection #15) (AM & PM Peaks)
- Brommer Street & 30th Avenue (Intersection #24) (PM Peak)

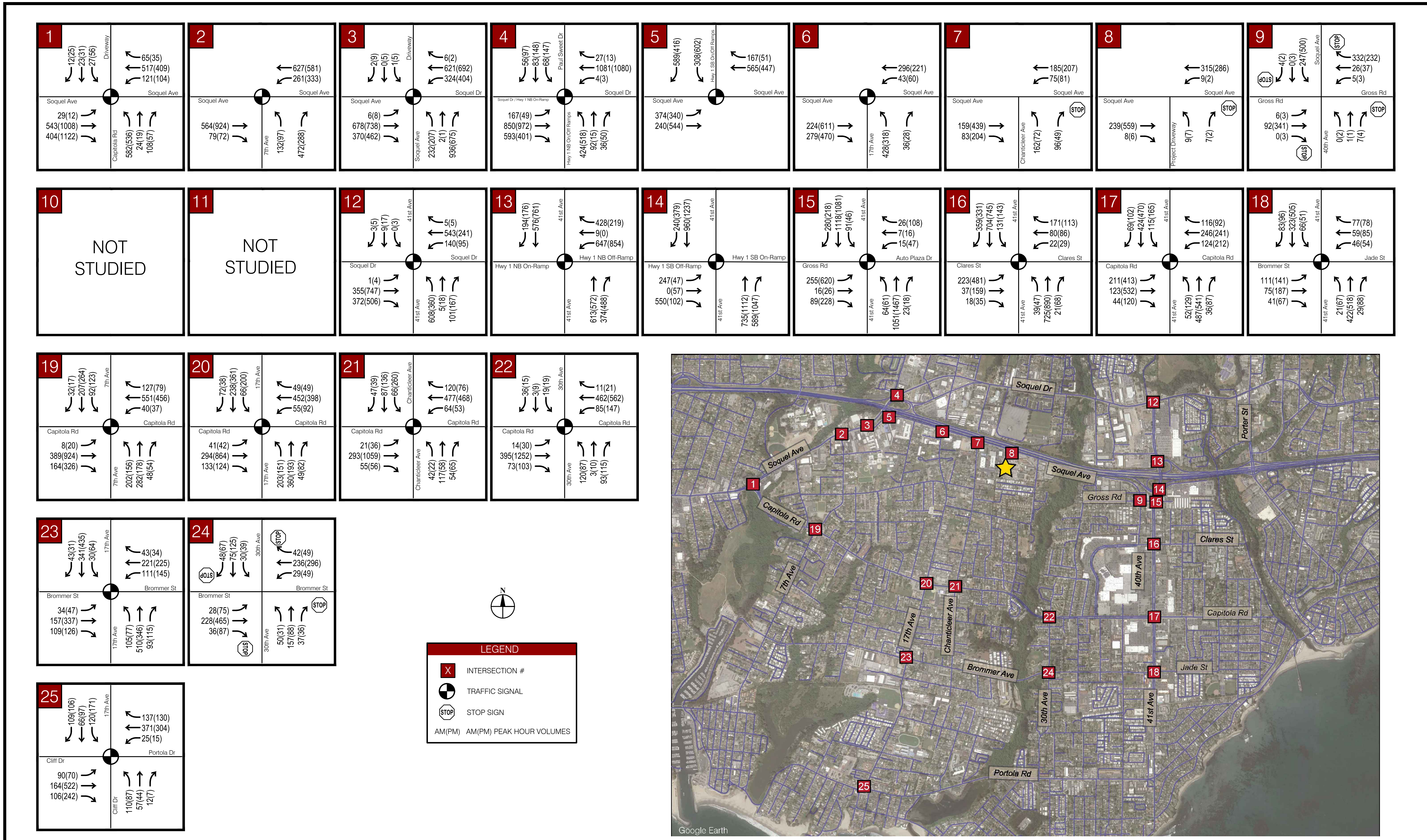
Results of the analysis are presented in **Table T-30**. Synchro output sheets are provided in **Appendix D**.

Since the first draft report was compiled in 2019, Caltrans has changed the lane assignment at the intersection of Soquel Avenue & Highway 1 SB On- and Off-Ramp (Intersection #5) to include an exclusive eastbound left-turn lane. The approach lanes were restriped to include a separate left-turn lane and a separate through lane. Signal timing sheets available at that time were changed to reflect the new lane configuration and phasing optimized to obtain a representative LOS. This change resulted in a decrease of delay from 26.9 seconds to 20.4 seconds during the AM peak hour and from 27.5 seconds to 21.1 seconds during the PM peak hour. The LOS remains a LOS C for both peak hours. Synchro output sheets are provided in **Appendix U**.



Kimley»Horn
Expect More. Experience Better.

Medical Office Building
Figure F-15
Near Term Conditions Lane Geometry and Intersection Control



Kimley»Horn
Expect More. Experience Better.

Medical Office Building
Figure F-16
Near Term Conditions Peak Hour Turning Movement Volumes

Table T-30 – Near Term Conditions Intersection Level of Service

#	Intersection	Maintaining Agency	Control Type	Near Term Conditions					
				AM Peak Hour			PM Peak Hour		
				Movement	Delay	LOS	Movement	Delay	LOS
1	Soquel Ave & Capitola Rd	CSC	Signal	-	50.7	D	-	37.6	D
2	Soquel Ave & 7th Ave	SCC	Signal	-	21.7	C	-	21.6	C
3	Soquel Dr / Soquel Ave & Soquel Ave	Caltrans	Signal	-	29.5	C	-	31.3	C
4	Soquel Dr & Paul Sweet Rd / Hwy 1 On-Off Ramps	Caltrans	Signal	-	**57.5**	**E**	-	**38.7**	**D**
5	Soquel Ave & Hwy 1 SB On-Off Ramps	Caltrans	Signal	-	26.9	C	-	27.5	C
6	Soquel Ave & 17th Ave	SCC	Signal	-	8.9	A	-	10.0	B
7	Soquel Ave & Chanticleer	SCC	SSSC	-	5.4	A	-	2.7	A
	Worst Approach			NB	13.7	B	NB	16.9	C
8	Soquel Ave & MOB Driveway	SCC	SSSC	-	0.4	A	-	0.2	A
	Worst Approach			NB	11.3	B	NB	14.0	B
9	Soquel Ave / 40th Ave & Gross Rd	SCC	AWSC	-	10.9	B	-	**37.1**	**E**
10	40th Ave & Deanes Ln	NOT STUDIED							
11	40th Ave & Clares St	NOT STUDIED							
12	41st Ave & Soquel Dr	SCC	Signal	-	24.1	C	-	42.0	D
13	41st Ave & Hwy 1 NB Ramps	Caltrans	Signal	-	18.2	B	-	15.4	B
14	41st Ave & Hwy 1 SB Ramps	Caltrans	Signal	-	**54.4**	**D**	-	8.8	A
15	41st Ave & Gross Rd	Caltrans	Signal	-	**37.5**	**D**	-	**51.0**	**D**
16	41st Ave & Clares St	Capitola	Signal	-	23.2	C	-	27.4	C
17	41st Ave & Capitola Rd	Capitola	Signal	-	24.9	C	-	36.4	D
18	41st Ave & Brommer St/Jade St	Capitola	Signal	-	19.0	B	-	28.2	C
19	Capitola Rd & 7th Avenue	SCC	Signal	-	20.2	C	-	22.7	C
20	Capitola Rd & 17th Avenue	SCC	Signal	-	22.5	C	-	33.2	C
21	Capitola Rd & Chanticleer Ave	SCC	Signal	-	16.0	B	-	23.7	C
22	Capitola Rd and 30th Ave	Capitola	Signal	-	21.2	C	-	26.5	C
23	Brommer St & 17th Ave	SCC	Signal	-	26.2	C	-	33.6	C
24	Brommer St & 30th Ave	SCC	AWSC	-	14.3	B	-	**55.7**	**F**
25	17th Ave & Portola Dr	SCC	Signal	-	20.5	C	-	21.2	C

Notes:

1. Analysis performed using HCM 6th Edition methodologies.

2. Delay indicated in seconds/vehicle.

3. Signal = Signal Control; AWSC = All-Way Stop Control; SSSC = Side-Street Stop Control

4. CSC = City of Santa Cruz; Caltrans = California Department of Transportation; SCC = Santa Cruz County; Capitola = City of Capitola

5. CSC LOS standard is D; Caltrans LOS standard is C; SCC LOS standard is D; Capitola does not have a LOS standard for 41st Avenue.

6. Intersections that operate below maintaining agency's LOS standard are highlighted and shown in bold.

7. For intersection #4, The Project does not increase intersection delay or increase critical v/c by 1% or more. Thus, no Project deficiency is caused at this location.

8. Intersection #5 shows overall LOS as acceptable. See Analysis section on page 72 for additional detail.

9. Intersection #10 and #11 were not analyzed in this analysis because the Project is not expected to distribute traffic to these intersections, since a barrier exists at 40th Avenue and Deans Lane and the Project does not propose to remove it (nor are any plans to remove the barrier pending).

10. Intersection #14 operates at LOS A in the PM because traffic to the intersection is controlled/metered at intersections #13 and #15. Intersections #14 and #15 are operated on one signal controller, managed by Caltrans. Caltrans' main objective is to avoid off-ramp queue spillback into the Highway 1 mainline.

Near Term Plus Project Intersection Level of Service

Traffic operations were evaluated at the study intersections based on Near Term Plus Project conditions. Near Term Plus Project lane geometry and traffic control are shown in **Figure F-17** and Near Term Plus Project peak hour traffic volumes are shown in **Figure F-18**.

No study intersections would degrade from acceptable LOS (without the Project) to unacceptable LOS (with the Project). However, some intersections currently operating at deficient conditions will degrade further with addition of Project traffic.

- Soquel Drive & Paul Sweet Road / Highway 1 On-Off Ramps (Intersection #4) (AM & PM Peaks).
- Soquel Avenue / 40th Avenue & Gross Road (Intersection #9) (PM Peak)
- 41st Avenue & Highway 1 SB Ramps (Intersection #14) (AM Peak)
- 41st Avenue & Gross Road (Intersection #15) (AM & PM Peaks)
- Brommer Street & 30th Avenue (Intersection #24) (PM Peak)

Note that the intersection analysis of Soquel Avenue and Highway 1 Southbound On- and Off-Ramps (# 5) does not show a deficiency for the overall average delay and LOS. However, field observations indicate that the southbound off-ramp queue spills back onto the auxiliary lane/ existing lane on the freeway in the PM peak period. This is partly due to drivers trying to bypass the freeway congestion via Soquel Avenue or Capitola Road. The reconstruction of the interchange is expected to eliminate the queueing back onto the freeway. The increases in delay from the Project occur in the non-peak flow direction and do not result in deficiencies at the intersection.

With respect to intersections that operate at an unacceptable LOS that will degrade further under Near Term Plus Project Conditions, the below-described improvements would improve the potential operational deficiencies. Pursuant to the County's General Plan LOS Policy 3.12.1, the Project will contribute to the deficiency at County maintained intersections if the v/c ratio at any critical movements at the following intersections increase by 1% or more with the Project, in which case the County's General Plan LOS Policy requires mitigation or other improvement to address the deficiency. The v/c analysis is inapplicable, however, if improvements can eliminate operational deficiencies by causing intersections to operate at LOS D or better. Also, the County's General Plan LOS Policy is not applicable to Caltrans-managed Intersection Nos. 4, 14 and 15; the analysis provided below for those intersections is therefore for informational purposes only.

- Soquel Drive & Paul Sweet Road / Hwy 1 On-Off Ramps (Intersection #4). Both with and without the Project, during the Cumulative (2040) Condition, this intersection will experience 57.5 seconds of delay in the AM peak hour (LOS E) and 38.6 seconds of delay during the PM peak hour (LOS D). The Project does not contribute to any deficiency at this intersection in terms of delay or increasing the v/c ratio by more than 1% at any critical movement. The planned Caltrans improvements described below are anticipated to eliminate the non-Project related deficiency at this intersection.
    - Caltrans plans to widen Highway 1/Soquel Drive interchange per the Highway 1 EIR certified in December 2018 and referenced throughout this document. The

westbound left-turn lane will be converted to a through lane. One westbound right-turn lane, northbound left-turn lane, and an eastbound right-turn bay will be installed at this intersection. It is anticipated that the improvement will eliminate the deficiency. A detailed layout is shown in **Appendix M**. However, these improvements are currently unfunded, are not included in the County's CIP and may be constructed after 2040. The Cumulative operations will remain deficient until the improvements are constructed.

- It should also be noted that, consistent with 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. (Caltrans, "Vehicle Miles Traveled-Focused Transportation Impact Study Guide, (May 20, 2020), see pp. 4-5.)

- The Project would not contribute any delay to this intersection during the AM or PM peak hour because it does not increase the volume to capacity ("v/c") by more than one percent in either the AM or PM Peak times as indicated below in **Table T-31** (at the most it increases the v/c by 0.21 percent).

Table T-31 – Soquel Drive & Paul Sweet Road / Hwy 1 On-Off- Ramps (Intersection #4) Critical Movement v/c Calculation

Intersection 4				
AM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Near Term (v/c)	2.305	0.845	1.707	1.284
Near Term + Project (v/c)	2.307	0.845	1.707	1.284
v/c Change	***0.09%***	***0.00%***	***0.00%***	***0.00%***
PM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Near Term (v/c)	1.412	0.959	1.786	1.424
Near Term + Project (v/c)	1.412	0.961	1.786	1.424
v/c Change	***0.00%***	***0.21%***	***0.00%***	***0.00%***

- Soquel Avenue / 40th Avenue & Gross Road (Intersection #9). During the PM peak hour, the Project would cause delays at this intersection to go from 37.1 seconds (LOS E) to 78.3 sections (LOS F) if no improvements were installed, but installation of the diverter proposed below would eliminate the intersection and therefore any associated delay. The Project does increase the v/c by more than one percent in both the AM or PM Peak times as indicated below in **Table T-32** (v/c ratio increasing from 10.09-23.57% at critical movements).

Table T-32 – Soquel Avenue / 40th Avenue & Gross Road (Intersection #9) Critical Movement v/c Calculation				
Intersection 9				
AM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Near Term (v/c)	0.199	0.199	0.393	0.393
Near Term + Project (v/c)	0.224	0.224	0.485	0.485
v/c Change	***12.56%***	***12.56%***	***23.41%***	***23.41%***
PM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Near Term (v/c)	0.803	0.803	0.997	0.997
Near Term + Project (v/c)	0.884	0.884	1.232	1.232
v/c Change	***10.09%***	***10.09%***	***23.57%***	***23.57%***

- Same improvements as described in Existing Plus Project Conditions for this intersection.

- 41st Avenue & Highway 1 Southbound Ramps (Intersection #14). During the AM peak hour, the Project would cause delays at this intersection to go from 54.4 seconds (LOS D) to 60.1 sections (LOS E). The Project does increase the v/c by more than one percent in both the AM or PM Peak times as indicated below in **Table T-33** v/c ratio increasing from 0-3.85% increase at critical movements).

Table T-33 – 41st Avenue & Highway 1 Southbound Ramps (Intersection #14) Critical Movement v/c Calculation				
Intersection 14				
AM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Near Term (v/c)	1.41	1.41	0.26	0.32
Near Term + Project (v/c)	1.41	1.41	0.27	0.32
v/c Change	***0.00%***	***0.00%***	***3.85%***	***0.00%***
PM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Near Term (v/c)	0.69	0.69	0.32	0.47
Near Term + Project (v/c)	0.69	0.69	0.33	0.48
v/c Change	***0.00%***	***0.00%***	***3.13%***	***2.13%***

- Same improvements as described in Existing Plus Project Conditions for this intersection.

- 41st Avenue & Gross Road (Intersection #15). During the AM peak hour, the Project would cause delays at this intersection to go from 37.5 seconds (LOS D) to 45.2 sections (LOS D) and during the PM peak hour, the Project would cause delays to go from 51.0 seconds (LOS D) to 55.6 sections (LOS E).
- The Project does increase the volume to capacity ("v/c") by more than one percent in both the AM or PM Peak times as indicated below in **Table T-34.**

Table T-34 – 41st Avenue & Gross Road (Intersection #15) Critical Movement v/c Calculation

Intersection 15				
AM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Near Term (v/c)	0.54	0.54	1.40	1.35
Near Term + Project (v/c)	0.56	0.56	1.87	1.35
v/c Change	***3.70%***	***3.70%***	***33.57%***	***0.00%***
PM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Near Term (v/c)	1.32	1.31	1.32	1.34
Near Term + Project (v/c)	1.40	1.38	1.48	1.34
v/c Change	***6.06%***	***5.34%***	***12.12%***	***0.00%***

- Same improvements as described in Existing Plus Project Conditions for this intersection, which will eliminate the all way stop and any associated delay at this intersection.

- Brommer Street & 30th Avenue (Intersection #24). During the PM peak hour, the Project would cause delays at this intersection to go from 55.7 seconds (LOS F) to 56.5 seconds (LOS F). The Project does increase the v/c by more than one percent in both the AM or PM Peak times as indicated below in **Table T-35** (v/c ratio increasing from 0.31-1.65% at critical movements).

Table T-35 – Brommer Street & 30th Avenue (Intersection #24) Critical Movement v/c Calculation

Intersection 24				
AM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Near Term (v/c)	1.010	1.010	0.738	0.738
Near Term + Project (v/c)	1.014	1.014	0.750	0.750
v/c Change	***0.40%***	***0.40%***	***1.63%***	***1.63%***
PM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Near Term (v/c)	1.912	1.912	0.908	0.908
Near Term + Project (v/c)	1.918	1.918	0.923	0.923
v/c Change	***0.31%***	***0.31%***	***1.65%***	***1.65%***

- Same improvements as described in Existing Plus Project Conditions for this intersection, which would improve the intersection to LOS C.

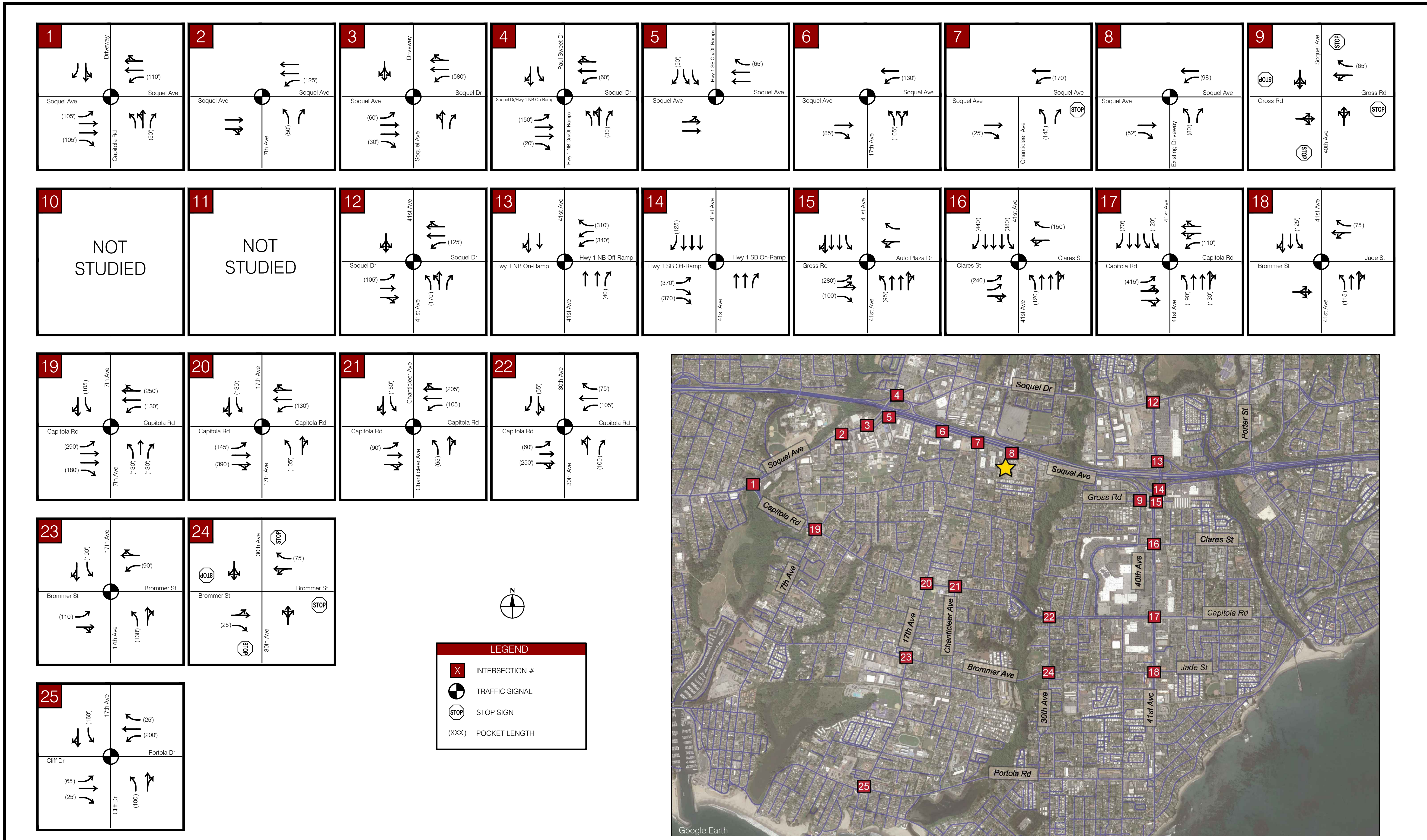
Microsimulation Analysis

The positive effect of the installation of some of these improvements cannot be evaluated using typical LOS analysis, but must be analyzed using microsimulation methodologies instead. LOS (HCM 6th) is a deterministic traffic analysis methodology, whereas microsimulation (SimTraffic) is a probabilistic/stochastic traffic analysis methodology that can provide more detailed and statistically based measures of effectiveness.[42]

Near Term Plus Project analysis results are presented in **Table T-36.** Synchro output sheets are provided in **Appendix E**. A summary of the improvements for intersections operating at a deficient level of service is indicated in **Table T-37**.

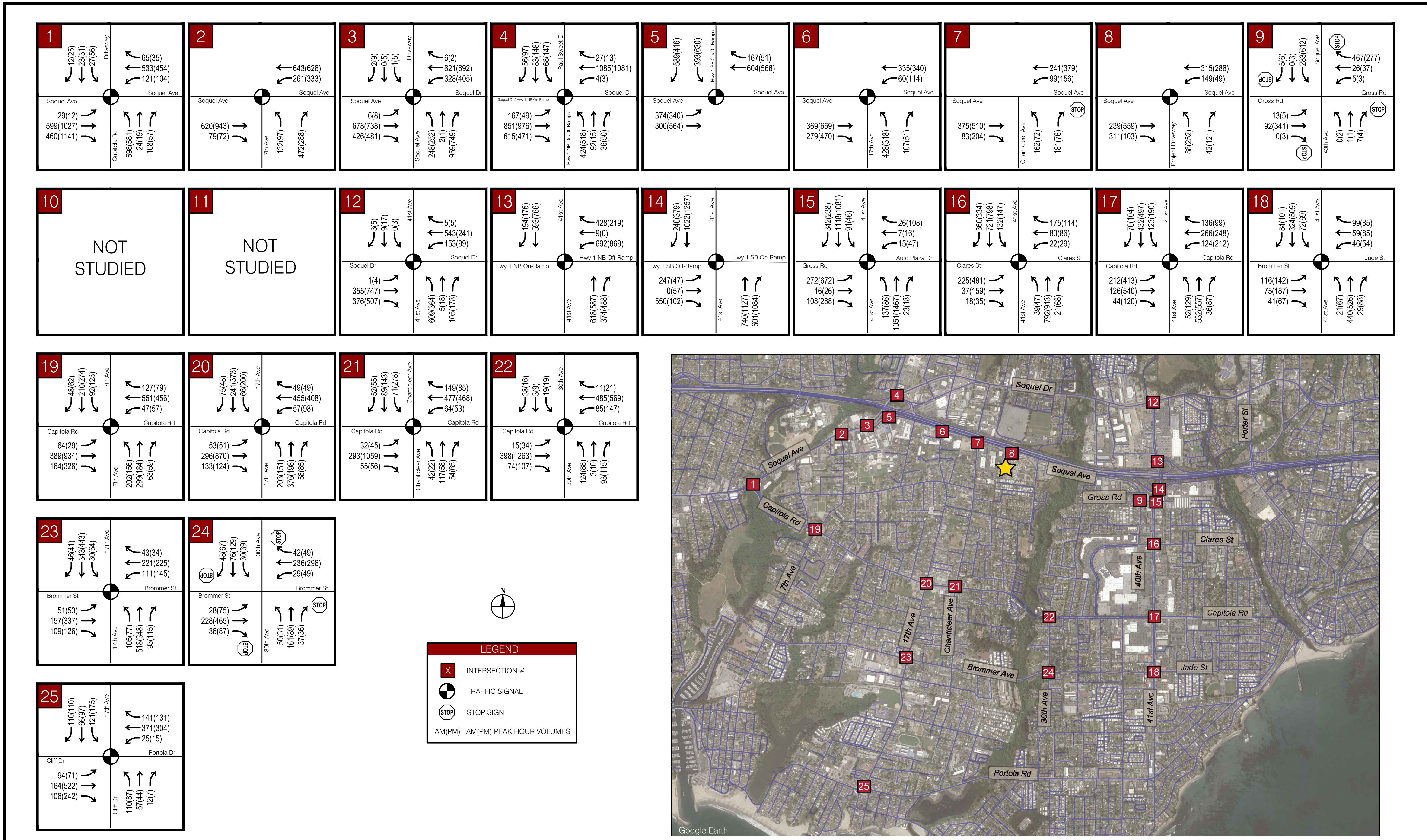
Since the first draft report was compiled in 2019, Caltrans has changed the lane assignment at the intersection of Soquel Avenue & Highway 1 SB On- and Off-Ramp (Intersection #5) to include an exclusive eastbound left-turn lane. The approach lanes were restriped to include a separate left-turn lane and a separate through lane. Signal timing sheets available at that time were changed to reflect the new lane configuration and phasing optimized to obtain a representative LOS. This change resulted in a decrease of delay from 28.0 seconds to 20.8 seconds during the AM peak hour and from 29.2 seconds to 21.5 seconds during the PM peak hour. The LOS remains a LOS C for both peak hours. Synchro output sheets are provided in **Appendix U**.

[42] See http://www.trafficware.com/synchro.html for additional software/modeling details.



Kimley»Horn
Expect More. Experience Better.

Medical Office Building
Figure F-17
Near Term Plus Project Conditions Lane Geometry and Intersection Control



Kimley»Horn
Expect More. Experience Better.

Medical Office Building

Figure F-18

Near Term Plus Project Conditions Peak Hour Turning Movement Volumes

Table T-36 – Near Term Plus Project Conditions Intersection Level of Service

#	Intersection	Maintaining Agency	Control Type	Near Term Conditions						Near Term Plus Project Conditions					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Movement	Delay	LOS	Movement	Delay	LOS	Movement	Delay	LOS	Movement	Delay	LOS
1	Soquel Ave & Capitola Rd	CSC	Signal	-	50.7	D	-	37.6	D	-	51.0	D	-	40.9	D
2	Soquel Ave & 7th Ave	SCC	Signal	-	21.7	C	-	21.6	C	-	22.9	C	-	21.7	C
3	Soquel Dr / Soquel Ave & Soquel Ave	Caltrans	Signal	-	29.5	C	-	31.3	C	-	30.3	C	-	33.7	C
4	Soquel Dr & Paul Sweet Rd / Hwy 1 On-Off Ramps	Caltrans	Signal	-	57.5	E	-	38.7	D	-	57.5	E	-	38.6	D
5	Soquel Ave & Hwy 1 SB On-Off Ramps	Caltrans	Signal	-	26.9	C	-	27.5	C	-	28.0	C	-	29.2	C
6	Soquel Ave & 17th Ave	SCC	Signal	-	8.9	A	-	10.0	B	-	10.4	B	-	11.6	B
7	Soquel Ave & Chanticleer	SCC	SSSC	-	5.4	A	-	2.7	A	-	7.1	A	-	4.3	A
	Worst Approach			NB	13.7	B	NB	16.9	C	NB	21.3	C	-	29.7	D
8	Soquel Ave & MOB Driveway	SCC	SSSC / Signal	-	0.4	A	-	0.2	A	-	5.9	A	-	8.4	A
	Worst Approach			NB	11.3	B	NB	14.0	B						
9	Soquel Ave / 40th Ave & Gross Rd	SCC	AWSC	-	10.9	B	-	**37.1**	**E**	-	14.8	B	-	**78.3**	**F**
10	40th & Deanes Ln	NOT STUDIED													
11	40th & Clares St	NOT STUDIED													
12	41st Ave & Soquel Dr	SCC	Signal	-	24.1	C	-	42.0	D	-	24.8	C	-	44.3	D
13	41st Ave & Hwy 1 NB Ramps	Caltrans	Signal	-	18.2	B	-	15.4	B	-	18.3	B	-	15.7	B
14	41st Ave & Hwy 1 SB Ramps	Caltrans	Signal	-	**54.4**	**D**	-	8.8	A	-	**60.1**	**E**	-	9.5	A
15	41st Ave & Gross Rd	Caltrans	Signal	-	**37.5**	**D**	-	**51.0**	**D**	-	**45.2**	**D**	-	**55.6**	**E**
16	41st Ave & Clares St	Capitola	Signal	-	23.2	C	-	27.4	C	-	23.5	C	-	27.6	C
17	41st Ave & Capitola Rd	Capitola	Signal	-	24.9	C	-	36.4	D	-	25.8	C	-	37.4	D
18	41st Ave & Brommer St/Jade St	Capitola	Signal	-	19.0	B	-	28.2	C	-	19.9	B	-	29.2	C
19	Capitola Rd & 7th Avenue	SCC	Signal	-	20.2	C	-	22.7	C	-	23.0	C	-	26.3	C
20	Capitola Rd & 17th Avenue	SCC	Signal	-	22.5	C	-	33.2	C	-	23.2	C	-	35.6	D
21	Capitola Rd & Chanticleer Ave	SCC	Signal	-	16.0	B	-	23.7	C	-	16.5	B	-	24.8	C
22	Capitola Rd and 30th Ave	Capitola	Signal	-	21.2	C	-	26.5	C	-	22.3	C	-	27.0	C
23	Brommer St & 17th Ave	SCC	Signal	-	26.2	C	-	33.6	C	-	26.7	C	-	34.7	C
24	Brommer St & 30th Ave	SCC	AWSC	-	14.3	B	-	**55.7**	**F**	-	14.4	B	**-**	**56.5**	**F**
25	17th Ave & Portola Dr	SCC	Signal	-	20.5	C	-	21.2	C	-	20.7	C	-	21.3	C

Notes:

1. Analysis performed using HCM 6th Edition methodologies.

2. Delay indicated in seconds/vehicle.

3. Signal = Signal Control; AWSC = All-Way Stop Control; SSSC = Side-Street Stop Control

4. CSC = City of Santa Cruz; Caltrans = California Department of Transportation; SCC = Santa Cruz County; Capitola = City of Capitola

5. CSC LOS standard is D; Caltrans LOS standard is C; SCC LOS standard is D; Capitola does not have a LOS standard for 41st Avenue.

*6. Intersections that operate below maintaining agency's LOS standard are highlighted and shown in **bold.***

7. For intersection #4, The Project does not increase intersection delay or increase critical v/c by 1% or more. Thus, no Project deficiency is caused at this location.

8. Intersection #5 shows overall LOS as acceptable. See Analysis section on page 72 for additional detail.

9. Intersection #10 and #11 were not analyzed in this analysis because the Project is not expected to distribute traffic to these intersections, since a barrier exists at 40th Avenue and Deans Lane and the Project does not propose to remove it (nor are any plans to remove the barrier pending).

10. Intersection #14 operates at LOS A in the PM because traffic to the intersection is controlled/metered at intersections #13 and #15. Intersections #14 and #15 are operated on one signal controller, managed by Caltrans. Caltrans' main objective is to avoid off-ramp queue spillback into the Highway 1 mainline.

Kimley»Horn

Table T-37 – Improved Near Term Plus Project Conditions Conclusions

Int#	Location	Condition	Deficiency caused by the Addition of the Project Traffic	Improvement
#9	Soquel Avenue / 40th Avenue & Gross Road	Near Term and Near Term Plus Project Conditions	The addition of the Project traffic worsens the LOS from E to F in the PM. The critical v/c increases by more than 1% on all the critical approach movements.	Install a diagonal diverter extending from the northwest corner to the southeast corner at this intersection. Residents in the neighborhood would exit the neighborhood at Rodeo Gulch Drive onto Soquel Avenue. If this improvement is not installed, cut through traffic along Gross Road and the delay at the 41st Avenue intersection will continue and degrade further in the future until the freeway is improved. The diverter will prevent cut through traffic on Gross Road through the residential neighborhood and eliminate the congestion caused by the all-way stop at the intersection. Queues at this intersection are expected to shorten with these recommended improvements. This commute is slightly longer than the direct connection to 41st Avenue via Gross Road, but the benefits of removing cut through traffic through the neighborhood and the improvement of operations at the Gross Road/40th Avenue intersection, warrants the installation of this improvement. With this improvement, traffic flow at this intersection would then be governed by the signal at Gross Road & 41st Avenue where additional improvements are recommended. **The improvement will remove the deficiency caused by the Project.** **<u>With this improvement, all movements would be uncontrolled; therefore, no delay would be attributed to this intersection (i.e., the only delay would be incurred at the 41st Avenue & Gross Road signalized intersection). This improvement would cause travel time from Soquel Dr & Rodeo Gulch Rd to SB Hwy 1 on-ramp to decrease by approximately 44% when comparing Existing (No Project) to Existing Plus Project conditions. See Appendix M for the proposed layout. In addition, the current cut-through traffic along Gross Road through the neighborhood would also be eliminated.</u>**

Table T-37 – Improved Near Term Plus Project Conditions Conclusions

Int#	Location	Condition	Deficiency caused by the Addition of the Project Traffic	Improvement
#14	41st Avenue & Highway 1 Southbound Ramps	Near Term and Near Term Plus Project Conditions	The addition of the Project traffic worsens the LOS from D to E in the AM. The critical v/c increases by more than 1%.	Caltrans certified the EIR for the *Santa Cruz Route 1 Tier 1- Corridor Analysis of High Occupancy Vehicle Lanes and Transportation System Management Alternatives and Tier II- Build Project Analysis of 41st Avenue to Soquel Avenue/Rive Auxiliary Lanes and Chanticleer Avenue Pedestrian-Bicycle Overcrossing*. The EIR identifies long term improvement projects for providing capacity at the interchanges and along the rail line. The TSM improvements at the 41st Avenue interchange include ramps widening and improvements and the overcrossing would be widened. The TSM improvements are unconstrained (not fully funded) and until funding becomes available, the operational deficiency would remain. **The improvement is expected to remove the deficiency caused by the Project.** **The State Route 1 HOV Lane Widening Project Supplemental Report (May 2010) analyzed these improvements for the Santa Cruz Route 1 Tier I and Tier II FEIR and the results are included in for Appendix P reference. https://sccrtc.org/projects/streets-highways/hwy1corridor/environmental-documents.**

Table T-37 – Improved Near Term Plus Project Conditions Conclusions

Int#	Location	Condition	Deficiency caused by the Addition of the Project Traffic	Improvement
#15	41st Avenue & Gross Road (City of Capitola jurisdiction and Caltrans control)	Near Term and Near Term Plus Project Conditions	The addition of the Project traffic worsens the LOS from D to E in the PM. The critical v/c increases by more than 1% on all the critical approach movements.	The City of Capitola received a grant to install an adaptive signal system along 41st Avenue and this intersection is included in their implementation plan. In addition, the Project would install overhead signs and roadway markings to improve lane selection and use on the eastbound approach of Gross Road. The lane selection would be for southbound Highway 1 and northbound Highway 1 movements. See Appendix N for the conceptual layout for improvement details. A barrier would be installed between Gross Road and Highway 1 Southbound Ramps. The barrier would be installed between the eastbound through lane over the freeway and the eastbound right-turn lane onto the freeway southbound on-ramp. This barrier installation would require a Caltrans encroachment permit/approval. It can only be installed if approved by Caltrans. The adaptive signal system would provide better coordination of traffic flow along the corridor because it measures real time vehicular demand and proportions/adjusts signal timing. Furthermore, a physical barrier will be installed between the limit line and the diverge of the Highway 1 southbound on-ramp on 41st Avenue. This barrier will prevent vehicles from jumping the queue for southbound on-ramp traffic. This improvement would also improve bicycle rider safety in the Class II bike lane at the Highway 1 southbound on-ramp at 41st Avenue. A conceptual layout of these improvements are indicated in Appendix M. **The State Route 1 HOV Lane Widening Project Supplemental Report (May 2010) analyzed these improvements for the Santa Cruz Route 1 Tier I and Tier II FEIR and the results are included in Appendix P for reference. https://sccrtc.org/projects/streets-highways/hwy1corridor/environmental-documents.**

Table T-37 – Improved Near Term Plus Project Conditions Conclusions

Int#	Location	Condition	Deficiency caused by the Addition of the Project Traffic	Improvement
#24	Brommer Street & 30th	Near Term and Near Term Plus Project Conditions	The intersection operates at LOS F in PM Peak without Project and continues to operate at LOS F with the Project. The average delay increases from 55.7 seconds per vehicle to 56.5 seconds per vehicle with the addition of the Project traffic. The critical v/c increases by more than 1% on the northbound and southbound critical movements.	Install signal control with permissive left-turn phasing. Peak Hour Signal Warrant #3 (CAMUTCD) is satisfied with Existing Conditions traffic and in Existing plus Project Conditions traffic. With existing geometry, signal control, eastbound/westbound split phasing, and permissive left-turn phasing, this intersection would operate at acceptable LOS with Cumulative Plus Project conditions traffic volumes. The Peak Hour Signal Warrant #3 evaluation is included in Appendix J. For Near Term Conditions the intersection will improve the PM delay by 30.9 seconds per vehicle with installation of the signal. **<u>The Project would pay a fair share towards the installation of the signal. The deficiency caused by the Project will be eliminated with the installation of the signal.</u>**

Conclusions – Near Term Plus Project

The implementation of the improvements described above will eliminate the deficiencies caused by the Project or will improve the conditions to better than existing conditions.

Cumulative Conditions

Traffic operations were evaluated under the following cumulative conditions:

- Cumulative (2040) Conditions
- Cumulative (2040) Plus Project Conditions

The Cumulative (2040) Conditions (also referred to as "Cumulative") and Cumulative (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[43]. These planned improvements are described in detail in Chapter 7 of this report.

No physical capacity lane improvements (geometric), new signal installation, or signal phasing changes that would require signal modifications, including those mentioned in the County's RTP, are included in the Cumulative or Cumulative Plus Project analyses as opposed to the Cumulative Plus Project improved conditions. Thus, all the freeway and the intersection geometries analyzed in the Cumulative and Cumulative Plus Project scenarios are assumed to be identical to the Existing and Near-Term Conditions intersection geometries.

The County's RTP identifies multiple funded, partially funded, and unfunded multimodal improvements in the Project study area (See **Figure F-1**) and bulleted below). These improvements are for informational purposes, and not included in the Cumulative or Cumulative Plus Project Analysis.

- 37th/38th Avenue (Brommer Street to Eastcliff Drive) Multimodal Circulation Improvements and Greenway
- 41st Ave Improvements Phase 2 (Hwy 1 Interchange to Soquel Drive)
- Chanticleer Avenue Improvements (Hwy 1 to Soquel Drive)
- Countywide ADA Access Ramps
- Countywide Bike Projects
- Countywide Sidewalks
- Mattison Lane Improvements (Chanticleer Avenue to Soquel Avenue)

[43] See https://sccrtc.org/projects/streets-highways/hwy1corridor/.

- Paul Minnie Avenue Improvements (Rodriguez Street to Soquel Avenue)
- Paul Sweet Road Improvements (Soquel Drive to end)
- Soquel Avenue Improvements (City of SC to Gross Road)
- Soquel Drive Traffic Signal and Left-Turn Lane (Robertson Street)

The full RTP list of improvements is included in **Appendix K** and if implemented, will alleviate congestion on the network.

Figure F-19 illustrates the intersection geometry and traffic control used in the Cumulative analysis.

Cumulative 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 (as provided by the County) 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 slight reduction in Cumulative model volumes compared to Background Conditions. To be conservative, volumes entering the intersection for Cumulative Conditions were not reduced between Near Term Condition and Cumulative Conditions.

Cumulative peak hour traffic volumes are shown in **Figure F-20**.

Cumulative (2040) Conditions Intersection Level of Service

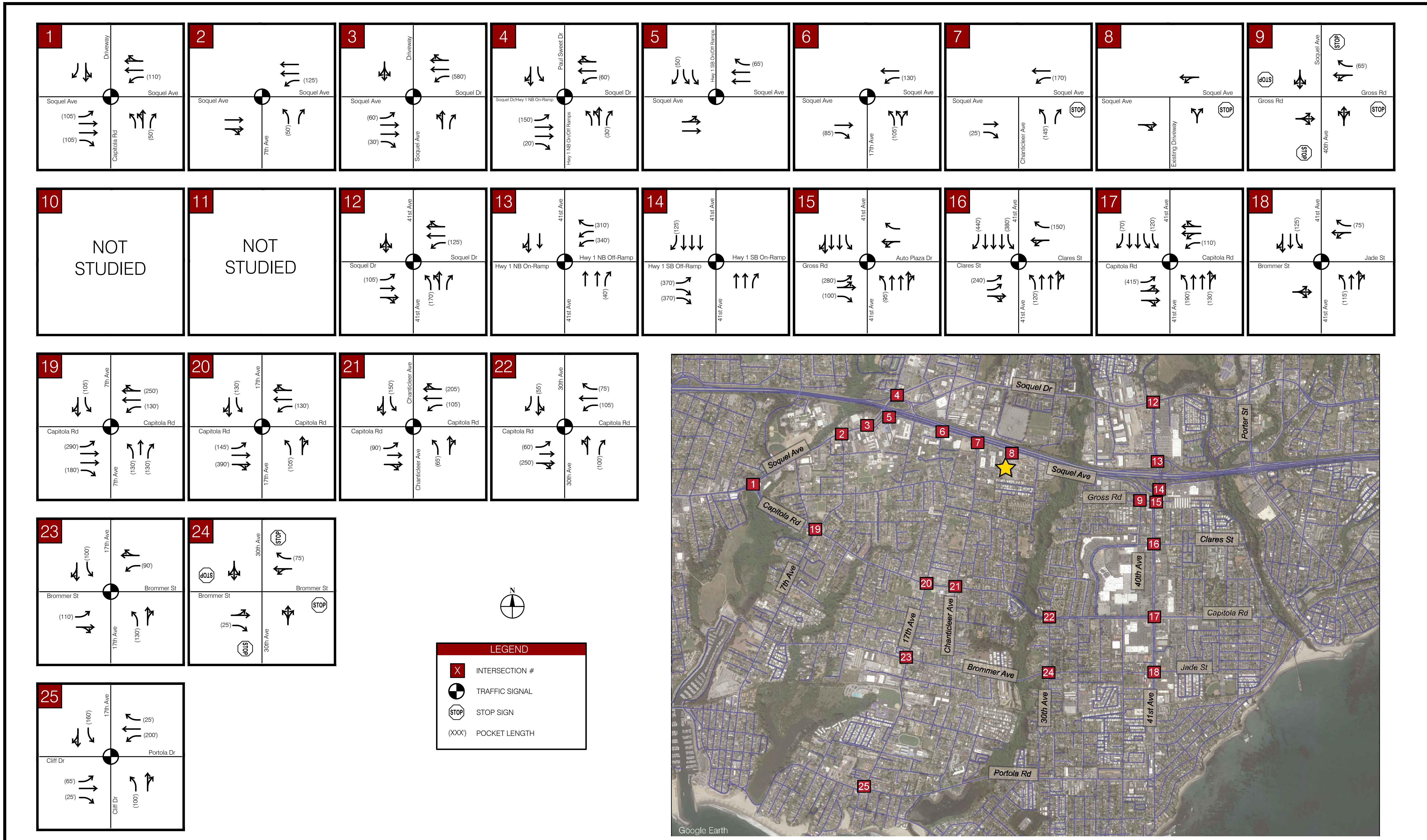
Traffic operations were evaluated at the study intersections based on Cumulative lane geometry and intersection control as shown in **Figure F-19** and Cumulative peak hour turning movement volumes as shown in **Figure F-20**.

The following intersections operate at an unacceptable LOS under Cumulative conditions:

- Soquel Drive & Paul Sweet Road (Intersection #4) (PM Peaks)
- Soquel Avenue / 40th Avenue & Gross Road (Intersection #9) (PM Peak)
- 41st Avenue & Highway 1 SB Ramps (Intersection #14) (AM Peak)
- 41st Avenue & Gross Road (Intersection #15) (AM & PM Peaks)
- Brommer Street & 30th Avenue (Intersection #24) (PM Peak)

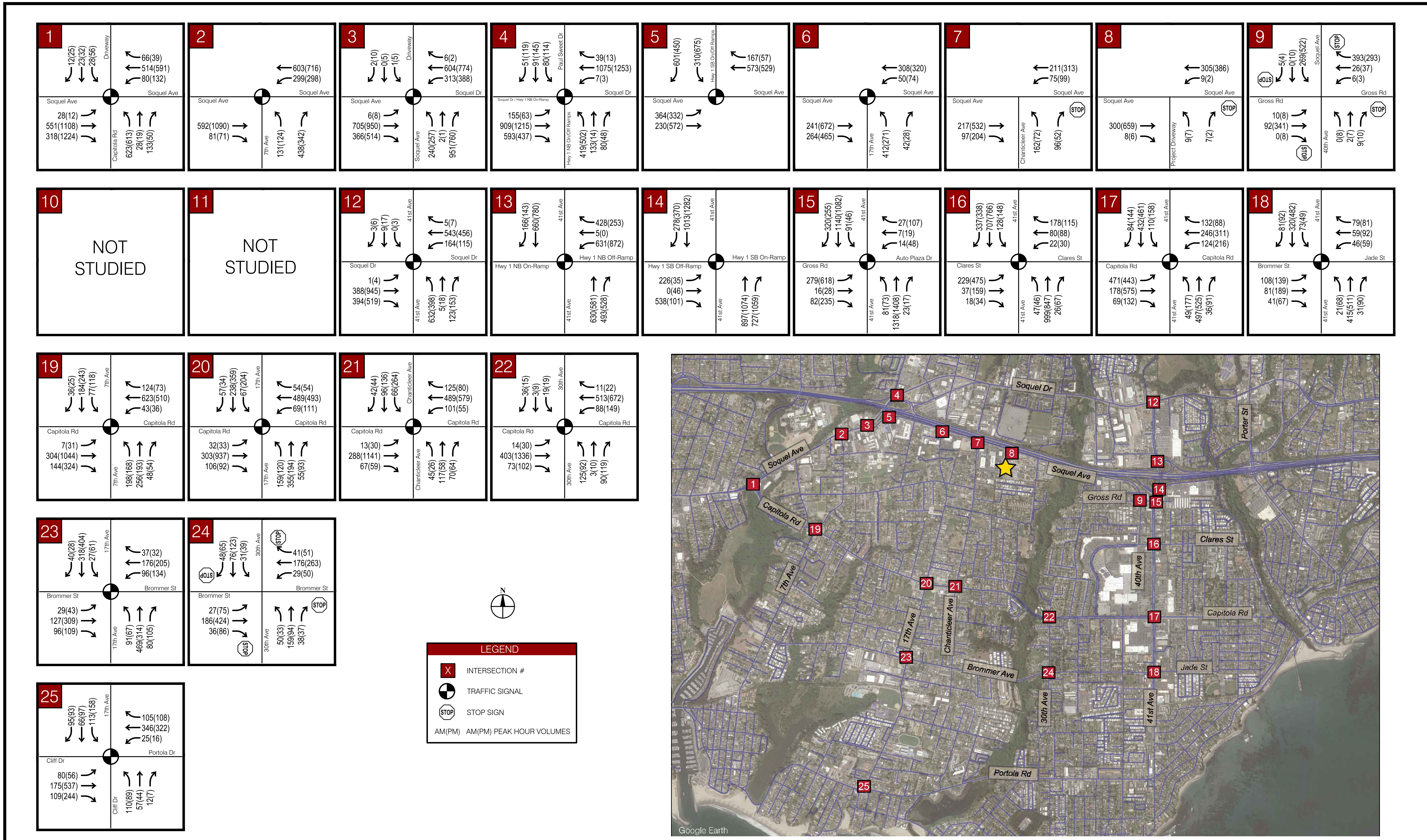
Results of the analysis are presented in **Table T-38** and Synchro output sheets are provided in **Appendix F**.

Since the first draft report was compiled in 2019, Caltrans has changed the lane assignment at the intersection of Soquel Avenue & Highway 1 SB On- and Off-Ramp (Intersection #5) to include an exclusive eastbound left-turn lane. The approach lanes were restriped to include a separate left-turn lane and a separate through lane. Signal timing sheets available at that time were changed to reflect the new lane configuration and phasing optimized to obtain a representative LOS. This change resulted in a decrease of delay from 27.4 seconds to 22.0 seconds during the AM peak hour and from 30.4 seconds to 19.1 seconds during the PM peak hour. The LOS remains a LOS C during the AM peak hour and will improve to a LOS B in the PM peak hour. Synchro output sheets are provided in **Appendix U**.



Kimley»Horn
Expect More. Experience Better.

Medical Office Building
Figure F-19
Cumulative Conditions Lane Geometry and Intersection Control



Kimley»Horn
Expect More. Experience Better.

Medical Office Building
Figure F-20
Cumulative Conditions Peak Hour Turning Movement Volumes

Table T-38 – Cumulative (2040) Conditions Intersection Level of Service

#	Intersection	Maintaining Agency	Control Type	Cumulative Conditions					
				AM Peak Hour			PM Peak Hour		
				Movement	Delay	LOS	Movement	Delay	LOS
1	Soquel Ave & Capitola Rd	CSC	Signal	-	25.3	C	-	42.6	D
2	Soquel Ave & 7th Ave	SCC	Signal	-	22.5	C	-	26.5	C
3	Soquel Dr / Soquel Ave & Soquel Ave	Caltrans	Signal	-	29.7	C	-	32.9	C
4	Soquel Dr & Paul Sweet Rd / Hwy 1 On-Off Ramps	Caltrans	Signal	-	**53.9**	**D**	-	**40.7**	**D**
5	Soquel Ave & Hwy 1 SB On-Off Ramps	Caltrans	Signal	-	27.4	C	-	30.4	C
6	Soquel Ave & 17th Ave	SCC	Signal	-	8.9	A	-	9.7	A
7	Soquel Ave & Chanticleer	SCC	SSSC	-	5.3	A	-	3.0	A
	Worst Approach			NB	15.3	C	NB	23.2	C
8	Soquel Ave & MOB Driveway	SCC	SSSC	-	0.4	A	-	0.2	A
	Worst Approach			NB	11.6	B	NB	15.7	C
9	Soquel Ave / 40th Ave & Gross Rd	SCC	AWSC	-	12.3	B	-	**54.8**	**F**
10	40TH Ave & Deanes Ln	NOT STUDIED							
11	40th Ave & Clares St	NOT STUDIED							
12	41st Ave & Soquel Dr	SCC	Signal	-	25.3	C	-	26.1	C
13	41st Ave & Hwy 1 NB Ramps	Caltrans	Signal	-	18.0	B	-	15.6	B
14	41st Ave & Hwy 1 SB Ramps	Caltrans	Signal	-	**46.9**	**D**	-	8.6	A
15	41st Ave & Gross Rd	Caltrans	Signal	-	**44.9**	**D**	-	**47.2**	**D**
16	41st Ave & Clares St	Capitola	Signal	-	24.8	C	-	27.2	C
17	41st Ave & Capitola Rd	Capitola	Signal	-	27.7	C	-	43.0	D
18	41st Ave & Brommer St/Jade St	Capitola	Signal	-	19.3	B	-	28.5	C
19	Capitola Rd & 7th Avenue	SCC	Signal	-	20.3	C	-	24.1	C
20	Capitola Rd & 17th Avenue	SCC	Signal	-	21.3	C	-	33.6	C
21	Capitola Rd & Chanticleer Ave	SCC	Signal	-	16.4	B	-	24.9	C
22	Capitola Rd and 30th Ave	Capitola	Signal	-	23.0	C	-	29.1	C
23	Brommer St & 17th Ave	SCC	Signal	-	22.2	C	-	27.2	C
24	Brommer St & 30th Ave	SCC	AWSC	-	12.2	B	-	**41.2**	**E**
25	17th Ave & Portola Dr	SCC	Signal	-	19.5	B	-	20.9	C

Notes:

1. Analysis performed using HCM 6th Edition methodologies.

2. Delay indicated in seconds per vehicle.

3. Signal = Signal Control; AWSC = All-Way Stop Control; SSSC = Side-Street Stop Control

4. CSC = City of Santa Cruz; Caltrans = California Department of Transportation; SCC = Santa Cruz County; Capitola = City of Capitola

5. CSC LOS standard is D; Caltrans LOS standard is C; SCC LOS standard is D; Capitola does not have a LOS standard for 41st Avenue.

*6. Intersections that operate below maintaining agency's LOS standard are highlighted and shown in **bold.***

7. For intersection #4, The Project does not increase intersection delay or increase critical v/c by 1% or more. Thus, no Project deficiency is caused at this location.

8. Intersection #5 shows overall LOS as acceptable. See Analysis section on page 72 for additional detail.

9. Intersection #10 and #11 were not analyzed in this analysis because the Project is not expected to distribute traffic to these intersections, since a barrier exists at 40th Avenue and Deans Lane and the Project does not propose to remove it (nor are any plans to remove the barrier pending).

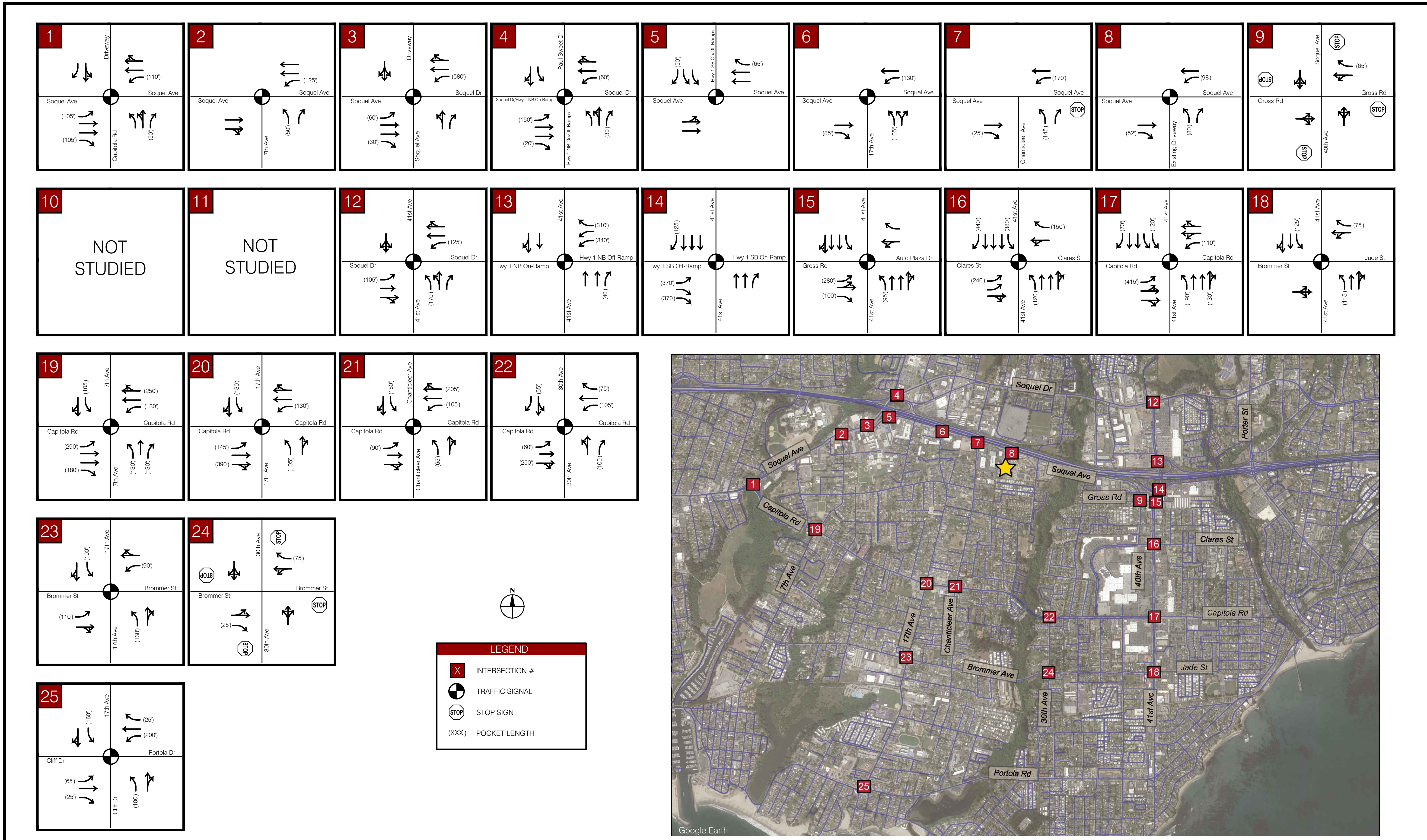
10. Intersection #14 operates at LOS A in the PM because traffic to the intersection is controlled/metered at intersections #13 and #15. Intersections #14 and #15 are operated on one signal controller, managed by Caltrans. Caltrans' main objective is to avoid off-ramp queue spillback into the Highway 1 mainline.

Cumulative (2040) Plus Project Conditions Intersection Level of Service

Traffic operations were evaluated at the study intersections based on Cumulative (2040) Plus Project Conditions. Cumulative Plus Project lane geometry and intersection control is shown in **Figure F-21** and Cumulative Plus Project peak hour turning movement volumes are shown in **Figure F-22**.

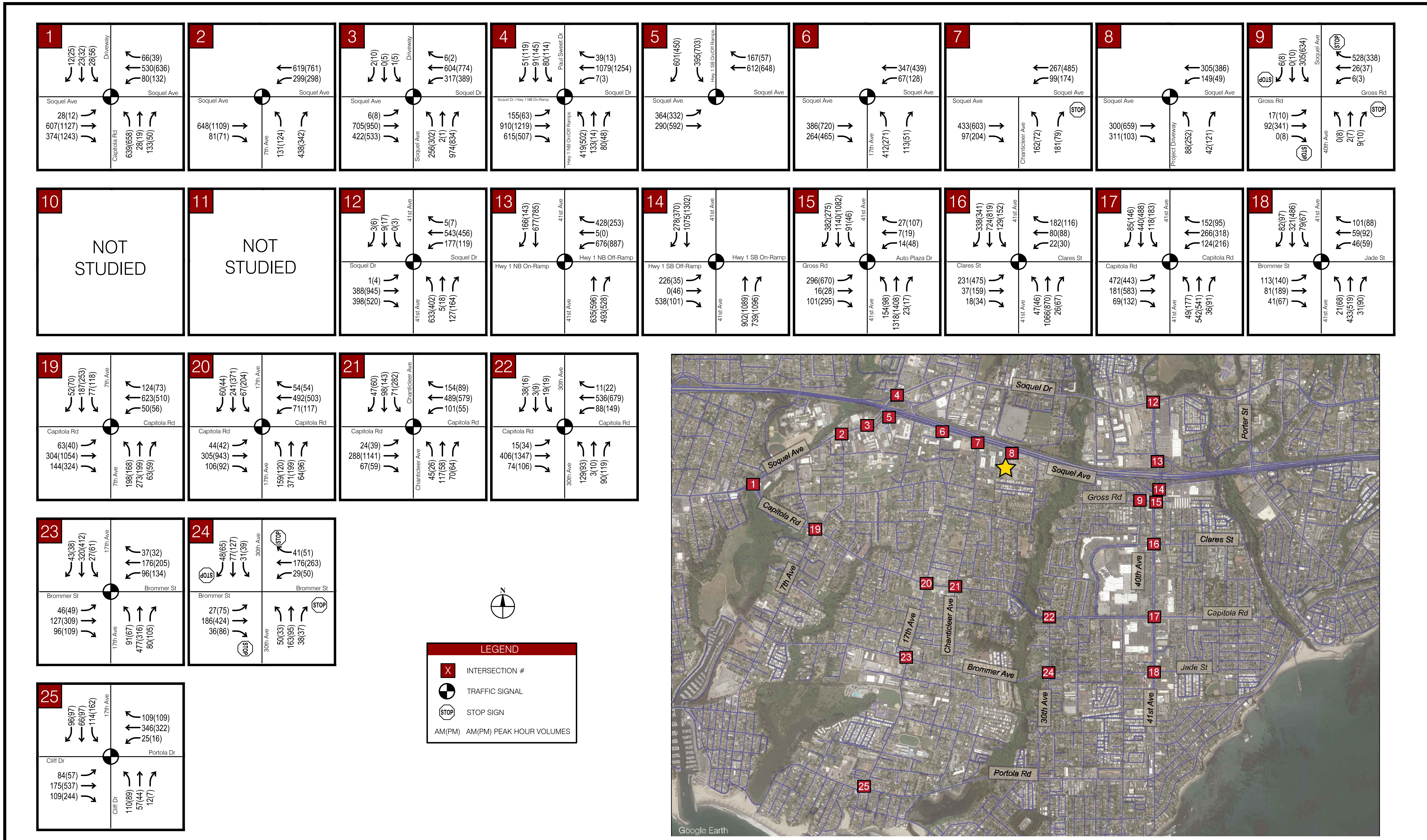
No study intersections will degrade from an acceptable LOS (without the Project) to an unacceptable LOS (with the Project). However, the following intersections already operating at deficient LOS in the Cumulative scenario will degrade further with addition of Project traffic.

- Soquel Drive / Soquel Avenue & Soquel Avenue (Intersection #3) (PM Peaks)
- Soquel Drive & Paul Sweet Road / Highway 1 On-Off Ramps (Intersection #4) (AM & PM Peaks).
- Soquel Avenue / Chanticleer Avenue (Intersection #7) (PM Peak)
- Soquel Avenue / 40th Avenue & Gross Road (Intersection #9) (PM Peak)
- 41st Avenue & Highway 1 SB Ramps (Intersection #14) (AM Peak)
- 41st Avenue & Gross Road (Intersection #15) (AM & PM Peaks)
- Brommer Street & 30th Avenue (Intersection #24) (PM Peak)



Kimley»Horn
Expect More. Experience Better.

Medical Office Building
Figure F-21
Cumulative Plus Project Conditions Lane Geometry and Intersection Control



Kimley»Horn
Expect More. Experience Better.

Medical Office Building
Figure F-22
Cumulative Plus Project Conditions Peak Hour Turning Movement Volumes

The following intersections will continue to operate at an unacceptable LOS under Cumulative Plus Project Conditions and the below-described improvements would improve the potential operational deficiencies. Pursuant to the County's General Plan LOS Policy 3.12.1, the Project will contribute to the deficiency at County maintained intersections if the v/c ratio of any critical movements at the following intersections increase by 1% or more with the Project. The v/c analysis is inapplicable, however, if improvements can eliminate operational deficiencies by causing intersections to operate at LOS D or better. Also, the County's General Plan LOS Policy is not applicable to Caltrans managed Intersection Nos. 3, 4, 14 and 15; the analysis provided below for those intersections is therefore for informational purposes only.

- Soquel Drive / Soquel Avenue & Soquel Avenue (Intersection #3) (PM Peaks). During the PM peak hour, the Project would cause delays at this intersection to go from 32.9 seconds (LOS C) to 39.6 sections (LOS D). The planned Caltrans improvements described below are anticipated to eliminate any deficiency at this intersection.
    - Caltrans plans to widen Highway 1/Soquel Drive interchange. One westbound left-turn lane, one westbound right-turn lane, and a new southbound Highway 1 off-ramp will be constructed at this intersection. A conceptual layout is shown in **Appendix N**[44]. Implementation of these improvements would reduce the Project-related operational deficiency under Cumulative Plus Project conditions. However, these improvements are currently unfunded, are not included in the County Capital Improvement Project (CIP), and may be constructed after 2040. The Cumulative operations will be deficient until the improvement is constructed.
    - It should be noted that any other incremental roadway geometric improvements (band-aid/small improvements to the freeway system – see Existing Conditions for more detail - at the intersection will not meet Caltrans standards and will ultimately require the above improvement to meet those standards. In addition, Intersection #3 is geometrically constrained and any interim improvements, such as an additional northbound left-turn movement from Soquel Avenue to Soquel Avenue, would result in truck and vehicle turning maneuver conflicts and encroachment on the opposing and/or adjacent lane of travel.

    - It should also be noted that, consistent with 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. (Caltrans, "Vehicle Miles Traveled-Focused Transportation Impact Study Guide, (May 20, 2020), see pp. 4-5.) It is unclear whether Caltrans will proceed with travel inducing projects, such as the capacity enhancing improvement described above. With this improvement the intersection is expected to operate at acceptable conditions. Caltrans has assumed growth in their forecasting of traffic on the freeway system through 2040.

[44] See https://sccrtc.org/projects/streets-highways/hwy1corridor/ for more information.

- Soquel Drive & Paul Sweet Road / Hwy 1 On- Off-Ramps (Intersection #4). Both with and without the Project, during the Cumulative (2040) Condition, this intersection will experience 53.9 seconds of delay in the AM peak hour (LOS D) and 40.7 seconds of delay during the PM peak hour (LOS D). The Project does not contribute to any deficiency at this intersection in terms of delay or increasing the v/c ratio by more than 1% at any critical movement. The planned Caltrans improvements described below are anticipated to eliminate the non-Project related deficiency at this intersection.
    - Caltrans plans to widen Highway 1/Soquel Drive interchange per the Highway 1 EIR certified in December 2018 and referenced throughout this TIOA document. The westbound left-turn lane will be converted to a through lane. One westbound right-turn lane, northbound left-turn lane, and an eastbound right-turn bay will be installed at this intersection. It is anticipated that the improvement will eliminate the deficiency. A detailed layout is shown in **Appendix M**. However, these improvements are currently unfunded, are not included in the County's CIP and may be constructed after 2040. The Cumulative operations will remain deficient until the improvements are constructed.
    - It should also be noted that, consistent with 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. (Caltrans, "Vehicle Miles Traveled-Focused Transportation Impact Study Guide, (May 20, 2020), see pp. 4-5.)

    - The Project would not contribute any delay to this intersection during the AM or PM peak hour because it does not increase the volume to capacity ("v/c") by more than one percent in either the AM or PM Peak times as indicated below **Table T-39** (at the most it increases the v/c by 0.18 percent).

Table T-39 – Soquel Drive & Paul Sweet Road / Hwy 1 On-Off Ramps (Intersection #4) Critical Movement v/c Calculation

Intersection 4				
AM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Cumulative (v/c)	2.225	0.933	1.642	1.369
Cumulative + Project (v/c)	2.227	0.934	1.642	1.369
v/c Change	***0.09%***	***0.11%***	***0.00%***	***0.00%***
PM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Cumulative (v/c)	1.549	1.101	1.799	0.389
Cumulative + Project (v/c)	1.549	1.103	1.799	0.389
v/c Change	***0.00%***	***0.18%***	***0.00%***	***0.00%***

- Soquel Avenue / Chanticleer Avenue (Intersection #7). During the PM peak hour, the Project would cause delays the northbound movement of this intersection to go from 23.2 seconds (LOS D) to 53.1 seconds (LOS F) if no improvements were installed, but if the TWLTL (described below) is installed, the intersection would operate at LOS C with 20.9 seconds of delay in the Cumulative Plus Project condition.
    - The Project will implement approximately 3,500 feet of TWLTL striping (and restriping) along Soquel Avenue from Paul Minnie Avenue to the existing creek crossing (east of Mattison Lane). These striping improvements will include restriping of the existing bike lanes and the addition of new green bike lane striping. Conceptual layouts for these Project improvements are included in **Appendix I**. This will improve the gap acceptance (the ability of a driver to observe a gap in the traffic stream and merge into the travel lane) for vehicles wishing to enter the traffic stream from Chanticleer onto Soquel Avenue. In addition, the installation of the signal at the Project driveway will generate gaps in the traffic stream during the yellow and red phase, which would them provide an opportunity for side street vehicles to enter the traffic stream on northbound Soquel Avenue.
    - As noted above, the TWLTL eliminates the deficiency for the northbound movement of this intersection in the Cumulative Plus Project condition and the LOS will improve from F to D.

- Soquel Avenue / 40th Avenue & Gross Road (Intersection #9). During the PM peak hour, the Project would cause delays at this intersection to go from 54.8 seconds (LOS E) to 105.9 sections (LOS F) if no improvements were installed, but installation of the diverter proposed below would eliminate the intersection and therefore any associated delay.
    - Same improvements as described in Existing Plus Project Conditions for this intersection, which would eliminate the all way stop and any associated delay at this intersection.

    - If the diverter were not installed at this intersection, as indicated below in **Table T-40**, the Project would increase the v/c by more than one percent during the AM peak and PM peak hours (v/c increase is 10.28%-22.96% at critical movements). Installation of the diverter, however, eliminates all delay at this intersection for both the existing vehicles and the added Project vehicles.

Table T-40 – Soquel Avenue / 40th Avenue & Gross Road (Intersection #9) Critical Movement v/c Calculation				
Intersection 9				
AM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Cumulative (v/c)	0.214	0.214	0.448	0.448
Cumulative + Project (v/c)	0.243	0.243	0.548	0.548
v/c Change	***13.55%***	***13.55%***	***22.32%***	***22.32%***
PM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Cumulative (v/c)	0.895	0.895	1.189	1.189
Cumulative + Project (v/c)	0.987	0.987	1.462	1.462
v/c Change	***10.28%***	***10.28%***	***22.96%***	***22.96%***

- 41st Avenue & Highway 1 Southbound Ramps (Intersection #14). During the AM peak hour, the Project would cause delays at Intersection #14 to go from 46.9 seconds (LOS D) to 51.7 seconds (LOS D). The Project increases the v/c by more than one percent in the AM Peak hour as indicated below in **Table T-41** (v/c increase is 7.41% at one critical movement).
    - Caltrans certified an EIR for the Santa Cruz Route 1 Tier 1 - Corridor Analysis of High Occupancy Vehicle Lanes and Transportation System Management Alternatives and Tier II- Build Project Analysis of 41st Avenue to Soquel Avenue/ Rive Auxiliary Lanes and Chanticleer Avenue Pedestrian-Bicycle Overcrossing in December 2018, which identifies long term improvement projects for providing capacity at this interchange. The identified improvements at the 41st Avenue interchange include ramps widening and improvements and the overcrossing would be widened. These improvements are unconstrained and until funding becomes available, the deficiency would remain.
    - Consistent with 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 (Caltrans, "Vehicle Miles Traveled-Focused Transportation Impact Study Guide, (May 20, 2020), see pp. 4-5.). It is unclear whether Caltrans will proceed with travel inducing projects, such as the capacity enhancing improvement described above.

Table T-41 – 41st Avenue & Highway 1 Southbound Ramps (Intersection #14) Critical Movement v/c Calculation				
Intersection 14				
AM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Cumulative (v/c)	1.29	1.29	0.27	0.39
Cumulative + Project (v/c)	1.29	1.29	0.29	0.39
v/c Change	***0.00%***	***0.00%***	***7.41%***	***0.00%***
PM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Cumulative (v/c)	0.60	0.60	0.33	0.45
Cumulative + Project (v/c)	0.60	0.60	0.33	0.45
v/c Change	***0.00%***	***0.00%***	***0.00%***	***0.00%***

- 41st Avenue & Gross Road (Intersection #15). During the AM peak hour, the Project would cause delays at this intersection to go from 44.9 seconds (LOS D) to 55.6 sections (LOS E). During the PM peak hour, the Project would cause delays to go from 47.2 seconds (LOS D) to 52.2 seconds (LOS D). The Project increases the v/c by more than one percent in the AM peak and PM peak hours as indicated below in **Table T-42** (v/c ratio increasing from 3.57-29.68%).
    - Same improvements as described in Existing Plus Project Conditions for this intersection, but the intersection would continue to operate at LOS F.
    - The Project increases the v/c by more than one percent in the AM peak and PM peak hours as indicated below in **Table T-42** (v/c increase ranging from 3.57% to 29.68%).

Table T-42 – 41st Avenue & Gross Road (Intersection #15) Critical Movement v/c Calculation				
Intersection 15				
AM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Cumulative (v/c)	0.56	0.56	1.55	1.54
Cumulative + Project (v/c)	0.59	0.58	2.01	1.54
v/c Change	***5.36%***	***3.57%***	***29.68%***	***0.00%***
PM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Cumulative (v/c)	1.36	1.35	1.42	1.31
Cumulative + Project (v/c)	1.44	1.42	1.58	1.31
v/c Change	***5.88%***	***5.19%***	***11.27%***	***0.00%***

- Brommer Street & 30th Avenue (Intersection #24). During the PM peak hour, the Project would cause delays at this intersection to go from 41.2 seconds (LOS E) to 41.9 seconds (LOS E). The Project increases the v/c by more than one percent in the AM peak and PM peak hours as indicated below in **Table T-43** (v/c ratio increasing from 0.51-1.92%)
    - Same improvements as described in Existing Plus Project Conditions for this intersection, which would result in the intersection operating at LOS C.

Table T-43 – Brommer Street & 30th Avenue (Intersection #24) Critical Movement v/c Calculation

Intersection 24				
AM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Cumulative (v/c)	0.785	0.785	0.695	0.695
Cumulative + Project (v/c)	0.789	0.789	0.703	0.703
v/c Change	***0.51%***	***0.51%***	***1.15%***	***1.15%***
PM Peak				
Condition	**EBLT+WBT**	**WBLT+EBT**	**NBLT+SBT**	**SBLT+NBT**
Cumulative (v/c)	1.728	1.728	0.886	0.886
Cumulative + Project (v/c)	1.744	1.744	0.903	0.903
v/c Change	***0.93%***	***0.93%***	***1.92%***	***1.92%***

Microsimulation Analysis

The positive effect of the installation of some of these improvements cannot be evaluated using typical LOS analysis, but must be analyzed using microsimulation methodologies instead. LOS (HCM 6th) is a deterministic traffic analysis methodology, whereas microsimulation (SimTraffic) is a probabilistic/stochastic traffic analysis methodology that can provide more detailed and statistically based measures of effectiveness.[45]

Cumulative Plus Project analysis results are presented in **Table T-44**. Synchro output sheets are provided in **Appendix G**. A summary of the improvements for intersections operating at a deficient level of service is indicated in **Table T-45**.

Since the first draft report was compiled in 2019, Caltrans has changed the lane assignment at the intersection of Soquel Avenue & Highway 1 SB On- and Off-Ramp (Intersection #5) to include an exclusive eastbound left-turn lane. The approach lanes were restriped to include a separate left-turn lane and a separate through lane. Signal timing sheets available at that time were changed to reflect the new lane configuration and phasing optimized to obtain a representative LOS. This change resulted in a decrease of delay from 28.6 seconds to 21.7 seconds during the AM peak hour and from 32.8 seconds to 19.4 seconds during the PM peak hour. The LOS remains

[45] See http://www.trafficware.com/synchro.html for additional software/modeling details.

a LOS C during the AM peak hour and will improve to a LOS B in the PM peak hour. Synchro output sheets are provided in **Appendix U**.

Table T-44 – Cumulative Plus Project Conditions Intersection Level of Service															
				Cumulative Conditions						Cumulative Plus Project Conditions					
		Maintaining Agency	Control Type	AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
#	Intersection			Movement	Delay	LOS	Movement	Delay	LOS	Movement	Delay	LOS	Movement	Delay	LOS
1	Soquel Ave & Capitola Rd	CSC	Signal	-	25.3	C	-	42.6	D	-	25.2	C	-	47.1	D
2	Soquel Ave & 7th Ave	SCC	Signal	-	22.5	C	-	26.5	C	-	23.7	C	-	26.9	C
3	Soquel Dr / Soquel Ave & Soquel Ave	Caltrans	Signal	-	29.7	C	-	32.9	C	-	31.0	C	-	39.6	D
4	Soquel Dr & Paul Sweet Rd / Hwy 1 On- Off-Ramps	Caltrans	Signal	-	53.9	D	-	40.7	D	-	53.9	D	-	40.7	D
5	Soquel Ave & Hwy 1 SB On-Off Ramps	Caltrans	Signal	-	27.4	C	-	30.4	C	-	28.6	C	-	32.8	C
6	Soquel Ave & 17th Ave	SCC	Signal	-	8.9	A	-	9.7	A	-	10.5	B	-	11.8	B
7	Soquel Ave & Chanticleer	SCC	SSSC	-	5.3	A	-	3.0	A	-	7.8	A	-	6.1	A
	Worst Approach			NB	15.3	C	NB	23.2	C	NB	25.6	D	NB	53.1	F
8	Soquel Ave & MOB Driveway	SCC	SSSC / Signal	-	0.4	A	-	0.2	A	-	5.8	A	-	9.1	A
	Worst Approach			NB	11.6	B	NB	15.7	C						
9	Soquel Ave / 40th Ave & Gross Rd	SCC	AWSC	-	12.3	B	-	54.8	F	-	18.6	C	-	105.9	F
10	40th Ave & Deanes Ln	NOT STUDIED													
11	40th Ave & Clares St	NOT STUDIED													
12	41st Ave & Soquel Dr	SCC	Signal	-	25.3	C	-	26.1	C	-	26.1	C	-	26.7	C
13	41st Ave & Hwy 1 NB Ramps	Caltrans	Signal	-	18.0	B	-	15.6	B	-	18.2	B	-	15.9	B
14	41st Ave & Hwy 1 SB Ramps	Caltrans	Signal	-	46.9	D	-	8.6	A	-	51.7	D	-	9.4	A
15	41st Ave & Gross Rd	Caltrans	Signal	-	44.9	D	-	47.2	D	-	55.6	E	-	52.2	D
16	41st Ave & Clares St	Capitola	Signal	-	24.8	C	-	27.2	C	-	25.5	C	-	27.4	C
17	41st Ave & Capitola Rd	Capitola	Signal	-	27.7	C	-	43.0	D	-	28.8	C	-	44.1	D

Table T-44 – Cumulative Plus Project Conditions Intersection Level of Service

18	41st Ave & Brommer St/Jade St	Capitola	Signal	-	19.3	B	-	28.5	C	-	20.1	C	-	29.5	C
19	Capitola Rd & 7th Avenue	SCC	Signal	-	20.3	C	-	24.1	C	-	23.3	C	-	28.2	C
20	Capitola Rd & 17th Avenue	SCC	Signal	-	21.3	C	-	33.6	D	-	22.0	C	-	35.5	D
21	Capitola Rd & Chanticleer Ave	SCC	Signal	-	16.4	B	-	24.9	C	-	16.8	B	-	26.2	C
22	Capitola Rd and 30th Ave	Capitola	Signal	-	23.0	C	-	29.1	C	-	24.6	C	-	29.8	C
23	Brommer St & 17th Ave	SCC	Signal	-	22.2	C	-	27.2	C	-	23.0	C	-	27.9	C
24	Brommer St & 30th Ave	SCC	AWSC	-	12.2	B	-	41.2	E	-	12.3	B	-	41.9	E
25	17th Ave & Portola Dr	SCC	Signal	-	19.5	B	-	20.9	C	-	19.6	B	-	21.1	C

Notes:

1. Analysis performed using HCM 6th Edition methodologies.

2. Delay indicated in seconds/vehicle.

3. Signal = Signal Control; AWSC = All-Way Stop Control; SSSC = Side-Street Stop Control

4. CSC = City of Santa Cruz; Caltrans = California Department of Transportation; SCC = Santa Cruz County; Capitola = City of Capitola

5. CSC LOS standard is D; Caltrans LOS standard is C; SCC LOS standard is D; Capitola does not have a LOS standard for 41st Avenue.

6. Intersections that operate below maintaining agency's LOS standard are highlighted and shown in bold.

7. For intersection #4, The Project does not increase intersection delay or increase critical v/c by 1% or more. Thus, no Project deficiency is caused at this location.

8. Intersection #5 shows overall LOS as acceptable. See Analysis section on page 72 for additional detail.

9. Intersection #10 and #11 were not analyzed in this analysis because the Project is not expected to distribute traffic to these intersections, since a barrier exists at 40th Avenue and Deans Lane and the Project does not propose to remove it (nor are any plans to remove the barrier pending).

10. Intersection #14 operates at LOS A in the PM because traffic to the intersection is controlled/metered at intersections #13 and #15. Intersections #14 and #15 are operated on one signal controller, managed by Caltrans. Caltrans' main objective is to avoid off-ramp queue spillback into the Highway 1 mainline.

Table T-45 – Improved Cumulative Plus Project Conditions Conclusions

Int#	Location	Condition	Deficiency caused by the Addition of the Project Traffic	Improvement
#3	Soquel Drive / Soquel Avenue & Soquel Avenue	Cumulative and Cumulative Plus Project	The addition of the Project traffic worsens the LOS from C to D in the PM and cause a deficiency.	**C**altrans plans to widen Highway 1/Soquel Drive interchange. One westbound left-turn lane, one westbound right-turn lane, and a new southbound Highway 1 off-ramp will be constructed at this intersection. A conceptual layout is shown in Appendix O. These improvements are currently not funded, are not included in the County Capital Improvement Project (CIP), and may be constructed after 2040. The Cumulative deficiency will remain until the improvement is constructed. The State Route 1 HOV Lane Widening Project Supplemental Report (May 2010) analyzed these improvements for the Santa Cruz Route 1 Tier I and Tier II FEIR and the results are included in Appendix P for reference. More detail on the EIR https://sccrtc.org/projects/streets-highways/hwy1corridor/environmental-documents. **The deficiency is anticipated to be eliminated with implementation of the Caltrans improvements.**
#7	Soquel Avenue / Chanticleer Avenue	Cumulative and Cumulative Plus Project Conditions	The addition of the Project traffic worsens the side street LOS from Chanticleer Avenue from LOS from LOS D to LOS F in the PM.	The Project will restripe Soquel Avenue to include a continuous TWLTL from the Highway 1 SB Ramps past Chanticleer Avenue. The installation of this measure will provide sufficient space for waiting and or weaving for vehicles heading northbound on Soquel Avenue. In addition, the installation of the signal will also improve gaps in the traffic flow in the northbound direction. This is an improvement over the current very short 50 feet merge lane that is inadequate to accommodate these movements in the future. **The improvement will remove the deficiency caused by the Project.**
#9	Soquel Avenue / 40th Avenue & Gross Road	Cumulative and Cumulative Plus Project Conditions	In the PM, the addition of the Project traffic would increase the average delay from 54.3 seconds per vehicle to 105.9 seconds per vehicle and the LOS remains at F. The critical v/c increases by more than 1% on all the approach critical movements.	Install a diagonal diverter extending from the northwest corner to the southeast corner at this intersection. Residents in the neighborhood would exit the neighborhood at Rodeo Gulch Drive onto Soquel Avenue. If this improvement is not installed, cut through traffic along Gross Road and the delay at the 41st Avenue intersection will continue and degrade further in the future until the freeway is improved. The diverter will prevent cut through traffic on Gross Road through the residential neighborhood and eliminate the congestion caused by the all-way stop at the intersection. Queues at this intersection are expected to shorten with these recommended improvements. This commute is slightly longer than the direct connection to 41st Avenue via Gross Road, but the benefits of removing cut through traffic through the neighborhood and the improvement of operations at the Gross Road/40th Avenue intersection, warrants the installation of this improvement. With this improvement, traffic flow at this intersection would then be governed by the signal at Gross Road & 41st Avenue where additional improvements are recommended. **All movements would be uncontrolled; therefore, no delay would be attributed to this intersection (i.e. the only delay would be incurred at the 41st Avenue & Gross Road signalized intersection). This improvement would cause travel time from Soquel Dr and Rodeo Gulch Rd to SB Hwy 1 on-ramp to decrease by approximately 44% when comparing Existing (no Project) to Existing Plus Project conditions. See Appendix M for the proposed layout. In addition, the current cut-through traffic along Gross Road through the neighborhood would also be eliminated. The deficiency will be eliminated with implementation of the improvement measure.**

Table T-45 – Improved Cumulative Plus Project Conditions Conclusions

Int#	Location	Condition	Deficiency caused by the Addition of the Project Traffic	Improvement
#14	41st Avenue & Highway 1 Southbound Ramps	Cumulative and Cumulative Plus Project Conditions	The addition of the Project traffic worsens the delay from 46,9 seconds to 51.7 seconds and the LOS remains D. The critical movement v/c increases by more than 1%.	Caltrans certified the EIR for the Santa Cruz Route 1 Tier 1- Corridor Analysis of High Occupancy Vehicle Lanes and Transportation System Management Alternatives and Tier II- Build Project Analysis of 41st Avenue to Soquel Avenue/Rive Auxiliary Lanes and Chanticleer Avenue Pedestrian-Bicycle Overcrossing in December 2018. The EIR identifies long term improvement projects for providing capacity at the interchanges and along the rail line. The TSM improvements at the 41st Avenue interchange include ramps widening and improvements and the overcrossing would be widened. The TSM improvements are unconstrained (not fully funded) and until funding becomes available, the operational deficiency would remain. The deficiency is anticipated to be eliminated when the improvements are installed. **The State Route 1 HOV Lane Widening Project Supplemental Report (May 2010) analyzed these improvements for the Santa Cruz Route 1 Tier I and Tier II FEIR and the results are included in Appendix P for reference. https://sccrtc.org/projects/streets-highways/hwy1corridor/environmental-documents.**
#15	41st Avenue & Gross Road (City of Capitola jurisdiction and Caltrans control)	Cumulative and Cumulative Plus Project Conditions	The addition of the Project traffic worsens the LOS from E to F in the AM. The critical v/c increases by more than 1% on all the critical approach movements.	The City of Capitola received a grant to install an adaptive signal system along 41st Avenue and this intersection is included in its implementation plan. In addition, the Project would install overhead signs and roadway markings to improve lane selection and use on the eastbound approach of Gross Road. The lane selection would be for southbound Highway 1 and northbound Highway 1 movements. See Appendix M for the conceptual layout for improvement details. A barrier would be installed between Gross Road and Highway 1 Southbound Ramps. The barrier would be installed between the eastbound through lane over the freeway and the eastbound right-turn lane onto the freeway southbound on-ramp. This barrier installation would require a Caltrans encroachment permit/approval. It can only be installed if approved by Caltrans. The adaptive signal system would provide better coordination of traffic flow along the corridor because it measures real time vehicular demand and proportions/adjusts signal timing. Furthermore, a physical barrier will be installed between the limit line and the diverge of the Highway 1 southbound on-ramp on 41st Avenue. This barrier will prevent vehicles from jumping the queue for southbound on-ramp traffic. This improvement would also improve bicycle rider safety in the Class II bike lane at the Highway 1 southbound on-ramp at 41st Avenue. A conceptual layout of these improvements are indicated in **Appendix M**. **The State Route 1 HOV Lane Widening Project Supplemental Report (May 2010) analyzed these improvements for the Santa Cruz Route 1 Tier I and Tier II FEIR and the results are included in Appendix P for reference. https://sccrtc.org/projects/streets-highways/hwy1corridor/environmental-documents.**
#24	Brommer Street & 30th	Cumulative and Cumulative Plus Project Conditions	The intersection operates at LOS F in PM Peak without Project and continues to operate at LOS F with the Project. The average delay increases from 41.2 seconds per vehicle to 41.9 seconds per vehicle with the addition of the Project traffic. The critical v/c increases by more than 1% on the northbound and southbound critical movements.	Install signal control with permissive left-turn phasing. Peak Hour Signal Warrant #3 (CAMUTCD) is satisfied with Existing Conditions traffic and in Existing Plus Project Conditions traffic. With existing geometry, signal control, eastbound/westbound split phasing, and permissive left-turn phasing, this intersection would operate at acceptable LOS with Cumulative Plus Project conditions traffic volumes. The Peak Hour Signal Warrant #3 evaluation is included in **Appendix J**. **For Cumulative Conditions the intersection will improve the PM delay by 19.3 seconds per vehicle with installation of the signal.** **Installation of a signal control with permissive left-turn phasing would cause the intersection to operate at an acceptable LOS. The Project will pay a fair share of 14% towards the improvement and the Project will eliminate its incremental addition to the LOS deficiency (Project Trips through intersection / All Future trips through intersection).**

Conclusions – Cumulative Plus Project Conditions

In the Cumulative Plus Project Conditions, the improvements identified will remove the deficiencies caused by the Project.

Highway 1 Overcrossing and 41st Avenue Corridor Improvements

At the request of the County, this TIOA evaluates whether the Project would benefit from construction of a potential Highway 1 overcrossing at 17 Avenue ("17th Avenue Overcrossing"), as envisioned in the Sustainable Santa Cruz County Plan (2014). The 17th Avenue Overcrossing is not an approved or proposed project at this time. However, the Sustainable Santa Cruz County Plan envisions the potential redevelopment of land parcels to the north and south of Highway 1 between the Soquel Avenue and 41st Avenue interchanges. This redevelopment would result in potential growth in traffic on Soquel Drive and Soquel Avenue. Subsequently, the Sustainable Plan also indicates the potential for a new vehicular overcrossing from the east side to the west side of Highway 1 (i.e., the 17th Avenue Overcrossing). No new access will be provided to Highway 1 by the 17th Avenue Overcrossing. The most feasible location for such an overcrossing is at 17th Avenue, since it already connects strategically to Capitola Avenue and further south, to Soquel Drive. Several existing parcels of land will be impacted by the overcrossing and the need for significant right-of-way acquisition is anticipated. The 17th Avenue Overcrossing will not have pedestrian and bicycle access, which would be provided at the Chanticleer bicycle and pedestrian overcrossing, located immediately east of the proposed new vehicular overcrossing.

It is estimated that the 17th Avenue Overcrossing would potentially improve traffic conditions at both the Soquel Avenue interchange and the 41st Avenue interchange with Highway 1. The model links origins and destination through the new road network that includes the overcrossing, which results in the diversion of trips from the two adjacent interchange overcrossings to the new bridge. The SCC Travel Demand Model forecast for the year 2040 indicates that approximately 4,640 daily vehicles will use this overcrossing when built and that the Project will contribute 54 daily trips (1.2% of the total traffic) on the new 17th Avenue Overcrossing. The Project would not add any AM peak hour trips onto the bridge and would add 1 vehicle in the PM peak hour. The construction of the new overcrossing would result in extensive construction and right-of-way acquisition at exorbitant cost ($75-125 million). In addition, traffic volumes would increase on residential streets on the south side of Highway 1. The shift in volumes from the existing Soquel Drive /Highway 1 overcrossing and the existing 41st Avenue/Highway 1 overcrossing would only slightly improve operating conditions on these corridors. Subsequently it is concluded that the construction of a new overcrossing is not feasible and not recommended for implementation

The County, along with the City of Capitola, is planning for long-term future improvements along 41st Avenues between Clares Street and Cory Street to facilitate north-south vehicular, pedestrian and bicycle circulation. Proposed future improvements along the 41st Avenue roadway would be supported by additional improvements along Gross Road, 40th Avenue, and Clares Street; as well as at the intersections of Soquel Avenue and Gross Road, Gross Road and 41st, Auto Plaza Drive and 41st, Clares Street and 40th Avenue, and Clares Street and 41st Avenue. These improvements include signal modifications, intersection control changes, restriping, sidewalk and bicycle lane improvements, and installation of a cycle track on 41st Avenue between Gross Road and Cory

Street on the Highway 1 overpass. ***The project will contribute toward the cost of these long-term improvements along the 41St Avenue corridor.***

Medical Office Building

Figure F-23

Change in 2040 Daily Volumes Due to Potential 17th Avenue Overcrossing

7. HIGHWAY 1 AND HIGHWAY 17 OPERATIONAL EVALUATION (NON-CEQA ANALYSIS)

This chapter evaluates the Project's impacts on Highway 1 and Highway 17. Caltrans has jurisdiction over these facilities and, pursuant to SB 743, 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 volume to capacity ratios. (Caltrans, "Vehicle Miles Traveled-Focused Transportation Impact Study Guide, (May 20, 2020), see pp. 4-5 ["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."]).[46] As noted in **CHAPTER 2. VEHICLE MILES TRAVELED** on page 8 of this TIOA, the Project will result in a reduction in existing VMT and therefore will not have a significant transportation impact on the environment. Moreover, it is expected that the Project will reduce the volume of vehicles (487 daily trips) traveling along Highway 17 between the County and San Jose by approximately 0.65 percent, which is presumed to have a commensurate or greater reduction in collisions on that segment of Highway 17 as explained on page 139 in header P of this section**.** For informational purposes only, the balance of this chapter discloses potential congestion and capacity related impacts the Project could have on Highway 1 and Highway 17. A select zone plot for the Project identifies the Project traffic on Highway 17 south of Pasatiempo Drive. This number was calculated as a percentage of the total Project traffic on the freeway at this location.

It is anticipated that the Project would add 107 new AM peak hour Project trips and 98 new PM peak hour Project trips to Highway 1, which, if evaluated using outdated LOS metrics, is already operating at unacceptable levels of service during both the AM and PM peak hour conditions. However, healthcare trips are nondiscretionary (in the sense that people generally must seek medical care when needed) and it is anticipated that local residents will stay within their immediate geographical locale and elect to travel to the Project site in Santa Cruz rather than to other existing Kaiser facilities in other facilities in Santa Cruz, Scotts Valley, San Jose, and Watsonville, for example. Therefore, many of the Project trips traveling along Highway 1 are actually redistributed existing and future medical care trips as discussed in **CHAPTER 2. VEHICLE MILES TRAVELED** of this report. In addition, it is anticipated that the Project would reduce trips along Highway 17, as discussed in the VMT Chapter of this report.

Per County recommendations, this chapter was prepared to provide and document an evaluation of Highway 1 and Highway 17 operational conditions, while determining what effects (if any) the Project would have on these roadway facilities. These roadway facilities were selected for evaluation based on discussions with County staff and based on the anticipated Project trip distribution.

[46] Available at https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-05-20-approved-vmt-focused-tisg-a11y.pdf.

Highway 1

This section describes the operational conditions along Highway 1, planned future improvements along Highway 1, and the potential effects that the Project would have along Highway 1 within the study area.

Highway 1 Existing Operational Conditions

Highway 1 baseline data and measures of effectiveness (MOEs) included in the Caltrans Traffic Operations Report (2012), were updated by CDM Smith and published in 2017 in a memorandum titled *Santa Cruz Highway 1 Widening/HOV Lane Project – Final 2016-2017 Traffic Analysis Update*. The updated baseline data is summarized in **Table T-46**.

Table T-46 – Highway 1 Baseline Measures of Effectiveness (Peak Hour)

Peak Hour Performance Measures	Northbound		Southbound	
	Morning	Evening	Morning	Evening
Average Speeds (mph)	23	62	61	22
Average Travel Time (minutes/vehicle)	31	10	10	31
Travel Distance (VMT)	41,418	30,539	30,842	39,104
Average Travel Delay (minutes/vehicle)	20	0	0	20
Average Level of Service (LOS)	**F**	C	C	**F**

Source: Santa Cruz Highway 1 Widening/HOV Lane Project – Final 2016-2017 Traffic Analysis Update (July 2017).

This data indicates that Highway 1 traffic volumes in the Project vicinity are directional, with high traffic volumes/delay in the northbound direction during morning (AM) hours and high traffic volumes/delay in the southbound direction during evening (PM) hours.

Highway 1 Volume to Capacity Ratios

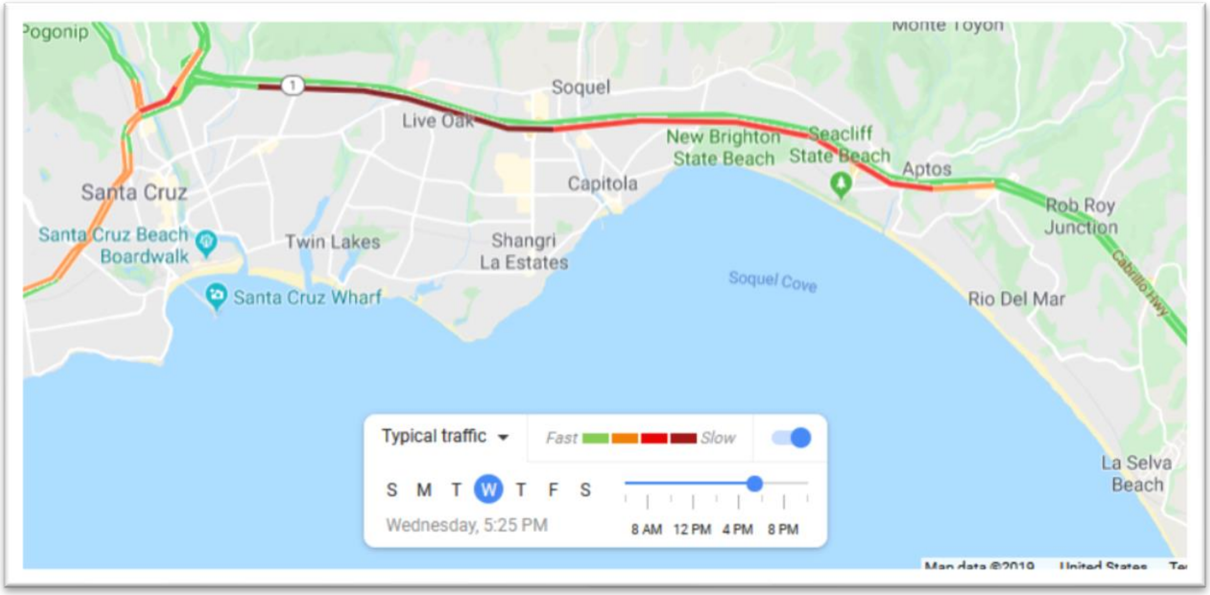
As indicated in the Caltrans baseline conditions findings described above, Highway 1 currently operates at LOS F during weekday AM (northbound is LOS F) and PM (southbound is LOS F) peak hour conditions within the study area. While it anticipated that the estimated addition (or subtraction) of Project trips would provide an imperceptible change in operating conditions or LOS (LOS F represents the worst, most overcapacity roadway conditions possible) along these oversaturated facilities, this section is provided to quantify the estimated change in v/c along the study segments that would result from construction of the Project. V/C represents a measure of congestion of the freeway by dividing the traffic volume by the capacity of the roadway. If the v/c is above 0.8 (LOS E or F), the freeway starts to be congested. The v/c is not a linear function and is also dependent on speed, vehicle throughput, density per time period, type of road, number of lanes, etc.

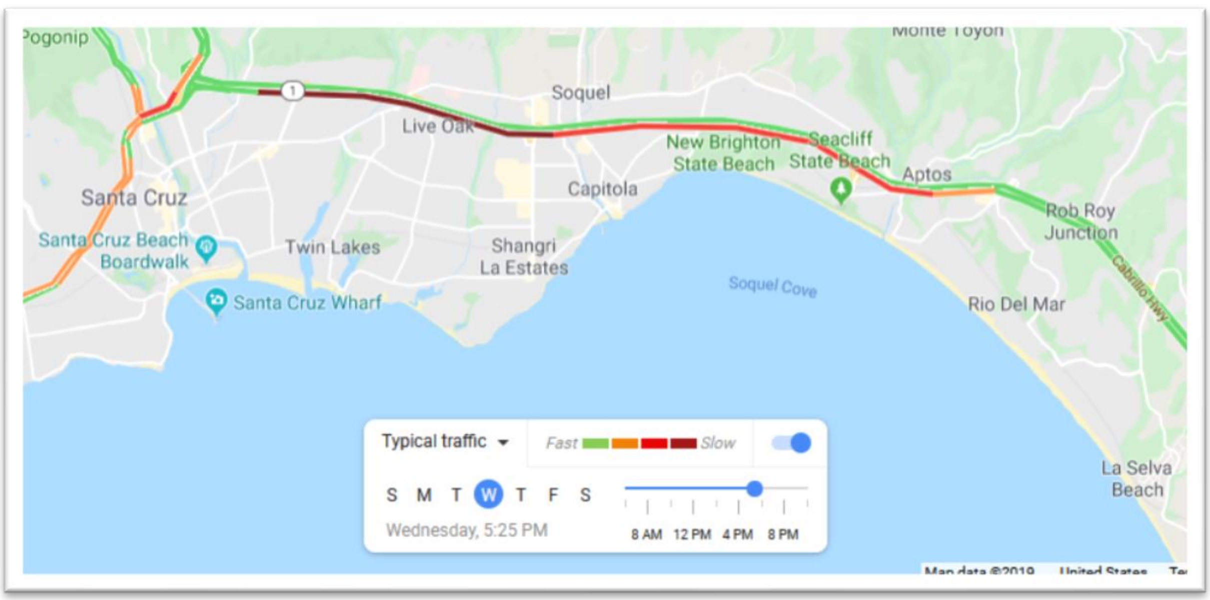
Analysis

(h) *Existing and Existing Plus Project (Highway 1)*

Based on Caltrans PeMS (Performance Measurement System) data, major weekday peak hour congestion along Highway 1 (SR 1) occurs during the PM peak commuting hours. The data indicates that traffic flow volumes and speeds in the southbound direction through the study area decrease between 2:00 PM to 6:00 PM. A review of historical traffic trends was conducted using Google Maps, which shows that southbound SR 1 typically experiences sustained low speeds and traffic flows from Rio Del Mar to Highway 17 during the PM peak travel periods, which is shown in **Figure F-24**.

Figure F-24 – Typical Peak-Hour Congestion along SR 1 (Source: Google Maps)





Based on this data and the relatively low addition of new Project trips to the study segments, freeway operations under Existing Plus Project conditions are expected to remain very similar to the Existing Conditions. Analysis results included in **Table T-47** provides a summary of Existing and Existing Plus Project volumes and v/c ratios. As shown in **Table T-47** v/c ratios are expected to increase by 0.02 at all of the study segments.

Highway Capacity Software ("HCS"), which is based on HCM 6 methodologies, the industry standard, were used to evaluate traffic operations on the study freeway segments and information regarding HCS inputs and analysis results can be found in **Appendix O**.

(i) *Near Term and Near Term Plus Project (Highway 1)*

Freeway operations under Near Term Plus Project conditions are expected to remain very similar to the Near-Term Conditions. No freeway segment is anticipated to experience a change in LOS as a result of the Project and, as shown in the table below, v/c ratios are expected to increase by 0.02 or less on any of the study segments. Analysis results are shown in **Table T-48.**

HCS was used to evaluate traffic operations on the study freeway segments and information regarding HCS inputs and analysis results can be found in **Appendix O**.

(j) *Cumulative and Cumulative Plus Project (Highway 1)*

Freeway operations under Cumulative Plus Project conditions are expected to remain very similar to the Cumulative Conditions. No freeway segment is anticipated to experience a change in LOS as a result of the Project and, as shown in the table below, v/c ratios are expected to increase by 0.02 or less on any of the study segments. Analysis results are shown in **Table T-4**.

HCS was used to evaluate traffic operations on the study freeway segments and information regarding HCS inputs and analysis results can be found in **Appendix O**.

(k) *Project Effects on Highway 1 Operations*

As indicated in the segment analysis results in **Table T-47, Table T-48,** and **Table T-4**, the addition of Project traffic on the study segments would have a negligible effect on v/c and thus, Project related operational effects on the segments would also be indiscernible compared to Existing, Near Term, and Cumulative development conditions.

Table T-47 – Existing Plus Project Conditions Segment Analysis (Highway 1)

#	Study Segment	Direction	Lanes	Existing Volume	Existing V/C	Existing + Project Volume (vph)	Existing + Project V/C	Project Volume	Change in V/C
AM Peak Hour									
1	SR 1 between Morrisey Blvd and Soquel Dr	NB	2+1	3,563	0.60	3,585	0.62	22	0.02
		SB	2+1*	1,832	0.49	1,917	0.51	85	0.02
2	SR 1 between Soquel Dr and 41st Ave	NB	2	2,429	0.56	2,429	0.56	0	0.00
		SB	2	1,739	0.45	1,739	0.45	0	0.00
3	SR 1 between 41st Ave and Porter St/Bay Ave	NB	2+1	3,667	0.91	3,712	0.92	45	0.01
		SB	2+1	2,754	0.76	2,766	0.77	12	0.01
PM Peak Hour									
1	SR 1 between Morrisey Blvd and Soquel Dr	NB	2+1	4,720	0.76	4,790	0.77	70	0.01
		SB	2+1*	**4,399**	**1.06**	**4,427**	**1.06**	**28**	**0.00**
2	SR 1 between Soquel Dr and 41st Ave	NB	2	2,326	0.55	2,326	0.55	0	0.00
		SB	2	**4,234**	**1.03**	**4,234**	**1.03**	**0**	**0.00**
3	SR 1 between 41st Ave and Porter St/Bay Ave	NB	2+1	2,553	0.64	2,568	0.64	15	0.00
		SB	2+1	**4,982**	**1.24**	**5,019**	**1.25**	**37**	**0.01**

Note: +1 indicates an added auxiliary lane however no added capacity from this lane was assumed.
HCS analyzes traffic flows that take heavy vehicle percentage and peak hour factors into account, so similar volumes may result in different v/c ratios
**Right lane must exit at Soquel Dr intersection*

Table T-48 – Near Term Plus Project Conditions Segment Analysis (Highway 1)

#	Study Segment	Direction	Lanes	Near Term Volume	Near Term V/C	Near Term + Project Volume (vph)	Near Term + Project V/C	Project Volume	Change in V/C
AM Peak Hour									
1	SR 1 between Morrisey Blvd and Soquel Dr	NB	2+1	3,563	0.61	3,585	0.62	22	0.01
		SB	2+1*	1,832	0.49	1,917	0.52	85	0.03
2	SR 1 between Soquel Dr and 41st Ave	NB	2	2,429	0.56	2,429	0.57	0	0.01
		SB	2	1,739	0.43	1,739	0.44	0	0.01
3	SR 1 between 41st Ave and Porter St/Bay Ave	NB	2+1	3,694	0.92	3,739	0.93	45	0.01
		SB	2+1	2,754	0.70	2,766	0.71	12	0.01
PM Peak Hour									
1	SR 1 between Morrisey Blvd and Soquel Dr	NB	2+1	4,763	0.77	4,833	0.78	70	0.01
		SB	2+1*	**4,430**	**1.06**	**4,458**	**1.07**	**28**	**0.01**
2	SR 1 between Soquel Dr and 41st Ave	NB	2	2,326	0.55	2,326	0.55	0	0.00
		SB	2	**4,240**	**1.03**	**4,240**	**1.03**	**0**	**0.00**
3	SR 1 between 41st Ave and Porter St/Bay Ave	NB	2+1	2,553	0.64	2,568	0.64	15	0.00
		SB	2+1	**4,991**	**1.24**	**5,028**	**1.25**	**37**	**0.01**

Note: +1 indicates an added auxiliary lane however no added capacity from this lane was assumed.
HCS analyzes traffic flows that take heavy vehicle percentage and peak hour factors into account, so similar volumes may result in different v/c ratios
**Right lane must exit at Soquel Dr intersection*

Table T-49 – Cumulative Plus Project Conditions Segment Analysis (Highway 1)

#	Study Segment	Direction	Lanes	Cumulative Volume	Cumulative V/C	Cumulative + Project Volume (vph)	Cumulative + Project V/C	Project Volume	Change in V/C
AM Peak Hour									
1	SR 1 between Morrisey Blvd and Soquel Dr	NB	2+1	3,862	0.66	3,884	0.67	22	0.01
		SB	2+1*	2,038	0.54	2,123	0.56	85	0.02
2	SR 1 between Soquel Dr and 41st Ave	NB	2	2,669	0.61	2,669	0.61	0	0.00
		SB	2	1,881	0.47	1,881	0.47	0	0.00
3	SR 1 between 41st Ave and Porter St/Bay Ave	NB	2+1	3,863	0.96	3,908	0.97	45	0.01
		SB	2+1	3,098	0.78	3,110	0.79	12	0.01
PM Peak Hour									
1	SR 1 between Morrisey Blvd and Soquel Dr	NB	2+1	5,034	0.81	5,104	0.82	70	0.01
		SB	2+1*	**4,627**	**1.11**	**4,655**	**1.12**	**28**	**0.01**
2	SR 1 between Soquel Dr and 41st Ave	NB	2	2,377	0.56	2,377	0.56	0	0.00
		SB	2	**4,275**	**1.04**	**4,275**	**1.04**	**0**	**0.00**
3	SR 1 between 41st Ave and Porter St/Bay Ave	NB	2+1	2,643	0.66	2,658	0.66	15	0.00
		SB	2+1	**5,047**	**1.26**	**5,084**	**1.27**	**37**	**0.01**

Note: +1 indicates an added auxiliary lane however no added capacity from this lane was assumed.
HCS analyzes traffic flows that take heavy vehicle percentage and peak hour factors into account, so similar volumes may result in different v/c ratios
**Right lane must exit at Soquel Dr intersection*

Highway 1 Planned Improvements

Currently, Caltrans has no impact fee program in place to help mitigate traffic impacts. However, Santa Cruz County RTC, in cooperation with Caltrans and the Federal Highway Administration ("FHWA"), is managing the Highway 1 Corridor Investment Program. The purpose of that project is to analyze alternative investments to relieve congestion on Highway 1 between San Andreas/Larkin Valley Road and Morrissey Boulevard. The goal of the Highway 1 Corridor Investment Program is to address several different needs in the existing transportation system:

- Bottlenecks along Highway 1 in both the southbound and northbound direction that cause congestion on a regular basis during peak travel periods.
- Travel time delays that are experienced by commuters, commerce, visitors, and emergency vehicles at various times of the day.
- "Cut-through" traffic, or traffic on local streets, that occurs and is increasing because drivers seek to avoid congestion on the highway in search of "short-cuts".
- Limited opportunities for pedestrians and bicyclists to cross Highway 1 within the project corridor.
- Recognize the limited funding available from state and federal sources and to be prepared to compete for discretionary funding opportunities when it periodically occurs at the state or federal level.

Environmental review has been completed for the Corridor Investment Program pursuant to the Highway 1 Tier I/Tier II Draft Environmental Impact Report/Environmental Assessment (DEIR/EA) which meets both state and federal environmental requirements. The study was certified in December 2018 and is currently in litigation.[47] For purposes of environmental analysis, the Corridor Investment Program is divided into two components:

- Tier I – A long-term, program level analysis for the future of the Highway 1 corridor between Santa Cruz and Aptos. The Tier I concept for the corridor would be built over time through a series of smaller incremental projects (referred to as Tier II projects).
- Tier II – Project level analysis of a smaller incremental project within the Tier I corridor which would move forward based on available funding. Each of the Tier II projects would have independent utility and benefit to the public and Highway 1 operations.

Improvements studied by the DEIR/EA may be implemented incrementally as funding and priorities allow.

The current Tier II project includes northbound and southbound auxiliary lanes between 41st Avenue and Soquel Drive and a bike/pedestrian overcrossing of Highway 1 at Chanticleer Avenue. Preliminary design and environmental analysis began on a second-Tier II project in Fall

[47] See Highway 1 Corridor Investment Program website at https://sccrtc.org/projects/streets-highways/hwy1corridor/ for additional information and documents. The EIR is currently under litigation.

2016 for the construction of a pedestrian/bicycle overcrossing of Highway 1 at Mar Vista Drive in Aptos.

Future Tier II projects will be subject to separate project level environmental analysis as part of the project development process and will be consistent with the long term (Tier I) vision chosen for the Highway 1 Corridor, which includes additional auxiliary lanes, the new interchanges, and the construction of the HOV lanes. More detail can be found at https://sccrtc.org/projects/streets-highways/hwy1corridor/environmental-documents.

In addition, the Santa Cruz County RTC is pursuing the use of future widened shoulders of SR 1 for bus-on-shoulder operations.

Funding for Highway 1 Improvements

Measure D was a proposed ½-cent local sales tax increase included on the November 2016 ballot in Santa Cruz County. The Measure, which will focus on transportation safety upgrades, roadway repairs, traffic relief, and transit augmentation, was approved by voters via a super majority (over 67% voting “yes”).

Measure D will provide steady and direct funding to the County and all cities within the County to improve the transportation network, including Highway 1. Transportation improvements will include improvements of local streets, road maintenance, bicycle and pedestrian projects, transit and paratransit service upgrades, as well as implementation of many other projects and programs. Measure D funding will be supplemented by State and potentially Federal financial grants - https://sccrtc.org/funding-planning/measured/

Measure D funding will provide funding for the following improvements in the Project vicinity:

- $97 million for auxiliary lanes between:
    - Soquel Drive and 41st Avenue
    - Bay Avenue/Porter Street and Park Avenue
    - Park Avenue and State Park Drive
- $7 million for 2 new bicycle and pedestrian bridges over Highway 1
    - In Live Oak at Chanticleer Avenue
    - In Seacliff/Aptos at Mar Vista Drive
- $21 million for ongoing safety and operational service

As noted above, the Project results in a net decrease in VMT and therefore does not require improvements to Highway 1 to avoid or reduce transportation impacts to a less than significant level. Accordingly, the information set forth above regarding Highway 1 conditions and potential improvements is provided for information purposes only at the request of County staff.

Highway 17

This section describes the operational conditions along Highway 17 and the potential effects that the Project would have along Highway 17 within the study area, if the Project's transportation impacts were evaluated using outdated LOS metrics rather than VMT. This information is provided for informational purposes only at the request of County staff.

Highway 17 Volume to Capacity Ratios

Highway 17 operates at LOS F during weekday AM and PM peak hour conditions within the study area and the addition (or subtraction) of Project trips would provide an imperceptible change in operating conditions along these oversaturated facilities. However, this section is provided to quantify the estimated change in volume to capacity ratios (v/c) along the study segments that would result from construction of the Project.

Analysis

(l) *Existing and Existing Plus Project (Highway 17)*

Freeway operations under Existing Plus Project conditions are expected to remain very similar to the Existing Conditions. No freeway segment is anticipated to experience a change in LOS as a result of the Project and, as shown in the table below, v/c ratios are expected to increase by 0.02 or less on any of the study segments. Analysis results are shown in **Table T-50**.

HCS was used to evaluate traffic operations on the study freeway segments and information regarding HCS inputs and analysis results can be found in **Appendix O**.

(m) *Near Term and Near Term Plus Project (Highway 17)*

Freeway operations under Near Term Plus Project conditions are expected to remain very similar to the Near-Term Conditions. No freeway segment is anticipated to experience a change in LOS as a result of the Project and, as shown in the table below, v/c ratios are expected to increase by 0.02 or less on any of the study segments. Analysis results are shown in **Table T-51**.

HCS was used to evaluate traffic operations on the study freeway segments and information regarding HCS inputs and analysis results can be found in **Appendix O**.

(n) *Cumulative and Cumulative Plus Project (Highway 17)*

Freeway operations under Cumulative Plus Project conditions are expected to remain very similar to the Cumulative Conditions. No freeway segment is anticipated to experience a change in LOS as a result of the Project and, as shown in the table below, v/c ratios are expected to increase by 0.02 or less on any of the study segments. Analysis results are shown in **Table T-52**.

HCS was used to evaluate traffic operations on the study freeway segments and information regarding HCS inputs and analysis results can be found in **Appendix O**.

(o) *Project Effects on Highway 17 Operations*

As indicated in the segment analysis results in **Table T-50**, **Table T-51**, and **Table T-52**, the Project is expected to reduce traffic on the study segments due to medical care trips rerouting to the Project site in Santa Cruz (rather than traveling to San Jose to receive medical services which the Proposed Tenant currently does not provide in Santa Cruz County). This reduction in trips would have a negligible effect on v/c and thus, Project related operational effects/ improvements on the segments would also be indiscernible compared to Existing, Near Term, and Cumulative development conditions.

(p) *Project Effects on Highway 17 Safety*

Highway 17 operates at an unacceptable LOS F (with and without the Project) during both AM and PM peak hour conditions. The Project would remove some County resident trips from Highway 17 segments. It would also divert County resident trips along other Highway 17 segments and Highway 1. The removal and rerouting of existing trips will occur because it is anticipated that local residents will stay within their immediate geographical locale and elect to travel to the Project site in Santa Cruz rather than to other existing Kaiser facilities in Scotts Valley, San Jose or Watsonville This reduction in trips would have a negligible effect on v/c (less than 1% reduction) and thus, Project-related operational effects/improvements on the segments would also be indiscernible compared to Existing, Near Term, and Cumulative development conditions

Traffic collisions, and thus roadway safety, is quantified by calculating collision rates in units of collisions per 100 million vehicle miles driven. One way to reduce the overall number of traffic collisions along roadways that experience a high number of collisions is to reduce traffic volumes along those roadways. As such, a reduction in collisions would be proportional to a reduction in vehicles. Thus, the Project would provide a potential safety benefit along Highway 17 by reducing travel along the roadway. Based on travel demand modeling and VMT results included in the VMT chapter (Chapter 2) of this report, daily volume reduction due to the Project and Santa Cruz residents staying local for healthcare is expected to be approximately 1.3 percent during the AM and PM peak hours (50% of daily volumes). Therefore, assuming the proportional relationship described above between traffic volumes and vehicle collisions, the number of accidents could also decrease proportionally by approximately 0.65 percent.[48]

Note that the above assumes a constant collision rate; typically, however, as traffic volumes go up, so do the crash rates. Therefore, this proportional evaluation is considered conservative.

[48] Based on FHWA Crash Prediction Module Engineer's Manual- IHSDM (2019) SPF Formula for segments reference: Nspf-rs-Total = AADT*L*365*10-6*e-0.312

Table T-50 – Existing Plus Project Conditions Segment Analysis (Highway 17)

#	Study Segment	Direction	Lanes	Existing Volume	Existing V/C	Existing + Project Volume (vph)	Existing + Project V/C	Project Volume	Change in V/C
AM Peak Hour									
4	Hwy 17 between Pasatiempo Overpass and Hwy 1	NB	3**	3,018	0.90	2,998	0.75	-20	-0.15
		SB	2+1	1,706	0.49	1,662	0.50	-44	0.01
PM Peak Hour									
4	Hwy 17 between Pasatiempo Overpass and Hwy 1	NB	3**	2,996	0.72	2,958	0.73	-38	0.01
		SB	2+1	1,950	0.55	1,922	0.56	-28	0.01

Note: +1 indicates an added auxiliary lane however no added capacity from this lane was assumed.
HCS analyzes traffic flows that take heavy vehicle percentage and peak hour factors into account, so similar volumes may result in different v/c ratios
*** Right Lane ends past Pasatiempo Overcrossing*

Table T-51 – Near Term Plus Project Conditions Segment Analysis (Highway 17)

#	Study Segment	Direction	Lanes	Near Term Volume	Near Term V/C	Near Term + Project Volume (vph)	Near Term + Project V/C	Project Volume	Change in V/C
AM Peak Hour									
4	Hwy 17 between Pasatiempo Overpass and Hwy 1	NB	3**	3,018	0.75	2,998	0.77	-20	0.02
		SB	2+1	1,706	0.48	1,662	0.50	-44	0.02
PM Peak Hour									
4	Hwy 17 between Pasatiempo Overpass and Hwy 1	NB	3**	2,996	0.72	2,958	0.74	-38	0.02
		SB	2+1	1,950	0.55	1,922	0.57	-28	0.02

Note: +1 indicates an added auxiliary lane however no added capacity from this lane was assumed.
HCS analyzes traffic flows that take heavy vehicle percentage and peak hour factors into account, so similar volumes may result in different v/c ratios
*** Right Lane ends past Pasatiempo Overcrossing*

Table T-52 – Cumulative Plus Project Conditions Segment Analysis (Highway 17)

#	Study Segment	Direction	Lanes	Cumulative Volume	Cumulative V/C	Cumulative + Project Volume (vph)	Cumulative + Project V/C	Project Volume	Change in V/C
AM Peak Hour									
4	Hwy 17 between Pasatiempo Overpass and Hwy 1	NB	3**	3,494	0.87	3,474	0.87	-20	0.00
		SB	2+1	1,861	0.52	1,817	0.53	-44	0.01
PM Peak Hour									
4	Hwy 17 between Pasatiempo Overpass and Hwy 1	NB	3**	3,184	0.77	3,146	0.78	-38	0.01
		SB	2+1	2,169	0.61	2,141	0.62	-28	0.01

Note: +1 indicates an added auxiliary lane however no added capacity from this lane was assumed.
HCS analyzes traffic flows that take heavy vehicle percentage and peak hour factors into account, so similar volumes may result in different v/c ratios
*** Right Lane ends past Pasatiempo Overcrossing*

8. TRANSPORTATION IMPROVEMENT AREA FEES (NON-CEQA ANALYSIS)

Since 1989, Santa Cruz County has assessed Transportation Improvement Area fees ("TIA Fees") in four geographic subareas of Santa Cruz County - Aptos, Live Oak, Pajaro Valley and Soquel. For non-residential projects, the TIA Fees are based on daily net new trips generated by a development project. The TIA Fee includes a transportation improvement fee to fund major transportation infrastructure and a roadside improvement fee to fund roadside-related improvements. The revenue generated from TIA Fees is used to fund improvements identified in the Santa Cruz Capital Improvement Program, which is updated each year.

The Project is required to pay a TIA Fee based on daily net new trips. The Project is located within the Live Oak TIA fee area and fees collected in this area are currently assessed (August 2020) at $300 per net new daily trip to fund roadside improvements and $300 per net new daily trip to fund transportation improvements.

Based on the most current Santa Cruz County Fee Schedule (*County of Santa Cruz Department of Public Works – Service & Capital Improvement Fees schedule, revised December 12, 2017)* ("Fee Schedule"), trip generation rates disclosed in a traffic study prepared for a project are used to calculate TIA Fees. The Fee Schedule (Page 11) states that "where a traffic study is required and accepted by the County during the environmental review of a project, a trip generation rate based on the report shall be used".

As described in the Local Mobility Analysis Chapter of this TIOA (Chapter 7, **Trip Generation Estimates** section on page 62), applying the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (2017)*, the Project is expected to generate 6,106 gross daily trips. As further described in the Transportation Demand Management chapter of this report, the Project will implement a voluntary TDM program that is expected to reduce trips by approximately 15.5 percent for employees and 20.5 percent for Members. For purposes of calculating TIA Fees, however, no reduction will be taken for the effect of TDM measures upon the issuance of building permits. If TDM measures are proven to be effective, as evidenced by driveway counts to be performed after construction of the Project, a partial refund of TIA fees (to account for the overpayment) may be given to the Applicant to the extent it is shown that the actual trips to the Project site are less than 6,106 per day.

Table T-53, below, provides a summary of existing trip credits, Project trips, and TDM reductions based on the ITE rates and applicable TIA fee amounts:

- A **total fee credit of $80,400** is estimated for the existing 134 trips per day generated from the light industrial land uses on the Project site that will be relocated/demolished prior to construction of the Project. This includes transportation improvement fees ($40,200) roadside improvement fees ($40,200). See the discussion of "Trip Credits" in the Local Mobility Analysis Chapter (Chapter 7) for more information about the trip ends generated by the existing uses on the Project site.

- A **gross TIA fee of $3,663,600** is estimated for the Project based on the assumption that it will generate 6,106 gross daily trips. This includes Live Oak Transportation Improvement fees (6,106 trips x $300 = $1,831,800) and Live Oak Roadside Improvement fees (6,106 trips x $300 = $1,831,800).
- However, taking into account the above fee credit, it is estimated that **the Project will be responsible for paying a total of $3,583,200** (i.e., $3,663,600 gross impact fee minus $80,400 fee credit = $3,583,200) in County TIA Fees.
- The Project will voluntarily implement a TDM measures that are anticipated to reduce the daily trips generated by the Project. However, the Applicant will not seek a reduction in fee for this anticipated reduction in daily trips upfront. Rather, as detailed in Transportation Demand Management Chapter (Chapter 3) of this report, the Applicant or Proposed Tenant will monitor the Project's actual trip generation through implementation of a formalized driveway traffic count program. Should the data evidence that the Project does in fact meet or exceed its TDM reduction goals, it is anticipated that the Project would receive TIA Fee refunds, commensurate with the proven reduction of trips.

Table T-53, below, provides a summary of existing trip credits and Project trips:

Table T-53 – Transportation Improvement Area Fee Calculations

ITE classification for Existing and Project Uses	Roadside Improvement Fee			Transportation Improvement Fee		Total
Project	**Daily Trips**	**Fee per Trip ($)**	**Total ($)**	**Fee per Trip ($)**	**Total ($)**	**Total Fee ($)**
Clinic (Project use)	6,106	$300	$1,831,800	$300	$1,831,800	$3,663,600
Credit	**Daily Trips**	**Credit per Trip ($)**	**Total ($)**	**Credit per Trip ($)**	**Total ($)**	**Total Credit ($)**
Light Industrial (Existing Use)	134	$300	$40,200	$300	$40,200	$80,400
Net Project TIA Fees		**$1,791,600**		**$1,791,600**		**$3,583,200**

These TIA fees are estimates only and reflect the information available at the time that this report was prepared (August 2020). The estimates above must be confirmed by the County, are subject to change, and will be payable at the time the first building permit is issued.

The County has earmarked traffic mitigating improvements in its Capital Improvement Plan (CIP) and Regional Transportation Plan (RTP) that the Project could potentially help fund through payment of the TIA Fees. The following improvements are included in the County's fee programs:

- 37th/38th Avenue (Brommer Street to East Cliff Drive) Multimodal Circulation Improvements and Greenway
- 41st Ave Improvements Phase 2 (Hwy 1 Interchange to Soquel Drive)
- Chanticleer Avenue Improvements (Hwy 1 to Soquel Drive)
- Countywide ADA Access Ramps
- Countywide Bike Projects
- Countywide Sidewalks
- Mattison Lane Improvements (Chanticleer Avenue to Soquel Avenue)
- Paul Minnie Avenue Improvements (Rodriguez Street to Soquel Avenue)
- Paul Sweet Road Improvements (Soquel Drive to end)
- Soquel Avenue Improvements (City of SC to Gross Road)
- Soquel Drive Traffic Signal and Left-Turn Lane (Robertson Street)

9. OTHER TRANSPORTATION ANALYSIS

When considering transportation impacts, Appendix G, of the CEQA Guidelines recommends consideration of the following:

(a) Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

(b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

(c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

(d) Would the project result in inadequate emergency access?

Question (a) is evaluated in the Local Mobility Analysis (LOS) Chapter (Chapter 7) of this report which considers the Project's consistency with General Plan and related programs, plans, ordinances and policies addressing the circulation system, and the Pedestrian, Bicycle and Transit Mobility Chapter 7 of this report. Question (b) is evaluated in the VMT Chapter 2 of this report. Questions (c) and (d) are evaluated in this chapter.

Transportation Hazards

All geometric improvements identified in this study as Project improvements will be designed and constructed per industry, local agency, and Caltrans standards and are not anticipated to substantially increase hazards or result in incompatible uses. The installation of the barrier between the through lane and the right-turn lane along the section between Gross Road and the Southbound On-Ramp on 41st Avenue in the northbound direction, will reduce conflicts between vehicles that jump the queue, and reduce conflicts between vehicles and bicycles.

Emergency Access

The Project has two driveways off Soquel Avenue. These driveways both provide Emergency Vehicle access. Moreover, the Project will install a number of traffic improvements that will improve circulation in the Project vicinity. As such, the Project will not result in inadequate emergency access.

.

APPENDICES

APPENDIX A.
EXISTING CONDITIONS
TRAFFIC COUNTS

Prepared by National Data & Surveying Services

Capitola Rd & Soquel Ave

Peak Hour Turning Movement Count

ID: 18-08275-004
City: Santa Cruz

Day: Thursday
Date: 05/17/2018

	PEAK HOURS	COUNT PERIODS
AM	08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

Capitola Rd — SOUTHBOUND

	Right	Thru	Left	U-Turn	Departing
AM	12	23	27	0	117
NOON	0	0	0	0	0
PM	25	31	53	0	66
Lanes	1	0.5	0.5	0	

Soquel Ave — EASTBOUND

	Lanes	AM	NOON	PM
Departing		1067	0	918
U-Turn	0	0	0	0
Left	1	28	0	12
Thru	2	529	0	964
Right	1	314	0	1085

Soquel Ave — WESTBOUND

	Lanes	PM	NOON	AM
Right	0	35	0	65
Thru	2	408	0	514
Left	1	72	0	63
U-Turn	0	0	0	0
Departing		1048	0	644

Capitola Rd — NORTHBOUND

	Departing	U-Turn	Left	Thru	Right
Lanes		0	1.5	0.5	1
PM	1188	0	485	19	31
NOON	0	0	0	0	0
AM	400	0	541	24	88

CONTROL

Signalized

	AM	NOON	PM
TEV	2228	0	3220
PHF	0.96		0.97

Cars (AM)

Approach	Left	Thru	Right
Southbound	27	23	12
Eastbound	28	519	306
Westbound	63	495	65
Northbound	533	24	87

HT (AM)

Approach	Left	Thru	Right
Southbound	0	0	0
Eastbound	0	10	8
Westbound	0	19	0
Northbound	8	0	1

Cars (NOON)

Approach	Left	Thru	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

HT (NOON)

Approach	Left	Thru	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

Cars (PM)

Approach	Left	Thru	Right
Southbound	53	31	25
Eastbound	12	944	1081
Westbound	72	404	35
Northbound	478	19	31

HT (PM)

Approach	Left	Thru	Right
Southbound	0	0	0
Eastbound	0	20	4
Westbound	0	4	0
Northbound	7	0	0

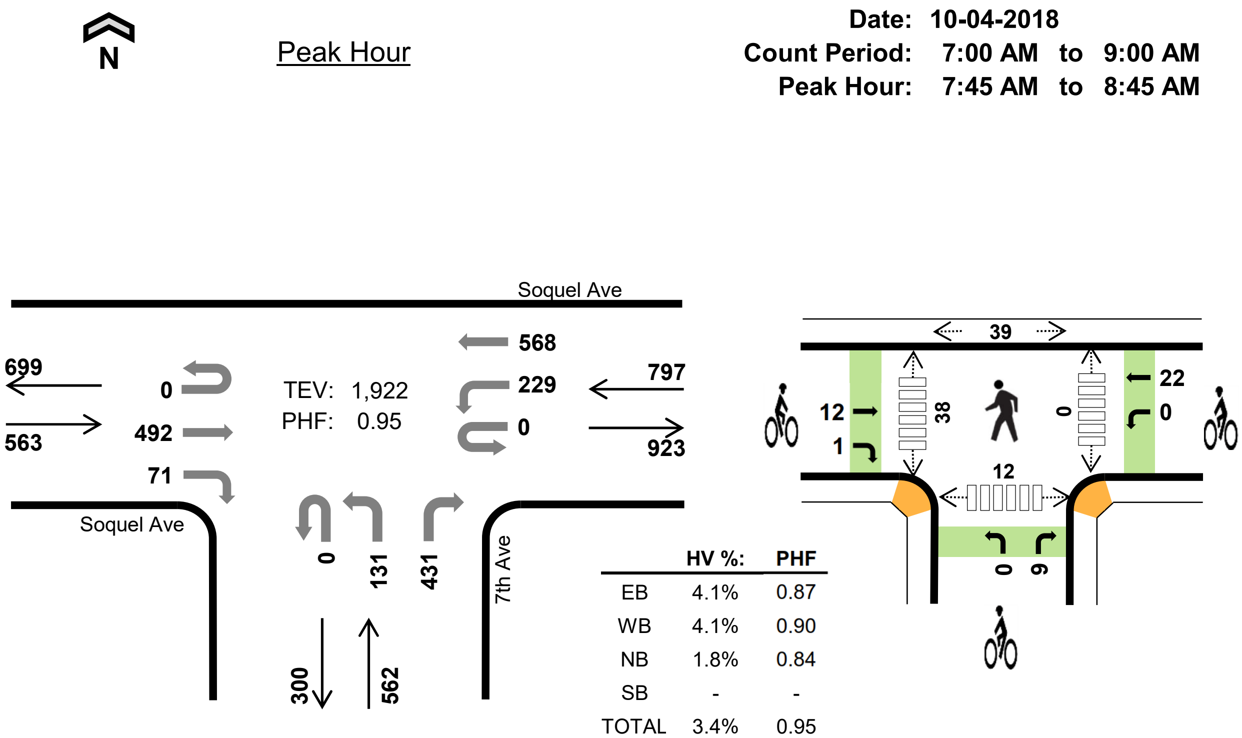
Pedestrians (Crosswalks)

Crosswalk	Direction	AM	NOON	PM
North leg	→	4	0	2
North leg	←	0	0	2
West leg	↓	0	0	1
West leg	↑	2	0	0
East leg	↓	2	0	2
East leg	↑	2	0	1
South leg	→	2	0	6
South leg	←	3	0	2
NW diagonal		0	0	0
NE diagonal		0	0	0
SW diagonal		0	0	0
SE diagonal		0	0	0

7th Ave
Soquel Ave

Peak Hour

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM



Two-Hour Count Summaries

Interval Start	Soquel Ave Eastbound UT	LT	TH	RT	Soquel Ave Westbound UT	LT	TH	RT	7th Ave Northbound UT	LT	TH	RT	0 Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	40	4	0	40	76	0	0	7	0	77	0	0	0	0	244	0
7:15 AM	0	0	68	8	0	48	104	0	0	11	0	77	0	0	0	0	316	0
7:30 AM	0	0	99	8	0	33	112	0	0	11	0	115	0	0	0	0	378	0
7:45 AM	**0**	**0**	**139**	**18**	**0**	**51**	**126**	**0**	**0**	**29**	**0**	**128**	**0**	**0**	**0**	**0**	**491**	1,429
8:00 AM	**0**	**0**	**110**	**16**	**0**	**55**	**147**	**0**	**0**	**51**	**0**	**117**	**0**	**0**	**0**	**0**	**496**	1,681
8:15 AM	**0**	**0**	**137**	**24**	**0**	**59**	**163**	**0**	**0**	**30**	**0**	**91**	**0**	**0**	**0**	**0**	**504**	1,869
8:30 AM	**0**	**0**	**106**	**13**	**0**	**64**	**132**	**0**	**0**	**21**	**0**	**95**	**0**	**0**	**0**	**0**	**431**	**1,922**
8:45 AM	0	0	117	5	1	54	124	0	0	21	0	103	0	0	0	0	425	1,856
Count Total	0	0	816	96	1	404	984	0	0	181	0	803	0	0	0	0	3,285	0
Peak Hour All	**0**	**0**	**492**	**71**	**0**	**229**	**568**	**0**	**0**	**131**	**0**	**431**	**0**	**0**	**0**	**0**	**1,922**	**0**
Peak Hour HV	**0**	**0**	**21**	**2**	**0**	**11**	**22**	**0**	**0**	**3**	**0**	**7**	**0**	**0**	**0**	**0**	**66**	**0**
Peak Hour HV%	**-**	**-**	**4%**	**3%**	**-**	**5%**	**4%**	**-**	**-**	**2%**	**-**	**2%**	**-**	**-**	**-**	**-**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	1	1	3	0	*5*	0	3	0	0	*3*	0	2	6	0	*8*
7:15 AM	4	4	2	0	*10*	5	5	4	0	*14*	0	8	10	0	*18*
7:30 AM	2	2	1	0	*5*	0	4	1	0	*5*	0	5	6	4	*15*
7:45 AM	**8**	**4**	**0**	**0**	***12***	**5**	**4**	**2**	**0**	***11***	**0**	**3**	**4**	**3**	***10***
8:00 AM	**4**	**9**	**8**	**0**	***21***	**4**	**10**	**5**	**0**	***19***	**0**	**20**	**19**	**5**	***44***
8:15 AM	**7**	**5**	**1**	**0**	***13***	**2**	**4**	**2**	**0**	***8***	**0**	**13**	**15**	**2**	***30***
8:30 AM	**4**	**15**	**1**	**0**	***20***	**2**	**4**	**0**	**0**	***6***	**0**	**2**	**1**	**2**	***5***
8:45 AM	6	3	3	0	*12*	1	4	1	0	*6*	0	1	0	1	*2*
Count Total	36	43	19	0	*98*	19	38	15	0	*72*	0	54	61	17	*132*
Peak Hr	**23**	**33**	**10**	**0**	***66***	**13**	**22**	**9**	**0**	***44***	**0**	**38**	**39**	**12**	***89***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Soquel Ave				Soquel Ave				7th Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	1	0	0	0	0	3	0	0	0	0	5	0
7:15 AM	0	0	4	0	0	3	1	0	0	0	0	2	0	0	0	0	10	0
7:30 AM	0	0	2	0	0	1	1	0	0	0	0	1	0	0	0	0	5	0
7:45 AM	**0**	**0**	**8**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	32
8:00 AM	**0**	**0**	**4**	**0**	**0**	**4**	**5**	**0**	**0**	**1**	**0**	**7**	**0**	**0**	**0**	**0**	**21**	48
8:15 AM	**0**	**0**	**7**	**0**	**0**	**1**	**4**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	51
8:30 AM	**0**	**0**	**2**	**2**	**0**	**6**	**9**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**66**
8:45 AM	0	0	6	0	0	1	2	0	0	1	0	2	0	0	0	0	12	66
Count Total	0	0	34	2	0	16	27	0	0	4	0	15	0	0	0	0	98	0
Peak Hour	**0**	**0**	**21**	**2**	**0**	**11**	**22**	**0**	**0**	**3**	**0**	**7**	**0**	**0**	**0**	**0**	**66**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Soquel Ave			Soquel Ave			7th Ave			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	3	0	0	0	0	0	0	0	3	0
7:15 AM	0	5	0	1	4	0	1	0	3	0	0	0	14	0
7:30 AM	0	0	0	0	4	0	1	0	0	0	0	0	5	0
7:45 AM	**0**	**5**	**0**	**0**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**11**	33
8:00 AM	**0**	**4**	**0**	**0**	**10**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**19**	49
8:15 AM	**0**	**1**	**1**	**0**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**8**	43
8:30 AM	**0**	**2**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**44**
8:45 AM	0	1	0	0	4	0	0	0	1	0	0	0	6	39
Count Total	0	18	1	1	37	0	2	0	13	0	0	0	72	0
Peak Hour	**0**	**12**	**1**	**0**	**22**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**44**	**0**

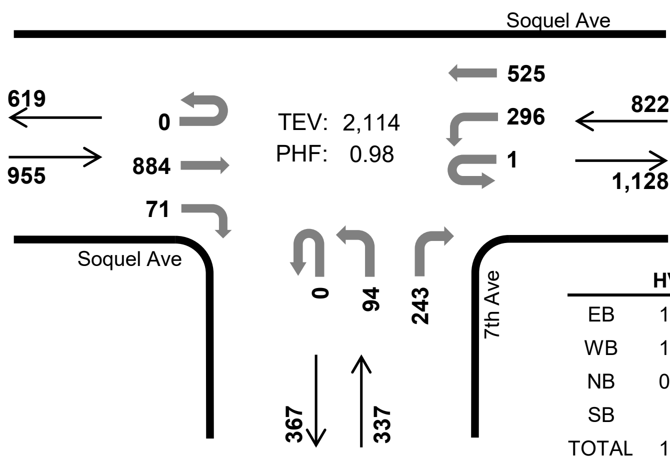
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

7th Ave
Soquel Ave

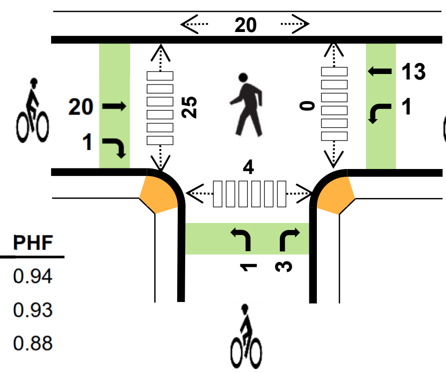
Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM

N

Peak Hour



	HV %:	PHF
EB	1.2%	0.94
WB	1.2%	0.93
NB	0.6%	0.88
SB	-	-
TOTAL	1.1%	0.98



Two-Hour Count Summaries

Interval Start		Soquel Ave				Soquel Ave				7th Ave				0				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	203	26	0	63	110	0	0	12	0	70	0	0	0	0	484	0
4:15 PM		0	0	196	22	0	69	113	0	0	21	0	46	0	0	0	0	467	0
4:30 PM		**0**	**0**	**241**	**13**	**0**	**72**	**122**	**0**	**0**	**23**	**0**	**53**	**0**	**0**	**0**	**0**	**524**	0
4:45 PM		**0**	**0**	**211**	**17**	**0**	**69**	**138**	**0**	**0**	**17**	**0**	**65**	**0**	**0**	**0**	**0**	**517**	1,992
5:00 PM		**0**	**0**	**231**	**24**	**1**	**72**	**127**	**0**	**0**	**25**	**0**	**58**	**0**	**0**	**0**	**0**	**538**	2,046
5:15 PM		**0**	**0**	**201**	**17**	**0**	**83**	**138**	**0**	**0**	**29**	**0**	**67**	**0**	**0**	**0**	**0**	**535**	**2,114**
5:30 PM		0	0	232	22	0	78	91	0	0	18	0	62	0	0	0	0	503	2,093
5:45 PM		0	0	196	13	0	72	96	0	0	22	0	56	0	0	0	0	455	2,031
Count Total		0	0	1,711	154	1	578	935	0	0	167	0	477	0	0	0	0	4,023	0
Peak Hour	**All**	**0**	**0**	**884**	**71**	**1**	**296**	**525**	**0**	**0**	**94**	**0**	**243**	**0**	**0**	**0**	**0**	**2,114**	**0**
	HV	**0**	**0**	**10**	**1**	**0**	**5**	**5**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**23**	**0**
	HV%	**-**	**-**	**1%**	**1%**	**0%**	**2%**	**1%**	**-**	**-**	**1%**	**-**	**0%**	**-**	**-**	**-**	**-**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	7	2	3	0	*12*	1	2	0	0	*3*	0	6	5	1	*12*
4:15 PM	4	6	1	0	*11*	2	2	0	0	*4*	0	10	8	2	*20*
4:30 PM	**5**	**1**	**1**	**0**	***7***	**2**	**4**	**1**	**0**	***7***	**0**	**5**	**4**	**1**	*10*
4:45 PM	**2**	**2**	**1**	**0**	***5***	**6**	**3**	**3**	**0**	***12***	**0**	**9**	**7**	**1**	*17*
5:00 PM	**2**	**3**	**0**	**0**	***5***	**7**	**2**	**0**	**0**	***9***	**0**	**3**	**2**	**1**	*6*
5:15 PM	**2**	**4**	**0**	**0**	***6***	**6**	**5**	**0**	**0**	***11***	**0**	**8**	**7**	**1**	***16***
5:30 PM	1	1	1	0	*3*	4	3	1	0	*8*	0	7	10	2	*19*
5:45 PM	1	3	1	0	*5*	1	5	3	0	*9*	0	6	3	0	*9*
Count Total	24	22	8	0	*54*	29	26	8	0	*63*	0	54	46	9	*109*
Peak Hr	**11**	**10**	**2**	**0**	***23***	**21**	**14**	**4**	**0**	***39***	**0**	**25**	**20**	**4**	***49***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Soquel Ave				Soquel Ave				7th Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	7	0	0	0	2	0	0	0	0	3	0	0	0	0	12	0
4:15 PM	0	0	4	0	0	2	4	0	0	0	0	1	0	0	0	0	11	0
4:30 PM	**0**	**0**	**5**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	0
4:45 PM	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**5**	35
5:00 PM	**0**	**0**	**2**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	28
5:15 PM	**0**	**0**	**1**	**1**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**23**
5:30 PM	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	3	19
5:45 PM	0	0	1	0	0	2	1	0	0	1	0	0	0	0	0	0	5	19
Count Total	0	0	23	1	0	9	13	0	0	2	0	6	0	0	0	0	54	0
Peak Hour	**0**	**0**	**10**	**1**	**0**	**5**	**5**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**23**	**0**

Two-Hour Count Summaries - Bikes

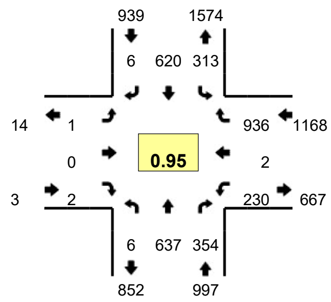
Interval Start	Soquel Ave			Soquel Ave			7th Ave			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	1	0	2	0	0	0	0	0	0	0	3	0
4:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	4	0
4:30 PM	**0**	**2**	**0**	**0**	**4**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**7**	0
4:45 PM	**0**	**6**	**0**	**1**	**2**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**12**	26
5:00 PM	**0**	**6**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	32
5:15 PM	**0**	**6**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**39**
5:30 PM	0	4	0	1	2	0	1	0	0	0	0	0	8	40
5:45 PM	0	1	0	3	2	0	0	0	3	0	0	0	9	37
Count Total	0	27	2	5	21	0	2	0	6	0	0	0	63	0
Peak Hour	**0**	**20**	**1**	**1**	**13**	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**39**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

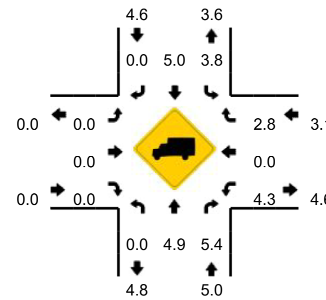
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

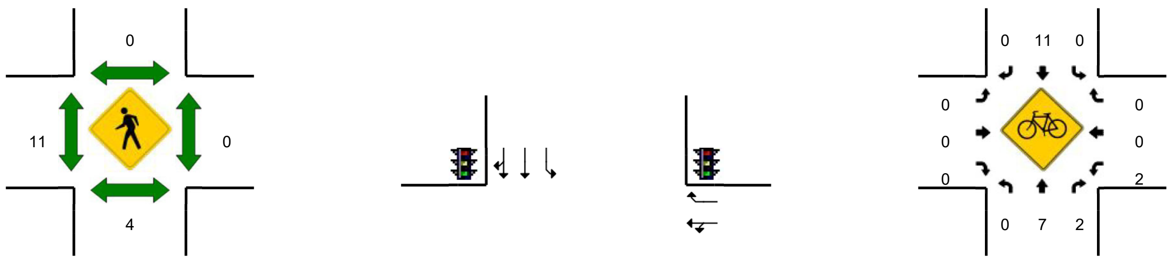
LOCATION: 1. Soquel Dr -- Soquel Ave | **QC JOB #:** 14646701

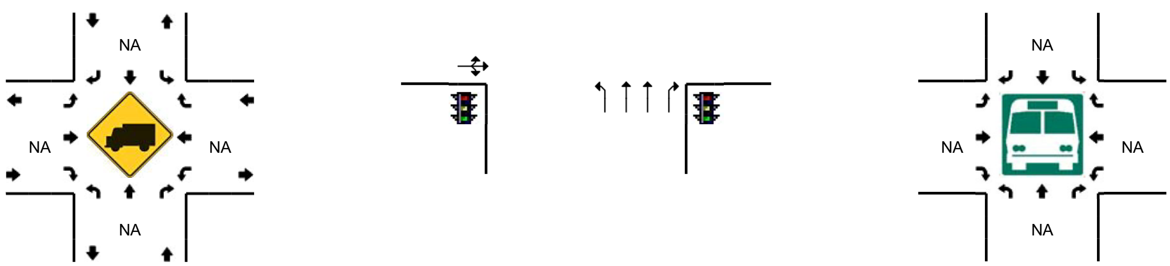
CITY/STATE: Santa Cruz, CA | **DATE:** Tue, Mar 06 2018



Peak-Hour: 7:40 AM -- 8:40 AM
Peak 15-Min: 7:55 AM -- 8:10 AM







5-Min Count Period Beginning At	1. Soquel Dr (Northbound) Left	Thru	Right	U	1. Soquel Dr (Southbound) Left	Thru	Right	U	Soquel Ave (Eastbound) Left	Thru	Right	U	Soquel Ave (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	0	25	14	0	18	33	0	0	0	0	0	0	9	0	59	0	158	
7:05 AM	0	18	17	0	20	33	0	0	0	0	0	0	10	0	66	0	164	
7:10 AM	0	23	20	0	14	31	0	0	0	0	0	0	10	0	47	0	145	
7:15 AM	0	31	17	0	17	34	0	0	0	0	0	0	12	0	48	0	159	
7:20 AM	0	19	20	0	13	44	0	0	0	0	0	0	10	0	72	0	178	
7:25 AM	0	30	27	0	21	41	0	0	0	0	0	0	7	0	80	0	206	
7:30 AM	0	47	29	0	19	32	0	0	0	0	0	0	10	0	65	0	202	
7:35 AM	0	34	21	0	23	35	0	0	0	0	0	0	16	0	76	0	205	
7:40 AM	0	46	25	0	37	48	0	0	0	0	0	0	13	0	83	0	252	
7:45 AM	0	45	32	0	42	60	0	0	0	0	0	0	14	0	71	0	264	
7:50 AM	0	61	26	0	24	50	0	0	0	0	0	0	17	0	81	0	259	
7:55 AM	2	61	38	0	29	56	0	0	0	0	0	0	22	1	84	0	293	2485
8:00 AM	1	45	25	0	21	57	0	0	0	0	0	0	20	0	84	0	253	2580
8:05 AM	2	68	36	0	23	58	1	0	0	0	1	0	14	0	69	0	272	2688
8:10 AM	0	61	25	0	23	53	0	0	0	0	1	0	21	0	73	0	257	2800
8:15 AM	0	61	28	0	28	39	0	0	1	0	0	0	22	0	72	0	251	2892
8:20 AM	0	64	29	0	22	33	1	0	0	0	0	0	24	0	74	0	247	2961
8:25 AM	1	34	32	0	19	71	3	0	0	0	0	0	22	0	82	0	264	3019
8:30 AM	0	44	33	0	21	53	0	0	0	0	0	0	23	1	80	0	255	3072
8:35 AM	0	47	25	0	24	42	1	0	0	0	0	0	18	0	83	0	240	3107
8:40 AM	1	41	18	0	26	64	0	0	0	0	3	0	16	0	76	0	245	3100
8:45 AM	0	57	35	0	15	50	0	0	0	0	0	0	23	1	77	0	258	3094
8:50 AM	0	49	19	0	20	35	1	0	0	0	0	0	12	1	70	0	207	3042
8:55 AM	2	42	32	0	30	39	0	0	0	0	1	0	20	0	79	0	245	2994

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	20	696	396	0	292	684	4	0	0	0	4	0	224	4	948	0	3272
Heavy Trucks	0	48	28		12	60	0		0	0	0		16	0	32		196
Pedestrians		4				0				8				0			12
Bicycles	0	1	1		0	4	0		0	0	0		0	0	0		6
Railroad																	
Stopped Buses																	

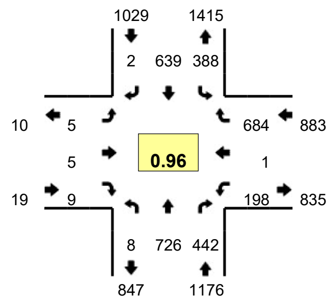
Comments:

Report generated on 3/15/2018 10:05 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

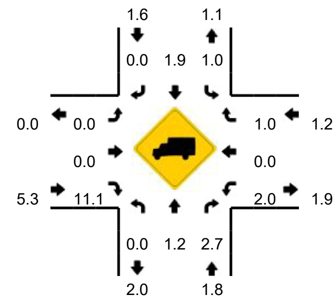
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

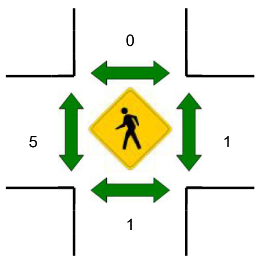
LOCATION: 1. Soquel Dr -- Soquel Ave | **QC JOB #:** 14646702

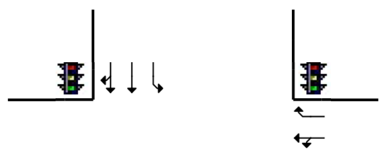
CITY/STATE: Santa Cruz, CA | **DATE:** Tue, Mar 06 2018

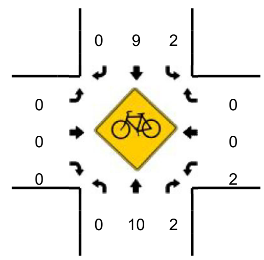


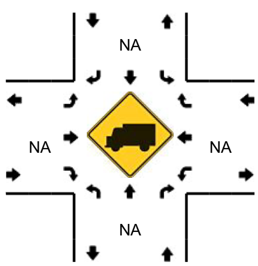
Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 4:40 PM -- 4:55 PM

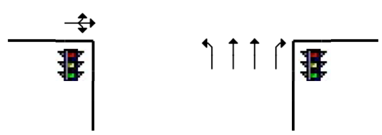


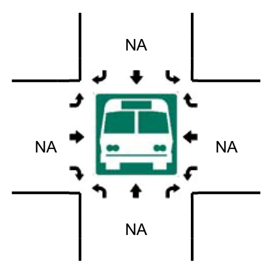












5-Min Count Period Beginning At	1. Soquel Dr (Northbound) Left	Thru	Right	U	1. Soquel Dr (Southbound) Left	Thru	Right	U	Soquel Ave (Eastbound) Left	Thru	Right	U	Soquel Ave (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	1	43	21	0	33	45	0	0	0	0	0	0	19	0	47	0	209	
4:05 PM	1	50	27	0	29	53	2	0	0	0	2	0	26	1	61	0	252	
4:10 PM	0	50	43	0	19	52	1	0	0	2	2	0	16	3	52	0	240	
4:15 PM	0	57	29	1	31	61	0	0	2	1	1	0	12	1	66	0	262	
4:20 PM	0	35	35	0	19	50	0	0	0	0	1	0	22	0	87	0	249	
4:25 PM	0	47	35	0	34	52	1	0	0	1	0	0	17	0	67	0	254	
4:30 PM	1	46	34	0	34	47	0	0	0	0	1	0	20	0	60	0	243	
4:35 PM	2	59	43	0	36	46	3	0	0	0	0	0	19	1	60	0	269	
4:40 PM	0	73	37	1	32	54	0	0	0	1	1	0	16	1	54	0	270	
4:45 PM	2	48	42	0	43	54	0	0	2	0	2	0	20	0	62	0	275	
4:50 PM	0	63	30	0	27	74	0	0	0	0	0	0	13	0	53	0	260	
4:55 PM	0	44	31	0	35	46	0	0	0	3	0	0	17	0	66	0	242	3025
5:00 PM	0	69	32	0	23	43	0	0	1	0	0	0	23	0	47	0	238	3054
5:05 PM	1	49	27	0	28	63	0	0	1	1	1	0	16	0	57	0	244	3046
5:10 PM	1	78	48	0	42	50	0	0	0	0	1	0	16	0	54	0	290	3096
5:15 PM	0	49	42	0	30	59	0	0	1	0	0	0	19	0	68	0	268	3102
5:20 PM	1	53	30	0	36	51	1	0	0	0	3	0	15	0	57	0	247	3100
5:25 PM	0	81	35	0	28	41	1	0	0	0	0	0	17	0	50	0	253	3099
5:30 PM	1	60	46	0	31	51	0	0	0	0	1	0	11	0	49	0	250	3106
5:35 PM	1	59	42	0	33	53	0	0	0	0	0	0	15	0	67	0	270	3107
5:40 PM	1	44	30	0	28	43	1	0	1	0	3	0	20	0	47	0	218	3055
5:45 PM	1	61	39	0	27	45	0	0	0	1	1	0	8	1	57	0	241	3021
5:50 PM	1	51	36	0	25	43	1	0	1	0	2	0	10	0	60	0	230	2991
5:55 PM	0	51	32	0	26	47	0	0	0	0	1	0	16	0	72	0	245	2994

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	8	736	436	4	408	728	0	0	8	4	12	0	196	4	676	0	3220
Heavy Trucks	0	12	16		12	12	0		0	0	4		4	0	16		76
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	3	0		0	0	0		0	0	0		3
Railroad																	
Stopped Buses																	

Comments:

Location: 2. Soquel Dr & Paul Sweet Rd/Commercial Way
Date: 3/6/2018
Site Code: 14646703

	Soquel Dr Southbound					Commercial Way Westbound					Soquel Dr Northbound					Hwy 1 WB On-Ramp Northeastbound					Paul Sweet Rd Eastbound				
Start Time	Right	Right to On-Ramp	Thru	Left	U-Turn	Right	Thru	Left to On-Ramp	Left	U-Turn	Right	Thru	Left	Left to On-Ramp	U-Turn						Right to On-Ramp	Right	Thru	Left	U-Turn
7:00 AM	0	18	14	0	0	3	2	8	29	0	26	37	9	0	0	0	0	0	0	0	5	1	0	3	0
7:05 AM	1	25	19	0	0	3	8	2	18	0	28	26	7	0	0	0	0	0	0	0	1	2	0	1	0
7:10 AM	2	20	10	0	0	3	3	7	25	0	42	25	4	0	0	0	0	0	0	0	3	6	0	3	0
7:15 AM	1	28	29	0	0	4	1	5	23	0	43	39	6	0	1	0	0	0	0	0	2	4	0	1	0
7:20 AM	0	26	20	0	0	4	10	8	32	0	30	38	5	0	1	0	0	0	0	0	1	5	0	3	0
7:25 AM	1	37	23	0	0	2	3	5	18	0	47	47	12	0	0	0	0	0	0	0	2	5	0	3	0
7:30 AM	2	25	24	0	0	3	9	4	36	0	44	45	12	0	0	0	0	0	0	0	5	6	0	6	0
7:35 AM	3	39	38	1	0	2	3	4	19	0	49	58	17	1	0	0	0	0	0	0	3	9	0	0	0
7:40 AM	2	63	51	0	0	2	10	3	33	0	50	60	12	0	0	0	0	0	0	0	3	3	0	4	0
7:45 AM	1	41	31	0	0	4	11	8	27	0	58	60	7	0	0	0	0	0	0	0	9	15	0	6	0
7:50 AM	1	49	34	0	0	2	3	4	21	0	48	95	20	0	0	0	0	0	0	0	8	4	0	9	0
7:55 AM	1	54	57	0	0	4	11	5	34	0	62	79	12	0	0	0	0	0	0	0	5	5	0	4	0
8:00 AM	3	48	48	1	0	2	6	4	25	0	42	86	16	0	0	0	0	0	0	0	2	9	0	3	0
8:05 AM	1	45	43	0	0	4	9	3	31	0	43	59	8	0	1	0	0	0	0	0	3	10	0	7	0
8:10 AM	3	44	32	0	0	3	6	4	23	0	45	65	12	0	0	0	0	0	0	0	4	4	0	6	0
8:15 AM	3	41	47	1	0	2	8	5	24	0	55	59	11	0	0	0	0	0	0	0	2	2	0	3	0
8:20 AM	0	31	31	0	0	4	7	3	39	0	47	54	9	0	0	0	0	0	0	0	5	8	0	12	0
8:25 AM	4	40	51	1	0	3	7	9	29	0	44	93	15	0	0	0	0	0	0	0	4	6	0	6	0
8:30 AM	5	59	58	0	0	3	3	4	30	0	50	64	13	1	0	0	0	0	0	0	3	7	0	5	0
8:35 AM	2	44	34	0	0	1	3	4	34	0	41	50	8	0	0	0	0	0	0	0	3	8	0	4	0
8:40 AM	2	52	39	0	0	2	1	2	15	0	42	83	13	0	0	0	0	0	0	0	2	9	0	7	0
8:45 AM	2	27	36	0	0	9	3	6	20	0	42	74	9	1	0	0	0	0	0	0	3	2	0	5	0
8:50 AM	2	52	32	0	0	4	5	6	23	0	53	58	3	1	0	0	0	0	0	0	1	7	0	8	0
8:55 AM	3	59	45	0	0	3	5	2	23	0	40	76	6	0	0	0	0	0	0	0	1	2	0	4	0
Total	**45**	**967**	**846**	**4**	**0**	**76**	**137**	**115**	**631**	**0**	**1071**	**1430**	**246**	**4**	**3**	**0**	**0**	**0**	**0**	**0**	**80**	**139**	**0**	**113**	**0**
Peak Hour To	27	554	521	4	0	35	84	56	335	0	593	832	152	2	1	0	0	0	0	0	51	82	0	65	0

Peak Hour: 7:35 AM - 8:35 AM
Peak 15: 7:50 AM - 8:05 AM
PHF: 0.916307

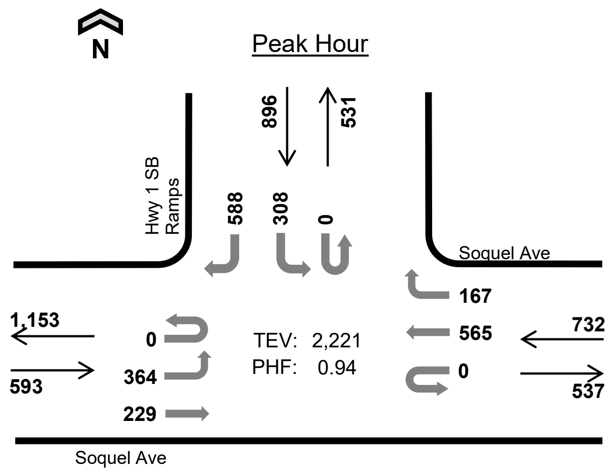
Location: 2. Soquel Dr & Paul Sweet Rd/Commercial Way
Date: 3/6/2018
Site Code: 14646704

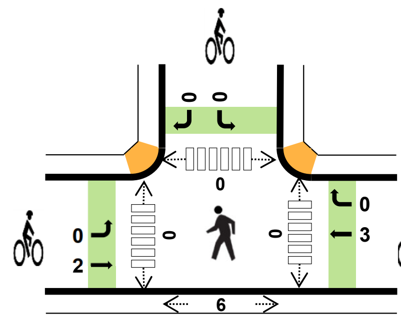
	Soquel Dr Southbound					Commercial Way Westbound					Soquel Dr Northbound					Hwy 1 WB On-Ramp Northeastbound					Paul Sweet Rd Eastbound				
Start Time	Right	Right to On-Ramp	Thru	Left	U-Turn	Right	Thru	Left to On-Ramp	Left	U-Turn	Right	Thru	Left	Left to On-Ramp	U-Turn						Right to On-Ramp	Right	Thru	Left	U-Turn
4:00 PM	2	46	48	0	0	7	0	2	18	0	30	73	5	0	1	0	0	0	0	0	10	10	0	14	0
4:05 PM	0	26	36	0	0	8	1	5	37	0	34	52	3	1	0	0	0	0	0	0	6	11	0	10	0
4:10 PM	2	42	48	0	0	2	3	1	21	0	32	83	2	0	0	0	0	0	0	0	6	8	0	14	0
4:15 PM	2	42	40	0	0	3	1	7	26	0	46	81	4	0	0	0	0	0	0	0	8	10	0	17	0
4:20 PM	1	41	33	1	0	8	3	3	34	0	33	82	4	0	1	0	0	0	0	0	8	14	0	12	0
4:25 PM	1	17	36	0	0	2	1	6	39	0	27	68	1	1	0	0	0	0	0	0	10	12	0	18	0
4:30 PM	2	32	37	0	0	5	0	13	36	0	23	76	3	1	1	0	0	0	0	0	8	17	0	13	0
4:35 PM	1	53	38	0	0	4	1	8	24	0	26	111	4	2	1	0	0	0	0	0	5	8	0	16	0
4:40 PM	2	49	51	0	0	4	0	12	23	0	38	73	2	0	0	0	0	0	0	0	5	14	0	16	0
4:45 PM	1	43	43	0	0	4	0	5	52	0	32	72	2	1	1	0	0	0	0	0	4	14	0	16	0
4:50 PM	2	47	40	0	0	6	3	5	33	0	35	87	5	1	1	0	0	0	0	0	12	9	0	5	0
4:55 PM	2	55	47	0	0	9	0	7	27	0	26	75	6	0	0	0	0	0	0	0	14	5	0	13	0
5:00 PM	0	47	50	1	0	1	1	10	21	0	43	64	3	0	0	0	0	0	0	0	8	12	0	13	0
5:05 PM	1	40	37	2	0	4	2	15	41	0	39	68	2	0	1	0	0	0	0	0	12	15	0	8	0
5:10 PM	1	42	47	0	0	4	3	9	28	0	32	95	1	0	1	0	0	0	0	0	15	19	0	12	0
5:15 PM	0	55	38	0	0	2	1	10	28	0	38	85	4	0	0	0	0	0	0	0	3	13	0	13	0
5:20 PM	1	35	38	0	0	4	2	11	39	0	37	69	1	0	0	0	0	0	0	0	4	11	0	11	0
5:25 PM	0	33	45	0	0	1	1	4	22	0	33	97	4	1	0	0	0	0	0	0	2	8	0	8	0
5:30 PM	1	35	29	0	0	4	1	14	38	0	31	64	4	0	0	0	0	0	0	0	3	12	0	20	0
5:35 PM	1	32	41	0	0	3	1	5	33	0	31	44	5	0	0	0	0	0	0	0	4	8	0	15	0
5:40 PM	3	43	36	0	0	2	2	5	31	0	30	70	3	0	1	0	0	0	0	0	3	6	0	13	0
5:45 PM	1	30	35	0	0	3	2	4	31	0	28	84	1	1	0	0	0	0	0	0	8	6	0	11	0
5:50 PM	0	26	28	0	0	7	1	5	22	0	32	65	6	1	0	0	0	0	0	0	2	14	0	10	0
5:55 PM	2	30	41	0	0	2	2	1	22	0	24	105	3	0	0	0	0	0	0	0	2	1	0	8	0
Total	**29**	**941**	**962**	**4**	**0**	**99**	**32**	**167**	**726**	**0**	**780**	**1843**	**78**	**10**	**9**	**0**	**0**	**0**	**0**	**0**	**162**	**257**	**0**	**306**	**0**

Peak Hour: 4:30 PM - 5:30 PM
Peak 15: 5:05 PM - 5:20 PM
PHF: 0.961343

Hwy 1 SB Ramps
Soquel Ave

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV %:	PHF
EB	2.7%	0.82
WB	1.6%	0.99
NB	-	-
SB	3.0%	0.97
TOTAL	2.5%	0.94

Two-Hour Count Summaries

Interval Start		Soquel Ave Eastbound UT	LT	TH	RT	Soquel Ave Westbound UT	LT	TH	RT	0 Northbound UT	LT	TH	RT	Hwy 1 SB Ramps Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM		0	64	28	0	0	0	87	39	0	0	0	0	0	37	0	86	341	0
7:15 AM		0	63	38	0	0	0	145	31	0	0	0	0	0	39	0	108	424	0
7:30 AM		0	86	59	0	0	0	125	47	0	0	0	0	0	59	0	144	520	0
7:45 AM		0	114	54	0	0	0	138	39	0	0	0	0	0	68	0	133	546	1,831
8:00 AM		**0**	**96**	**51**	**0**	**0**	**0**	**136**	**49**	**0**	**0**	**0**	**0**	**0**	**79**	**0**	**140**	**551**	2,041
8:15 AM		**0**	**99**	**81**	**0**	**0**	**0**	**144**	**38**	**0**	**0**	**0**	**0**	**0**	**72**	**0**	**155**	**589**	2,206
8:30 AM		**0**	**81**	**52**	**0**	**0**	**0**	**148**	**33**	**0**	**0**	**0**	**0**	**0**	**71**	**0**	**149**	**534**	2,220
8:45 AM		**0**	**88**	**45**	**0**	**0**	**0**	**137**	**47**	**0**	**0**	**0**	**0**	**0**	**86**	**0**	**144**	**547**	**2,221**
Count Total		0	691	408	0	0	0	1,060	323	0	0	0	0	0	511	0	1,059	4,052	0
Peak Hour	**All**	**0**	**364**	**229**	**0**	**0**	**0**	**565**	**167**	**0**	**0**	**0**	**0**	**0**	**308**	**0**	**588**	**2,221**	**0**
	HV	**0**	**10**	**6**	**0**	**0**	**0**	**9**	**3**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**21**	**55**	**0**
	HV%	**-**	**3%**	**3%**	**-**	**-**	**-**	**2%**	**2%**	**-**	**-**	**-**	**-**	**-**	**2%**	**-**	**4%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	1	1	0	1	*3*	1	0	0	0	*1*	0	0	0	4	*4*
7:15 AM	3	2	0	2	*7*	2	0	0	0	*2*	0	0	0	3	*3*
7:30 AM	2	0	0	5	*7*	1	0	0	0	*1*	0	0	0	3	*3*
7:45 AM	1	3	0	6	*10*	1	0	0	0	*1*	0	0	0	2	*2*
8:00 AM	**4**	**1**	**0**	**10**	***15***	**1**	**2**	**0**	**0**	***3***	**0**	**0**	**0**	**2**	*2*
8:15 AM	**9**	**2**	**0**	**5**	***16***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**2**	*2*
8:30 AM	**2**	**3**	**0**	**7**	***12***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**1**	*1*
8:45 AM	**1**	**6**	**0**	**5**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
Count Total	23	18	0	41	*82*	7	3	0	0	*10*	0	0	0	18	*18*
Peak Hr	**16**	**12**	**0**	**27**	***55***	**2**	**3**	**0**	**0**	***5***	**0**	**0**	**0**	**6**	***6***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Soquel Ave				Soquel Ave				0				Hwy 1 SB Ramps				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	3	0
7:15 AM	0	2	1	0	0	0	2	0	0	0	0	0	0	2	0	0	7	0
7:30 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	4	7	0
7:45 AM	0	1	0	0	0	0	3	0	0	0	0	0	0	1	0	5	10	27
8:00 AM	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**8**	**15**	39
8:15 AM	**0**	**4**	**5**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**3**	**16**	48
8:30 AM	**0**	**2**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**6**	**12**	53
8:45 AM	**0**	**1**	**0**	**0**	**0**	**0**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	**12**	**55**
Count Total	0	14	9	0	0	0	14	4	0	0	0	0	0	10	0	31	82	0
Peak Hour	**0**	**10**	**6**	**0**	**0**	**0**	**9**	**3**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**21**	**55**	**0**

Two-Hour Count Summaries - Bikes

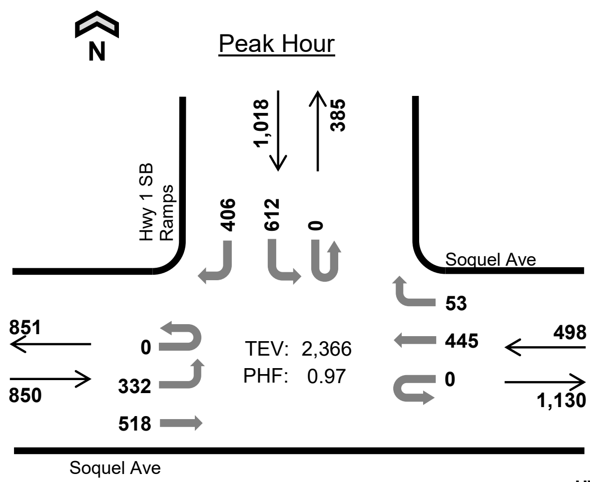
Interval Start	Soquel Ave			Soquel Ave			0			Hwy 1 SB Ramps			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	2	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	5
8:00 AM	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	7
8:15 AM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	6
8:30 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	6
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**
Count Total	0	7	0	0	3	0	0	0	0	0	0	0	10	0
Peak Hour	**0**	**2**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**

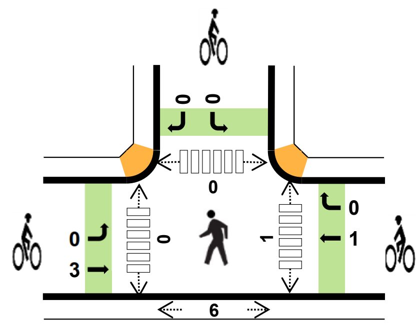
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Hwy 1 SB Ramps
Soquel Ave

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM

Peak Hour





	HV %:	PHF
EB	0.9%	0.87
WB	1.8%	0.93
NB	-	-
SB	1.3%	0.94
TOTAL	1.3%	0.97

Two-Hour Count Summaries

Interval Start		Soquel Ave Eastbound UT	LT	TH	RT	Soquel Ave Westbound UT	LT	TH	RT	0 Northbound UT	LT	TH	RT	Hwy 1 SB Ramps Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM		0	88	114	0	0	0	122	12	0	0	0	0	0	143	0	102	581	0
4:15 PM		0	101	143	0	0	0	97	19	0	0	0	0	0	165	0	79	604	0
4:30 PM		0	81	136	0	0	0	114	11	0	0	0	0	0	150	0	120	612	0
4:45 PM		0	62	125	0	0	0	112	11	0	0	0	0	0	154	0	105	569	2,366
5:00 PM		0	72	145	0	0	0	112	10	0	0	0	0	0	144	0	89	572	2,357
5:15 PM		0	82	136	0	0	0	115	14	0	0	0	0	0	160	0	93	600	2,353
5:30 PM		0	65	126	0	0	0	78	19	0	0	0	0	0	182	0	125	595	2,336
5:45 PM		0	59	92	0	0	0	105	11	0	0	0	0	0	160	0	114	541	2,308
Count Total		0	610	1,017	0	0	0	855	107	0	0	0	0	0	1,258	0	827	4,674	0
Peak Hour	All	0	332	518	0	0	0	445	53	0	0	0	0	0	612	0	406	2,366	0
	HV	0	2	6	0	0	0	9	0	0	0	0	0	0	4	0	9	30	0
	HV%	-	1%	1%	-	-	-	2%	0%	-	-	-	-	-	1%	-	2%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	3	3	0	5	*11*	0	0	0	0	*0*	1	0	0	1	*2*
4:15 PM	1	2	0	4	*7*	1	0	0	0	*1*	0	0	0	2	*2*
4:30 PM	2	2	0	1	*5*	1	1	0	0	*2*	0	0	0	1	*1*
4:45 PM	2	2	0	3	*7*	1	0	0	0	*1*	0	0	0	2	*2*
5:00 PM	1	0	0	1	*2*	1	1	0	0	*2*	0	0	0	3	*3*
5:15 PM	1	0	0	1	*2*	1	1	0	0	*2*	0	0	0	2	*2*
5:30 PM	0	2	0	0	*2*	1	0	0	0	*1*	0	0	0	3	*3*
5:45 PM	0	0	0	3	*3*	1	0	0	0	*1*	0	0	0	0	*0*
Count Total	10	11	0	18	*39*	7	3	0	0	*10*	1	0	0	14	*15*
Peak Hr	8	9	0	13	*30*	3	1	0	0	*4*	1	0	0	6	*7*

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Soquel Ave				Soquel Ave				0				Hwy 1 SB Ramps				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**1**	**2**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**3**	**11**	0
4:15 PM	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**7**	0
4:30 PM	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**5**	0
4:45 PM	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**7**	**30**
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	21
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	16
5:30 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	13
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3	9
Count Total	0	3	7	0	0	0	10	1	0	0	0	0	0	6	0	12	39	0
Peak Hour	**0**	**2**	**6**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**9**	**30**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Soquel Ave			Soquel Ave			0			Hwy 1 SB Ramps			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
4:30 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0
4:45 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	6
5:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	7
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	6
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	6
Count Total	0	7	0	0	3	0	0	0	0	0	0	0	10	0
Peak Hour	**0**	**3**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**

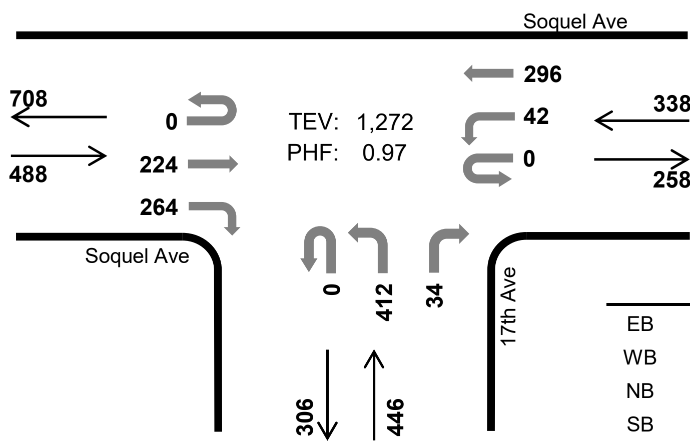
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

17th Ave
Soquel Ave

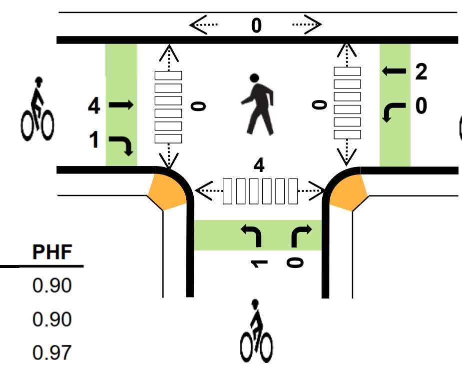
N

Peak Hour

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	1.8%	0.90
WB	1.2%	0.90
NB	2.0%	0.97
SB	-	-
TOTAL	1.7%	0.97



Two-Hour Count Summaries

Interval Start	Soquel Ave Eastbound UT	LT	TH	RT	Soquel Ave Westbound UT	LT	TH	RT	17th Ave Northbound UT	LT	TH	RT	0 Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	31	30	0	8	56	0	0	76	0	10	0	0	0	0	211	0
7:15 AM	0	0	24	45	0	13	70	0	0	98	0	6	0	0	0	0	256	0
7:30 AM	0	0	33	56	0	10	64	0	0	121	0	5	0	0	0	0	289	0
7:45 AM	0	0	51	59	0	11	75	0	0	89	0	4	0	0	0	0	289	1,045
8:00 AM	**0**	**0**	**67**	**52**	**0**	**12**	**82**	**0**	**0**	**104**	**0**	**11**	**0**	**0**	**0**	**0**	**328**	1,162
8:15 AM	**0**	**0**	**56**	**79**	**0**	**9**	**67**	**0**	**0**	**107**	**0**	**8**	**0**	**0**	**0**	**0**	**326**	1,232
8:30 AM	**0**	**0**	**47**	**69**	**0**	**11**	**75**	**0**	**0**	**98**	**0**	**6**	**0**	**0**	**0**	**0**	**306**	1,249
8:45 AM	**0**	**0**	**54**	**64**	**0**	**10**	**72**	**0**	**0**	**103**	**0**	**9**	**0**	**0**	**0**	**0**	**312**	**1,272**
Count Total	0	0	363	454	0	84	561	0	0	796	0	59	0	0	0	0	2,317	0
Peak Hour All	**0**	**0**	**224**	**264**	**0**	**42**	**296**	**0**	**0**	**412**	**0**	**34**	**0**	**0**	**0**	**0**	**1,272**	**0**
Peak Hour HV	**0**	**0**	**3**	**6**	**0**	**0**	**4**	**0**	**0**	**8**	**0**	**1**	**0**	**0**	**0**	**0**	**22**	**0**
Peak Hour HV%	**-**	**-**	**1%**	**2%**	**-**	**0%**	**1%**	**-**	**-**	**2%**	**-**	**3%**	**-**	**-**	**-**	**-**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	1	0	2	0	*3*	1	0	0	0	*1*	0	0	0	1	*1*
7:15 AM	3	1	0	0	*4*	3	0	0	0	*3*	0	0	0	1	*1*
7:30 AM	3	1	0	0	*4*	2	0	0	0	*2*	0	0	0	3	*3*
7:45 AM	2	2	2	0	*6*	1	0	1	0	*2*	0	0	0	0	*0*
8:00 AM	**2**	**0**	**2**	**0**	***4***	**2**	**2**	**1**	**0**	***5***	**0**	**0**	**0**	**3**	*3*
8:15 AM	**5**	**1**	**2**	**0**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:30 AM	**1**	**2**	**2**	**0**	***5***	**2**	**0**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	*0*
8:45 AM	**1**	**1**	**3**	**0**	***5***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**1**	***1***
Count Total	18	8	13	0	*39*	12	2	2	0	*16*	0	0	0	9	*9*
Peak Hr	**9**	**4**	**9**	**0**	***22***	**5**	**2**	**1**	**0**	***8***	**0**	**0**	**0**	**4**	***4***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Soquel Ave				Soquel Ave				17th Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	3	0
7:15 AM	0	0	1	2	0	0	1	0	0	0	0	0	0	0	0	0	4	0
7:30 AM	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	4	0
7:45 AM	0	0	1	1	0	2	0	0	0	2	0	0	0	0	0	0	6	17
8:00 AM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	18
8:15 AM	**0**	**0**	**1**	**4**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	22
8:30 AM	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	23
8:45 AM	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**22**
Count Total	0	0	5	13	0	3	5	0	0	11	0	2	0	0	0	0	39	0
Peak Hour	**0**	**0**	**3**	**6**	**0**	**0**	**4**	**0**	**0**	**8**	**0**	**1**	**0**	**0**	**0**	**0**	**22**	**0**

Two-Hour Count Summaries - Bikes

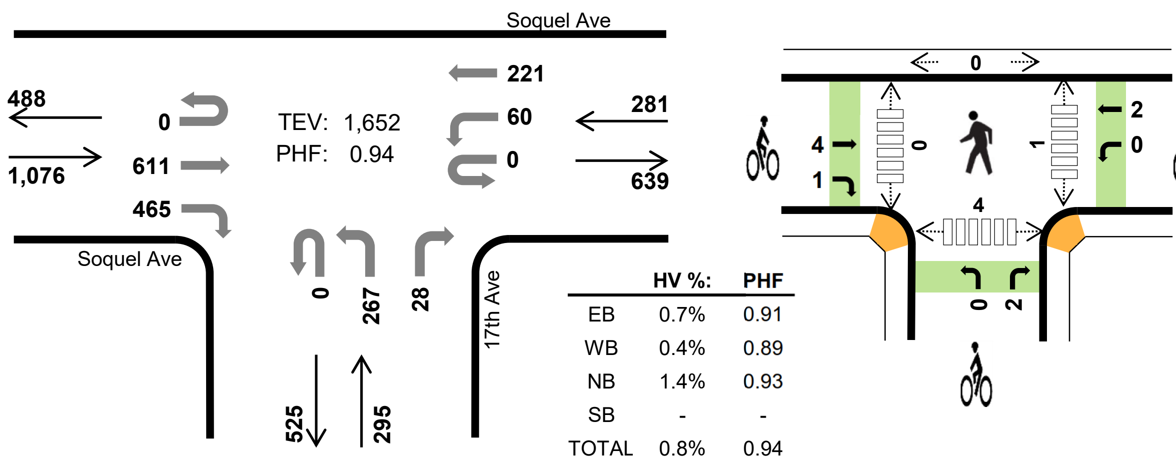
Interval Start	Soquel Ave			Soquel Ave			17th Ave			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	1	2	0	0	0	0	0	0	0	0	0	3	0
7:30 AM	0	1	1	0	0	0	0	0	0	0	0	0	2	0
7:45 AM	0	1	0	0	0	0	1	0	0	0	0	0	2	8
8:00 AM	**0**	**1**	**1**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**5**	12
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	9
8:30 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	9
8:45 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**8**
Count Total	0	8	4	0	2	0	2	0	0	0	0	0	16	0
Peak Hour	**0**	**4**	**1**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**8**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

17th Ave
Soquel Ave

Peak Hour

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



Two-Hour Count Summaries

Interval Start	Soquel Ave Eastbound UT	LT	TH	RT	Soquel Ave Westbound UT	LT	TH	RT	17th Ave Northbound UT	LT	TH	RT	0 Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	144	114	0	13	57	0	0	68	0	6	0	0	0	0	402	0
4:15 PM	**0**	**0**	**163**	**134**	**0**	**11**	**68**	**0**	**0**	**57**	**0**	**7**	**0**	**0**	**0**	**0**	**440**	0
4:30 PM	**0**	**0**	**157**	**87**	**0**	**18**	**56**	**0**	**0**	**66**	**0**	**8**	**0**	**0**	**0**	**0**	**392**	0
4:45 PM	**0**	**0**	**135**	**122**	**0**	**17**	**41**	**0**	**0**	**72**	**0**	**7**	**0**	**0**	**0**	**0**	**394**	1,628
5:00 PM	**0**	**0**	**156**	**122**	**0**	**14**	**56**	**0**	**0**	**72**	**0**	**6**	**0**	**0**	**0**	**0**	**426**	**1,652**
5:15 PM	0	0	161	126	0	14	56	0	0	61	0	5	0	0	0	0	423	1,635
5:30 PM	0	0	158	130	0	7	36	0	0	56	0	7	0	0	0	0	394	1,637
5:45 PM	0	0	129	116	0	13	45	0	0	64	0	8	0	0	0	0	375	1,618
Count Total	0	0	1,203	951	0	107	415	0	0	516	0	54	0	0	0	0	3,246	0
Peak Hour All	**0**	**0**	**611**	**465**	**0**	**60**	**221**	**0**	**0**	**267**	**0**	**28**	**0**	**0**	**0**	**0**	**1,652**	**0**
Peak Hour HV	**0**	**0**	**6**	**2**	**0**	**0**	**1**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**0**
Peak Hour HV%	**-**	**-**	**1%**	**0%**	**-**	**0%**	**0%**	**-**	**-**	**1%**	**-**	**0%**	**-**	**-**	**-**	**-**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	3	0	2	0	*5*	0	0	0	0	*0*	0	0	0	1	*1*
4:15 PM	**2**	**0**	**1**	**0**	***3***	**1**	**1**	**0**	**0**	***2***	**1**	**0**	**0**	**0**	*1*
4:30 PM	**3**	**1**	**1**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
4:45 PM	**2**	**0**	**2**	**0**	***4***	**3**	**0**	**1**	**0**	***4***	**0**	**0**	**0**	**1**	*1*
5:00 PM	**1**	**0**	**0**	**0**	***1***	**1**	**1**	**1**	**0**	***3***	**0**	**0**	**0**	**2**	***2***
5:15 PM	1	1	0	0	*2*	1	0	0	0	*1*	0	0	0	0	*0*
5:30 PM	1	1	0	0	*2*	0	0	1	0	*1*	0	0	0	4	*4*
5:45 PM	2	0	0	0	*2*	2	0	0	0	*2*	0	0	0	2	*2*
Count Total	15	3	6	0	*24*	8	2	3	0	*13*	1	0	0	11	*12*
Peak Hr	**8**	**1**	**4**	**0**	***13***	**5**	**2**	**2**	**0**	***9***	**1**	**0**	**0**	**4**	***5***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Soquel Ave				Soquel Ave				17th Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	1	0	0	0	0	0	2	0	0	0	0	0	0	5	0
4:15 PM	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	0
4:30 PM	**0**	**0**	**2**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	0
4:45 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	17
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**13**
5:15 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	12
5:30 PM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	9
5:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	7
Count Total	0	0	10	5	0	1	2	0	0	6	0	0	0	0	0	0	24	0
Peak Hour	**0**	**0**	**6**	**2**	**0**	**0**	**1**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Soquel Ave			Soquel Ave			17th Ave			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**4**	6
5:00 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**9**
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	8
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	9
5:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	2	7
Count Total	0	7	1	0	2	0	1	0	2	0	0	0	13	0
Peak Hour	**0**	**4**	**1**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**9**	**0**

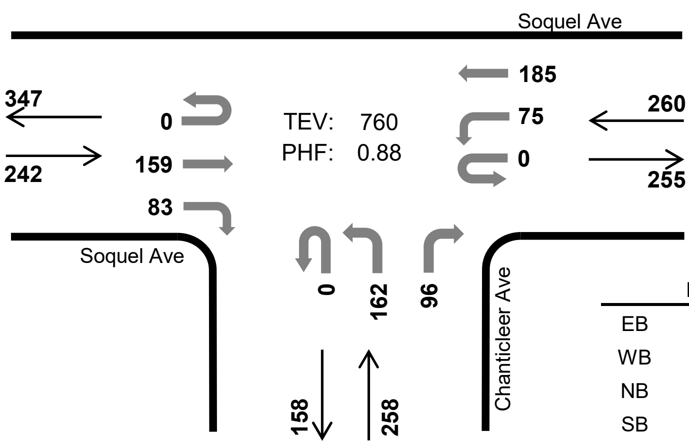
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Chanticleer Ave
Soquel Ave

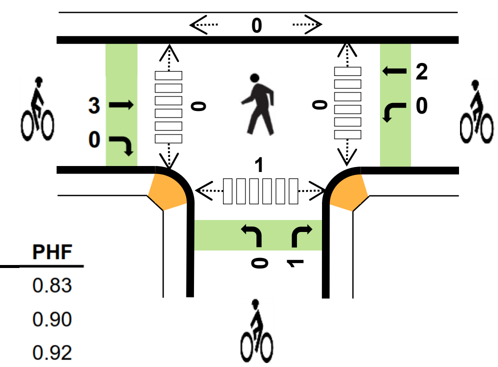
N

Peak Hour

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	2.5%	0.83
WB	1.5%	0.90
NB	0.4%	0.92
SB	-	-
TOTAL	1.4%	0.88



Two-Hour Count Summaries

Interval Start		Soquel Ave Eastbound UT	LT	TH	RT	Soquel Ave Westbound UT	LT	TH	RT	Chanticleer Ave Northbound UT	LT	TH	RT	0 Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM		0	0	28	10	0	7	35	0	0	31	0	10	0	0	0	0	121	0
7:15 AM		0	0	18	9	0	23	45	0	0	39	0	14	0	0	0	0	148	0
7:30 AM		0	0	27	13	0	14	43	0	0	35	0	27	0	0	0	0	159	0
7:45 AM		**0**	**0**	**31**	**19**	**0**	**20**	**51**	**0**	**0**	**37**	**0**	**32**	**0**	**0**	**0**	**0**	**190**	618
8:00 AM		**0**	**0**	**49**	**24**	**0**	**20**	**52**	**0**	**0**	**44**	**0**	**26**	**0**	**0**	**0**	**0**	**215**	712
8:15 AM		**0**	**0**	**47**	**23**	**0**	**24**	**39**	**0**	**0**	**37**	**0**	**20**	**0**	**0**	**0**	**0**	**190**	754
8:30 AM		**0**	**0**	**32**	**17**	**0**	**11**	**43**	**0**	**0**	**44**	**0**	**18**	**0**	**0**	**0**	**0**	**165**	**760**
8:45 AM		0	0	48	16	0	14	50	0	0	34	0	20	0	0	0	0	182	752
Count Total		0	0	280	131	0	133	358	0	0	301	0	167	0	0	0	0	1,370	0
Peak Hour	**All**	**0**	**0**	**159**	**83**	**0**	**75**	**185**	**0**	**0**	**162**	**0**	**96**	**0**	**0**	**0**	**0**	**760**	**0**
	HV	**0**	**0**	**4**	**2**	**0**	**0**	**4**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**
	HV%	**-**	**-**	**3%**	**2%**	**-**	**0%**	**2%**	**-**	**-**	**1%**	**-**	**0%**	**-**	**-**	**-**	**-**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	1	0	0	0	*1*	1	0	0	0	*1*	0	0	0	0	*0*
7:15 AM	1	0	1	0	*2*	1	0	0	0	*1*	0	0	0	0	*0*
7:30 AM	0	3	0	0	*3*	2	0	1	0	*3*	0	0	0	2	*2*
7:45 AM	**0**	**2**	**0**	**0**	***2***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**4**	**0**	**0**	**0**	***4***	**0**	**2**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**2**	**0**	**1**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
8:30 AM	**0**	**2**	**0**	**0**	***2***	**2**	**0**	**1**	**0**	***3***	**0**	**0**	**0**	**0**	***0***
8:45 AM	0	0	1	0	*1*	1	1	0	0	*2*	0	0	1	0	*1*
Count Total	8	7	3	0	*18*	8	3	2	0	*13*	0	0	1	3	*4*
Peak Hr	**6**	**4**	**1**	**0**	***11***	**3**	**2**	**1**	**0**	***6***	**0**	**0**	**0**	**1**	***1***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Soquel Ave				Soquel Ave				Chanticleer Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0
7:30 AM	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	8
8:00 AM	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	11
8:15 AM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	12
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**11**
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	10
Count Total	0	0	6	2	0	1	6	0	0	3	0	0	0	0	0	0	18	0
Peak Hour	**0**	**0**	**4**	**2**	**0**	**0**	**4**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Soquel Ave			Soquel Ave			Chanticleer Ave			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	2	0	0	0	0	0	0	1	0	0	0	3	0
7:45 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	6
8:00 AM	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	7
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	6
8:30 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**6**
8:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	2	7
Count Total	0	8	0	0	3	0	0	0	2	0	0	0	13	0
Peak Hour	**0**	**3**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**6**	**0**

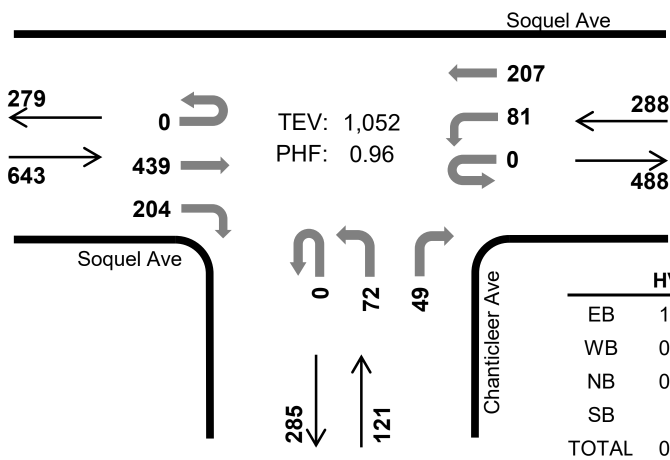
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Chanticleer Ave
Soquel Ave

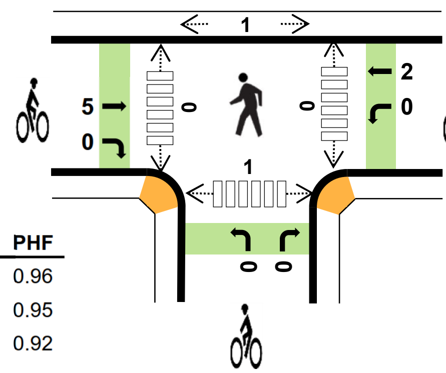
N

Peak Hour

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	1.1%	0.96
WB	0.0%	0.95
NB	0.0%	0.92
SB	-	-
TOTAL	0.7%	0.96



Two-Hour Count Summaries

Interval Start	Soquel Ave Eastbound UT	LT	TH	RT	Soquel Ave Westbound UT	LT	TH	RT	Chanticleer Ave Northbound UT	LT	TH	RT	0 Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	108	41	0	24	51	0	0	20	0	20	0	0	0	0	264	0
4:15 PM	**0**	**0**	**106**	**62**	**0**	**19**	**55**	**0**	**0**	**23**	**0**	**10**	**0**	**0**	**0**	**0**	**275**	0
4:30 PM	**0**	**0**	**121**	**45**	**0**	**20**	**56**	**0**	**0**	**14**	**0**	**14**	**0**	**0**	**0**	**0**	**270**	0
4:45 PM	**0**	**0**	**97**	**45**	**0**	**20**	**44**	**0**	**0**	**17**	**0**	**15**	**0**	**0**	**0**	**0**	**238**	1,047
5:00 PM	**0**	**0**	**115**	**52**	**0**	**22**	**52**	**0**	**0**	**18**	**0**	**10**	**0**	**0**	**0**	**0**	**269**	**1,052**
5:15 PM	0	0	102	61	0	22	48	0	0	21	0	7	0	0	0	0	261	1,038
5:30 PM	0	0	107	63	0	16	28	0	0	17	0	7	0	0	0	0	238	1,006
5:45 PM	0	0	92	49	0	21	31	0	0	24	0	2	0	0	0	0	219	987
Count Total	0	0	848	418	0	164	365	0	0	154	0	85	0	0	0	0	2,034	0
Peak Hour All	**0**	**0**	**439**	**204**	**0**	**81**	**207**	**0**	**0**	**72**	**0**	**49**	**0**	**0**	**0**	**0**	**1,052**	**0**
Peak Hour HV	**0**	**0**	**5**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**
Peak Hour HV%	**-**	**-**	**1%**	**1%**	**-**	**0%**	**0%**	**-**	**-**	**0%**	**-**	**0%**	**-**	**-**	**-**	**-**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	3	2	0	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	**1**	**0**	**0**	**0**	***1***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**1**	**0**	*1*
4:30 PM	**2**	**0**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**2**	**0**	**0**	**0**	***2***	**4**	**0**	**0**	**0**	***4***	**0**	**0**	**0**	**1**	*1*
5:00 PM	**2**	**0**	**0**	**0**	***2***	**1**	**1**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***
5:15 PM	1	1	0	0	*2*	1	0	1	0	*2*	0	0	0	0	*0*
5:30 PM	1	2	0	0	*3*	0	1	0	0	*1*	0	0	0	0	*0*
5:45 PM	1	1	0	0	*2*	4	0	0	0	*4*	0	0	0	1	*1*
Count Total	13	6	0	0	*19*	10	3	1	0	*14*	0	0	1	2	*3*
Peak Hr	**7**	**0**	**0**	**0**	***7***	**5**	**2**	**0**	**0**	***7***	**0**	**0**	**1**	**1**	***2***

Project Manager: (415) 310-6469

project.manager.ca@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Soquel Ave				Soquel Ave				Chanticleer Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	1	0	1	1	0	0	0	0	0	0	0	0	0	5	0
4:15 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
4:30 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0
4:45 PM	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	10
5:00 PM	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**7**
5:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	8
5:30 PM	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	3	9
5:45 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	9
Count Total	0	0	8	5	0	3	3	0	0	0	0	0	0	0	0	0	19	0
Peak Hour	**0**	**0**	**5**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Soquel Ave			Soquel Ave			Chanticleer Ave			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	5
5:00 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**7**
5:15 PM	0	1	0	0	0	0	1	0	0	0	0	0	2	8
5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	9
5:45 PM	0	4	0	0	0	0	0	0	0	0	0	0	4	9
Count Total	0	10	0	1	2	0	1	0	0	0	0	0	14	0
Peak Hour	**0**	**5**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Prepared by National Data & Surveying Services

Site Dwy & Soquel Ave

Peak Hour Turning Movement Count

ID: 18-08275-007
City: Santa Cruz

Day: Thursday
Date: 05/17/2018

	PEAK HOURS	COUNT PERIODS
AM	07:45 AM - 08:45 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

Site Dwy — SOUTHBOUND

	Right	Through	Left	U-Turn	Departing
AM	0	0	0	0	0
NOON	0	0	0	0	0
PM	0	0	0	0	0
Bikes	0	0	0	0	

Soquel Ave — EASTBOUND

	AM	NOON	PM	Bikes
Departing	324	0	293	
U-Turn	0	0	0	0
Left	0	0	0	0
Through	239	0	559	1
Right	8	0	6	0

Soquel Ave — WESTBOUND

	PM	NOON	AM	Bikes
Right	0	0	0	0
Through	286	0	315	1
Left	2	0	9	0
U-Turn	0	0	0	0
Departing	561	0	246	

Site Dwy — NORTHBOUND

	Departing	U-Turn	Left	Through	Right
Bikes		0	0	1	0
PM	8	0	7	0	2
NOON	0	0	0	0	0
AM	17	0	9	0	7

CONTROL

No Control

	AM	NOON	PM
TEV	587	0	862
PHF	0.87		0.90

Cars (AM)

Approach	Values
Southbound	0 0 0
Eastbound	0, 231, 7
Westbound	0, 309, 9
Northbound	6 0 5

HT (AM)

Approach	Values
Southbound	0 0 0
Eastbound	0, 8, 1
Westbound	0, 6, 0
Northbound	0 0 2

Cars (NOON)

Approach	Values
Southbound	N/A N/A N/A
Eastbound	N/A, N/A, N/A
Westbound	N/A, N/A, N/A
Northbound	N/A N/A N/A

HT (NOON)

Approach	Values
Southbound	N/A N/A N/A
Eastbound	N/A, N/A, N/A
Westbound	N/A, N/A, N/A
Northbound	N/A N/A N/A

Cars (PM)

Approach	Values
Southbound	0 0 0
Eastbound	0, 554, 6
Westbound	0, 279, 2
Northbound	6 0 2

HT (PM)

Approach	Values
Southbound	0 0 0
Eastbound	0, 5, 0
Westbound	0, 7, 0
Northbound	1 0 0

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North (west half)	0	0	0
North (east half)	0	0	0
West (north half)	0	0	0
West (south half)	0	0	0
East (north half)	0	0	0
East (south half)	0	0	0
South (west half)	3	0	1
South (east half)	0	0	0
NW corner diagonal	0	0	0
NE corner diagonal	0	0	0
SW corner diagonal	0	0	0
SE corner diagonal	0	0	0

Prepared by National Data & Surveying Services

40th Ave & Gross Rd

Peak Hour Turning Movement Count

ID: 18-08275-003
City: Santa Cruz

Day: Thursday
Date: 05/17/2018

	PEAK HOURS	COUNT PERIODS
AM	07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

40th Ave — SOUTHBOUND

	↲	↓	↳	U	⇧
AM	4	0	247	0	339
NOON	0	0	0	0	0
PM	2	3	253	0	235
Lanes	0	1	0	0	

Gross Rd — EASTBOUND

	AM	NOON	PM	Lanes
⇦	30	0	41	
U	0	0	0	0
↰	6	0	3	0
→	92	0	235	1
↴	0	0	3	0

Gross Rd — WESTBOUND

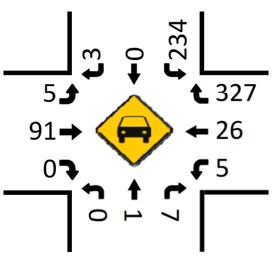
Lanes		PM	NOON	AM
1	↰	231	0	332
1	←	37	0	26
0	↲	3	0	5
0	U	0	0	0
	⇨	492	0	346

40th Ave — NORTHBOUND

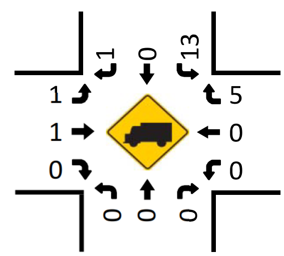
	⇩	U	↰	↑	↱
Lanes		0	0	1	0
PM	9	0	2	1	4
NOON	0	0	0	0	0
AM	5	0	0	1	7

CONTROL			
4-Way Stop			
TEV	720 AM	0 NOON	777 PM
PHF	0.91		0.96

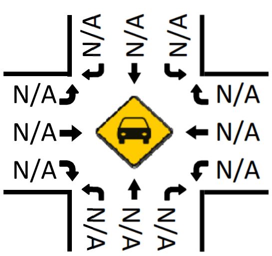
Cars (AM)



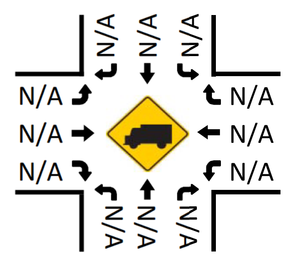
HT (AM)



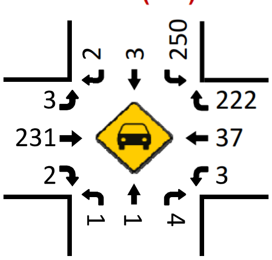
Cars (NOON)



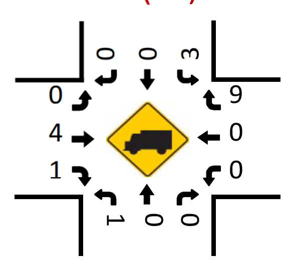
HT (NOON)



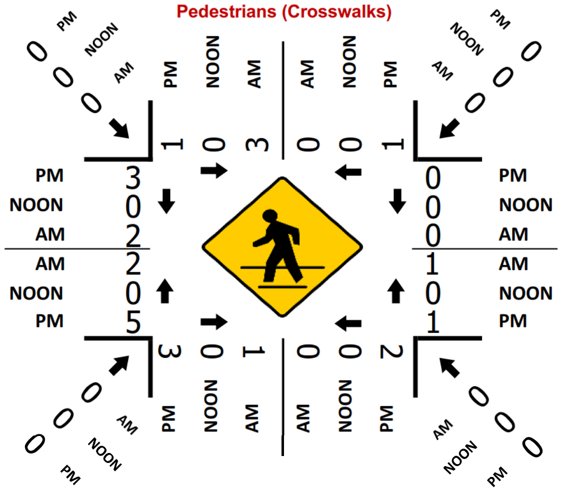
Cars (PM)



HT (PM)



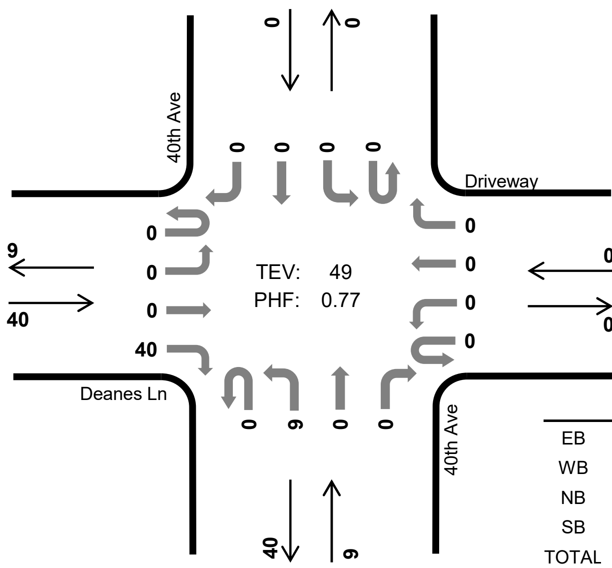
Pedestrians (Crosswalks)



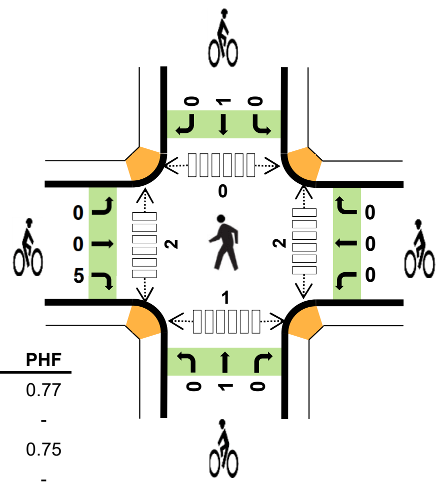
40th Ave
Deanes Ln

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM

Peak Hour



	HV %:	PHF
EB	0.0%	0.77
WB	-	-
NB	0.0%	0.75
SB	-	-
TOTAL	0.0%	0.77



Two-Hour Count Summaries

Interval Start	Deanes Ln Eastbound UT	LT	TH	RT	Driveway Westbound UT	LT	TH	RT	40th Ave Northbound UT	LT	TH	RT	40th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	0	2	0	0	0	0	1	2	0	0	0	0	0	0	5	0
7:15 AM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0
7:30 AM	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	0
7:45 AM	**0**	**0**	**0**	**13**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	37
8:00 AM	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	46
8:15 AM	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**49**
8:30 AM	0	0	0	5	0	0	0	0	1	4	0	0	0	0	0	0	10	46
8:45 AM	0	0	0	7	0	0	0	0	0	1	0	0	0	0	0	0	8	38
Count Total	0	0	0	57	0	0	0	0	2	16	0	0	0	0	0	0	75	0
Peak Hour All	**0**	**0**	**0**	**40**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**49**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Peak Hour HV%	**-**	**-**	**-**	**0%**	**-**	**-**	**-**	**-**	**-**	**0%**	**-**	**-**	**-**	**-**	**-**	**-**	**0%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	1	0	0	*1*
7:15 AM	0	0	0	0	*0*	0	0	1	0	*1*	1	1	0	0	*2*
7:30 AM	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**0**	**1**	***6***	**0**	**1**	**0**	**1**	*2*
7:45 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**2**	**0**	**0**	**0**	*2*
8:00 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
8:15 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:30 AM	0	0	0	0	*0*	0	0	1	1	*2*	0	1	0	1	*2*
8:45 AM	0	0	0	0	*0*	1	0	0	0	*1*	0	1	0	0	*1*
Count Total	0	0	0	0	*0*	6	0	3	2	*11*	3	6	0	2	*11*
Peak Hour	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**1**	**1**	***7***	**2**	**2**	**0**	**1**	***5***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Deanes Ln Eastbound UT	LT	TH	RT	Driveway Westbound UT	LT	TH	RT	40th Ave Northbound UT	LT	TH	RT	40th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Deanes Ln Eastbound LT	TH	RT	Driveway Westbound LT	TH	RT	40th Ave Northbound LT	TH	RT	40th Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
7:30 AM	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**6**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	8
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	8
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**
8:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	3
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	3
Count Total	0	0	6	0	0	0	0	3	0	0	2	0	11	0
Peak Hour	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**7**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

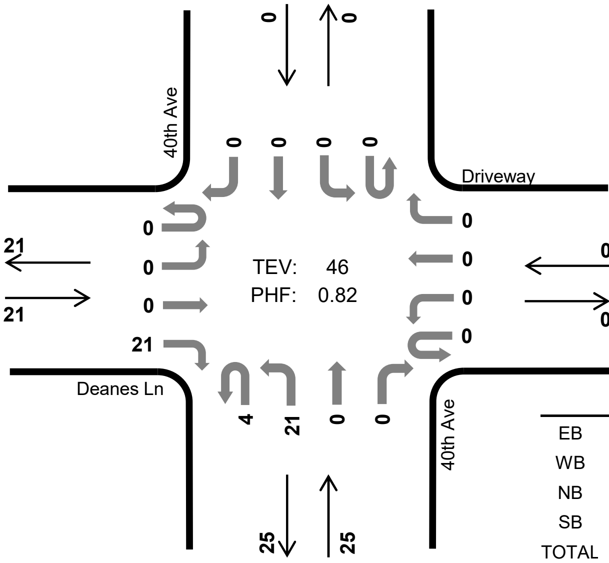
40th Ave
Deanes Ln

idax

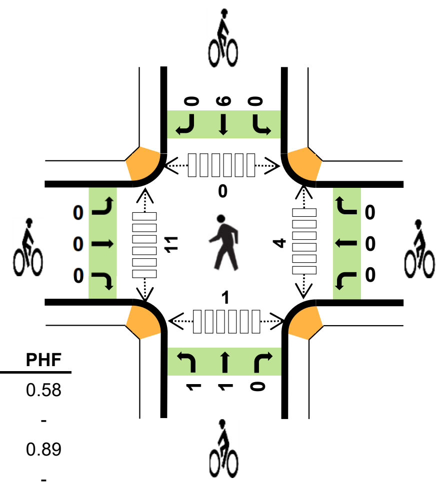
Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM

N

Peak Hour



	HV %:	PHF
EB	4.8%	0.58
WB	-	-
NB	0.0%	0.89
SB	-	-
TOTAL	2.2%	0.82



Two-Hour Count Summaries

Interval Start	Deanes Ln Eastbound UT	LT	TH	RT	Driveway Westbound UT	LT	TH	RT	40th Ave Northbound UT	LT	TH	RT	40th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	6	0
4:15 PM	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	0
4:30 PM	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	0
4:45 PM	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	41
5:00 PM	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**46**
5:15 PM	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	4	36
5:30 PM	0	0	0	2	0	0	0	0	0	5	0	0	0	0	0	0	7	33
5:45 PM	0	0	0	3	0	0	0	0	0	7	0	0	0	0	0	0	10	32
Count Total	0	0	0	28	0	0	0	0	5	40	0	0	0	0	0	0	73	0
Peak Hour All	**0**	**0**	**0**	**21**	**0**	**0**	**0**	**0**	**4**	**21**	**0**	**0**	**0**	**0**	**0**	**0**	**46**	**0**
Peak Hour HV	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
Peak Hour HV%	**-**	**-**	**-**	**5%**	**-**	**-**	**-**	**-**	**0%**	**0%**	**-**	**-**	**-**	**-**	**-**	**-**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	0	0	0	0	*0*	0	0	0	0	*0*	3	3	0	0	*6*
4:15 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**0**	**0**	*3*
4:30 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**5**	***5***	**3**	**2**	**0**	**1**	*6*
4:45 PM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**1**	**1**	***2***	**1**	**1**	**0**	**0**	*2*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**0**	**5**	**0**	**0**	*5*
5:15 PM	0	0	0	0	*0*	0	0	1	0	*1*	0	1	0	0	*1*
5:30 PM	0	0	0	0	*0*	1	0	1	0	*2*	1	1	0	0	*2*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	1	1	0	0	*2*
Count Total	1	0	0	0	*1*	1	0	4	6	*11*	9	17	0	1	*27*
Peak Hour	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**2**	**6**	***8***	**4**	**11**	**0**	**1**	***16***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Deanes Ln				Driveway				40th Ave				40th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

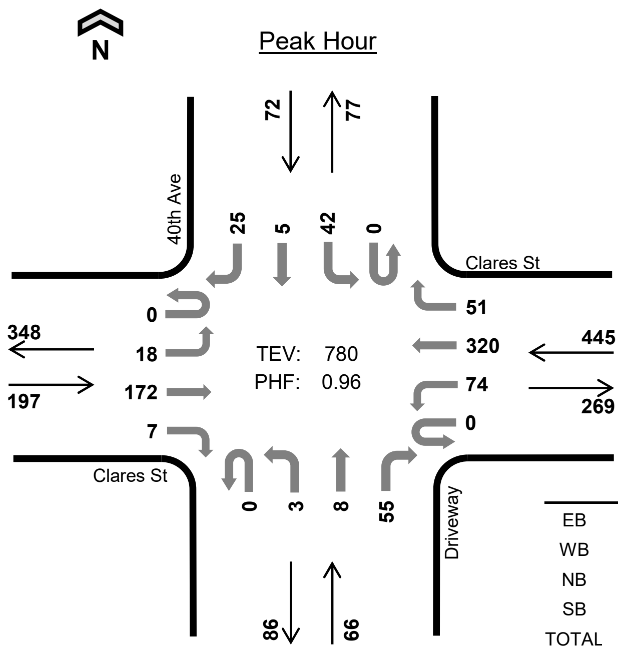
Two-Hour Count Summaries - Bikes

Interval Start	Deanes Ln			Driveway			40th Ave			40th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**5**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	7
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**8**
5:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	9
5:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	2	6
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Count Total	0	0	1	0	0	0	3	1	0	0	6	0	11	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**6**	**0**	**8**	**0**

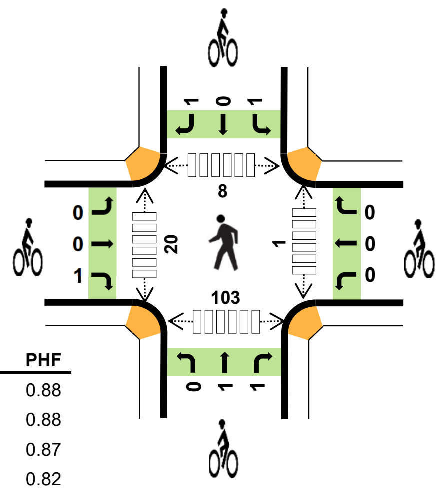
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

40th Ave
Clares St

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	1.5%	0.88
WB	1.8%	0.88
NB	4.5%	0.87
SB	0.0%	0.82
TOTAL	1.8%	0.96



Two-Hour Count Summaries

Interval Start		Clares St Eastbound				Clares St Westbound				Driveway Northbound				40th Ave Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	2	20	2	0	9	19	5	0	2	1	14	0	9	2	5	90	0
7:15 AM		0	0	18	0	0	17	29	3	0	1	0	8	0	4	0	4	84	0
7:30 AM		0	1	24	5	0	12	38	4	0	1	3	15	0	13	1	7	124	0
7:45 AM		0	4	27	5	0	12	49	10	0	1	1	17	0	18	0	3	147	445
8:00 AM		**0**	**5**	**38**	**1**	**0**	**17**	**81**	**12**	**0**	**0**	**1**	**18**	**0**	**14**	**0**	**4**	**191**	546
8:15 AM		**0**	**5**	**42**	**4**	**0**	**10**	**85**	**9**	**0**	**1**	**0**	**11**	**0**	**10**	**0**	**8**	**185**	647
8:30 AM		**0**	**2**	**43**	**1**	**0**	**22**	**87**	**18**	**0**	**1**	**2**	**13**	**0**	**7**	**1**	**6**	**203**	726
8:45 AM		**0**	**6**	**49**	**1**	**0**	**25**	**67**	**12**	**0**	**1**	**5**	**13**	**0**	**11**	**4**	**7**	**201**	**780**
Count Total		0	25	261	19	0	124	455	73	0	8	13	109	0	86	8	44	1,225	0
Peak Hour	**All**	**0**	**18**	**172**	**7**	**0**	**74**	**320**	**51**	**0**	**3**	**8**	**55**	**0**	**42**	**5**	**25**	**780**	**0**
	HV	**0**	**0**	**3**	**0**	**0**	**0**	**7**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**14**	**0**
	HV%	**-**	**0%**	**2%**	**0%**	**-**	**0%**	**2%**	**2%**	**-**	**0%**	**0%**	**5%**	**-**	**0%**	**0%**	**0%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	0	*1*	1	0	0	0	*1*	0	0	0	24	*24*
7:15 AM	0	1	0	0	*1*	1	2	0	1	*4*	0	2	0	22	*24*
7:30 AM	1	2	1	0	*4*	0	0	4	6	*10*	0	6	0	18	*24*
7:45 AM	1	3	0	1	*5*	1	0	0	0	*1*	0	4	0	21	*25*
8:00 AM	**0**	**2**	**1**	**0**	***3***	**1**	**0**	**0**	**0**	***1***	**1**	**1**	**0**	**27**	***29***
8:15 AM	**2**	**3**	**1**	**0**	***6***	**0**	**0**	**1**	**1**	***2***	**0**	**4**	**2**	**19**	***25***
8:30 AM	**1**	**2**	**1**	**0**	***4***	**0**	**0**	**1**	**1**	***2***	**0**	**5**	**2**	**18**	***25***
8:45 AM	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**10**	**4**	**39**	***53***
Count Total	5	14	5	1	*25*	4	2	6	9	*21*	1	32	8	188	*229*
Peak Hour	**3**	**8**	**3**	**0**	***14***	**1**	**0**	**2**	**2**	***5***	**1**	**20**	**8**	**103**	***132***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Clares St				Clares St				Driveway				40th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	1	0	0	0	2	0	0	0	0	1	0	0	0	0	4	0
7:45 AM	0	0	1	0	0	0	3	0	0	0	0	0	0	1	0	0	5	11
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	13
8:15 AM	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**6**	18
8:30 AM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	18
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**14**
Count Total	0	0	5	0	0	0	13	1	0	0	0	5	0	1	0	0	25	0
Peak Hour	**0**	**0**	**3**	**0**	**0**	**0**	**7**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**14**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Clares St			Clares St			Driveway			40th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	1	0	0	1	1	0	0	0	0	1	0	4	0
7:30 AM	0	0	0	0	0	0	0	2	2	6	0	0	10	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	16
8:00 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	16
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**2**	14
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**2**	6
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**
Count Total	0	3	1	0	1	1	0	3	3	7	1	1	21	0
Peak Hour	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**1**	**5**	**0**

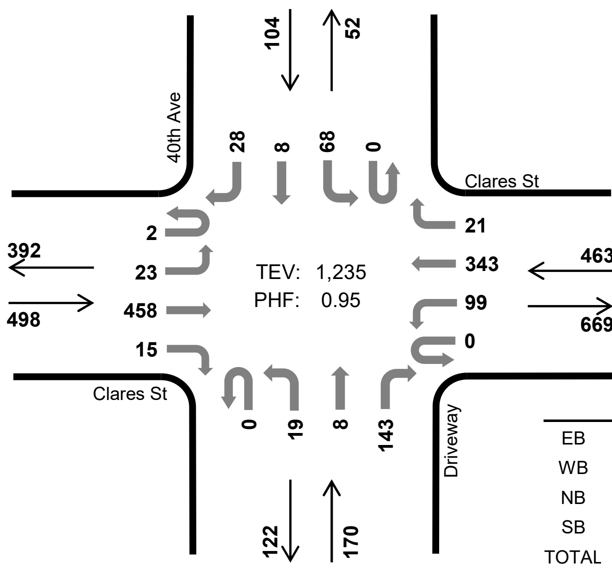
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

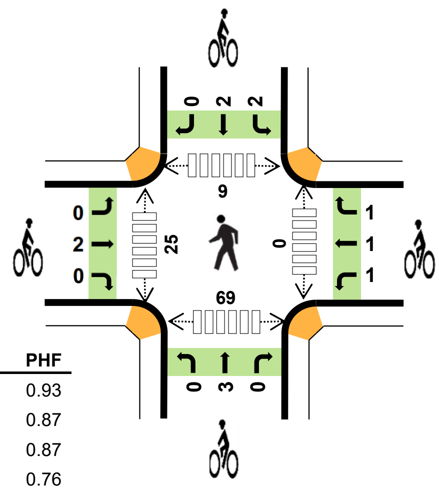
40th Ave
Clares St

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

N

Peak Hour





	HV %:	PHF
EB	0.4%	0.93
WB	0.2%	0.87
NB	1.2%	0.87
SB	1.0%	0.76
TOTAL	0.5%	0.95

Two-Hour Count Summaries

Interval Start		Clares St				Clares St				Driveway				40th Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		1	3	114	2	0	27	91	10	0	2	3	38	0	16	2	6	315	0
4:15 PM		1	9	114	4	0	14	72	4	0	5	3	27	0	21	8	8	290	0
4:30 PM		0	6	103	2	0	30	68	7	0	3	1	38	0	16	2	5	281	0
4:45 PM		**0**	**5**	**122**	**7**	**0**	**24**	**102**	**7**	**0**	**5**	**2**	**23**	**0**	**14**	**5**	**10**	**326**	1,212
5:00 PM		**0**	**4**	**115**	**1**	**0**	**27**	**78**	**5**	**0**	**8**	**2**	**34**	**0**	**26**	**1**	**7**	**308**	1,205
5:15 PM		**0**	**4**	**120**	**2**	**0**	**28**	**80**	**4**	**0**	**1**	**2**	**44**	**0**	**18**	**0**	**7**	**310**	1,225
5:30 PM		**2**	**10**	**101**	**5**	**0**	**20**	**83**	**5**	**0**	**5**	**2**	**42**	**0**	**10**	**2**	**4**	**291**	**1,235**
5:45 PM		0	9	86	7	0	26	90	7	0	6	3	34	0	12	6	4	290	1,199
Count Total		4	50	875	30	0	196	664	49	0	35	18	280	0	133	26	51	2,411	0
Peak Hour	**All**	**2**	**23**	**458**	**15**	**0**	**99**	**343**	**21**	**0**	**19**	**8**	**143**	**0**	**68**	**8**	**28**	**1,235**	**0**
	HV	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**6**	**0**
	HV%	**0%**	**0%**	**0%**	**7%**	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**1%**	**-**	**1%**	**0%**	**0%**	**0%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	0	0	0	*2*	0	0	0	0	*0*	0	10	1	14	*25*
4:15 PM	0	0	1	1	*2*	0	0	0	2	*2*	0	11	3	19	*33*
4:30 PM	0	0	3	0	*3*	1	2	0	7	*10*	0	9	1	13	*23*
4:45 PM	**0**	**1**	**0**	**1**	***2***	**1**	**0**	**0**	**2**	***3***	**0**	**4**	**4**	**7**	*15*
5:00 PM	**0**	**0**	**1**	**0**	***1***	**1**	**0**	**1**	**0**	**2**	**0**	**14**	**3**	**19**	*36*
5:15 PM	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**1**	***3***	**0**	**5**	**2**	**26**	*33*
5:30 PM	**2**	**0**	**1**	**0**	***3***	**0**	**2**	**1**	**1**	***4***	**0**	**2**	**0**	**17**	***19***
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	2	1	16	*19*
Count Total	4	1	6	2	*13*	3	5	3	13	*24*	0	57	15	131	*203*
Peak Hour	**2**	**1**	**2**	**1**	***6***	**2**	**3**	**3**	**4**	***12***	**0**	**25**	**9**	**69**	***103***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Clares St				Clares St				Driveway				40th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	9
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	8
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	6
5:30 PM	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**6**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Count Total	0	1	2	1	0	0	1	0	0	0	0	6	0	1	0	1	13	0
Peak Hour	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**6**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Clares St			Clares St			Driveway			40th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0
4:30 PM	0	1	0	0	2	0	0	0	0	2	5	0	10	0
4:45 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**3**	15
5:00 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	17
5:15 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**3**	18
5:30 PM	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**4**	**12**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Count Total	0	3	0	1	3	1	0	3	0	4	9	0	24	0
Peak Hour	**0**	**2**	**0**	**1**	**1**	**1**	**0**	**3**	**0**	**2**	**2**	**0**	**12**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

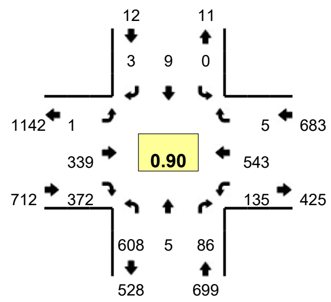
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

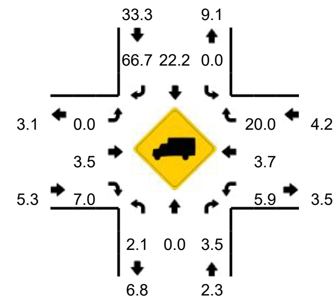
LOCATION: 41st Ave -- Soquel Dr | **QC JOB #:** 13932403

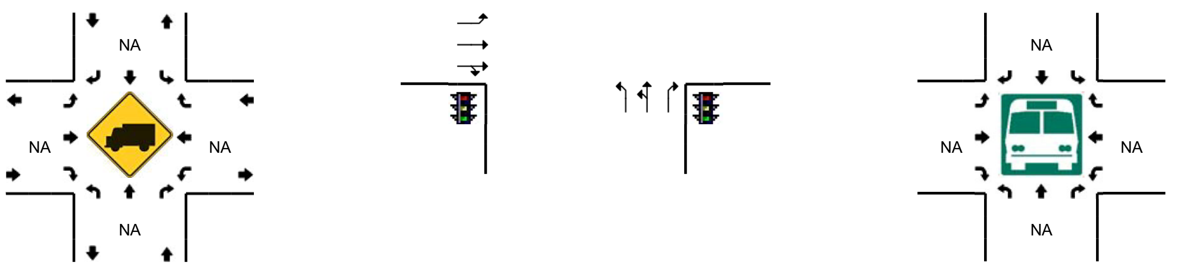
CITY/STATE: Soquel, CA | **DATE:** Tue, Oct 18 2016

Peak-Hour: 7:35 AM -- 8:35 AM

Peak 15-Min: 7:55 AM -- 8:10 AM







5-Min Count Period Beginning At	41st Ave (Northbound) Left	Thru	Right	U	41st Ave (Southbound) Left	Thru	Right	U	Soquel Dr (Eastbound) Left	Thru	Right	U	Soquel Dr (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	34	0	1	0	0	0	0	0	0	8	15	0	6	12	0	0	76	
7:05 AM	25	1	1	1	0	0	0	0	0	7	14	0	3	12	0	0	64	
7:10 AM	25	3	8	0	0	0	0	0	0	16	11	0	3	21	0	0	87	
7:15 AM	22	1	3	1	0	1	1	0	0	16	8	0	7	24	0	0	84	
7:20 AM	30	1	9	1	0	2	0	0	2	14	15	0	3	19	0	0	96	
7:25 AM	31	1	3	0	0	0	0	0	0	19	13	0	11	31	0	0	109	
7:30 AM	40	2	7	2	1	0	0	0	0	25	11	0	7	33	1	0	129	
7:35 AM	50	0	6	1	0	0	0	0	0	17	33	0	7	43	0	0	157	
7:40 AM	55	1	5	1	0	2	1	0	0	25	28	0	9	32	0	0	159	
7:45 AM	60	0	5	1	0	0	0	0	0	25	28	0	12	44	0	0	175	
7:50 AM	48	1	11	0	0	0	0	0	0	36	30	0	9	59	0	0	194	
7:55 AM	82	0	10	2	0	1	0	0	1	22	25	0	10	50	2	0	205	1535
8:00 AM	27	2	14	0	0	0	0	0	0	43	39	0	10	51	0	0	186	1645
8:05 AM	46	0	9	3	0	1	0	0	0	40	43	0	9	45	0	0	196	1777
8:10 AM	54	0	6	0	0	0	1	0	0	35	42	0	6	37	0	0	181	1871
8:15 AM	28	0	9	0	0	1	1	0	0	26	31	0	15	33	0	0	144	1931
8:20 AM	54	0	3	2	0	1	0	0	0	15	28	0	22	55	0	0	180	2015
8:25 AM	57	0	5	1	0	3	0	0	0	26	24	0	10	46	0	0	172	2078
8:30 AM	35	1	3	1	0	0	0	0	0	29	21	0	16	48	3	0	157	2106
8:35 AM	42	1	5	1	1	0	0	0	0	14	42	0	7	42	2	0	157	2106
8:40 AM	37	1	12	0	0	2	0	0	0	22	27	0	9	44	0	0	154	2101
8:45 AM	39	0	6	1	0	0	0	0	1	39	32	0	5	44	0	0	167	2093
8:50 AM	46	2	3	1	0	0	0	0	1	33	18	0	9	32	0	0	145	2044
8:55 AM	44	3	2	2	1	1	1	0	0	14	26	0	10	39	1	0	144	1983

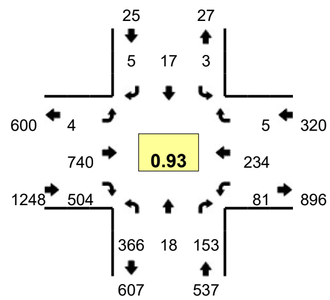
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	620	8	132	20	0	8	0	0	4	420	428	0	116	584	8	0	2348
Heavy Trucks	4	0	0		0	0	0		0	20	40		4	28	0		96
Pedestrians		0				0				0				4			4
Bicycles	1	0	0		0	0	0		0	0	0		0	2	0		3
Railroad																	
Stopped Buses																	

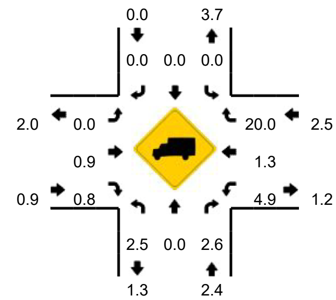
Comments:

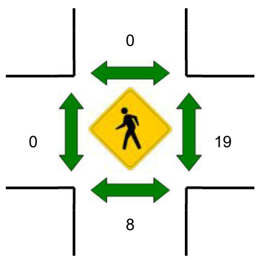
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

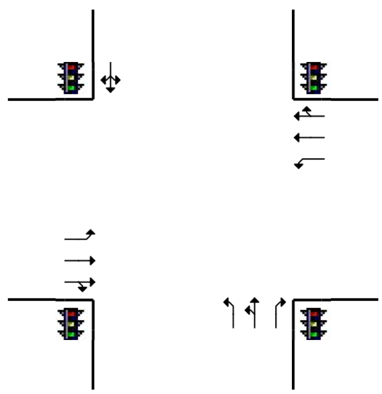
LOCATION: 41st Ave -- Soquel Dr | **QC JOB #:** 13932404
CITY/STATE: Soquel, CA | **DATE:** Tue, Oct 18 2016

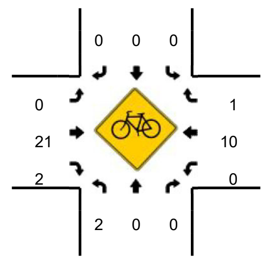
Peak-Hour: 4:55 PM -- 5:55 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

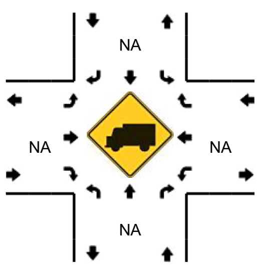


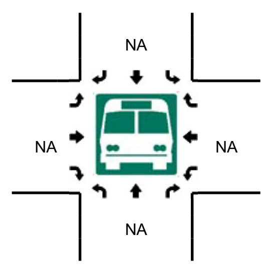












5-Min Count Period Beginning At	41st Ave (Northbound)				41st Ave (Southbound)				Soquel Dr (Eastbound)				Soquel Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	34	0	13	0	3	2	2	0	2	38	25	0	8	21	1	0	149	
4:05 PM	35	1	11	0	1	4	0	0	1	77	31	0	6	27	0	0	194	
4:10 PM	37	0	8	1	0	0	2	0	0	54	42	0	4	20	0	0	168	
4:15 PM	36	0	14	1	0	0	0	0	0	73	33	0	9	33	0	0	199	
4:20 PM	44	0	10	3	0	1	1	0	0	57	30	0	9	18	0	0	173	
4:25 PM	44	4	11	1	0	0	1	0	0	67	31	0	11	29	0	0	199	
4:30 PM	33	0	6	1	0	0	1	0	0	64	55	0	6	26	0	0	192	
4:35 PM	36	1	11	2	0	3	0	0	1	31	28	0	7	19	1	0	140	
4:40 PM	21	1	14	0	1	1	1	0	2	65	39	0	8	28	0	0	181	
4:45 PM	40	1	15	1	1	1	1	0	0	48	28	0	7	23	1	0	167	
4:50 PM	28	0	15	1	1	0	0	0	1	53	35	0	2	32	0	0	168	
4:55 PM	40	4	12	1	0	0	0	0	1	42	28	0	5	8	0	0	141	2071
5:00 PM	18	3	13	0	0	1	2	0	0	68	55	0	2	16	1	0	179	2101
5:05 PM	31	1	15	0	2	6	0	0	0	60	37	0	7	19	0	0	178	2085
5:10 PM	32	1	12	1	0	2	2	0	1	59	44	0	10	29	1	0	194	2111
5:15 PM	25	2	20	0	0	2	0	0	0	41	47	0	12	24	0	0	173	2085
5:20 PM	26	2	9	1	0	0	0	0	1	60	47	0	5	32	0	0	183	2095
5:25 PM	29	1	19	0	0	2	0	0	0	65	32	0	3	9	0	0	160	2056
5:30 PM	37	3	10	1	0	1	0	0	0	66	27	0	12	23	0	0	180	2044
5:35 PM	30	0	10	1	0	0	0	0	1	81	57	0	3	15	0	0	198	2102
5:40 PM	27	1	15	0	1	2	1	0	0	69	51	0	5	19	1	0	192	2113
5:45 PM	32	0	7	0	0	1	0	0	0	59	31	0	10	22	1	0	163	2109
5:50 PM	34	0	11	0	0	0	0	0	0	70	48	0	7	18	1	0	189	2130
5:55 PM	26	4	12	0	0	3	1	0	0	41	22	0	7	19	1	0	136	2125

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	376	16	140	8	4	12	4	0	4	864	540	0	80	228	4	0	2280
Heavy Trucks	8	0	8		0	0	0		0	4	0		4	4	0		28
Pedestrians		0				0				0				12			12
Bicycles	0	0	0		0	0	0		0	5	0		0	4	0		9
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/25/2016 2:14 PM

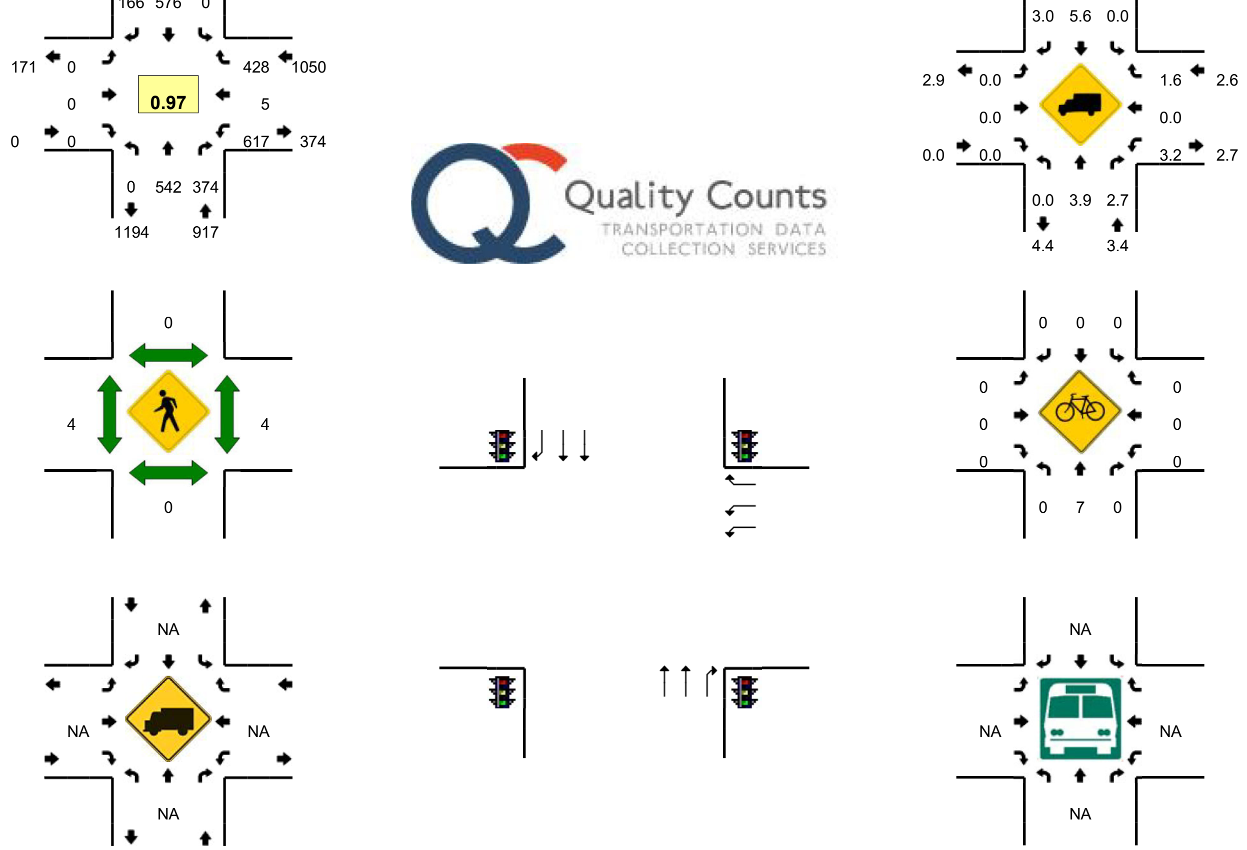
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: 41st Ave -- Hwy 1 NB Ramps | **QC JOB #:** 13932413

CITY/STATE: Soquel, CA | **DATE:** Tue, Oct 18 2016

Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:30 AM -- 8:45 AM



5-Min Count Period Beginning At	41st Ave (Northbound) Left	Thru	Right	U	41st Ave (Southbound) Left	Thru	Right	U	Hwy 1 NB Ramps (Eastbound) Left	Thru	Right	U	Hwy 1 NB Ramps (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	0	16	13	0	0	26	4	0	0	0	0	0	42	0	28	0	129	
7:05 AM	0	29	29	0	0	19	7	0	0	0	0	0	46	0	18	0	148	
7:10 AM	0	30	42	0	0	18	10	0	0	0	0	0	45	0	28	0	173	
7:15 AM	0	28	31	0	0	19	7	0	0	0	0	0	48	0	31	0	164	
7:20 AM	0	22	19	0	0	27	9	0	0	0	0	0	58	0	25	0	160	
7:25 AM	0	20	23	0	0	26	15	0	0	0	0	0	50	0	37	0	171	
7:30 AM	0	46	31	0	0	21	14	0	0	0	0	0	48	0	31	0	191	
7:35 AM	0	36	41	0	0	39	19	0	0	0	0	0	40	0	44	0	219	
7:40 AM	0	42	32	0	0	48	12	0	0	0	0	0	45	1	35	0	215	
7:45 AM	0	39	40	0	0	45	9	0	0	0	0	0	55	0	39	0	227	
7:50 AM	0	62	27	0	0	40	18	0	0	0	0	0	45	0	48	0	240	
7:55 AM	0	50	29	0	0	37	14	0	0	0	0	0	48	1	31	0	210	2247
8:00 AM	0	38	32	0	0	52	13	0	0	0	0	0	60	0	38	0	233	2351
8:05 AM	0	43	30	0	0	53	7	0	0	0	0	0	41	1	35	0	210	2413
8:10 AM	0	52	24	0	0	52	12	0	0	0	0	0	46	1	34	0	221	2461
8:15 AM	0	47	33	0	0	56	16	0	0	0	0	0	28	0	34	0	214	2511
8:20 AM	0	52	31	0	0	50	12	0	0	0	0	0	51	0	28	0	224	2575
8:25 AM	0	41	26	0	0	41	18	0	0	0	0	0	67	0	42	0	235	2639
8:30 AM	0	29	32	0	0	46	10	0	0	0	0	0	62	0	34	0	213	2661
8:35 AM	0	37	33	0	0	59	21	0	0	0	0	0	56	2	26	0	234	2676
8:40 AM	0	53	37	0	0	45	16	0	0	0	0	0	58	0	39	0	248	2709
8:45 AM	0	33	36	0	0	41	17	0	0	0	0	0	48	0	29	0	204	2686
8:50 AM	0	51	36	0	0	31	11	0	0	0	0	0	53	1	27	0	210	2656
8:55 AM	0	44	32	0	0	42	13	0	0	0	0	0	61	0	30	0	222	2668

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	477	408	0	0	600	188	0	0	0	0	0	704	8	396	0	2780
Heavy Trucks	0	32	12		0	24	8		0	0	0		36	0	12		124
Pedestrians		0				0				4				8			12
Bicycles	0	1	0		0	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/25/2016 2:14 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

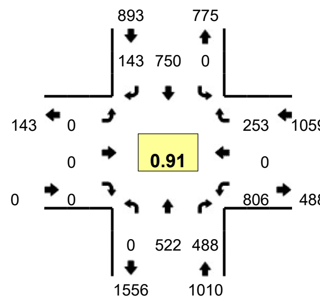
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

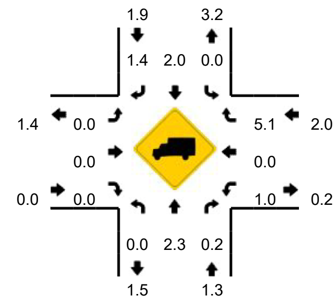
LOCATION: 41st Ave -- Hwy 1 NB Ramps | **QC JOB #:** 13932414

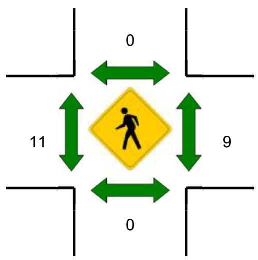
CITY/STATE: Soquel, CA | **DATE:** Tue, Oct 18 2016

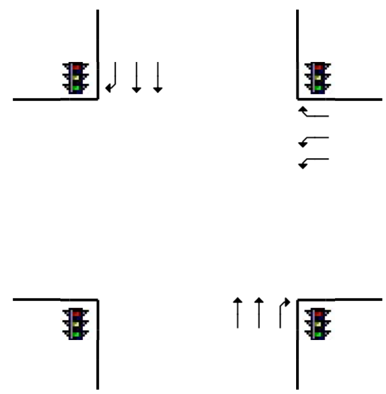
Peak-Hour: 4:40 PM -- 5:40 PM

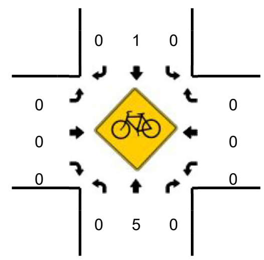
Peak 15-Min: 5:10 PM -- 5:25 PM

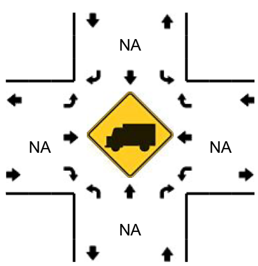


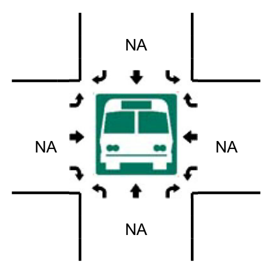












5-Min Count Period Beginning At	41st Ave (Northbound) Left	Thru	Right	U	41st Ave (Southbound) Left	Thru	Right	U	Hwy 1 NB Ramps (Eastbound) Left	Thru	Right	U	Hwy 1 NB Ramps (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	0	44	35	0	0	71	8	0	0	0	0	0	67	1	14	0	240	
4:05 PM	0	41	39	0	0	66	9	0	0	0	0	0	73	1	33	0	262	
4:10 PM	0	42	37	0	0	66	16	0	0	0	0	0	55	0	23	0	239	
4:15 PM	0	34	46	0	0	55	10	0	0	0	0	0	76	0	19	0	240	
4:20 PM	0	55	28	0	0	57	22	0	0	0	0	0	53	0	24	0	239	
4:25 PM	0	48	35	0	0	41	17	0	0	0	0	0	54	0	25	0	220	
4:30 PM	0	35	20	0	0	63	20	0	0	0	0	0	64	0	18	0	220	
4:35 PM	0	26	32	0	0	65	13	0	0	0	0	0	47	2	10	0	195	
4:40 PM	0	51	43	0	0	55	14	0	0	0	0	0	80	0	25	0	268	
4:45 PM	0	51	44	0	0	60	12	0	0	0	0	0	79	0	25	0	271	
4:50 PM	0	38	45	0	0	46	19	0	0	0	0	0	70	0	20	0	238	
4:55 PM	0	43	32	0	0	57	8	0	0	0	0	0	58	0	25	0	223	2855
5:00 PM	0	37	35	0	0	60	11	0	0	0	0	0	57	0	14	0	214	2829
5:05 PM	0	51	36	0	0	79	6	0	0	0	0	0	57	0	17	0	246	2813
5:10 PM	0	48	63	0	0	74	16	0	0	0	0	0	70	0	24	0	295	2869
5:15 PM	0	51	46	0	0	68	12	0	0	0	0	0	64	0	21	0	262	2891
5:20 PM	0	39	44	0	0	65	18	0	0	0	0	0	76	0	19	0	261	2913
5:25 PM	0	40	25	0	0	65	6	0	0	0	0	0	71	0	18	0	225	2918
5:30 PM	0	31	33	0	0	57	12	0	0	0	0	0	52	0	28	0	213	2911
5:35 PM	0	42	42	0	0	64	9	0	0	0	0	0	72	0	17	0	246	2962
5:40 PM	0	47	36	0	0	84	17	0	0	0	0	0	50	0	22	0	256	2950
5:45 PM	0	41	28	0	0	53	12	0	0	0	0	0	69	0	17	0	220	2899
5:50 PM	0	46	33	0	0	74	8	0	0	0	0	0	44	0	18	0	223	2884
5:55 PM	0	41	32	0	0	41	6	0	0	0	0	0	57	0	16	0	193	2854

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	552	612	0	0	828	184	0	0	0	0	0	840	0	256	0	3272
Heavy Trucks	0	8	0		0	28	4		0	0	0		8	0	0		48
Pedestrians		0				0				8				16			24
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

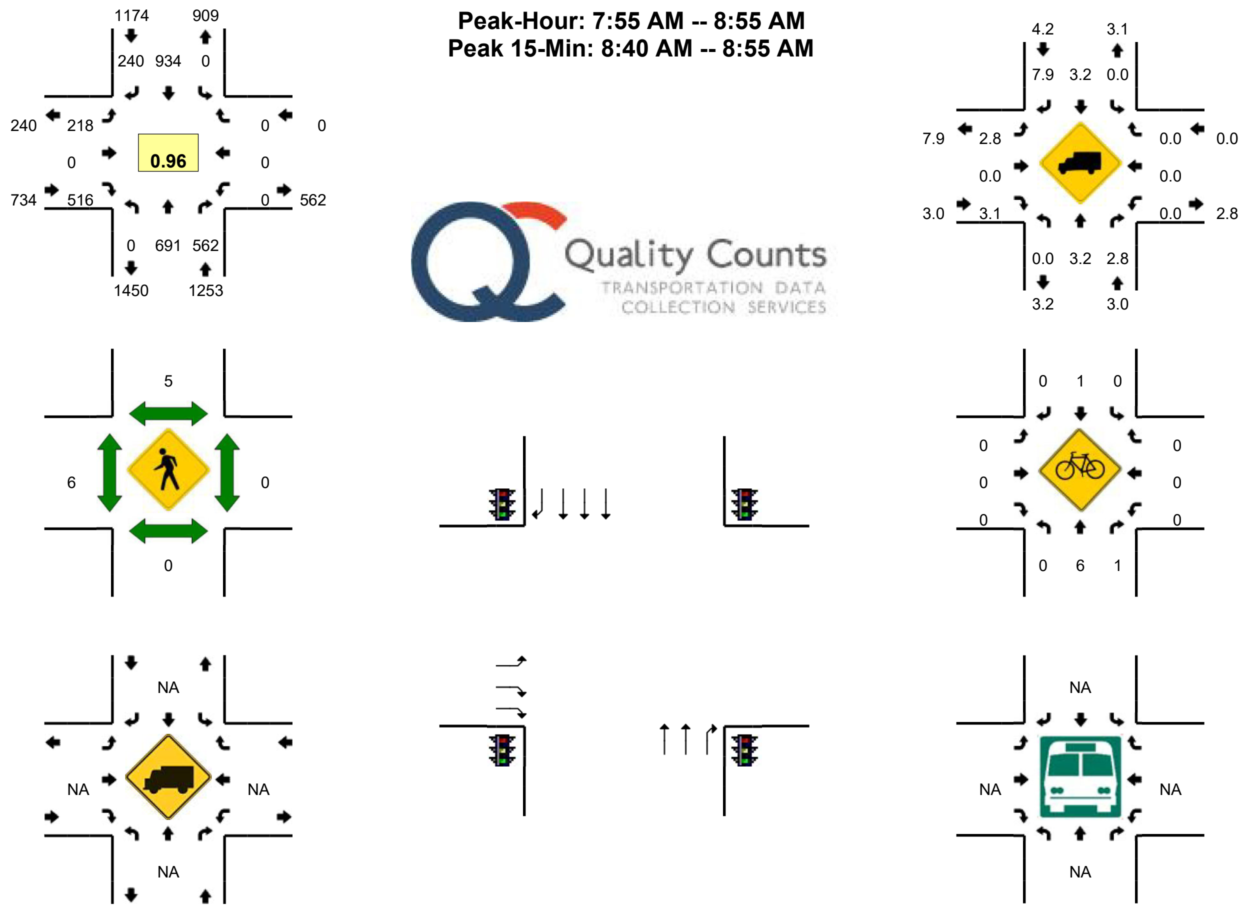
Comments:

Report generated on 10/25/2016 2:14 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: 41st Ave -- Hwy 1 SB Ramps | **QC JOB #:** 13932415
CITY/STATE: Capitola, CA | **DATE:** Tue, Oct 18 2016

Peak-Hour: 7:55 AM -- 8:55 AM
Peak 15-Min: 8:40 AM -- 8:55 AM



5-Min Count Period Beginning At	41st Ave (Northbound) Left	Thru	Right	U	41st Ave (Southbound) Left	Thru	Right	U	Hwy 1 SB Ramps (Eastbound) Left	Thru	Right	U	Hwy 1 SB Ramps (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	0	22	27	0	0	52	15	0	6	0	14	0	0	0	0	0	136	
7:05 AM	0	47	40	0	0	54	8	0	13	0	9	0	0	0	0	0	171	
7:10 AM	0	58	44	0	0	61	11	0	13	0	14	0	0	0	0	0	201	
7:15 AM	0	46	31	0	0	56	10	0	13	0	21	0	0	0	0	0	177	
7:20 AM	0	31	41	0	0	66	11	0	11	0	13	0	0	0	0	0	173	
7:25 AM	0	35	39	0	0	56	13	0	11	0	25	0	0	0	0	0	179	
7:30 AM	0	65	50	0	0	58	8	0	6	0	27	0	0	0	0	0	214	
7:35 AM	0	63	32	0	0	66	21	0	15	0	17	0	0	0	0	0	214	
7:40 AM	0	60	59	0	0	72	25	0	16	0	20	0	0	0	0	0	252	
7:45 AM	0	70	54	0	0	74	27	0	8	0	18	0	0	0	0	0	251	
7:50 AM	0	77	50	0	0	65	14	0	18	0	31	0	0	0	0	0	255	
7:55 AM	0	65	60	0	0	69	20	0	16	0	36	0	0	0	0	0	266	2489
8:00 AM	0	62	47	0	0	72	23	0	13	0	36	0	0	0	0	0	253	2606
8:05 AM	0	54	53	0	0	72	24	0	18	0	35	0	0	0	0	0	256	2691
8:10 AM	0	58	54	0	0	76	25	0	24	0	30	0	0	0	0	0	267	2757
8:15 AM	0	59	50	0	0	63	21	0	18	0	45	0	0	0	0	0	256	2836
8:20 AM	0	63	38	0	0	90	19	0	22	0	47	0	0	0	0	0	279	2942
8:25 AM	0	43	37	0	0	80	10	0	18	0	49	0	0	0	0	0	237	3000
8:30 AM	0	45	44	0	0	101	16	0	20	0	47	0	0	0	0	0	273	3059
8:35 AM	0	53	40	0	0	71	26	0	20	0	39	0	0	0	0	0	249	3094
8:40 AM	0	70	49	0	0	100	21	0	12	0	45	0	0	0	0	0	297	3139
8:45 AM	0	51	49	0	0	68	23	0	21	0	51	0	0	0	0	0	263	3151
8:50 AM	0	68	41	0	0	72	12	0	16	0	56	0	0	0	0	0	265	3161
8:55 AM	0	61	38	0	0	74	9	0	16	0	49	0	0	0	0	0	247	3142

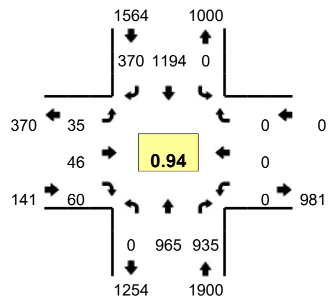
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	756	556	0	0	960	224	0	196	0	608	0	0	0	0	0	3300
Heavy Trucks	0	32	20		0	24	20		4	0	24		0	0	0		124
Pedestrians		0				8				12				0			20
Bicycles	0	1	1		0	1	0		0	0	0		0	0	0		3
Railroad																	
Stopped Buses																	

Comments:

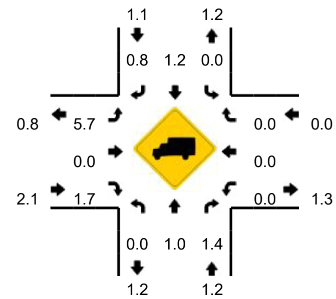
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

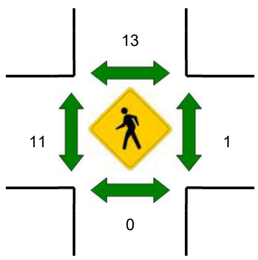
LOCATION: 41st Ave -- Hwy 1 SB Ramps | **QC JOB #:** 13932416

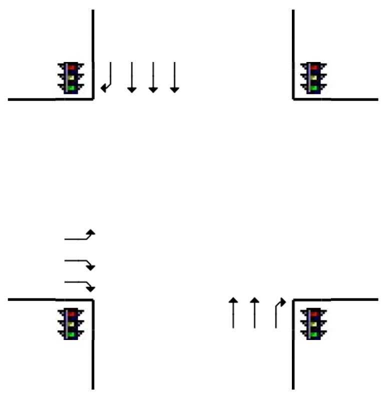
CITY/STATE: Capitola, CA | **DATE:** Tue, Oct 18 2016

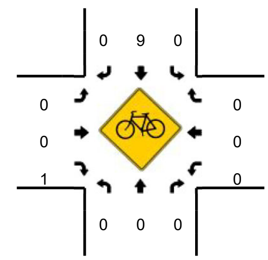


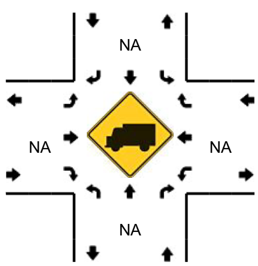
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

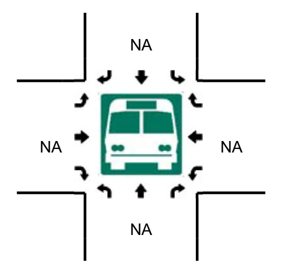












5-Min Count Period Beginning At	41st Ave (Northbound) Left	Thru	Right	U	41st Ave (Southbound) Left	Thru	Right	U	Hwy 1 SB Ramps (Eastbound) Left	Thru	Right	U	Hwy 1 SB Ramps (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	0	75	71	0	0	109	25	1	4	2	11	0	0	0	0	0	298	
4:05 PM	0	72	79	0	0	91	25	0	11	0	7	0	0	0	0	0	285	
4:10 PM	0	70	86	0	0	104	32	0	3	1	3	0	0	0	0	0	299	
4:15 PM	0	82	81	0	0	106	26	0	3	5	8	0	0	0	0	0	311	
4:20 PM	0	76	78	0	0	91	27	0	4	0	6	0	0	0	0	0	282	
4:25 PM	0	79	89	0	0	80	16	0	8	4	12	0	0	0	0	0	288	
4:30 PM	0	59	87	0	0	95	24	0	2	3	4	0	0	0	0	0	274	
4:35 PM	0	76	69	0	0	85	29	0	4	3	7	0	0	0	0	0	273	
4:40 PM	0	69	52	0	0	104	25	0	2	7	5	0	0	0	0	0	264	
4:45 PM	0	85	85	0	0	100	24	0	5	3	7	0	0	0	0	0	309	
4:50 PM	0	82	87	0	0	115	31	0	2	2	8	0	0	0	0	0	327	
4:55 PM	0	67	78	0	0	95	25	0	4	3	5	0	0	0	0	0	277	3487
5:00 PM	0	74	81	0	0	89	24	0	3	3	3	0	0	0	0	0	277	3466
5:05 PM	0	85	73	0	0	89	39	0	4	5	6	0	0	0	0	0	301	3482
5:10 PM	0	111	70	0	0	107	26	0	2	3	3	0	0	0	0	0	322	3505
5:15 PM	0	88	78	0	0	100	38	0	3	5	4	0	0	0	0	0	316	3510
5:20 PM	0	83	85	0	0	104	30	0	2	6	9	0	0	0	0	0	319	3547
5:25 PM	0	60	69	0	0	106	45	0	5	5	3	0	0	0	0	0	293	3552
5:30 PM	0	66	84	0	0	94	23	0	2	4	6	0	0	0	0	0	279	3557
5:35 PM	0	83	69	0	0	88	28	0	1	2	4	0	0	0	0	0	275	3559
5:40 PM	0	81	76	0	0	107	37	0	2	5	2	0	0	0	0	0	310	3605
5:45 PM	0	77	84	0	0	94	24	0	2	7	7	0	0	0	0	0	295	3591
5:50 PM	0	78	77	0	0	100	27	0	2	8	4	0	0	0	0	0	296	3560
5:55 PM	0	76	76	0	0	89	17	0	4	5	6	0	0	0	0	0	273	3556

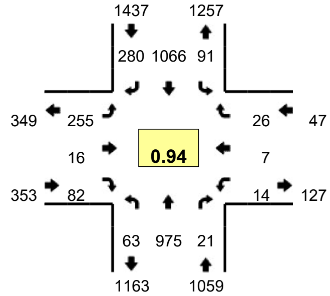
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	1128	932	0	0	1244	376	0	28	56	64	0	0	0	0	0	3828
Heavy Trucks	0	4	8		0	28	4		0	0	0		0	0	0		44
Pedestrians		0				12				8				0			20
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

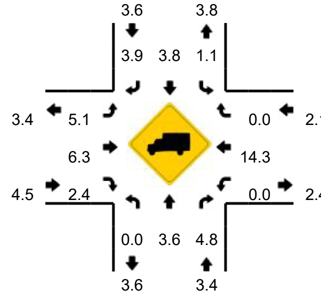
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

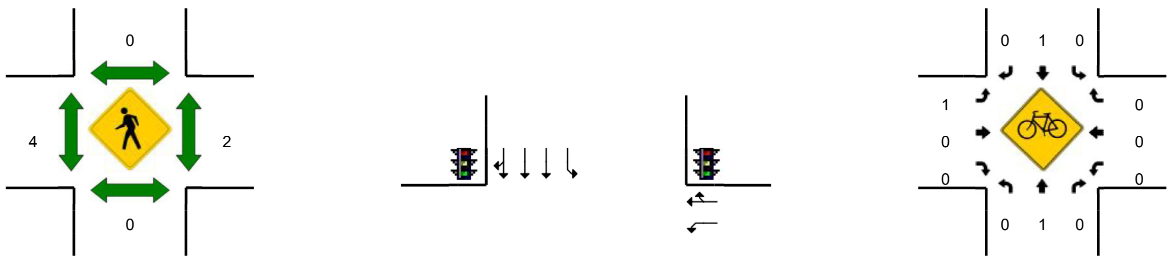
LOCATION: 41st Ave -- Gross St | **QC JOB #:** 13932417

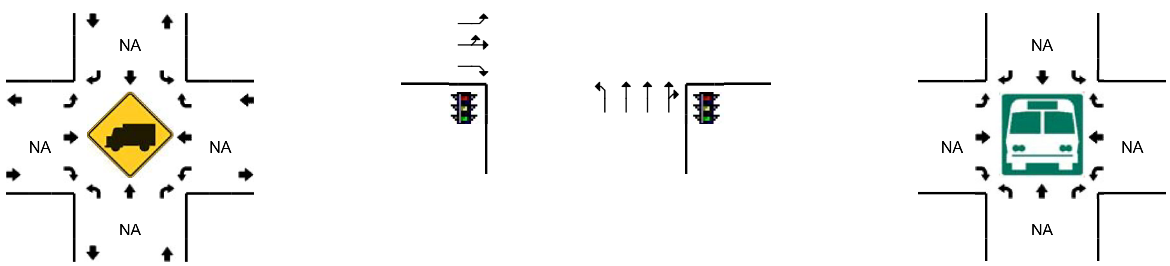
CITY/STATE: Santa Cruz, CA | **DATE:** Tue, Oct 18 2016



Peak-Hour: 7:55 AM -- 8:55 AM
Peak 15-Min: 8:40 AM -- 8:55 AM







5-Min Count Period Beginning At	41st Ave (Northbound) Left	Thru	Right	U	41st Ave (Southbound) Left	Thru	Right	U	Gross St (Eastbound) Left	Thru	Right	U	Gross St (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	1	42	0	0	3	43	19	0	9	0	0	0	0	0	0	0	117	
7:05 AM	4	74	1	0	3	52	11	0	12	0	1	0	0	0	0	0	158	
7:10 AM	2	90	0	0	8	46	16	0	8	2	1	0	0	2	1	0	176	
7:15 AM	5	66	1	0	6	50	15	0	8	0	4	0	0	0	2	0	157	
7:20 AM	4	62	1	0	1	51	27	0	10	1	2	0	0	0	0	0	159	
7:25 AM	7	60	0	0	11	59	21	0	14	0	3	0	1	0	2	0	178	
7:30 AM	1	90	0	0	2	50	26	0	24	3	8	0	1	0	1	0	206	
7:35 AM	2	80	0	0	5	54	25	0	15	1	5	0	1	0	0	0	188	
7:40 AM	2	101	0	0	6	56	29	0	16	3	7	0	1	0	2	0	223	
7:45 AM	9	98	1	0	5	57	32	1	22	2	9	0	0	0	3	0	239	
7:50 AM	5	87	0	0	8	59	18	0	33	2	1	0	2	1	3	0	219	
7:55 AM	6	88	3	0	9	71	23	0	31	2	6	0	0	0	3	0	242	2262
8:00 AM	10	62	3	0	3	83	31	0	34	2	6	0	1	0	6	0	241	2386
8:05 AM	1	77	1	0	9	83	19	0	31	1	10	0	2	0	1	0	235	2463
8:10 AM	5	90	3	0	2	76	24	0	19	0	9	0	1	2	1	0	232	2519
8:15 AM	7	85	3	0	3	81	15	0	23	2	7	0	0	1	2	0	229	2591
8:20 AM	5	85	0	0	11	96	31	0	17	1	3	0	1	0	4	0	254	2686
8:25 AM	7	62	0	0	10	91	25	0	16	1	5	0	3	2	1	0	223	2731
8:30 AM	4	74	2	1	4	106	32	0	19	1	5	0	2	0	1	0	251	2776
8:35 AM	4	64	1	0	12	77	25	1	20	1	6	0	2	2	4	0	219	2807
8:40 AM	2	108	0	0	8	108	22	0	15	1	7	0	1	0	0	0	272	2856
8:45 AM	4	82	3	0	9	97	18	0	16	1	10	0	1	0	2	0	243	2860
8:50 AM	7	98	2	0	10	97	15	0	14	3	8	0	0	0	1	0	255	2896
8:55 AM	2	78	3	0	7	97	16	0	19	0	9	0	5	1	3	0	240	2894

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	52	1152	20	0	108	1208	220	0	180	20	100	0	8	0	12	0	3080
Heavy Trucks	0	48	0		4	48	4		8	4	0		0	0	0		116
Pedestrians		0				0				4				4			8
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

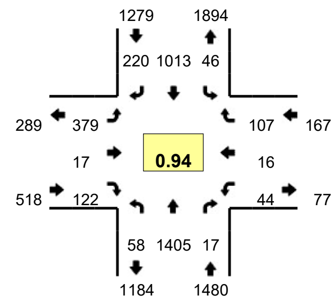
Comments:

Report generated on 11/14/2016 3:40 PM

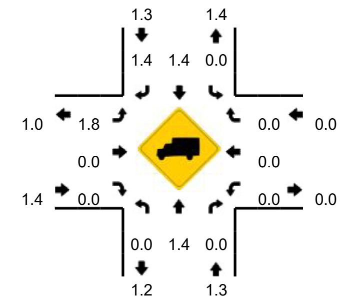
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

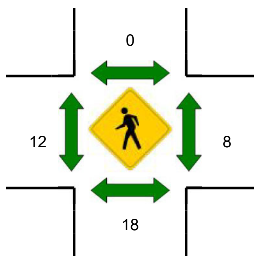
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

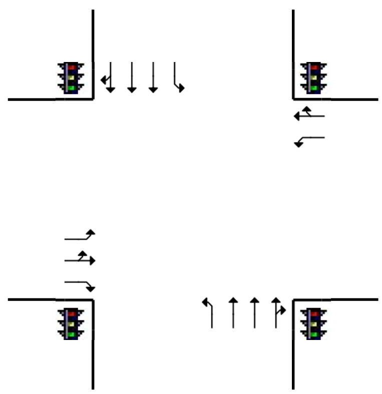
LOCATION: 41st Ave -- Gross St | **QC JOB #:** 13932418
CITY/STATE: Santa Cruz, CA | **DATE:** Tue, Oct 18 2016

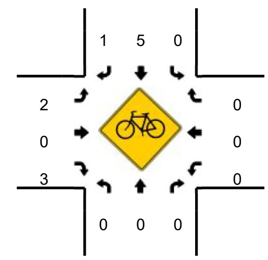


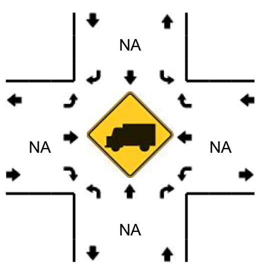
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

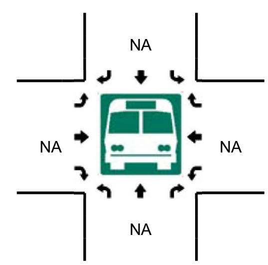












5-Min Count Period Beginning At	41st Ave (Northbound) Left	Thru	Right	U	41st Ave (Southbound) Left	Thru	Right	U	Gross St (Eastbound) Left	Thru	Right	U	Gross St (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	6	109	0	0	3	95	15	0	28	2	7	0	3	0	7	0	275	
4:05 PM	7	119	2	1	8	80	15	1	32	2	13	0	1	1	7	0	289	
4:10 PM	5	112	0	0	1	86	14	0	36	0	13	0	4	2	6	0	279	
4:15 PM	6	134	1	0	1	94	20	1	22	0	13	0	2	1	7	0	302	
4:20 PM	2	120	0	0	2	84	17	0	36	0	11	0	1	2	3	0	278	
4:25 PM	7	125	5	0	5	75	13	2	23	0	8	0	4	2	13	0	282	
4:30 PM	8	108	1	0	0	77	18	0	40	3	6	0	5	2	10	0	278	
4:35 PM	6	113	0	1	3	83	14	0	17	0	3	0	3	1	11	0	255	
4:40 PM	9	94	1	0	10	73	18	1	28	1	12	0	5	1	5	0	258	
4:45 PM	3	124	0	0	7	90	25	0	28	3	14	0	5	2	12	0	313	
4:50 PM	6	129	3	0	3	103	14	0	28	3	11	0	5	7	8	0	320	
4:55 PM	2	114	1	1	2	76	18	0	28	1	13	0	3	0	5	0	264	3393
5:00 PM	6	109	0	2	3	65	14	0	47	2	13	0	5	0	6	0	272	3390
5:05 PM	0	115	0	0	1	88	18	0	30	3	8	0	2	1	12	0	278	3379
5:10 PM	3	148	0	0	6	90	20	0	23	0	8	0	6	2	10	0	316	3416
5:15 PM	7	133	1	1	3	77	19	0	29	4	7	0	4	0	8	0	293	3407
5:20 PM	7	127	3	0	7	89	23	0	29	0	7	0	0	0	11	0	303	3432
5:25 PM	6	86	2	1	2	80	23	1	27	1	8	0	2	1	14	0	254	3404
5:30 PM	5	111	1	0	4	84	17	1	31	0	9	0	5	1	9	0	278	3404
5:35 PM	7	108	3	0	1	71	15	0	41	0	14	0	4	1	6	0	271	3420
5:40 PM	1	101	3	0	4	100	14	1	38	0	10	0	3	1	6	0	282	3444
5:45 PM	8	121	1	0	0	67	16	0	35	1	8	0	3	0	8	0	268	3399
5:50 PM	4	106	1	0	3	95	17	0	28	4	4	0	3	1	11	0	277	3356
5:55 PM	6	108	1	0	1	89	10	1	30	2	5	0	1	0	6	0	260	3352

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	68	1632	16	4	64	1024	248	0	324	16	88	0	40	8	116	0	3648
Heavy Trucks	0	20	0		0	32	0		4	0	0		0	0	0		56
Pedestrians		8				0				4				8			20
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

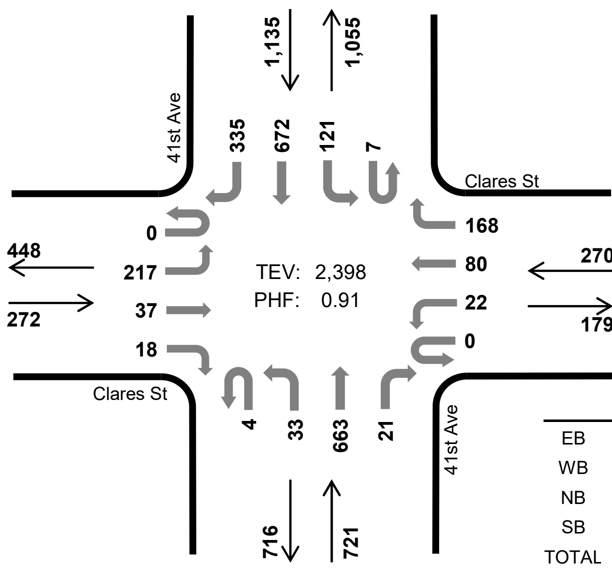
Report generated on 11/14/2016 3:40 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

41st Ave
Clares St

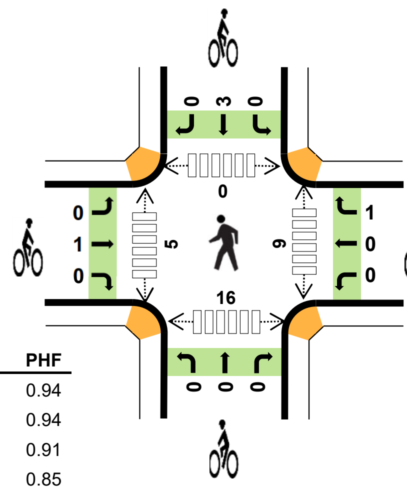
Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

N

Peak Hour



	HV %:	PHF
EB	2.2%	0.94
WB	1.1%	0.94
NB	2.6%	0.91
SB	2.6%	0.85
TOTAL	2.4%	0.91



Two-Hour Count Summaries

Interval Start		Clares St				Clares St				41st Ave				41st Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	33	4	5	0	0	10	35	0	3	141	4	2	12	90	19	358	0
7:15 AM		0	25	4	2	0	1	11	40	1	5	160	3	2	15	100	30	399	0
7:30 AM		0	41	5	2	0	3	21	43	1	1	178	2	3	18	120	35	473	0
7:45 AM		0	45	13	2	0	2	20	62	0	6	197	7	5	18	155	43	575	1,805
8:00 AM		**0**	**49**	**15**	**4**	**0**	**9**	**15**	**43**	**0**	**8**	**144**	**8**	**2**	**29**	**132**	**86**	**544**	1,991
8:15 AM		**0**	**61**	**6**	**3**	**0**	**4**	**20**	**43**	**0**	**8**	**163**	**5**	**1**	**34**	**145**	**77**	**570**	2,162
8:30 AM		**0**	**50**	**8**	**4**	**0**	**2**	**28**	**42**	**2**	**11**	**170**	**4**	**3**	**32**	**211**	**89**	**656**	2,345
8:45 AM		**0**	**57**	**8**	**7**	**0**	**7**	**17**	**40**	**2**	**6**	**186**	**4**	**1**	**26**	**184**	**83**	**628**	2,398
Count Total		0	361	63	29	0	28	142	348	6	48	1,339	37	19	184	1,137	462	4,203	0
Peak Hour	**All**	**0**	**217**	**37**	**18**	**0**	**22**	**80**	**168**	**4**	**33**	**663**	**21**	**7**	**121**	**672**	**335**	**2,398**	**0**
	HV	**0**	**6**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**1**	**17**	**1**	**0**	**1**	**23**	**6**	**58**	**0**
	HV%	**-**	**3%**	**0%**	**0%**	**-**	**0%**	**1%**	**1%**	**0%**	**3%**	**3%**	**5%**	**0%**	**1%**	**3%**	**2%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	1	3	4	*9*	0	1	0	0	*1*	0	0	0	0	*0*
7:15 AM	0	0	4	4	*8*	2	1	0	0	*3*	2	2	0	5	*9*
7:30 AM	2	0	5	14	*21*	4	0	0	1	*5*	2	0	0	12	*14*
7:45 AM	2	0	3	10	*15*	1	0	0	0	*1*	2	1	0	8	*11*
8:00 AM	**1**	**1**	**6**	**7**	***15***	**0**	**0**	**0**	**1**	***1***	**0**	**1**	**0**	**2**	*3*
8:15 AM	**3**	**0**	**5**	**8**	***16***	**0**	**0**	**0**	**0**	***0***	**2**	**2**	**0**	**5**	*9*
8:30 AM	**2**	**2**	**2**	**9**	***15***	**1**	**0**	**0**	**0**	***1***	**4**	**0**	**0**	**4**	*8*
8:45 AM	**0**	**0**	**6**	**6**	***12***	**0**	**1**	**0**	**2**	***3***	**3**	**2**	**0**	**5**	***10***
Count Total	11	4	34	62	*111*	8	3	0	4	*15*	15	8	0	41	*64*
Peak Hour	**6**	**3**	**19**	**30**	***58***	**1**	**1**	**0**	**3**	***5***	**9**	**5**	**0**	**16**	***30***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Clares St Eastbound UT	LT	TH	RT	Clares St Westbound UT	LT	TH	RT	41st Ave Northbound UT	LT	TH	RT	41st Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	1	0	0	0	0	0	1	0	0	2	1	0	0	4	0	9	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	3	1	8	0
7:30 AM	0	2	0	0	0	0	0	0	0	0	5	0	0	0	12	2	21	0
7:45 AM	0	1	0	1	0	0	0	0	0	0	3	0	0	0	7	3	15	53
8:00 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**5**	**1**	**0**	**1**	**4**	**2**	**15**	59
8:15 AM	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**0**	**0**	**0**	**7**	**1**	**16**	67
8:30 AM	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**7**	**2**	**15**	61
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**5**	**1**	**12**	**58**
Count Total	0	10	0	1	0	0	1	3	0	1	31	2	0	1	49	12	111	0
Peak Hour	**0**	**6**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**1**	**17**	**1**	**0**	**1**	**23**	**6**	**58**	**0**

Two-Hour Count Summaries - Bikes

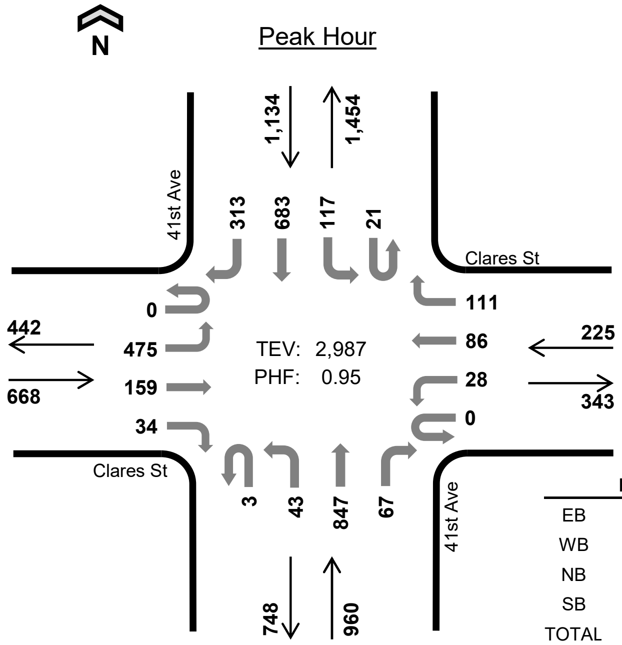
Interval Start	Clares St Eastbound LT	TH	RT	Clares St Westbound LT	TH	RT	41st Ave Northbound LT	TH	RT	41st Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	0
7:15 AM	0	2	0	0	1	0	0	0	0	0	0	0	3	0
7:30 AM	1	3	0	0	0	0	0	0	0	0	1	0	5	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	10
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	10
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	7
8:30 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	3
8:45 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**3**	**5**
Count Total	1	7	0	0	1	2	0	0	0	0	4	0	15	0
Peak Hour	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**0**	**5**	**0**

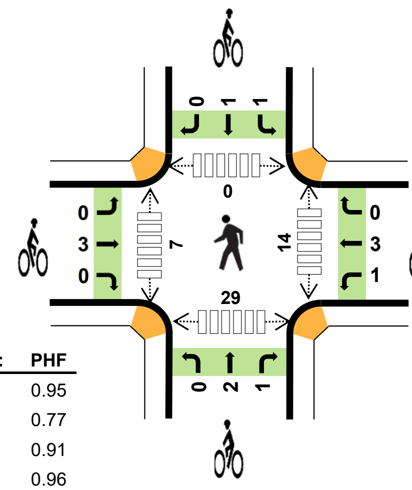
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

41st Ave
Clares St

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM

Peak Hour





	HV %:	PHF
EB	1.0%	0.95
WB	0.0%	0.77
NB	0.9%	0.91
SB	0.9%	0.96
TOTAL	0.9%	0.95

Two-Hour Count Summaries

Interval Start		Clares St Eastbound				Clares St Westbound				41st Ave Northbound				41st Ave Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	111	32	8	0	4	23	32	2	19	244	22	3	34	164	88	786	0
4:15 PM		**0**	**125**	**42**	**5**	**0**	**4**	**17**	**25**	**1**	**7**	**232**	**25**	**5**	**32**	**167**	**68**	**755**	0
4:30 PM		**0**	**113**	**33**	**13**	**0**	**10**	**22**	**41**	**0**	**9**	**203**	**10**	**8**	**29**	**168**	**68**	**727**	0
4:45 PM		**0**	**109**	**45**	**8**	**0**	**5**	**28**	**19**	**1**	**15**	**178**	**15**	**4**	**35**	**162**	**92**	**716**	2,984
5:00 PM		**0**	**128**	**39**	**8**	**0**	**9**	**19**	**26**	**1**	**12**	**234**	**17**	**4**	**21**	**186**	**85**	**789**	**2,987**
5:15 PM		0	120	44	13	0	5	17	26	0	11	208	15	3	24	181	77	744	2,976
5:30 PM		0	108	41	6	0	4	19	22	2	11	194	20	3	30	147	82	689	2,938
5:45 PM		0	104	28	8	0	13	15	25	1	13	210	18	2	47	167	93	744	2,966
Count Total		0	918	304	69	0	54	160	216	8	97	1,703	142	32	252	1,342	653	5,950	0
Peak Hour	**All**	**0**	**475**	**159**	**34**	**0**	**28**	**86**	**111**	**3**	**43**	**847**	**67**	**21**	**117**	**683**	**313**	**2,987**	**0**
	HV	**0**	**5**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**1**	**1**	**6**	**2**	**26**	**0**
	HV%	**-**	**1%**	**0%**	**6%**	**-**	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**0%**	**5%**	**1%**	**1%**	**1%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	2	1	*4*	0	0	1	1	*2*	3	1	1	3	*8*
4:15 PM	**1**	**0**	**4**	**2**	***7***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**5**	***5***
4:30 PM	**1**	**0**	**1**	**4**	***6***	**2**	**4**	**1**	**0**	***7***	**5**	**1**	**0**	**13**	***19***
4:45 PM	**4**	**0**	**1**	**2**	***7***	**1**	**0**	**0**	**0**	***1***	**3**	**4**	**0**	**3**	***10***
5:00 PM	**1**	**0**	**3**	**2**	***6***	**0**	**0**	**1**	**2**	***3***	**6**	**2**	**0**	**8**	***16***
5:15 PM	0	0	1	0	*1*	0	1	0	3	*4*	3	0	0	6	*9*
5:30 PM	2	0	1	1	*4*	0	1	0	1	*2*	6	4	0	2	*12*
5:45 PM	0	0	1	2	*3*	0	1	0	2	*3*	3	2	0	4	*9*
Count Total	10	0	14	14	*38*	3	7	4	9	*23*	29	14	1	44	*88*
Peak Hour	**7**	**0**	**9**	**10**	***26***	**3**	**4**	**3**	**2**	***12***	**14**	**7**	**0**	**29**	***50***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Clares St Eastbound UT	LT	TH	RT	Clares St Westbound UT	LT	TH	RT	41st Ave Northbound UT	LT	TH	RT	41st Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	1	0	0	0	0	0	0	0	0	2	0	0	0	1	0	4	0
4:15 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**1**	**1**	**0**	**7**	0
4:30 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**3**	**0**	**6**	0
4:45 PM	**0**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**7**	24
5:00 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**1**	**6**	**26**
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	20
5:30 PM	0	2	0	0	0	0	0	0	0	0	1	0	0	0	1	0	4	18
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	3	14
Count Total	0	8	0	2	0	0	0	0	0	0	13	1	1	1	10	2	38	0
Peak Hour	**0**	**5**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**1**	**1**	**6**	**2**	**26**	**0**

Two-Hour Count Summaries - Bikes

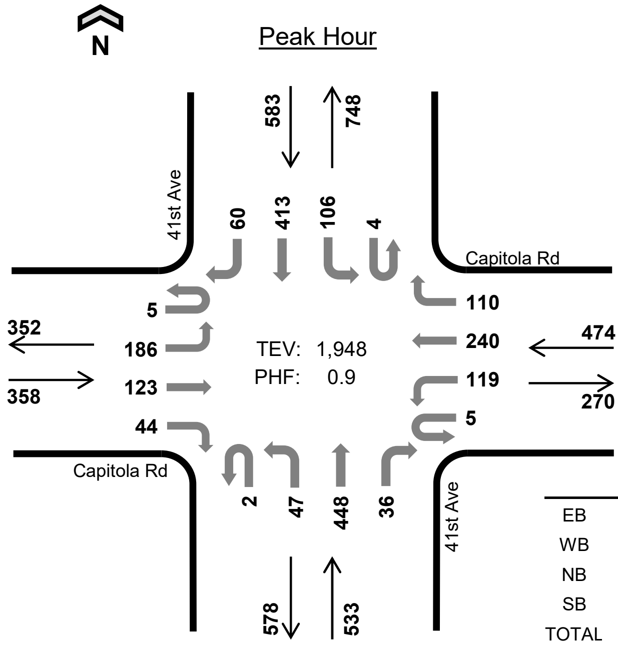
Interval Start	Clares St Eastbound LT	TH	RT	Clares St Westbound LT	TH	RT	41st Ave Northbound LT	TH	RT	41st Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	0	0	0	0	0	0	1	0	1	0	2	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	0
4:30 PM	**0**	**2**	**0**	**1**	**3**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**7**	0
4:45 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	11
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**3**	**12**
5:15 PM	0	0	0	0	1	0	0	0	0	2	1	0	4	15
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	1	2	10
5:45 PM	0	0	0	0	0	1	0	0	0	1	1	0	3	12
Count Total	0	3	0	1	5	1	0	2	2	4	4	1	23	0
Peak Hour	**0**	**3**	**0**	**1**	**3**	**0**	**0**	**2**	**1**	**1**	**1**	**0**	**12**	**0**

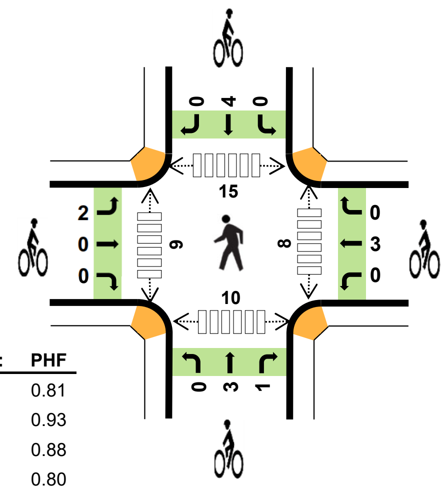
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

41st Ave
Capitola Rd

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour





	HV %:	PHF
EB	3.4%	0.81
WB	2.7%	0.93
NB	3.6%	0.88
SB	2.9%	0.80
TOTAL	3.1%	0.90

Two-Hour Count Summaries

Interval Start		Capitola Rd Eastbound				Capitola Rd Westbound				41st Ave Northbound				41st Ave Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		1	41	13	4	0	9	18	15	0	6	93	6	1	10	59	5	281	0
7:15 AM		0	50	20	1	0	19	25	20	2	4	96	9	0	16	68	11	341	0
7:30 AM		0	55	29	9	1	18	50	34	4	6	115	9	0	23	83	15	451	0
7:45 AM		0	63	38	4	0	23	49	27	2	3	114	10	0	29	89	7	458	1,531
8:00 AM		**1**	**53**	**30**	**3**	**1**	**28**	**57**	**26**	**1**	**9**	**88**	**11**	**0**	**18**	**94**	**18**	**438**	1,688
8:15 AM		**1**	**49**	**20**	**13**	**1**	**29**	**68**	**27**	**1**	**9**	**107**	**9**	**1**	**18**	**92**	**9**	**454**	1,801
8:30 AM		**3**	**35**	**31**	**8**	**3**	**21**	**57**	**28**	**0**	**13**	**123**	**11**	**3**	**40**	**125**	**15**	**516**	1,866
8:45 AM		**0**	**49**	**42**	**20**	**0**	**41**	**58**	**29**	**0**	**16**	**130**	**5**	**0**	**30**	**102**	**18**	**540**	**1,948**
Count Total		6	395	223	62	6	188	382	206	10	66	866	70	5	184	712	98	3,479	0
Peak Hour	**All**	**5**	**186**	**123**	**44**	**5**	**119**	**240**	**110**	**2**	**47**	**448**	**36**	**4**	**106**	**413**	**60**	**1,948**	**0**
	HV	**0**	**7**	**2**	**3**	**0**	**3**	**6**	**4**	**0**	**1**	**16**	**2**	**0**	**2**	**13**	**2**	**61**	**0**
	HV%	**0%**	**4%**	**2%**	**7%**	**0%**	**3%**	**3%**	**4%**	**0%**	**2%**	**4%**	**6%**	**0%**	**2%**	**3%**	**3%**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	2	2	4	5	*13*	0	0	0	0	*0*	0	1	1	2	*4*
7:15 AM	2	2	1	2	*7*	0	2	0	0	*2*	1	1	2	5	*9*
7:30 AM	1	1	3	13	*18*	0	4	0	0	*4*	0	2	2	3	*7*
7:45 AM	0	0	3	5	*8*	1	0	0	1	*2*	0	2	1	5	*8*
8:00 AM	**3**	**4**	**4**	**2**	***13***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**5**	**1**	***8***
8:15 AM	**4**	**5**	**3**	**5**	***17***	**0**	**3**	**0**	**0**	***3***	**2**	**3**	**3**	**3**	***11***
8:30 AM	**3**	**2**	**4**	**8**	***17***	**1**	**0**	**3**	**0**	***4***	**2**	**2**	**3**	**4**	***11***
8:45 AM	**2**	**2**	**8**	**2**	***14***	**1**	**0**	**1**	**4**	***6***	**2**	**4**	**4**	**2**	***12***
Count Total	17	18	30	42	*107*	3	9	4	5	*21*	9	15	21	25	*70*
Peak Hour	**12**	**13**	**19**	**17**	***61***	**2**	**3**	**4**	**4**	***13***	**8**	**9**	**15**	**10**	***42***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	41st Ave Northbound UT	LT	TH	RT	41st Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	1	0	1	0	0	1	1	0	0	3	1	0	1	4	0	13	0
7:15 AM	0	2	0	0	0	1	0	1	0	0	1	0	0	0	2	0	7	0
7:30 AM	0	1	0	0	0	1	0	0	0	0	3	0	0	1	12	0	18	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	1	4	0	8	46
8:00 AM	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**3**	**0**	**1**	**3**	**0**	**0**	**0**	**2**	**0**	**13**	46
8:15 AM	**0**	**3**	**0**	**1**	**0**	**2**	**2**	**1**	**0**	**0**	**2**	**1**	**0**	**0**	**5**	**0**	**17**	56
8:30 AM	**0**	**0**	**2**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**1**	**0**	**2**	**5**	**1**	**17**	55
8:45 AM	**0**	**1**	**0**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**1**	**1**	**14**	**61**
Count Total	0	11	2	4	0	5	7	6	0	1	26	3	0	5	35	2	107	0
Peak Hour	**0**	**7**	**2**	**3**	**0**	**3**	**6**	**4**	**0**	**1**	**16**	**2**	**0**	**2**	**13**	**2**	**61**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Capitola Rd Eastbound LT	TH	RT	Capitola Rd Westbound LT	TH	RT	41st Ave Northbound LT	TH	RT	41st Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	1	1	0	0	0	0	0	0	0	2	0
7:30 AM	0	0	0	0	4	0	0	0	0	0	0	0	4	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	1	2	8
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	8
8:15 AM	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	9
8:30 AM	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**4**	9
8:45 AM	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**4**	**0**	**6**	**13**
Count Total	2	0	1	1	8	0	0	3	1	0	4	1	21	0
Peak Hour	**2**	**0**	**0**	**0**	**3**	**0**	**0**	**3**	**1**	**0**	**4**	**0**	**13**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

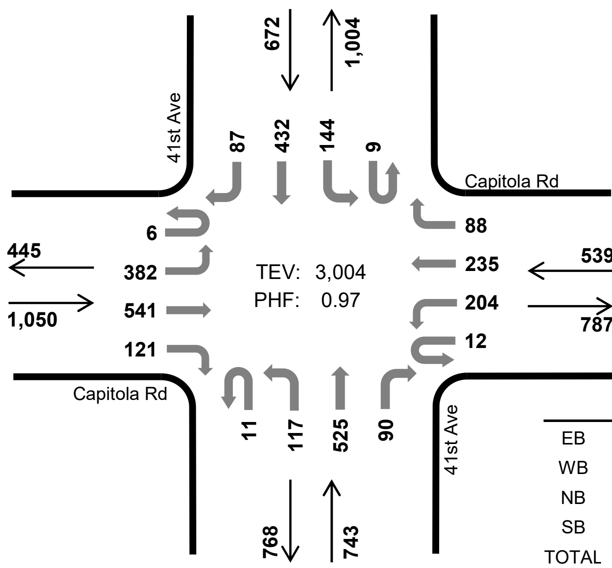
41st Ave
Capitola Rd

idax

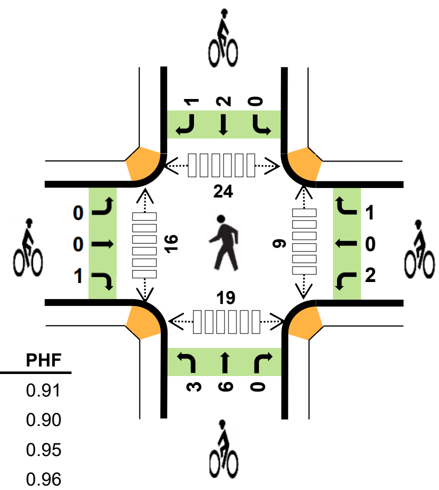
Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM

N

Peak Hour



	HV %:	PHF
EB	0.8%	0.91
WB	0.0%	0.90
NB	0.8%	0.95
SB	1.0%	0.96
TOTAL	0.7%	0.97



Two-Hour Count Summaries

Interval Start		Capitola Rd Eastbound				Capitola Rd Westbound				41st Ave Northbound				41st Ave Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		2	107	130	27	4	45	73	27	3	30	140	30	2	22	101	15	758	0
4:15 PM		1	90	119	30	1	52	59	32	4	27	153	14	2	24	92	23	723	0
4:30 PM		**4**	**100**	**152**	**31**	**2**	**43**	**64**	**25**	**3**	**25**	**122**	**22**	**1**	**30**	**114**	**23**	**761**	0
4:45 PM		**0**	**77**	**134**	**34**	**4**	**58**	**61**	**21**	**3**	**30**	**130**	**20**	**4**	**38**	**97**	**20**	**731**	2,973
5:00 PM		**2**	**103**	**123**	**26**	**2**	**56**	**59**	**32**	**3**	**38**	**132**	**22**	**0**	**40**	**107**	**28**	**773**	2,988
5:15 PM		**0**	**102**	**132**	**30**	**4**	**47**	**51**	**10**	**2**	**24**	**141**	**26**	**4**	**36**	**114**	**16**	**739**	**3,004**
5:30 PM		2	100	146	23	1	42	64	21	6	26	156	16	2	36	78	21	740	2,983
5:45 PM		0	96	118	23	3	33	36	22	1	19	117	16	3	23	116	18	644	2,896
Count Total		11	775	1,054	224	21	376	467	190	25	219	1,091	166	18	249	819	164	5,869	0
Peak Hour	**All**	**6**	**382**	**541**	**121**	**12**	**204**	**235**	**88**	**11**	**117**	**525**	**90**	**9**	**144**	**432**	**87**	**3,004**	**0**
	HV	**0**	**5**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**1**	**5**	**1**	**21**	**0**
	HV%	**0%**	**1%**	**0%**	**1%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**0%**	**0%**	**1%**	**1%**	**1%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	4	2	0	1	7	0	3	1	2	6	1	12	8	4	25
4:15 PM	4	2	1	0	7	0	1	1	0	2	3	4	6	1	14
4:30 PM	**2**	**0**	**1**	**5**	**8**	**0**	**0**	**2**	**1**	**3**	**3**	**4**	**6**	**4**	17
4:45 PM	**1**	**0**	**1**	**1**	**3**	**0**	**1**	**2**	**0**	**3**	**2**	**7**	**9**	**5**	23
5:00 PM	**3**	**0**	**2**	**1**	**6**	**1**	**1**	**4**	**1**	**7**	**3**	**3**	**3**	**9**	18
5:15 PM	**2**	**0**	**2**	**0**	**4**	**0**	**1**	**1**	**1**	**3**	**1**	**2**	**6**	**1**	10
5:30 PM	0	1	2	2	5	0	1	1	0	2	3	5	1	5	14
5:45 PM	1	0	0	2	3	0	2	2	2	6	3	2	2	9	16
Count Total	17	5	9	12	43	1	10	14	7	32	19	39	41	38	137
Peak Hour	**8**	**0**	**6**	**7**	**21**	**1**	**3**	**9**	**3**	**16**	**9**	**16**	**24**	**19**	**68**

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd				Capitola Rd				41st Ave				41st Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	2	1	1	0	0	2	0	0	0	0	0	0	0	1	0	7	0
4:15 PM	0	3	1	0	0	0	1	1	0	0	1	0	0	0	0	0	7	0
4:30 PM	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**3**	**1**	**8**	0
4:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**3**	25
5:00 PM	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**6**	24
5:15 PM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**4**	**21**
5:30 PM	0	0	0	0	0	0	0	1	0	0	2	0	0	1	1	0	5	18
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	3	18
Count Total	0	11	4	2	0	0	3	2	0	0	9	0	0	4	7	1	43	0
Peak Hour	**0**	**5**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**1**	**5**	**1**	**21**	**0**

Two-Hour Count Summaries - Bikes

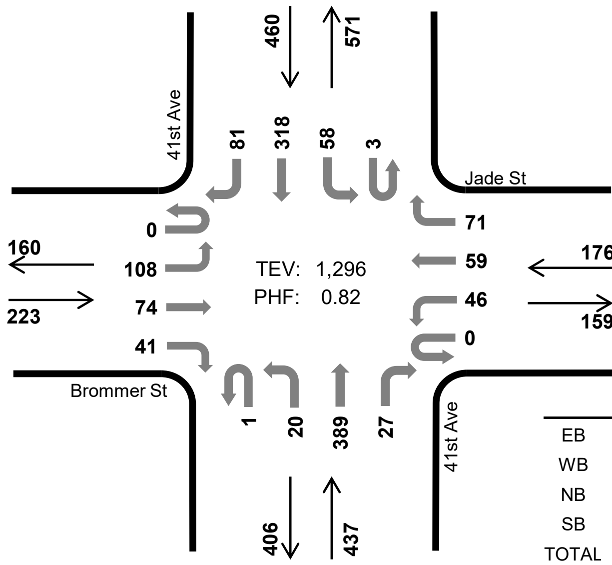
Interval Start	Capitola Rd			Capitola Rd			41st Ave			41st Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	1	2	0	0	0	1	0	2	0	6	0
4:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	2	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**3**	0
4:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**3**	14
5:00 PM	**0**	**0**	**1**	**0**	**0**	**1**	**2**	**2**	**0**	**0**	**1**	**0**	**7**	15
5:15 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**3**	**16**
5:30 PM	0	0	0	0	1	0	1	0	0	0	0	0	2	15
5:45 PM	0	0	0	0	2	0	1	1	0	0	1	1	6	18
Count Total	0	0	1	3	6	1	5	8	1	0	5	2	32	0
Peak Hour	**0**	**0**	**1**	**2**	**0**	**1**	**3**	**6**	**0**	**0**	**2**	**1**	**16**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

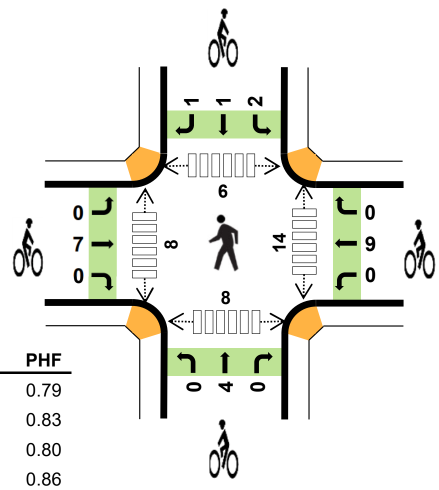
41st Ave
Brommer St

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour



	HV %:	PHF
EB	3.1%	0.79
WB	1.1%	0.83
NB	2.7%	0.80
SB	3.7%	0.86
TOTAL	2.9%	0.82



Two-Hour Count Summaries

Interval Start	Brommer St Eastbound UT	LT	TH	RT	Jade St Westbound UT	LT	TH	RT	41st Ave Northbound UT	LT	TH	RT	41st Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	27	11	6	0	1	9	7	0	3	61	4	1	1	47	22	200	0
7:15 AM	0	33	20	5	0	4	13	7	0	4	71	4	2	11	38	23	235	0
7:30 AM	0	28	17	1	0	6	20	10	0	2	80	7	0	10	61	15	257	0
7:45 AM	0	35	21	8	0	6	21	8	0	7	86	4	0	14	58	18	286	978
8:00 AM	**0**	**34**	**14**	**7**	**0**	**11**	**10**	**12**	**0**	**1**	**76**	**5**	**0**	**11**	**74**	**20**	**275**	1,053
8:15 AM	**0**	**19**	**15**	**7**	**0**	**8**	**16**	**15**	**1**	**5**	**96**	**6**	**1**	**19**	**61**	**17**	**286**	1,104
8:30 AM	**0**	**24**	**22**	**10**	**0**	**12**	**14**	**25**	**0**	**8**	**96**	**7**	**1**	**13**	**87**	**23**	**342**	1,189
8:45 AM	**0**	**31**	**23**	**17**	**0**	**15**	**19**	**19**	**0**	**6**	**121**	**9**	**1**	**15**	**96**	**21**	**393**	**1,296**
Count Total	0	231	143	61	0	63	122	103	1	36	687	46	6	94	522	159	2,274	0
Peak Hour All	**0**	**108**	**74**	**41**	**0**	**46**	**59**	**71**	**1**	**20**	**389**	**27**	**3**	**58**	**318**	**81**	**1,296**	**0**
Peak Hour HV	**0**	**6**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**11**	**1**	**0**	**0**	**15**	**2**	**38**	**0**
Peak Hour HV%	**-**	**6%**	**0%**	**2%**	**-**	**0%**	**0%**	**3%**	**0%**	**0%**	**3%**	**4%**	**0%**	**0%**	**5%**	**2%**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	0	2	1	4	*7*	1	0	0	1	*2*	1	0	2	0	*3*
7:15 AM	1	0	1	2	*4*	2	1	0	1	*4*	0	1	2	1	*4*
7:30 AM	0	0	2	8	*10*	0	0	0	1	*1*	1	1	1	0	*3*
7:45 AM	2	0	1	2	*5*	3	1	0	2	*6*	2	2	3	0	*7*
8:00 AM	**1**	**0**	**3**	**3**	***7***	**0**	**2**	**0**	**1**	***3***	**1**	**1**	**1**	**2**	***5***
8:15 AM	**1**	**1**	**1**	**4**	***7***	**5**	**0**	**1**	**0**	***6***	**4**	**0**	**2**	**1**	***7***
8:30 AM	**2**	**1**	**3**	**4**	***10***	**0**	**3**	**3**	**0**	***6***	**7**	**2**	**2**	**5**	***16***
8:45 AM	**3**	**0**	**5**	**6**	***14***	**2**	**4**	**0**	**3**	***9***	**2**	**5**	**1**	**0**	***8***
Count Total	10	4	17	33	*64*	13	11	4	9	*37*	18	12	14	9	*53*
Peak Hour	**7**	**2**	**12**	**17**	***38***	**7**	**9**	**4**	**4**	***24***	**14**	**8**	**6**	**8**	***36***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Brommer St				Jade St				41st Ave				41st Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	2	0	0	1	0	0	0	2	2	7	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	1	4	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	6	2	10	0
7:45 AM	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	2	5	26
8:00 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**0**	**7**	26
8:15 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**1**	**7**	29
8:30 AM	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**1**	**0**	**0**	**3**	**1**	**10**	29
8:45 AM	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**6**	**0**	**14**	**38**
Count Total	0	9	0	1	0	0	0	4	0	0	16	1	0	0	24	9	64	0
Peak Hour	**0**	**6**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**11**	**1**	**0**	**0**	**15**	**2**	**38**	**0**

Two-Hour Count Summaries - Bikes

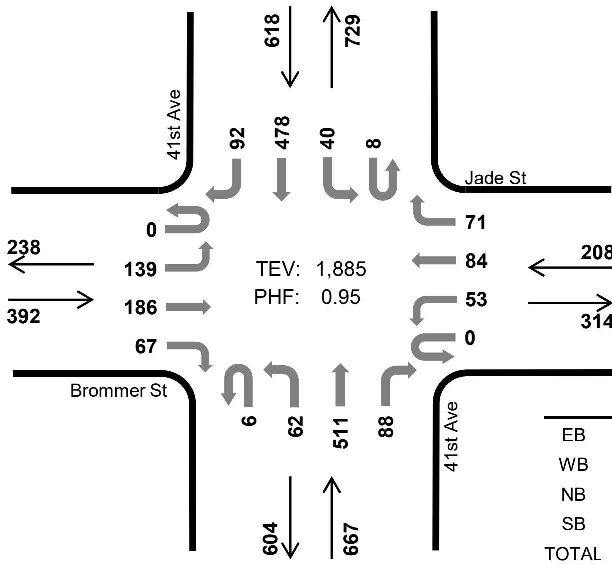
Interval Start	Brommer St			Jade St			41st Ave			41st Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	1	2	0
7:15 AM	0	2	0	0	1	0	0	0	0	0	0	1	4	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:45 AM	0	0	3	0	1	0	0	0	0	0	1	1	6	13
8:00 AM	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	14
8:15 AM	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**6**	16
8:30 AM	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**6**	21
8:45 AM	**0**	**2**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**9**	**24**
Count Total	0	10	3	0	11	0	0	4	0	2	3	4	37	0
Peak Hour	**0**	**7**	**0**	**0**	**9**	**0**	**0**	**4**	**0**	**2**	**1**	**1**	**24**	**0**

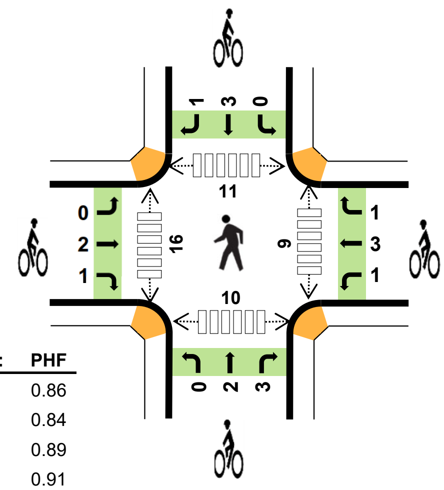
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

41st Ave
Brommer St

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

Peak Hour





	HV %:	PHF
EB	0.0%	0.86
WB	0.0%	0.84
NB	1.0%	0.89
SB	0.6%	0.91
TOTAL	0.6%	0.95

Two-Hour Count Summaries

Interval Start	Brommer St Eastbound				Jade St Westbound				41st Ave Northbound				41st Ave Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	44	40	13	0	14	19	22	4	12	128	20	1	12	112	26	467	0
4:15 PM	0	42	48	14	0	19	15	21	3	14	114	14	3	14	98	23	442	0
4:30 PM	0	31	42	26	0	11	19	9	3	11	109	27	2	11	100	38	439	0
4:45 PM	**0**	**29**	**46**	**18**	**0**	**12**	**19**	**13**	**2**	**13**	**138**	**19**	**4**	**14**	**119**	**15**	**461**	1,809
5:00 PM	**0**	**34**	**43**	**17**	**0**	**18**	**25**	**19**	**2**	**15**	**131**	**22**	**2**	**9**	**133**	**25**	**495**	1,837
5:15 PM	**0**	**39**	**57**	**18**	**0**	**11**	**18**	**22**	**0**	**20**	**96**	**21**	**2**	**13**	**117**	**25**	**459**	1,854
5:30 PM	**0**	**37**	**40**	**14**	**0**	**12**	**22**	**17**	**2**	**14**	**146**	**26**	**0**	**4**	**109**	**27**	**470**	**1,885**
5:45 PM	0	33	41	19	0	20	14	15	3	15	98	20	1	14	115	33	441	1,865
Count Total	0	289	357	139	0	117	151	138	19	114	960	169	15	91	903	212	3,674	0
Peak Hour All	**0**	**139**	**186**	**67**	**0**	**53**	**84**	**71**	**6**	**62**	**511**	**88**	**8**	**40**	**478**	**92**	**1,885**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**1**	**0**	**0**	**3**	**1**	**11**	**0**
Peak Hour HV%	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**1%**	**0%**	**0%**	**1%**	**1%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	0	3	*4*	2	1	0	3	*6*	3	5	4	3	*15*
4:15 PM	0	0	0	1	*1*	4	0	2	1	*7*	0	4	0	0	*4*
4:30 PM	1	0	2	3	*6*	3	0	4	2	*9*	2	2	2	1	*7*
4:45 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**4**	**1**	***5***	**2**	**1**	**2**	**3**	***8***
5:00 PM	**0**	**0**	**4**	**1**	***5***	**0**	**3**	**1**	**3**	***7***	**1**	**4**	**6**	**2**	***13***
5:15 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**2**	**3**	**1**	**4**	***10***
5:30 PM	**0**	**0**	**2**	**1**	***3***	**3**	**2**	**0**	**0**	***5***	**4**	**8**	**2**	**1**	***15***
5:45 PM	0	0	0	0	*0*	1	1	3	1	*6*	0	5	1	1	*7*
Count Total	2	0	9	11	*22*	13	7	14	11	*45*	14	32	18	15	*79*
Peak Hour	**0**	**0**	**7**	**4**	***11***	**3**	**5**	**5**	**4**	***17***	**9**	**16**	**11**	**10**	***46***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Brommer St				Jade St				41st Ave				41st Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1	4	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:30 PM	0	1	0	0	0	0	0	0	0	0	1	1	0	0	3	0	6	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	14
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**1**	**5**	15
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	14
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**3**	**11**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Count Total	0	2	0	0	0	0	0	0	0	0	7	2	0	0	9	2	22	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**1**	**0**	**0**	**3**	**1**	**11**	**0**

Two-Hour Count Summaries - Bikes

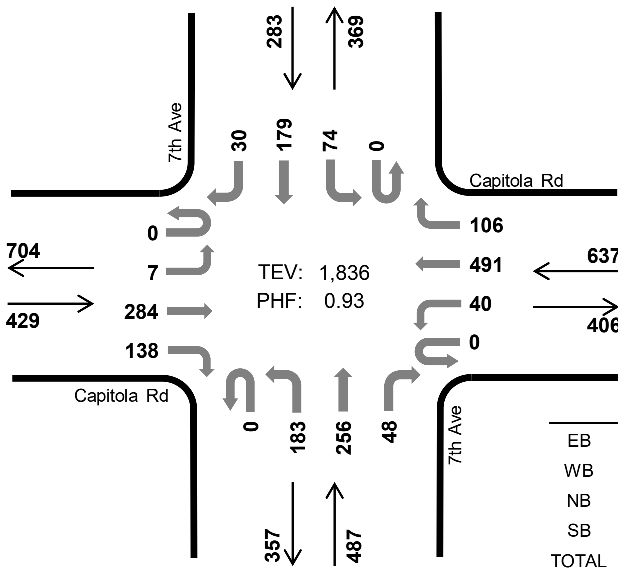
Interval Start	Brommer St			Jade St			41st Ave			41st Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	2	0	0	1	0	0	0	0	0	3	0	6	0
4:15 PM	2	2	0	0	0	0	0	2	0	0	1	0	7	0
4:30 PM	0	3	0	0	0	0	0	3	1	0	1	1	9	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**0**	**1**	**0**	**5**	27
5:00 PM	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**1**	**0**	**0**	**2**	**1**	**7**	28
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	21
5:30 PM	**0**	**2**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**17**
5:45 PM	0	1	0	0	1	0	0	3	0	0	1	0	6	18
Count Total	2	10	1	1	5	1	0	10	4	0	9	2	45	0
Peak Hour	**0**	**2**	**1**	**1**	**3**	**1**	**0**	**2**	**3**	**0**	**3**	**1**	**17**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

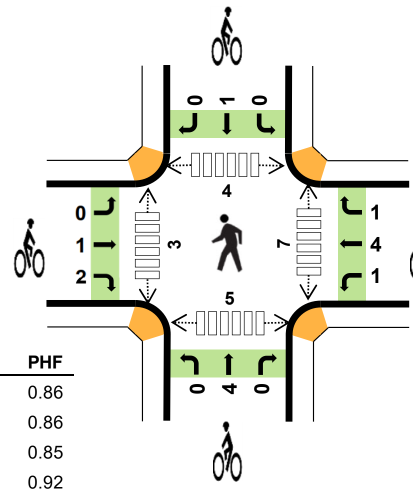
7th Ave
Capitola Rd

Date: 10-11-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour



	HV %:	PHF
EB	1.9%	0.86
WB	1.3%	0.86
NB	2.7%	0.85
SB	2.1%	0.92
TOTAL	1.9%	0.93



Two-Hour Count Summaries

Interval Start	Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	7th Ave Northbound UT	LT	TH	RT	7th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	30	5	0	4	39	27	0	10	53	4	0	8	21	1	202	0
7:15 AM	0	2	33	14	0	7	81	27	0	31	49	9	0	9	16	2	280	0
7:30 AM	0	0	52	18	0	9	110	30	0	30	62	9	0	11	24	4	359	0
7:45 AM	0	1	42	26	0	13	121	34	0	45	96	14	0	7	38	7	444	1,285
8:00 AM	**0**	**2**	**59**	**26**	**0**	**9**	**155**	**22**	**0**	**48**	**80**	**15**	**0**	**16**	**44**	**16**	**492**	1,575
8:15 AM	**0**	**3**	**81**	**41**	**0**	**5**	**119**	**33**	**0**	**54**	**65**	**8**	**0**	**21**	**32**	**2**	**464**	1,759
8:30 AM	**0**	**0**	**74**	**35**	**0**	**14**	**108**	**24**	**0**	**31**	**56**	**11**	**0**	**20**	**50**	**7**	**430**	1,830
8:45 AM	**0**	**2**	**70**	**36**	**0**	**12**	**109**	**27**	**0**	**50**	**55**	**14**	**0**	**17**	**53**	**5**	**450**	**1,836**
Count Total	0	10	441	201	0	73	842	224	0	299	516	84	0	109	278	44	3,121	0
Peak Hour All	**0**	**7**	**284**	**138**	**0**	**40**	**491**	**106**	**0**	**183**	**256**	**48**	**0**	**74**	**179**	**30**	**1,836**	**0**
Peak Hour HV	**0**	**0**	**5**	**3**	**0**	**1**	**5**	**2**	**0**	**4**	**9**	**0**	**0**	**1**	**5**	**0**	**35**	**0**
Peak Hour HV%	**-**	**0%**	**2%**	**2%**	**-**	**3%**	**1%**	**2%**	**-**	**2%**	**4%**	**0%**	**-**	**1%**	**3%**	**0%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	1	2	3	0	*6*	0	0	0	0	*0*	0	2	0	0	*2*
7:15 AM	2	5	2	0	*9*	0	3	2	0	*5*	4	0	2	3	*9*
7:30 AM	0	5	2	1	*8*	0	3	3	2	*8*	1	1	1	1	*4*
7:45 AM	2	2	2	4	*10*	0	4	1	0	*5*	5	8	8	0	*21*
8:00 AM	**1**	**1**	**5**	**4**	***11***	**1**	**2**	**4**	**0**	***7***	**4**	**2**	**0**	**0**	*6*
8:15 AM	**3**	**1**	**3**	**0**	***7***	**0**	**1**	**0**	**1**	***2***	**1**	**1**	**1**	**0**	*3*
8:30 AM	**1**	**3**	**2**	**2**	***8***	**0**	**1**	**0**	**0**	***1***	**2**	**0**	**1**	**1**	*4*
8:45 AM	**3**	**3**	**3**	**0**	***9***	**2**	**2**	**0**	**0**	***4***	**0**	**0**	**2**	**4**	*6*
Count Total	13	22	22	11	*68*	3	16	10	3	*32*	17	14	15	9	*55*
Peak Hour	**8**	**8**	**13**	**6**	***35***	**3**	**6**	**4**	**1**	***14***	**7**	**3**	**4**	**5**	***19***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	7th Ave Northbound UT	LT	TH	RT	7th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	1	0	0	0	1	1	0	0	3	0	0	0	0	0	6	0
7:15 AM	0	0	1	1	0	0	2	3	0	2	0	0	0	0	0	0	9	0
7:30 AM	0	0	0	0	0	2	2	1	0	0	2	0	0	1	0	0	8	0
7:45 AM	0	0	0	2	0	0	2	0	0	2	0	0	0	1	2	1	10	33
8:00 AM	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**4**	**0**	**0**	**1**	**3**	**0**	**11**	38
8:15 AM	**0**	**0**	**2**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**7**	36
8:30 AM	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**8**	36
8:45 AM	**0**	**0**	**2**	**1**	**0**	**0**	**2**	**1**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**9**	**35**
Count Total	0	0	7	6	0	3	12	7	0	8	14	0	0	3	7	1	68	0
Peak Hour	**0**	**0**	**5**	**3**	**0**	**1**	**5**	**2**	**0**	**4**	**9**	**0**	**0**	**1**	**5**	**0**	**35**	**0**

Two-Hour Count Summaries - Bikes

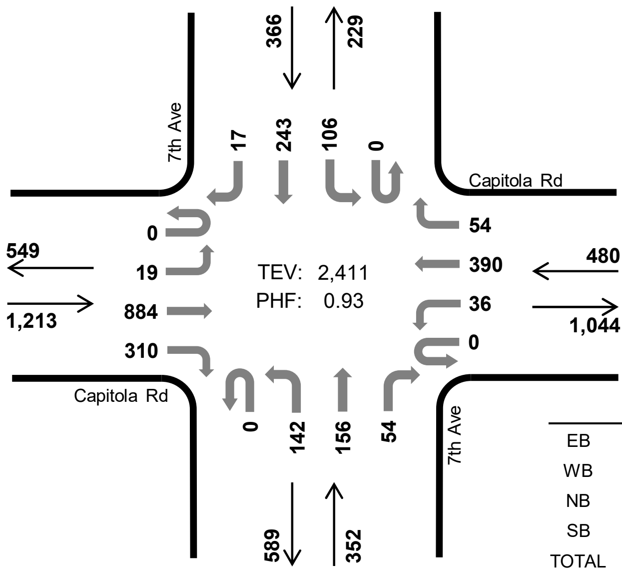
Interval Start	Capitola Rd Eastbound LT	TH	RT	Capitola Rd Westbound LT	TH	RT	7th Ave Northbound LT	TH	RT	7th Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	1	2	0	0	1	1	0	0	0	5	0
7:30 AM	0	0	0	1	2	0	1	2	0	0	2	0	8	0
7:45 AM	0	0	0	0	4	0	0	1	0	0	0	0	5	18
8:00 AM	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**7**	25
8:15 AM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	22
8:30 AM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	15
8:45 AM	**0**	**1**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**14**
Count Total	0	1	2	3	12	1	1	8	1	0	3	0	32	0
Peak Hour	**0**	**1**	**2**	**1**	**4**	**1**	**0**	**4**	**0**	**0**	**1**	**0**	**14**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

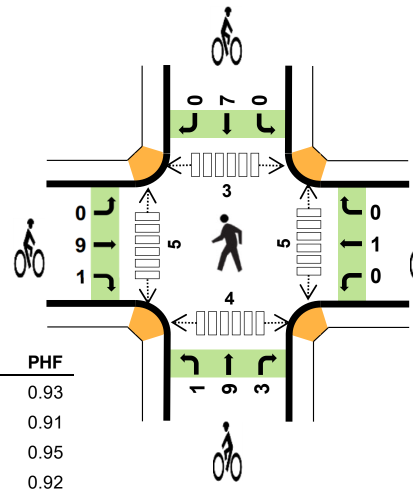
7th Ave
Capitola Rd

Date: 10-11-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

Peak Hour



	HV %:	PHF
EB	0.6%	0.93
WB	1.0%	0.91
NB	0.6%	0.95
SB	1.1%	0.92
TOTAL	0.7%	0.93



Two-Hour Count Summaries

Interval Start		Capitola Rd				Capitola Rd				7th Ave				7th Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	9	204	82	0	14	99	16	0	19	47	11	0	18	67	6	592	0
4:15 PM		0	4	236	83	0	21	98	14	0	32	37	16	0	32	59	7	639	0
4:30 PM		0	3	200	62	1	22	95	9	0	33	44	18	0	24	45	9	565	0
4:45 PM		**0**	**5**	**205**	**64**	**0**	**8**	**91**	**19**	**0**	**29**	**41**	**23**	**0**	**25**	**47**	**3**	**560**	2,356
5:00 PM		**0**	**1**	**221**	**79**	**0**	**10**	**93**	**14**	**0**	**34**	**43**	**6**	**0**	**23**	**64**	**5**	**593**	2,357
5:15 PM		**0**	**5**	**244**	**76**	**0**	**7**	**116**	**9**	**0**	**40**	**43**	**10**	**0**	**31**	**62**	**6**	**649**	2,367
5:30 PM		**0**	**8**	**214**	**91**	**0**	**11**	**90**	**12**	**0**	**39**	**29**	**15**	**0**	**27**	**70**	**3**	**609**	**2,411**
5:45 PM		0	3	200	63	0	14	80	9	0	27	45	8	0	11	53	4	517	2,368
Count Total		0	38	1,724	600	1	107	762	102	0	253	329	107	0	191	467	43	4,724	0
Peak Hour	**All**	**0**	**19**	**884**	**310**	**0**	**36**	**390**	**54**	**0**	**142**	**156**	**54**	**0**	**106**	**243**	**17**	**2,411**	**0**
	HV	**0**	**0**	**5**	**2**	**0**	**0**	**5**	**0**	**0**	**1**	**1**	**0**	**0**	**3**	**1**	**0**	**18**	**0**
	HV%	**-**	**0%**	**1%**	**1%**	**-**	**0%**	**1%**	**0%**	**-**	**1%**	**1%**	**0%**	**-**	**3%**	**0%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	4	1	2	1	*8*	2	0	1	2	*5*	0	0	0	2	*2*
4:15 PM	2	2	5	0	*9*	1	1	0	1	*3*	0	2	0	1	*3*
4:30 PM	2	2	1	0	*5*	1	2	4	0	*7*	1	1	7	1	*10*
4:45 PM	**3**	**0**	**1**	**2**	***6***	**4**	**0**	**2**	**2**	***8***	**1**	**0**	**1**	**0**	*2*
5:00 PM	**2**	**2**	**0**	**1**	***5***	**0**	**0**	**4**	**2**	***6***	**1**	**2**	**2**	**1**	*6*
5:15 PM	**1**	**2**	**1**	**0**	***4***	**2**	**1**	**2**	**0**	***5***	**3**	**1**	**0**	**1**	*5*
5:30 PM	**1**	**1**	**0**	**1**	***3***	**4**	**0**	**5**	**3**	***12***	**0**	**2**	**0**	**2**	*4*
5:45 PM	2	1	0	1	*4*	1	3	1	0	*5*	4	1	3	2	*10*
Count Total	17	11	10	6	*44*	15	7	19	10	*51*	10	9	13	10	*42*
Peak Hour	**7**	**5**	**2**	**4**	***18***	**10**	**1**	**13**	**7**	***31***	**5**	**5**	**3**	**4**	***17***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd				Capitola Rd				7th Ave				7th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	2	1	0	0	1	0	0	2	0	0	0	0	1	0	8	0
4:15 PM	0	0	1	1	0	0	2	0	0	3	1	1	0	0	0	0	9	0
4:30 PM	0	0	2	0	0	0	2	0	0	0	1	0	0	0	0	0	5	0
4:45 PM	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**6**	28
5:00 PM	**0**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**5**	25
5:15 PM	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	20
5:30 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**18**
5:45 PM	0	0	2	0	0	0	0	1	0	0	0	0	0	0	1	0	4	16
Count Total	0	1	12	4	0	0	10	1	0	6	3	1	0	3	3	0	44	0
Peak Hour	**0**	**0**	**5**	**2**	**0**	**0**	**5**	**0**	**0**	**1**	**1**	**0**	**0**	**3**	**1**	**0**	**18**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Capitola Rd			Capitola Rd			7th Ave			7th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	2	0	0	0	0	0	0	1	0	2	0	5	0
4:15 PM	0	0	1	1	0	0	0	0	0	0	1	0	3	0
4:30 PM	0	1	0	0	1	1	1	3	0	0	0	0	7	0
4:45 PM	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**8**	23
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**1**	**0**	**2**	**0**	**6**	24
5:15 PM	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**5**	26
5:30 PM	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**3**	**2**	**0**	**3**	**0**	**12**	**31**
5:45 PM	0	1	0	0	3	0	0	1	0	0	0	0	5	28
Count Total	0	13	2	1	5	1	2	13	4	0	10	0	51	0
Peak Hour	**0**	**9**	**1**	**0**	**1**	**0**	**1**	**9**	**3**	**0**	**7**	**0**	**31**	**0**

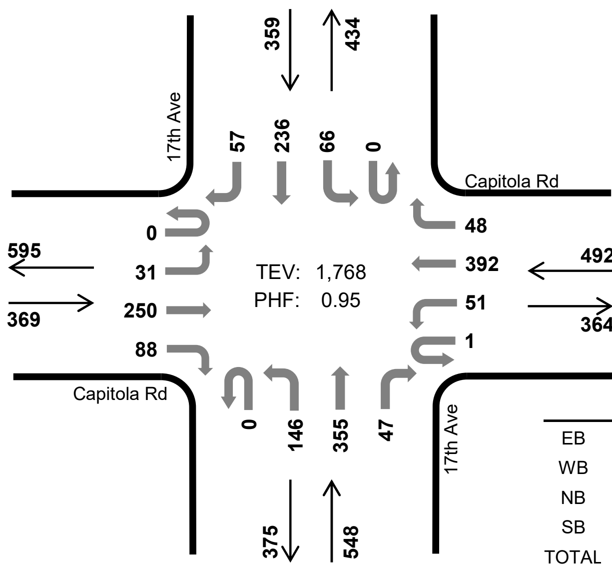
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

17th Ave
Capitola Rd

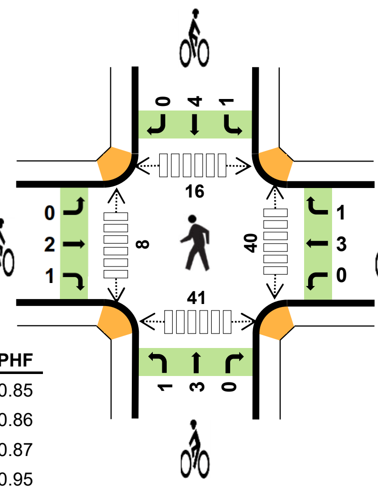
Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

N

Peak Hour



	HV %:	PHF
EB	2.4%	0.85
WB	1.6%	0.86
NB	1.8%	0.87
SB	1.7%	0.95
TOTAL	1.9%	0.95



Two-Hour Count Summaries

Interval Start	Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	17th Ave Northbound UT	LT	TH	RT	17th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	5	21	7	0	8	44	8	0	16	63	4	0	5	23	9	213	0
7:15 AM	0	3	34	9	1	12	58	7	0	35	92	3	0	1	43	10	308	0
7:30 AM	0	10	31	21	0	13	92	14	0	30	97	8	0	14	59	9	398	0
7:45 AM	0	9	47	21	0	21	89	10	0	42	83	12	0	10	57	15	416	1,335
8:00 AM	**0**	**4**	**49**	**20**	**0**	**16**	**88**	**8**	**0**	**46**	**101**	**11**	**0**	**14**	**61**	**11**	**429**	1,551
8:15 AM	**0**	**5**	**64**	**16**	**0**	**8**	**90**	**15**	**0**	**36**	**93**	**10**	**0**	**18**	**54**	**19**	**428**	1,671
8:30 AM	**0**	**12**	**60**	**31**	**0**	**17**	**111**	**15**	**0**	**32**	**85**	**15**	**0**	**15**	**61**	**12**	**466**	1,739
8:45 AM	**0**	**10**	**77**	**21**	**1**	**10**	**103**	**10**	**0**	**32**	**76**	**11**	**0**	**19**	**60**	**15**	**445**	**1,768**
Count Total	0	58	383	146	2	105	675	87	0	269	690	74	0	96	418	100	3,103	0
Peak Hour All	**0**	**31**	**250**	**88**	**1**	**51**	**392**	**48**	**0**	**146**	**355**	**47**	**0**	**66**	**236**	**57**	**1,768**	**0**
Peak Hour HV	**0**	**2**	**5**	**2**	**0**	**1**	**6**	**1**	**0**	**3**	**6**	**1**	**0**	**0**	**4**	**2**	**33**	**0**
Peak Hour HV%	**-**	**6%**	**2%**	**2%**	**0%**	**2%**	**2%**	**2%**	**-**	**2%**	**2%**	**2%**	**-**	**0%**	**2%**	**4%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	2	2	2	1	*7*	1	2	1	0	*4*	2	1	0	1	*4*
7:15 AM	1	0	3	1	*5*	0	1	0	3	*4*	1	7	0	1	*9*
7:30 AM	1	2	0	5	*8*	1	3	6	6	*16*	7	9	3	3	*22*
7:45 AM	2	2	3	2	*9*	4	3	6	3	*16*	4	9	1	3	*17*
8:00 AM	**1**	**1**	**3**	**1**	***6***	**2**	**1**	**3**	**1**	***7***	**17**	**3**	**4**	**21**	*45*
8:15 AM	**3**	**0**	**3**	**4**	***10***	**0**	**2**	**1**	**4**	***7***	**13**	**2**	**4**	**13**	*32*
8:30 AM	**3**	**4**	**4**	**0**	***11***	**0**	**1**	**0**	**0**	***1***	**5**	**1**	**3**	**5**	*14*
8:45 AM	**2**	**3**	**0**	**1**	***6***	**1**	**0**	**0**	**0**	***1***	**5**	**2**	**5**	**2**	***14***
Count Total	15	14	18	15	*62*	9	13	17	17	*56*	54	34	20	49	*157*
Peak Hour	**9**	**8**	**10**	**6**	***33***	**3**	**4**	**4**	**5**	***16***	**40**	**8**	**16**	**41**	***105***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	17th Ave Northbound UT	LT	TH	RT	17th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	1	1	0	0	1	1	0	0	1	1	0	0	0	1	0	7	0
7:15 AM	0	0	1	0	0	0	0	0	0	2	1	0	0	0	1	0	5	0
7:30 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	1	4	0	8	0
7:45 AM	0	0	1	1	0	0	2	0	0	1	2	0	0	1	1	0	9	29
8:00 AM	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**6**	28
8:15 AM	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**3**	**1**	**10**	33
8:30 AM	**0**	**1**	**2**	**0**	**0**	**1**	**3**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**11**	36
8:45 AM	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**6**	**33**
Count Total	0	3	9	3	0	2	11	1	0	7	10	1	0	2	11	2	62	0
Peak Hour	**0**	**2**	**5**	**2**	**0**	**1**	**6**	**1**	**0**	**3**	**6**	**1**	**0**	**0**	**4**	**2**	**33**	**0**

Two-Hour Count Summaries - Bikes

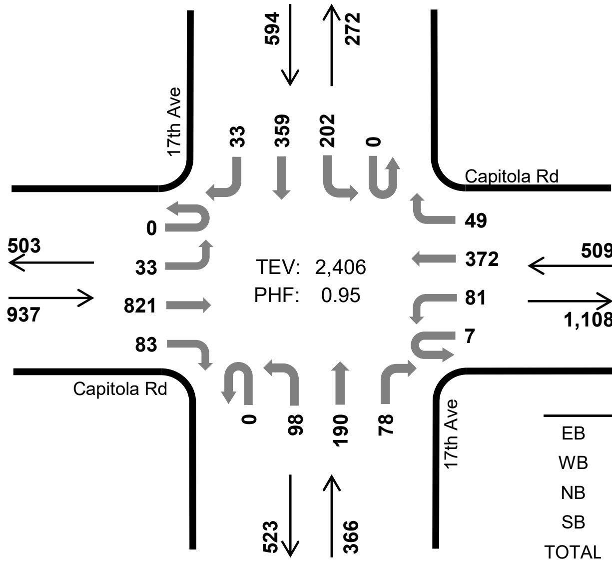
Interval Start	Capitola Rd Eastbound LT	TH	RT	Capitola Rd Westbound LT	TH	RT	17th Ave Northbound LT	TH	RT	17th Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	1	0	0	2	0	0	1	0	0	0	0	4	0
7:15 AM	0	0	0	0	1	0	0	0	0	0	2	1	4	0
7:30 AM	0	1	0	0	2	1	1	5	0	1	4	1	16	0
7:45 AM	0	4	0	0	3	0	0	6	0	0	3	0	16	40
8:00 AM	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**1**	**0**	**0**	**7**	43
8:15 AM	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**4**	**0**	**7**	46
8:30 AM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	31
8:45 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**16**
Count Total	0	8	1	0	11	2	2	15	0	2	13	2	56	0
Peak Hour	**0**	**2**	**1**	**0**	**3**	**1**	**1**	**3**	**0**	**1**	**4**	**0**	**16**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

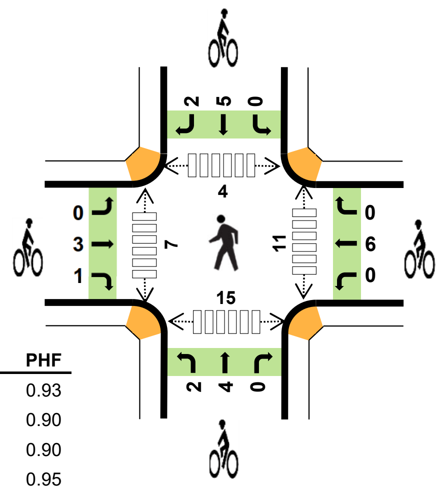
17th Ave
Capitola Rd

Date: 10-04-2018
Count Period: 2:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM

Peak Hour



	HV %:	PHF
EB	0.3%	0.93
WB	0.4%	0.90
NB	0.0%	0.90
SB	0.0%	0.95
TOTAL	0.2%	0.95



Four-Hour Count Summaries

Interval Start		Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	17th Ave Northbound UT	LT	TH	RT	17th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
5:00 PM		0	9	213	26	1	23	106	11	0	23	53	23	0	48	89	5	630	0
5:15 PM		0	6	213	26	2	14	78	15	0	33	48	21	0	49	102	6	613	0
5:30 PM		0	12	210	29	3	16	91	10	0	15	34	18	0	55	87	8	588	0
5:45 PM		0	6	185	2	1	28	97	13	0	27	55	16	0	50	81	14	575	2,406
Peak Hour	All	0	33	821	83	7	81	372	49	0	98	190	78	0	202	359	33	2,406	0
	HV	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	0
	HV%	-	0%	0%	0%	0%	0%	1%	0%	-	0%	0%	0%	-	0%	0%	0%	0%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
5:00 PM	0	1	0	0	*1*	0	1	0	0	*1*	2	1	2	3	*8*
5:15 PM	2	0	0	0	*2*	0	3	2	2	*7*	7	3	0	7	*17*
5:30 PM	0	1	0	0	*1*	1	1	0	4	*6*	0	1	1	0	*2*
5:45 PM	1	0	0	0	*1*	3	1	4	1	*9*	2	2	1	5	*10*
Peak Hour	3	2	0	0	*5*	4	6	6	7	*23*	11	7	4	15	*37*

Four-Hour Count Summaries

Interval Start	Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	17th Ave Northbound UT	LT	TH	RT	17th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
2:00 PM	0	5	106	20	0	12	99	16	0	24	68	16	0	20	79	12	477	0
2:15 PM	0	12	102	22	1	17	106	12	0	16	76	16	0	21	80	16	497	0
2:30 PM	0	11	126	19	0	26	136	18	0	32	58	18	0	32	71	15	562	0
2:45 PM	0	7	140	15	1	20	107	11	0	23	78	23	0	44	74	9	552	2,088
3:00 PM	0	10	176	35	0	22	112	11	0	23	63	22	0	27	66	9	576	2,187
3:15 PM	0	12	170	35	1	21	90	15	0	25	61	14	0	31	74	16	565	2,255
3:30 PM	0	7	194	19	0	26	106	14	0	21	52	12	0	49	77	7	584	2,277
3:45 PM	0	6	194	27	1	18	73	12	0	26	60	21	0	34	93	10	575	2,300
4:00 PM	0	13	212	30	1	19	119	19	0	24	36	14	0	43	69	9	608	2,332
4:15 PM	0	7	198	28	0	11	91	10	0	32	55	19	0	49	86	11	597	2,364
4:30 PM	0	6	210	22	0	29	79	9	0	13	48	14	0	43	59	11	543	2,323
4:45 PM	0	8	171	31	2	24	82	13	0	23	51	18	0	41	84	4	552	2,300
5:00 PM	**0**	**9**	**213**	**26**	**1**	**23**	**106**	**11**	**0**	**23**	**53**	**23**	**0**	**48**	**89**	**5**	**630**	2,322
5:15 PM	**0**	**6**	**213**	**26**	**2**	**14**	**78**	**15**	**0**	**33**	**48**	**21**	**0**	**49**	**102**	**6**	**613**	2,338
5:30 PM	**0**	**12**	**210**	**29**	**3**	**16**	**91**	**10**	**0**	**15**	**34**	**18**	**0**	**55**	**87**	**8**	**588**	2,383
5:45 PM	**0**	**6**	**185**	**2**	**1**	**28**	**97**	**13**	**0**	**27**	**55**	**16**	**0**	**50**	**81**	**14**	**575**	**2,406**
Count Total	0	137	2,820	386	14	326	1,572	209	0	380	896	285	0	636	1,271	162	9,094	0
Peak Hour All	**0**	**33**	**821**	**83**	**7**	**81**	**372**	**49**	**0**	**98**	**190**	**78**	**0**	**202**	**359**	**33**	**2,406**	**0**
HV	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**
HV%	**-**	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**0%**	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**0%**	**0**

Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
2:00 PM	2	2	2	3	*9*	2	2	1	1	*6*	6	3	1	9	*19*
2:15 PM	1	1	3	3	*8*	1	1	1	0	*3*	2	1	3	2	*8*
2:30 PM	2	5	1	1	*9*	0	2	0	0	*2*	1	1	0	10	*12*
2:45 PM	3	1	3	4	*11*	4	0	6	2	*12*	7	19	4	5	*35*
3:00 PM	4	2	2	1	*9*	4	2	2	1	*9*	13	5	16	7	*41*
3:15 PM	2	2	1	3	*8*	2	2	1	3	*8*	0	10	2	0	*12*
3:30 PM	1	2	2	4	*9*	4	0	0	5	*9*	2	2	3	0	*7*
3:45 PM	3	2	1	7	*13*	0	1	1	1	*3*	2	1	3	0	*6*
4:00 PM	0	3	0	3	*6*	2	0	0	1	*3*	0	2	4	1	*7*
4:15 PM	2	0	4	1	*7*	1	0	0	0	*1*	5	4	2	2	*13*
4:30 PM	0	2	1	2	*5*	1	0	0	1	*2*	6	1	4	0	*11*
4:45 PM	3	1	1	0	*5*	3	0	1	0	*4*	4	0	2	2	*8*
5:00 PM	**0**	**1**	**0**	**0**	***1***	**0**	**1**	**0**	**0**	***1***	**2**	**1**	**2**	**3**	***8***
5:15 PM	**2**	**0**	**0**	**0**	***2***	**0**	**3**	**2**	**2**	***7***	**7**	**3**	**0**	**7**	*17*
5:30 PM	**0**	**1**	**0**	**0**	***1***	**1**	**1**	**0**	**4**	***6***	**0**	**1**	**1**	**0**	*2*
5:45 PM	**1**	**0**	**0**	**0**	***1***	**3**	**1**	**4**	**1**	***9***	**2**	**2**	**1**	**5**	***10***
Count Total	26	25	21	32	*104*	28	16	19	22	*85*	59	56	48	53	*216*
Peak Hour	**3**	**2**	**0**	**0**	***5***	**4**	**6**	**6**	**7**	***23***	**11**	**7**	**4**	**15**	***37***

Four-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd				Capitola Rd				17th Ave				17th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	0	2	0	0	0	2	0	0	0	1	1	0	0	3	0	9	0
2:15 PM	0	0	1	0	0	1	0	0	0	1	2	0	0	1	1	1	8	0
2:30 PM	0	1	1	0	0	1	3	1	0	0	0	1	0	0	1	0	9	0
2:45 PM	0	2	1	0	0	0	0	1	0	0	2	1	0	1	3	0	11	37
3:00 PM	0	0	4	0	0	1	1	0	0	0	2	0	0	0	1	0	9	37
3:15 PM	0	0	2	0	0	0	2	0	0	0	1	0	0	0	3	0	8	37
3:30 PM	0	0	1	0	0	0	1	1	0	0	2	0	0	0	4	0	9	37
3:45 PM	0	0	3	0	0	1	1	0	0	1	0	0	0	0	6	1	13	39
4:00 PM	0	0	0	0	0	0	2	1	0	0	0	0	0	1	2	0	6	36
4:15 PM	0	0	2	0	0	0	0	0	0	3	1	0	0	0	1	0	7	35
4:30 PM	0	0	0	0	0	1	1	0	0	0	1	0	0	0	2	0	5	31
4:45 PM	0	0	2	1	0	0	0	1	0	0	1	0	0	0	0	0	5	23
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	18
5:15 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	13
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	9
5:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**
Count Total	0	3	22	1	0	5	15	5	0	5	13	3	0	3	27	2	104	0
Peak Hour	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**

Four-Hour Count Summaries - Bikes

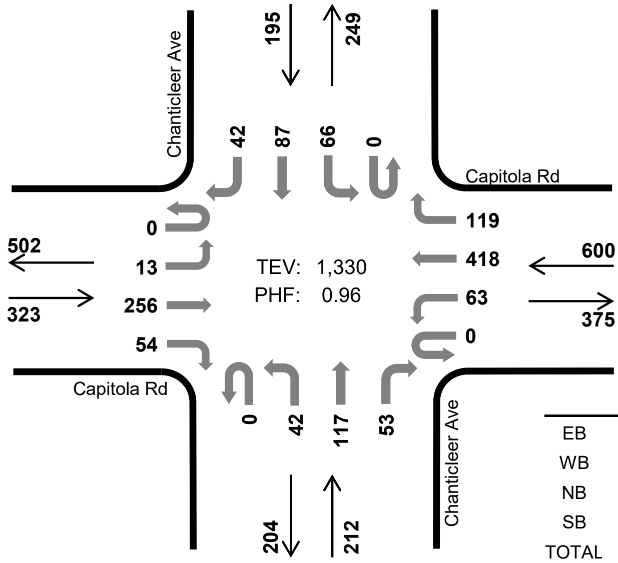
Interval Start	Capitola Rd			Capitola Rd			17th Ave			17th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
2:00 PM	0	2	0	0	2	0	1	0	0	0	1	0	6	0
2:15 PM	0	1	0	0	1	0	0	1	0	0	0	0	3	0
2:30 PM	0	0	0	1	0	1	0	0	0	0	0	0	2	0
2:45 PM	0	3	1	0	0	0	0	6	0	0	2	0	12	23
3:00 PM	0	2	2	0	2	0	0	2	0	0	1	0	9	26
3:15 PM	0	2	0	0	2	0	1	0	0	0	3	0	8	31
3:30 PM	0	4	0	0	0	0	0	0	0	0	5	0	9	38
3:45 PM	0	0	0	1	0	0	0	1	0	0	1	0	3	29
4:00 PM	0	2	0	0	0	0	0	0	0	0	1	0	3	23
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	16
4:30 PM	0	1	0	0	0	0	0	0	0	0	1	0	2	9
4:45 PM	0	3	0	0	0	0	0	1	0	0	0	0	4	10
5:00 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	8
5:15 PM	**0**	**0**	**0**	**0**	**3**	**0**	**2**	**0**	**0**	**0**	**1**	**1**	**7**	14
5:30 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**6**	18
5:45 PM	**0**	**2**	**1**	**0**	**1**	**0**	**0**	**4**	**0**	**0**	**0**	**1**	**9**	**23**
Count Total	0	24	4	2	13	1	4	15	0	0	20	2	85	0
Peak Hour	**0**	**3**	**1**	**0**	**6**	**0**	**2**	**4**	**0**	**0**	**5**	**2**	**23**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

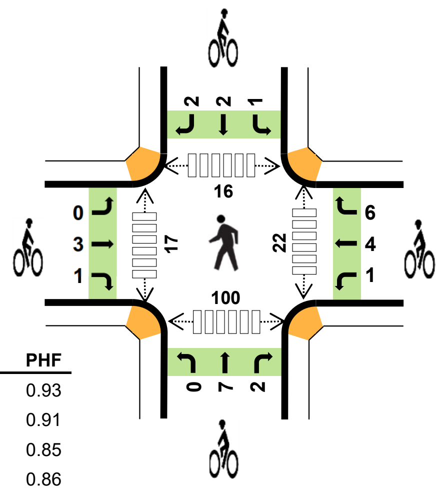
Chanticleer Ave
Capitola Rd

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM

Peak Hour



	HV %:	PHF
EB	2.2%	0.93
WB	1.5%	0.91
NB	0.9%	0.85
SB	0.5%	0.86
TOTAL	1.4%	0.96



Two-Hour Count Summaries

Interval Start	Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	Chanticleer Ave Northbound UT	LT	TH	RT	Chanticleer Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	1	25	2	0	2	52	23	0	3	10	2	0	2	8	5	135	0
7:15 AM	0	5	33	0	0	2	71	23	0	3	14	3	0	6	11	5	176	0
7:30 AM	0	4	36	6	0	6	112	26	0	4	30	6	0	6	15	10	261	0
7:45 AM	**0**	**5**	**58**	**7**	**0**	**10**	**109**	**45**	**0**	**2**	**36**	**10**	**0**	**11**	**22**	**10**	**325**	897
8:00 AM	**0**	**3**	**61**	**17**	**0**	**22**	**95**	**30**	**0**	**13**	**35**	**14**	**0**	**22**	**25**	**10**	**347**	1,109
8:15 AM	**0**	**2**	**71**	**14**	**0**	**20**	**95**	**21**	**0**	**11**	**22**	**11**	**0**	**19**	**19**	**12**	**317**	1,250
8:30 AM	**0**	**3**	**66**	**16**	**0**	**11**	**119**	**23**	**0**	**16**	**24**	**18**	**0**	**14**	**21**	**10**	**341**	**1,330**
8:45 AM	0	3	100	7	0	6	103	20	0	11	17	13	0	13	18	13	324	1,329
Count Total	0	26	450	69	0	79	756	211	0	63	188	77	0	93	139	75	2,226	0
Peak Hour All	**0**	**13**	**256**	**54**	**0**	**63**	**418**	**119**	**0**	**42**	**117**	**53**	**0**	**66**	**87**	**42**	**1,330**	**0**
Peak Hour HV	**0**	**0**	**7**	**0**	**0**	**0**	**7**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**19**	**0**
Peak Hour HV%	**-**	**0%**	**3%**	**0%**	**-**	**0%**	**2%**	**2%**	**-**	**5%**	**0%**	**0%**	**-**	**0%**	**1%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	1	2	0	0	*3*	1	2	1	1	*5*	0	2	1	1	*4*
7:15 AM	1	0	0	0	*1*	0	2	3	1	*6*	0	2	0	2	*4*
7:30 AM	2	1	0	1	*4*	2	4	0	3	*9*	0	3	7	4	*14*
7:45 AM	**2**	**3**	**0**	**0**	***5***	**3**	**4**	**0**	**2**	***9***	**6**	**1**	**1**	**24**	*32*
8:00 AM	**0**	**0**	**0**	**1**	***1***	**0**	**2**	**1**	**2**	***5***	**9**	**3**	**3**	**36**	*51*
8:15 AM	**3**	**1**	**0**	**0**	***4***	**0**	**4**	**4**	**0**	***8***	**6**	**11**	**10**	**29**	*56*
8:30 AM	**2**	**5**	**2**	**0**	***9***	**1**	**1**	**4**	**1**	***7***	**1**	**2**	**2**	**11**	*16*
8:45 AM	2	2	0	0	*4*	2	1	0	5	*8*	0	0	2	10	*12*
Count Total	13	14	2	2	*31*	9	20	13	15	*57*	22	24	26	117	*189*
Peak Hour	**7**	**9**	**2**	**1**	***19***	**4**	**11**	**9**	**5**	***29***	**22**	**17**	**16**	**100**	***155***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	Chanticleer Ave Northbound UT	LT	TH	RT	Chanticleer Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	3	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	1	4	0
7:45 AM	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	13
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	11
8:15 AM	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	14
8:30 AM	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**19**
8:45 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	18
Count Total	0	0	13	0	0	0	11	3	0	2	0	0	0	0	1	1	31	0
Peak Hour	**0**	**0**	**7**	**0**	**0**	**0**	**7**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**19**	**0**

Two-Hour Count Summaries - Bikes

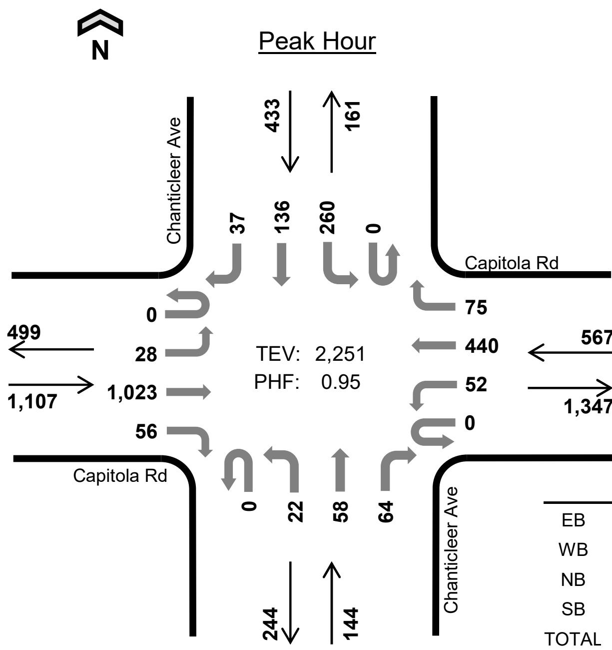
Interval Start	Capitola Rd Eastbound LT	TH	RT	Capitola Rd Westbound LT	TH	RT	Chanticleer Ave Northbound LT	TH	RT	Chanticleer Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	1	0	0	1	1	0	0	1	0	0	1	5	0
7:15 AM	0	0	0	0	1	1	0	3	0	0	0	1	6	0
7:30 AM	0	2	0	1	3	0	0	0	0	0	2	1	9	0
7:45 AM	**0**	**2**	**1**	**0**	**1**	**3**	**0**	**0**	**0**	**1**	**1**	**0**	**9**	29
8:00 AM	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**5**	29
8:15 AM	**0**	**0**	**0**	**0**	**1**	**3**	**0**	**4**	**0**	**0**	**0**	**0**	**8**	31
8:30 AM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**2**	**0**	**0**	**1**	**7**	**29**
8:45 AM	0	2	0	0	1	0	0	0	0	1	2	2	8	28
Count Total	0	8	1	2	10	8	0	10	3	2	6	7	57	0
Peak Hour	**0**	**3**	**1**	**1**	**4**	**6**	**0**	**7**	**2**	**1**	**2**	**2**	**29**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

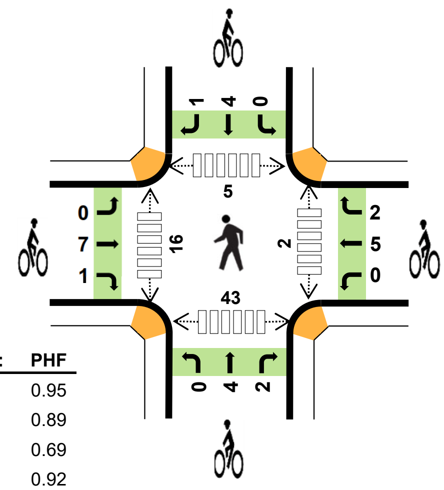
Chanticleer Ave
Capitola Rd

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM

Peak Hour



	HV %:	PHF
EB	0.3%	0.95
WB	0.4%	0.89
NB	0.7%	0.69
SB	0.2%	0.92
TOTAL	0.3%	0.95



Two-Hour Count Summaries

Interval Start	Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	Chanticleer Ave Northbound UT	LT	TH	RT	Chanticleer Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	4	255	8	0	5	128	24	0	6	15	9	0	46	25	6	531	0
4:15 PM	0	4	238	8	0	15	96	16	0	3	11	11	0	58	42	9	511	0
4:30 PM	0	7	264	10	0	13	121	20	0	6	10	6	0	62	30	8	557	0
4:45 PM	0	4	239	5	0	15	107	20	0	3	15	9	0	51	29	6	503	2,102
5:00 PM	**0**	**6**	**258**	**15**	**0**	**8**	**128**	**23**	**0**	**8**	**12**	**14**	**0**	**74**	**33**	**11**	**590**	2,161
5:15 PM	**0**	**10**	**242**	**16**	**0**	**19**	**86**	**10**	**0**	**8**	**17**	**12**	**0**	**67**	**39**	**9**	**535**	2,185
5:30 PM	**0**	**4**	**278**	**10**	**0**	**13**	**118**	**22**	**0**	**0**	**10**	**11**	**0**	**67**	**32**	**7**	**572**	2,200
5:45 PM	**0**	**8**	**245**	**15**	**0**	**12**	**108**	**20**	**0**	**6**	**19**	**27**	**0**	**52**	**32**	**10**	**554**	2,251
Count Total	0	47	2,019	87	0	100	892	155	0	40	109	99	0	477	262	66	4,353	0
Peak Hour All	**0**	**28**	**1,023**	**56**	**0**	**52**	**440**	**75**	**0**	**22**	**58**	**64**	**0**	**260**	**136**	**37**	**2,251**	**0**
Peak Hour HV	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**7**	**0**
Peak Hour HV%	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**2%**	**-**	**0%**	**1%**	**0%**	**0%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	2	3	1	1	*7*	2	0	1	3	*6*	0	3	2	4	*9*
4:15 PM	1	0	0	0	*1*	1	0	2	2	*5*	1	0	0	1	*2*
4:30 PM	1	2	0	0	*3*	2	1	1	1	*5*	1	0	3	2	*6*
4:45 PM	2	0	0	1	*3*	3	0	2	0	*5*	3	1	1	3	*8*
5:00 PM	**0**	**1**	**1**	**0**	***2***	**0**	**1**	**1**	**0**	***2***	**0**	**7**	**1**	**1**	*9*
5:15 PM	**2**	**0**	**0**	**0**	***2***	**1**	**3**	**0**	**0**	***4***	**0**	**1**	**2**	**30**	*33*
5:30 PM	**0**	**1**	**0**	**0**	***1***	**3**	**2**	**4**	**2**	***11***	**1**	**0**	**1**	**10**	*12*
5:45 PM	**1**	**0**	**0**	**1**	***2***	**4**	**1**	**1**	**3**	***9***	**1**	**8**	**1**	**2**	***12***
Count Total	9	7	2	3	*21*	16	8	12	11	*47*	7	20	11	53	*91*
Peak Hour	**3**	**2**	**1**	**1**	***7***	**8**	**7**	**6**	**5**	***26***	**2**	**16**	**5**	**43**	***66***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd				Capitola Rd				Chanticleer Ave				Chanticleer Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	0	0	0	3	0	0	0	1	0	0	0	1	0	7	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
4:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	3	14
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	9
5:15 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	10
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	8
5:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**7**
Count Total	0	0	9	0	0	0	7	0	0	0	1	1	0	1	2	0	21	0
Peak Hour	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**7**	**0**

Two-Hour Count Summaries - Bikes

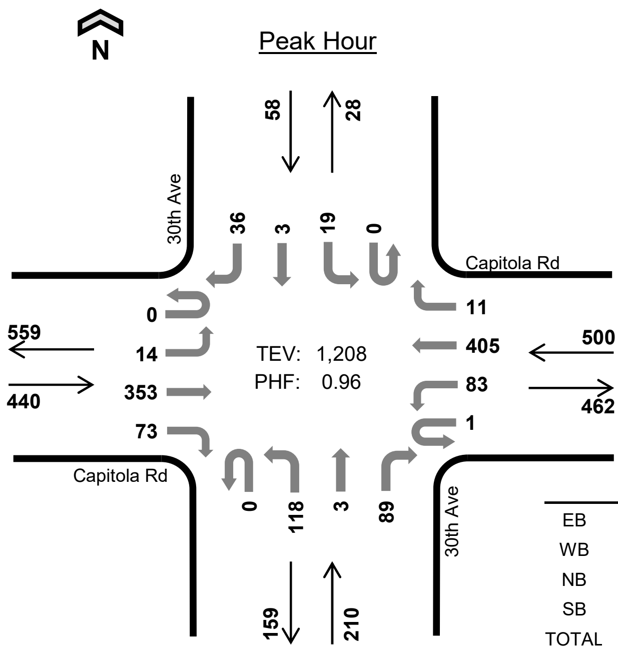
Interval Start	Capitola Rd			Capitola Rd			Chanticleer Ave			Chanticleer Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	2	0	0	0	0	0	1	0	1	2	0	6	0
4:15 PM	0	1	0	0	0	0	0	1	1	1	1	0	5	0
4:30 PM	0	2	0	0	1	0	0	0	1	0	1	0	5	0
4:45 PM	0	3	0	0	0	0	0	2	0	0	0	0	5	21
5:00 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	17
5:15 PM	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	16
5:30 PM	**0**	**3**	**0**	**0**	**1**	**1**	**0**	**2**	**2**	**0**	**2**	**0**	**11**	22
5:45 PM	**0**	**3**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**1**	**9**	**26**
Count Total	0	15	1	0	6	2	0	8	4	2	8	1	47	0
Peak Hour	**0**	**7**	**1**	**0**	**5**	**2**	**0**	**4**	**2**	**0**	**4**	**1**	**26**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

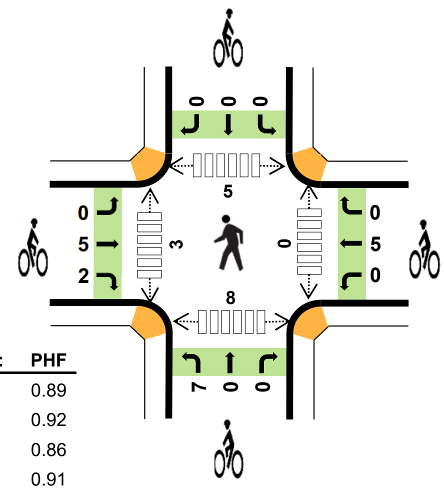
30th Ave
Capitola Rd

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour



	HV %:	PHF
EB	1.6%	0.89
WB	1.6%	0.92
NB	0.5%	0.86
SB	0.0%	0.91
TOTAL	1.3%	0.96



Two-Hour Count Summaries

Interval Start	Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	30th Ave Northbound UT	LT	TH	RT	30th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	27	3	0	5	44	1	0	24	0	15	0	4	1	6	130	0
7:15 AM	0	1	34	2	0	9	57	0	0	28	0	14	0	5	0	7	157	0
7:30 AM	0	2	57	13	0	16	81	4	0	46	1	23	0	3	1	13	260	0
7:45 AM	0	1	72	13	2	15	88	0	0	40	2	14	0	3	0	13	263	810
8:00 AM	**0**	**5**	**74**	**20**	**0**	**27**	**100**	**4**	**0**	**35**	**2**	**21**	**0**	**6**	**1**	**9**	**304**	984
8:15 AM	**0**	**2**	**86**	**25**	**1**	**17**	**89**	**2**	**0**	**35**	**0**	**26**	**0**	**7**	**0**	**9**	**299**	1,126
8:30 AM	**0**	**5**	**88**	**11**	**0**	**17**	**105**	**2**	**0**	**27**	**0**	**21**	**0**	**2**	**2**	**9**	**289**	1,155
8:45 AM	**0**	**2**	**105**	**17**	**0**	**22**	**111**	**3**	**0**	**21**	**1**	**21**	**0**	**4**	**0**	**9**	**316**	**1,208**
Count Total	0	18	543	104	3	128	675	16	0	256	6	155	0	34	5	75	2,018	0
Peak Hour All	**0**	**14**	**353**	**73**	**1**	**83**	**405**	**11**	**0**	**118**	**3**	**89**	**0**	**19**	**3**	**36**	**1,208**	**0**
Peak Hour HV	**0**	**0**	**7**	**0**	**0**	**1**	**7**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**0**
Peak Hour HV%	**-**	**0%**	**2%**	**0%**	**0%**	**1%**	**2%**	**0%**	**-**	**1%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	1	2	0	0	*3*	4	1	0	0	*5*	3	0	4	0	*7*
7:15 AM	2	0	0	0	*2*	1	3	1	0	*5*	0	1	3	2	*6*
7:30 AM	1	1	1	0	*3*	3	6	0	0	*9*	0	3	2	2	*7*
7:45 AM	2	2	1	1	*6*	4	0	0	1	*5*	3	0	10	6	*19*
8:00 AM	**0**	**0**	**0**	**0**	***0***	**1**	**2**	**5**	**0**	***8***	**0**	**0**	**3**	**0**	*3*
8:15 AM	**3**	**1**	**0**	**0**	***4***	**1**	**3**	**0**	**0**	***4***	**0**	**2**	**0**	**5**	*7*
8:30 AM	**2**	**4**	**1**	**0**	***7***	**3**	**0**	**1**	**0**	***4***	**0**	**1**	**0**	**2**	*3*
8:45 AM	**2**	**3**	**0**	**0**	***5***	**2**	**0**	**1**	**0**	***3***	**0**	**0**	**2**	**1**	***3***
Count Total	13	13	3	1	*30*	19	15	8	1	*43*	6	7	24	18	*55*
Peak Hour	**7**	**8**	**1**	**0**	***16***	**7**	**5**	**7**	**0**	***19***	**0**	**3**	**5**	**8**	***16***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd				Capitola Rd				30th Ave				30th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
7:15 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
7:30 AM	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	3	0
7:45 AM	0	0	2	0	0	0	2	0	0	1	0	0	0	0	0	1	6	14
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	11
8:15 AM	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	13
8:30 AM	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	17
8:45 AM	**0**	**0**	**2**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**16**
Count Total	0	0	13	0	0	1	12	0	0	2	1	0	0	0	0	1	30	0
Peak Hour	**0**	**0**	**7**	**0**	**0**	**1**	**7**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**0**

Two-Hour Count Summaries - Bikes

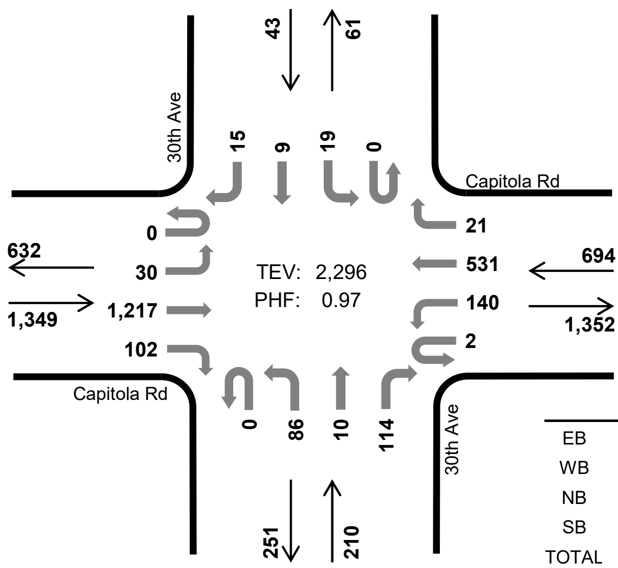
Interval Start	Capitola Rd			Capitola Rd			30th Ave			30th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	3	1	0	1	0	0	0	0	0	0	0	5	0
7:15 AM	0	1	0	1	2	0	0	0	1	0	0	0	5	0
7:30 AM	0	3	0	0	5	1	0	0	0	0	0	0	9	0
7:45 AM	0	3	1	0	0	0	0	0	0	0	0	1	5	24
8:00 AM	**0**	**1**	**0**	**0**	**2**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**8**	27
8:15 AM	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	26
8:30 AM	**0**	**2**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**4**	21
8:45 AM	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**19**
Count Total	0	15	4	1	13	1	7	0	1	0	0	1	43	0
Peak Hour	**0**	**5**	**2**	**0**	**5**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**19**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

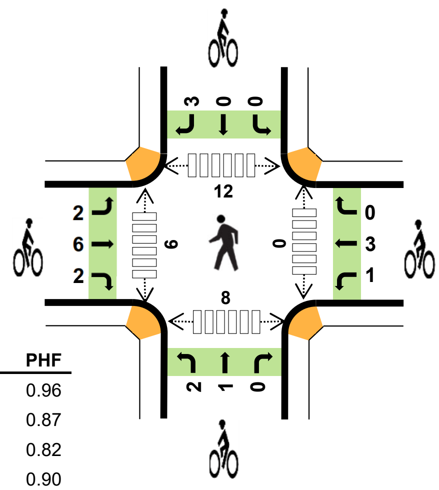
30th Ave
Capitola Rd

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

Peak Hour



	HV %:	PHF
EB	0.4%	0.96
WB	0.3%	0.87
NB	0.5%	0.82
SB	0.0%	0.90
TOTAL	0.4%	0.97



Two-Hour Count Summaries

Interval Start	Capitola Rd				Capitola Rd				30th Ave				30th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	1	3	296	24	0	34	148	2	0	12	3	29	0	4	1	5	562	0
4:15 PM	1	6	305	30	1	29	131	2	0	21	2	31	0	1	0	0	560	0
4:30 PM	0	3	317	15	1	37	138	3	0	21	0	39	0	5	0	2	581	0
4:45 PM	**0**	**7**	**297**	**21**	**1**	**41**	**130**	**3**	**0**	**23**	**3**	**24**	**0**	**7**	**1**	**1**	**559**	2,262
5:00 PM	**0**	**6**	**288**	**30**	**0**	**35**	**159**	**5**	**0**	**24**	**6**	**24**	**0**	**3**	**5**	**3**	**588**	2,288
5:15 PM	**0**	**9**	**317**	**25**	**0**	**34**	**110**	**8**	**0**	**14**	**1**	**27**	**0**	**7**	**2**	**3**	**557**	2,285
5:30 PM	**0**	**8**	**315**	**26**	**1**	**30**	**132**	**5**	**0**	**25**	**0**	**39**	**0**	**2**	**1**	**8**	**592**	**2,296**
5:45 PM	0	10	288	17	0	33	116	4	0	22	0	31	0	4	0	6	531	2,268
Count Total	2	52	2,423	188	4	273	1,064	32	0	162	15	244	0	33	10	28	4,530	0
Peak Hour All	**0**	**30**	**1,217**	**102**	**2**	**140**	**531**	**21**	**0**	**86**	**10**	**114**	**0**	**19**	**9**	**15**	**2,296**	**0**
Peak Hour HV	**0**	**0**	**6**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**
Peak Hour HV%	**-**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**-**	**1%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**0%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	4	3	2	0	*9*	4	1	0	0	*5*	1	2	3	2	*8*
4:15 PM	0	0	0	1	*1*	3	1	0	0	*4*	0	0	3	5	*8*
4:30 PM	2	1	0	0	*3*	5	1	0	1	*7*	0	6	2	0	*8*
4:45 PM	**3**	**0**	**1**	**0**	*4*	**4**	**0**	**0**	**0**	*4*	**0**	**1**	**3**	**4**	*8*
5:00 PM	**1**	**1**	**0**	**0**	*2*	**2**	**2**	**0**	**2**	*6*	**0**	**0**	**4**	**0**	*4*
5:15 PM	**2**	**0**	**0**	**0**	*2*	**3**	**2**	**1**	**0**	*6*	**0**	**0**	**5**	**1**	*6*
5:30 PM	**0**	**1**	**0**	**0**	*1*	**1**	**0**	**2**	**1**	*4*	**0**	**5**	**0**	**3**	*8*
5:45 PM	1	0	0	0	*1*	3	1	1	1	*6*	1	1	1	4	*7*
Count Total	13	6	3	1	*23*	25	8	4	5	*42*	2	15	21	19	*57*
Peak Hour	**6**	**2**	**1**	**0**	***9***	**10**	**4**	**3**	**3**	***20***	**0**	**6**	**12**	**8**	***26***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd				Capitola Rd				30th Ave				30th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	3	1	0	0	3	0	0	0	1	1	0	0	0	0	9	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
4:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0
4:45 PM	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	17
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	10
5:15 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	11
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**9**
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
Count Total	0	0	12	1	0	0	6	0	0	1	1	1	0	1	0	0	23	0
Peak Hour	**0**	**0**	**6**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**

Two-Hour Count Summaries - Bikes

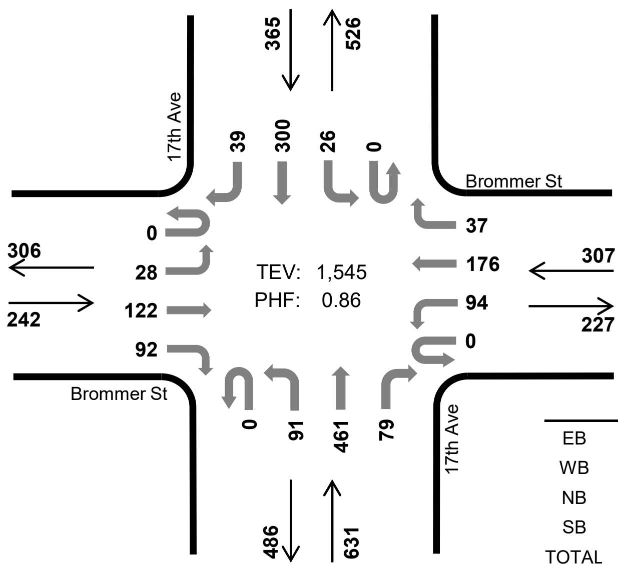
Interval Start	Capitola Rd			Capitola Rd			30th Ave			30th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	3	1	0	1	0	0	0	0	0	0	0	5	0
4:15 PM	0	3	0	0	1	0	0	0	0	0	0	0	4	0
4:30 PM	0	5	0	0	1	0	0	0	0	0	0	1	7	0
4:45 PM	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	20
5:00 PM	**1**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**6**	21
5:15 PM	**0**	**1**	**2**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**6**	23
5:30 PM	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**4**	**20**
5:45 PM	0	3	0	0	1	0	0	1	0	1	0	0	6	22
Count Total	2	20	3	1	7	0	2	2	0	1	0	4	42	0
Peak Hour	**2**	**6**	**2**	**1**	**3**	**0**	**2**	**1**	**0**	**0**	**0**	**3**	**20**	**0**

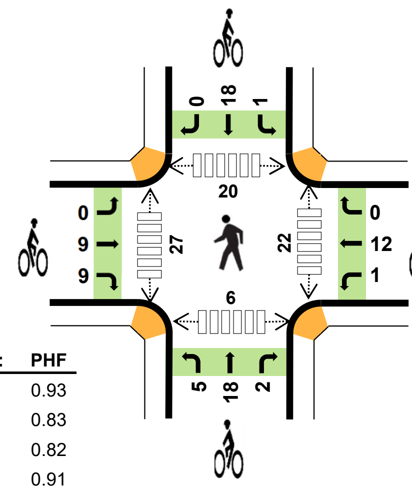
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

17th Ave
Brommer St

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM

Peak Hour





	HV %:	PHF
EB	2.1%	0.93
WB	2.3%	0.83
NB	1.6%	0.82
SB	2.5%	0.91
TOTAL	2.0%	0.86

Two-Hour Count Summaries

Interval Start	Brommer St				Brommer St				17th Ave				17th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	6	15	10	0	9	25	7	0	10	68	11	0	0	28	10	199	0
7:15 AM	0	2	15	12	0	22	28	12	0	16	94	11	0	6	46	4	268	0
7:30 AM	0	4	22	16	0	18	44	6	0	12	103	9	0	5	72	4	315	0
7:45 AM	**0**	**4**	**30**	**25**	**0**	**30**	**52**	**9**	**0**	**25**	**112**	**25**	**0**	**5**	**77**	**7**	**401**	1,183
8:00 AM	**0**	**9**	**23**	**33**	**0**	**32**	**47**	**13**	**0**	**30**	**137**	**25**	**0**	**6**	**88**	**6**	**449**	1,433
8:15 AM	**0**	**4**	**36**	**13**	**0**	**22**	**36**	**8**	**0**	**22**	**114**	**16**	**0**	**6**	**65**	**12**	**354**	1,519
8:30 AM	**0**	**11**	**33**	**21**	**0**	**10**	**41**	**7**	**0**	**14**	**98**	**13**	**0**	**9**	**70**	**14**	**341**	**1,545**
8:45 AM	0	8	34	12	0	18	44	8	0	20	91	15	0	5	68	5	328	1,472
Count Total	0	48	208	142	0	161	317	70	0	149	817	125	0	42	514	62	2,655	0
Peak Hour All	**0**	**28**	**122**	**92**	**0**	**94**	**176**	**37**	**0**	**91**	**461**	**79**	**0**	**26**	**300**	**39**	**1,545**	**0**
Peak Hour HV	**0**	**0**	**4**	**1**	**0**	**1**	**4**	**2**	**0**	**1**	**8**	**1**	**0**	**1**	**6**	**2**	**31**	**0**
Peak Hour HV%	**-**	**0%**	**3%**	**1%**	**-**	**1%**	**2%**	**5%**	**-**	**1%**	**2%**	**1%**	**-**	**4%**	**2%**	**5%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	2	0	3	1	*6*	3	0	2	1	*6*	1	0	3	0	*4*
7:15 AM	0	1	3	1	*5*	6	6	4	2	*18*	6	6	4	1	*17*
7:30 AM	0	0	0	5	*5*	4	4	5	5	*18*	8	4	4	2	*18*
7:45 AM	**3**	**3**	**2**	**2**	***10***	**9**	**4**	**7**	**6**	***26***	**12**	**13**	**6**	**2**	*33*
8:00 AM	**1**	**0**	**3**	**1**	***5***	**3**	**4**	**8**	**9**	***24***	**4**	**10**	**8**	**3**	*25*
8:15 AM	**0**	**2**	**2**	**4**	***8***	**5**	**5**	**7**	**3**	***20***	**4**	**1**	**3**	**1**	*9*
8:30 AM	**1**	**2**	**3**	**2**	***8***	**1**	**0**	**3**	**1**	***5***	**2**	**3**	**3**	**0**	*8*
8:45 AM	0	0	1	0	*1*	6	2	1	3	*12*	2	0	2	1	*5*
Count Total	7	8	17	16	*48*	37	25	37	30	*129*	39	37	33	10	*119*
Peak Hour	**5**	**7**	**10**	**9**	***31***	**18**	**13**	**25**	**19**	***75***	**22**	**27**	**20**	**6**	***75***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Brommer St Eastbound UT	LT	TH	RT	Brommer St Westbound UT	LT	TH	RT	17th Ave Northbound UT	LT	TH	RT	17th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	0	2	0	0	0	0	0	1	2	0	0	0	1	0	6	0
7:15 AM	0	0	0	0	0	0	1	0	0	0	2	1	0	0	1	0	5	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	5	0
7:45 AM	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**1**	**10**	26
8:00 AM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**5**	25
8:15 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**1**	**2**	**1**	**8**	28
8:30 AM	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**2**	**0**	**8**	**31**
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	22
Count Total	0	0	4	3	0	1	5	2	0	2	13	2	0	2	12	2	48	0
Peak Hour	**0**	**0**	**4**	**1**	**0**	**1**	**4**	**2**	**0**	**1**	**8**	**1**	**0**	**1**	**6**	**2**	**31**	**0**

Two-Hour Count Summaries - Bikes

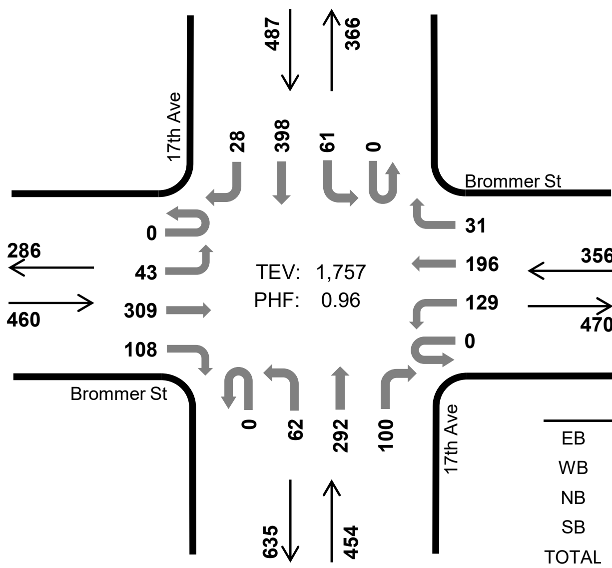
Interval Start	Brommer St Eastbound LT	TH	RT	Brommer St Westbound LT	TH	RT	17th Ave Northbound LT	TH	RT	17th Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	3	0	0	0	0	2	0	0	0	0	1	6	0
7:15 AM	0	2	4	0	6	0	1	3	0	0	2	0	18	0
7:30 AM	0	0	4	0	4	0	0	5	0	0	5	0	18	0
7:45 AM	**0**	**3**	**6**	**0**	**4**	**0**	**0**	**7**	**0**	**0**	**6**	**0**	**26**	68
8:00 AM	**0**	**2**	**1**	**1**	**3**	**0**	**1**	**7**	**0**	**0**	**9**	**0**	**24**	86
8:15 AM	**0**	**3**	**2**	**0**	**5**	**0**	**2**	**4**	**1**	**0**	**3**	**0**	**20**	88
8:30 AM	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**1**	**0**	**0**	**5**	**75**
8:45 AM	1	1	4	0	2	0	0	1	0	0	2	1	12	61
Count Total	1	15	21	1	24	0	8	27	2	1	27	2	129	0
Peak Hour	**0**	**9**	**9**	**1**	**12**	**0**	**5**	**18**	**2**	**1**	**18**	**0**	**75**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

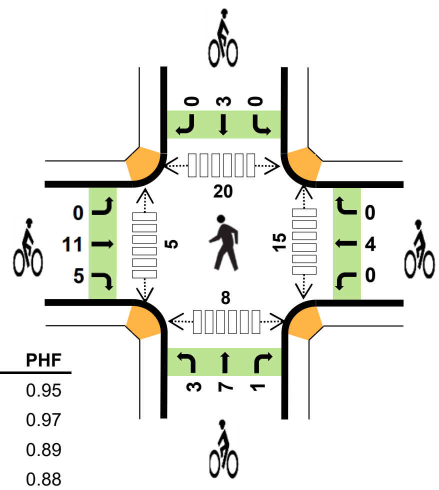
17th Ave
Brommer St

Date: 10-04-2018
Count Period: 2:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

Peak Hour



	HV %:	PHF
EB	0.7%	0.95
WB	0.0%	0.97
NB	0.7%	0.89
SB	0.4%	0.88
TOTAL	0.5%	0.96



Four-Hour Count Summaries

Interval Start		Brommer St Eastbound UT	LT	TH	RT	Brommer St Westbound UT	LT	TH	RT	17th Ave Northbound UT	LT	TH	RT	17th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:45 PM		0	7	71	30	0	38	42	8	0	13	76	24	0	16	90	9	424	0
5:00 PM		0	14	73	30	0	27	55	6	0	18	77	33	0	18	85	10	446	0
5:15 PM		0	11	81	22	0	30	45	13	0	18	80	21	0	16	117	5	459	0
5:30 PM		0	11	84	26	0	34	54	4	0	13	59	22	0	11	106	4	428	1,757
Peak Hour	All	0	43	309	108	0	129	196	31	0	62	292	100	0	61	398	28	1,757	0
	HV	0	0	1	2	0	0	0	0	0	1	2	0	0	0	2	0	8	0
	HV%	-	0%	0%	2%	-	0%	0%	0%	-	2%	1%	0%	-	0%	1%	0%	0%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:45 PM	2	0	1	0	*3*	3	1	1	2	*7*	1	0	11	1	*13*
5:00 PM	1	0	1	2	*4*	3	0	1	1	*5*	4	1	4	2	*11*
5:15 PM	0	0	1	0	*1*	3	1	6	0	*10*	4	3	5	1	*13*
5:30 PM	0	0	0	0	*0*	7	2	3	0	*12*	6	1	0	4	*11*
Peak Hour	3	0	3	2	*8*	16	4	11	3	*34*	15	5	20	8	*48*

Four-Hour Count Summaries

Interval Start	Brommer St				Brommer St				17th Ave				17th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	12	33	20	0	18	47	5	0	13	90	19	0	17	88	12	374	0
2:15 PM	0	10	44	25	0	20	35	11	0	20	81	26	0	8	93	7	380	0
2:30 PM	0	12	36	21	0	22	40	5	0	19	87	17	0	12	88	11	370	0
2:45 PM	0	15	63	22	0	31	45	6	0	23	94	27	0	15	79	4	424	1,548
3:00 PM	0	8	75	31	0	26	52	7	0	22	87	22	0	14	67	9	420	1,594
3:15 PM	0	14	78	30	0	26	59	4	0	15	80	23	0	17	113	11	470	1,684
3:30 PM	0	11	81	28	0	28	46	5	0	12	76	25	0	11	82	15	420	1,734
3:45 PM	0	1	69	21	0	29	41	7	0	17	90	9	0	12	93	8	397	1,707
4:00 PM	0	6	72	31	0	25	44	7	0	23	65	32	0	20	84	8	417	1,704
4:15 PM	0	16	87	27	0	24	56	5	0	19	85	25	0	16	92	5	457	1,691
4:30 PM	0	9	76	39	0	23	46	9	0	21	67	29	0	16	82	8	425	1,696
4:45 PM	**0**	**7**	**71**	**30**	**0**	**38**	**42**	**8**	**0**	**13**	**76**	**24**	**0**	**16**	**90**	**9**	**424**	1,723
5:00 PM	**0**	**14**	**73**	**30**	**0**	**27**	**55**	**6**	**0**	**18**	**77**	**33**	**0**	**18**	**85**	**10**	**446**	1,752
5:15 PM	**0**	**11**	**81**	**22**	**0**	**30**	**45**	**13**	**0**	**18**	**80**	**21**	**0**	**16**	**117**	**5**	**459**	1,754
5:30 PM	**0**	**11**	**84**	**26**	**0**	**34**	**54**	**4**	**0**	**13**	**59**	**22**	**0**	**11**	**106**	**4**	**428**	**1,757**
5:45 PM	0	13	49	34	0	30	49	8	0	10	89	24	0	11	99	7	423	1,756
Count Total	0	170	1,072	437	0	431	756	110	0	276	1,283	378	0	230	1,458	133	6,734	0
Peak Hour All	**0**	**43**	**309**	**108**	**0**	**129**	**196**	**31**	**0**	**62**	**292**	**100**	**0**	**61**	**398**	**28**	**1,757**	**0**
Peak Hour HV	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**2**	**0**	**8**	**0**
Peak Hour HV%	**-**	**0%**	**0%**	**2%**	**-**	**0%**	**0%**	**0%**	**-**	**2%**	**1%**	**0%**	**-**	**0%**	**1%**	**0%**	**0%**	**0**

Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
2:00 PM	2	1	2	2	*7*	2	2	3	1	*8*	3	3	2	0	*8*
2:15 PM	2	1	5	2	*10*	1	1	2	0	*4*	0	0	1	0	*1*
2:30 PM	1	1	2	2	*6*	2	1	1	2	*6*	0	2	3	1	*6*
2:45 PM	3	2	3	3	*11*	1	1	18	2	*22*	29	34	28	8	*99*
3:00 PM	3	1	5	2	*11*	3	2	3	0	*8*	9	33	30	4	*76*
3:15 PM	2	0	2	4	*8*	2	1	3	1	*7*	9	3	5	2	*19*
3:30 PM	2	2	1	3	*8*	3	1	4	6	*14*	4	2	5	2	*13*
3:45 PM	2	2	2	7	*13*	3	1	2	4	*10*	4	6	4	1	*15*
4:00 PM	2	0	3	0	*5*	5	2	3	3	*13*	6	1	13	3	*23*
4:15 PM	0	0	5	1	*6*	6	1	0	2	*9*	6	3	4	2	*15*
4:30 PM	1	0	1	2	*4*	2	1	0	3	*6*	4	4	4	1	*13*
4:45 PM	**2**	**0**	**1**	**0**	***3***	**3**	**1**	**1**	**2**	***7***	**1**	**0**	**11**	**1**	*13*
5:00 PM	**1**	**0**	**1**	**2**	***4***	**3**	**0**	**1**	**1**	***5***	**4**	**1**	**4**	**2**	*11*
5:15 PM	**0**	**0**	**1**	**0**	***1***	**3**	**1**	**6**	**0**	***10***	**4**	**3**	**5**	**1**	*13*
5:30 PM	**0**	**0**	**0**	**0**	***0***	**7**	**2**	**3**	**0**	***12***	**6**	**1**	**0**	**4**	***11***
5:45 PM	0	0	0	0	*0*	8	5	1	2	*16*	7	0	0	0	*7*
Count Total	23	10	34	30	*97*	54	23	51	29	*157*	96	96	119	32	*343*
Peak Hour	**3**	**0**	**3**	**2**	***8***	**16**	**4**	**11**	**3**	***34***	**15**	**5**	**20**	**8**	***48***

Four-Hour Count Summaries - Heavy Vehicles

Interval Start	Brommer St Eastbound				Brommer St Westbound				17th Ave Northbound				17th Ave Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	0	0	2	0	1	0	0	0	0	2	0	0	0	2	0	7	0
2:15 PM	0	0	0	2	0	0	0	1	0	1	4	0	0	0	2	0	10	0
2:30 PM	0	0	0	1	0	0	1	0	0	1	1	0	0	0	2	0	6	0
2:45 PM	0	1	2	0	0	1	1	0	0	1	2	0	0	0	3	0	11	34
3:00 PM	0	1	0	2	0	0	1	0	0	2	2	1	0	0	2	0	11	38
3:15 PM	0	0	1	1	0	0	0	0	0	1	1	0	0	0	4	0	8	36
3:30 PM	0	1	1	0	0	0	2	0	0	0	1	0	0	0	2	1	8	38
3:45 PM	0	0	1	1	0	1	1	0	0	0	1	1	0	0	5	2	13	40
4:00 PM	0	0	1	1	0	0	0	0	0	2	1	0	0	0	0	0	5	34
4:15 PM	0	0	0	0	0	0	0	0	0	1	4	0	0	1	0	0	6	32
4:30 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	1	4	28
4:45 PM	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	18
5:00 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**4**	17
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	12
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Count Total	0	3	8	12	0	3	6	1	0	10	22	2	0	2	24	4	97	0
Peak Hour	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**2**	**0**	**8**	**0**

Four-Hour Count Summaries - Bikes

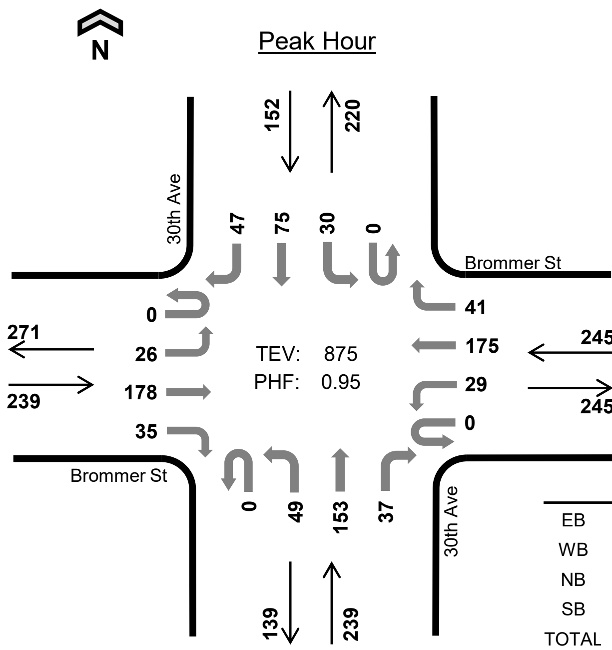
Interval Start	Brommer St Eastbound			Brommer St Westbound			17th Ave Northbound			17th Ave Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
2:00 PM	0	2	0	0	2	0	2	1	0	0	1	0	8	0
2:15 PM	0	1	0	0	0	1	1	1	0	0	0	0	4	0
2:30 PM	0	1	1	0	1	0	0	1	0	0	1	1	6	0
2:45 PM	0	1	0	0	1	0	4	12	2	0	2	0	22	40
3:00 PM	0	2	1	0	2	0	0	3	0	0	0	0	8	40
3:15 PM	0	1	1	0	1	0	0	3	0	0	1	0	7	43
3:30 PM	0	2	1	1	0	0	1	2	1	0	6	0	14	51
3:45 PM	0	0	3	0	1	0	0	1	1	0	4	0	10	39
4:00 PM	0	5	0	0	2	0	0	3	0	0	3	0	13	44
4:15 PM	0	5	1	0	1	0	0	0	0	0	2	0	9	46
4:30 PM	0	2	0	0	1	0	0	0	0	0	2	1	6	38
4:45 PM	**0**	**0**	**3**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**7**	35
5:00 PM	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**5**	27
5:15 PM	**0**	**3**	**0**	**0**	**1**	**0**	**1**	**4**	**1**	**0**	**0**	**0**	**10**	28
5:30 PM	**0**	**6**	**1**	**0**	**2**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**12**	**34**
5:45 PM	0	7	1	2	3	0	0	0	1	0	0	2	16	43
Count Total	0	40	14	3	19	1	11	34	6	0	25	4	157	0
Peak Hour	**0**	**11**	**5**	**0**	**4**	**0**	**3**	**7**	**1**	**0**	**3**	**0**	**34**	**0**

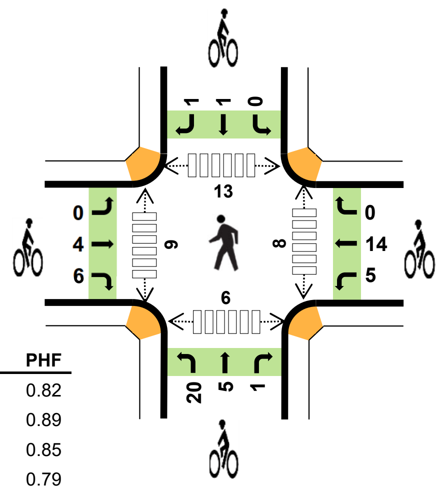
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

30th Ave
Brommer St

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM

Peak Hour





	HV %:	PHF
EB	2.9%	0.82
WB	1.2%	0.89
NB	0.4%	0.85
SB	0.0%	0.79
TOTAL	1.3%	0.95

Two-Hour Count Summaries

Interval Start		Brommer St Eastbound UT	LT	TH	RT	Brommer St Westbound UT	LT	TH	RT	30th Ave Northbound UT	LT	TH	RT	30th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM		0	3	26	3	0	3	28	4	0	4	29	8	0	1	5	3	117	0
7:15 AM		0	5	33	5	0	6	46	16	0	11	24	6	0	1	7	4	164	0
7:30 AM		**0**	**3**	**28**	**10**	**0**	**6**	**49**	**14**	**0**	**13**	**47**	**10**	**0**	**7**	**11**	**15**	**213**	0
7:45 AM		**0**	**3**	**59**	**11**	**0**	**8**	**49**	**10**	**0**	**10**	**37**	**8**	**0**	**6**	**20**	**9**	**230**	724
8:00 AM		**0**	**9**	**44**	**7**	**0**	**6**	**43**	**9**	**0**	**10**	**32**	**9**	**0**	**7**	**27**	**14**	**217**	824
8:15 AM		**0**	**11**	**47**	**7**	**0**	**9**	**34**	**8**	**0**	**16**	**37**	**10**	**0**	**10**	**17**	**9**	**215**	**875**
8:30 AM		0	9	53	10	0	9	41	12	0	4	26	10	0	4	17	12	207	869
8:45 AM		0	9	53	12	0	9	42	10	0	5	23	14	0	8	19	14	218	857
Count Total		0	52	343	65	0	56	332	83	0	73	255	75	0	44	123	80	1,581	0
Peak Hour	**All**	**0**	**26**	**178**	**35**	**0**	**29**	**175**	**41**	**0**	**49**	**153**	**37**	**0**	**30**	**75**	**47**	**875**	**0**
	HV	**0**	**0**	**5**	**2**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**11**	**0**
	HV%	**-**	**0%**	**3%**	**6%**	**-**	**0%**	**1%**	**5%**	**-**	**0%**	**0%**	**3%**	**-**	**0%**	**0%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	0	0	0	0	*0*	1	2	2	1	*6*	1	2	2	1	*6*
7:15 AM	0	0	0	0	*0*	4	7	6	1	*18*	2	3	1	2	*8*
7:30 AM	**1**	**2**	**1**	**0**	***4***	**3**	**7**	**4**	**1**	***15***	**0**	**2**	**1**	**1**	*4*
7:45 AM	**4**	**1**	**0**	**0**	***5***	**1**	**6**	**7**	**1**	***15***	**3**	**3**	**8**	**3**	*17*
8:00 AM	**2**	**0**	**0**	**0**	***2***	**3**	**3**	**13**	**0**	***19***	**5**	**1**	**2**	**0**	*8*
8:15 AM	**0**	**0**	**0**	**0**	***0***	**3**	**3**	**2**	**0**	***8***	**0**	**3**	**2**	**2**	*7*
8:30 AM	2	3	0	0	*5*	2	1	1	1	*5*	2	1	1	1	*5*
8:45 AM	0	0	0	1	*1*	3	0	1	1	*5*	0	2	0	0	*2*
Count Total	9	6	1	1	*17*	20	29	36	6	*91*	13	17	17	10	*57*
Peak Hour	**7**	**3**	**1**	**0**	***11***	**10**	**19**	**26**	**2**	***57***	**8**	**9**	**13**	**6**	***36***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Brommer St				Brommer St				30th Ave				30th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	0
7:45 AM	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	9
8:00 AM	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	11
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**
8:30 AM	0	0	2	0	0	0	2	1	0	0	0	0	0	0	0	0	5	12
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	8
Count Total	0	0	7	2	0	0	3	3	0	0	0	1	0	0	1	0	17	0
Peak Hour	**0**	**0**	**5**	**2**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**11**	**0**

Two-Hour Count Summaries - Bikes

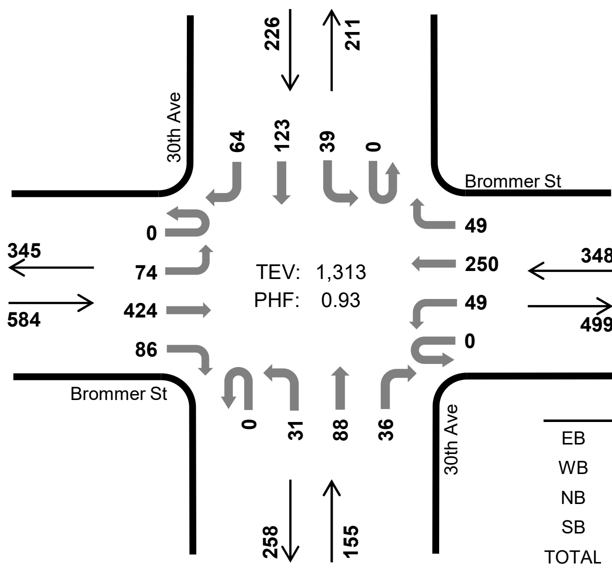
Interval Start	Brommer St			Brommer St			30th Ave			30th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	1	0	0	2	0	1	1	0	0	1	0	6	0
7:15 AM	1	2	1	3	4	0	5	1	0	0	0	1	18	0
7:30 AM	**0**	**0**	**3**	**2**	**5**	**0**	**3**	**1**	**0**	**0**	**0**	**1**	**15**	0
7:45 AM	**0**	**0**	**1**	**0**	**6**	**0**	**6**	**0**	**1**	**0**	**1**	**0**	**15**	54
8:00 AM	**0**	**2**	**1**	**1**	**2**	**0**	**9**	**4**	**0**	**0**	**0**	**0**	**19**	67
8:15 AM	**0**	**2**	**1**	**2**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**8**	**57**
8:30 AM	0	1	1	0	1	0	0	0	1	0	1	0	5	47
8:45 AM	0	1	2	0	0	0	0	1	0	0	1	0	5	37
Count Total	1	9	10	8	21	0	26	8	2	0	4	2	91	0
Peak Hour	**0**	**4**	**6**	**5**	**14**	**0**	**20**	**5**	**1**	**0**	**1**	**1**	**57**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

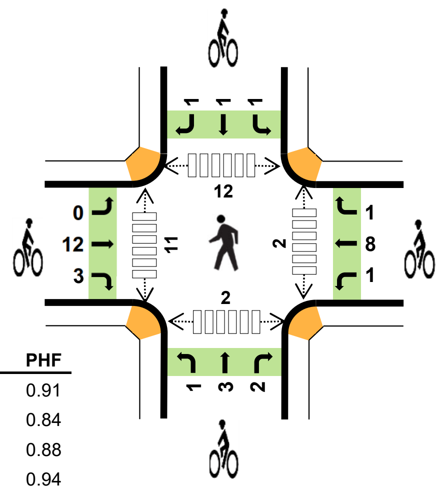
30th Ave
Brommer St

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM

Peak Hour



	HV %:	PHF
EB	0.2%	0.91
WB	0.3%	0.84
NB	0.0%	0.88
SB	0.0%	0.94
TOTAL	0.2%	0.93



Two-Hour Count Summaries

Interval Start	Brommer St Eastbound UT	LT	TH	RT	Brommer St Westbound UT	LT	TH	RT	30th Ave Northbound UT	LT	TH	RT	30th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	15	107	11	0	13	62	7	0	4	28	6	0	7	33	12	305	0
4:15 PM	0	19	106	16	0	12	56	11	0	3	20	12	0	13	37	9	314	0
4:30 PM	**0**	**23**	**113**	**24**	**0**	**12**	**55**	**16**	**0**	**6**	**22**	**4**	**0**	**6**	**24**	**19**	**324**	0
4:45 PM	**0**	**18**	**90**	**23**	**0**	**9**	**51**	**5**	**0**	**9**	**24**	**11**	**0**	**7**	**37**	**16**	**300**	1,243
5:00 PM	**0**	**16**	**112**	**19**	**0**	**13**	**71**	**12**	**0**	**6**	**22**	**7**	**0**	**18**	**27**	**13**	**336**	1,274
5:15 PM	**0**	**17**	**109**	**20**	**0**	**15**	**73**	**16**	**0**	**10**	**20**	**14**	**0**	**8**	**35**	**16**	**353**	**1,313**
5:30 PM	0	19	96	16	0	8	48	9	0	4	30	10	0	12	24	13	289	1,278
5:45 PM	0	13	92	17	0	14	45	5	0	12	23	4	0	8	29	14	276	1,254
Count Total	0	140	825	146	0	96	461	81	0	54	189	68	0	79	246	112	2,497	0
Peak Hour All	**0**	**74**	**424**	**86**	**0**	**49**	**250**	**49**	**0**	**31**	**88**	**36**	**0**	**39**	**123**	**64**	**1,313**	**0**
Peak Hour HV	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**
Peak Hour HV%	**-**	**0%**	**0%**	**1%**	**-**	**0%**	**0%**	**2%**	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**0%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	1	0	1	1	*3*	6	3	1	1	*11*	2	5	1	0	*8*
4:15 PM	1	0	0	0	*1*	6	1	1	1	*9*	0	2	5	0	*7*
4:30 PM	**1**	**1**	**0**	**0**	***2***	**4**	**2**	**2**	**0**	***8***	**0**	**1**	**2**	**0**	***3***
4:45 PM	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**0**	**2**	***4***	**0**	**2**	**0**	**2**	***4***
5:00 PM	**0**	**0**	**0**	**0**	***0***	**3**	**2**	**0**	**1**	***6***	**0**	**2**	**4**	**0**	***6***
5:15 PM	**0**	**0**	**0**	**0**	***0***	**7**	**5**	**4**	**0**	***16***	**2**	**6**	**6**	**0**	***14***
5:30 PM	0	0	0	0	*0*	4	3	2	0	*9*	1	2	1	0	*4*
5:45 PM	0	0	0	0	*0*	6	4	0	1	*11*	1	0	1	0	*2*
Count Total	3	1	1	1	*6*	37	21	10	6	*74*	6	20	20	2	*48*
Peak Hour	**1**	**1**	**0**	**0**	***2***	**15**	**10**	**6**	**3**	***34***	**2**	**11**	**12**	**2**	***27***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Brommer St				Brommer St				30th Ave				30th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	3	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	6
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	3
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	2	1	0	0	0	1	0	0	1	0	0	0	1	0	6	0
Peak Hour	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**

Two-Hour Count Summaries - Bikes

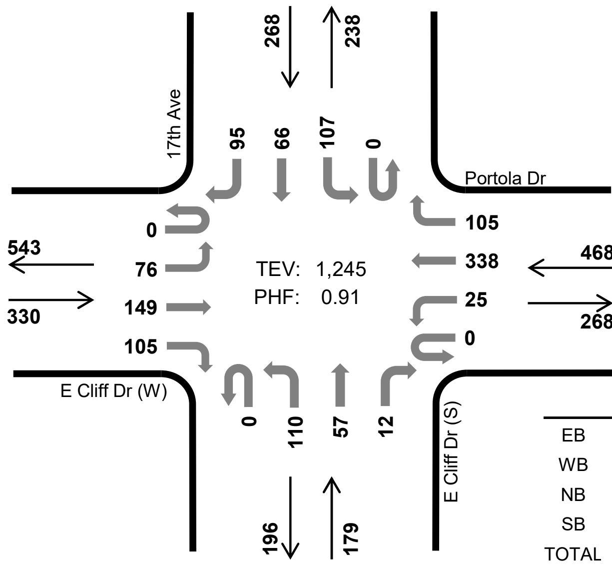
Interval Start	Brommer St			Brommer St			30th Ave			30th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	6	0	0	2	1	0	1	0	0	1	0	11	0
4:15 PM	1	4	1	0	1	0	0	1	0	0	0	1	9	0
4:30 PM	**0**	**3**	**1**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**8**	0
4:45 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**4**	32
5:00 PM	**0**	**3**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**6**	27
5:15 PM	**0**	**5**	**2**	**0**	**4**	**1**	**1**	**1**	**2**	**0**	**0**	**0**	**16**	**34**
5:30 PM	1	3	0	0	3	0	0	2	0	0	0	0	9	35
5:45 PM	1	0	5	0	4	0	0	0	0	0	0	1	11	42
Count Total	3	25	9	1	18	2	1	7	2	1	2	3	74	0
Peak Hour	**0**	**12**	**3**	**1**	**8**	**1**	**1**	**3**	**2**	**1**	**1**	**1**	**34**	**0**

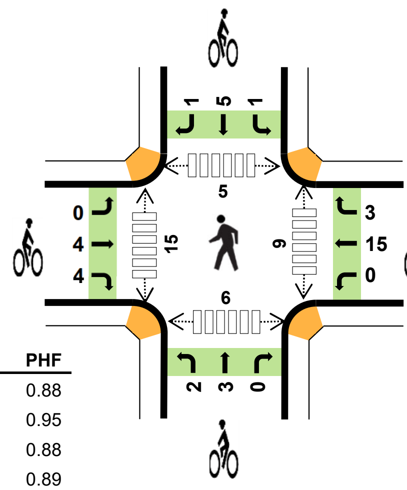
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

17th Ave
Portola Dr

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour





	HV %:	PHF
EB	1.8%	0.88
WB	1.5%	0.95
NB	1.1%	0.88
SB	3.7%	0.89
TOTAL	2.0%	0.91

Two-Hour Count Summaries

Interval Start		E Cliff Dr (W) Eastbound UT	LT	TH	RT	Portola Dr Westbound UT	LT	TH	RT	E Cliff Dr (S) Northbound UT	LT	TH	RT	17th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM		0	10	15	8	0	1	43	12	0	17	8	1	0	3	9	8	135	0
7:15 AM		0	8	18	14	0	1	49	19	0	9	12	0	0	3	9	13	155	0
7:30 AM		0	16	25	13	0	7	66	26	0	27	14	4	0	13	11	17	239	0
7:45 AM		0	23	34	22	0	6	86	27	0	25	9	4	0	17	14	25	292	821
8:00 AM		**0**	**24**	**43**	**25**	**0**	**6**	**78**	**39**	**0**	**31**	**19**	**1**	**0**	**30**	**13**	**32**	**341**	1,027
8:15 AM		**0**	**28**	**40**	**26**	**0**	**7**	**86**	**19**	**0**	**22**	**8**	**5**	**0**	**22**	**16**	**35**	**314**	1,186
8:30 AM		**0**	**13**	**29**	**33**	**0**	**7**	**86**	**21**	**0**	**26**	**13**	**3**	**0**	**29**	**24**	**11**	**295**	1,242
8:45 AM		**0**	**11**	**37**	**21**	**0**	**5**	**88**	**26**	**0**	**31**	**17**	**3**	**0**	**26**	**13**	**17**	**295**	**1,245**
Count Total		0	133	241	162	0	40	582	189	0	188	100	21	0	143	109	158	2,066	0
Peak Hour	**All**	**0**	**76**	**149**	**105**	**0**	**25**	**338**	**105**	**0**	**110**	**57**	**12**	**0**	**107**	**66**	**95**	**1,245**	**0**
	HV	**0**	**2**	**4**	**0**	**0**	**0**	**4**	**3**	**0**	**2**	**0**	**0**	**0**	**5**	**1**	**4**	**25**	**0**
	HV%	**-**	**3%**	**3%**	**0%**	**-**	**0%**	**1%**	**3%**	**-**	**2%**	**0%**	**0%**	**-**	**5%**	**2%**	**4%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	1	1	0	1	*3*	2	0	0	0	*2*	1	5	2	0	*8*
7:15 AM	0	1	0	1	*2*	0	1	1	1	*3*	3	2	1	2	*8*
7:30 AM	4	1	1	1	*7*	2	4	2	2	*10*	5	1	0	1	*7*
7:45 AM	0	2	0	0	*2*	0	3	4	3	*10*	3	2	0	3	*8*
8:00 AM	**2**	**1**	**1**	**3**	***7***	**0**	**6**	**2**	**1**	***9***	**3**	**4**	**3**	**0**	*10*
8:15 AM	**2**	**1**	**0**	**3**	***6***	**6**	**1**	**0**	**1**	***8***	**3**	**1**	**0**	**4**	*8*
8:30 AM	**1**	**1**	**1**	**3**	***6***	**1**	**5**	**2**	**2**	***10***	**2**	**2**	**0**	**2**	*6*
8:45 AM	**1**	**4**	**0**	**1**	***6***	**1**	**6**	**1**	**3**	***11***	**1**	**8**	**2**	**0**	***11***
Count Total	11	12	3	13	*39*	12	26	12	13	*63*	21	25	8	12	*66*
Peak Hour	**6**	**7**	**2**	**10**	***25***	**8**	**18**	**5**	**7**	***38***	**9**	**15**	**5**	**6**	***35***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Cliff Dr (W)				Portola Dr				E Cliff Dr (S)				17th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	3	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2	0
7:30 AM	0	1	3	0	0	0	1	0	0	0	1	0	0	0	1	0	7	0
7:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	14
8:00 AM	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	**7**	18
8:15 AM	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**6**	22
8:30 AM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**1**	**0**	**6**	21
8:45 AM	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**6**	**25**
Count Total	0	4	7	0	0	0	5	7	0	2	1	0	0	6	2	5	39	0
Peak Hour	**0**	**2**	**4**	**0**	**0**	**0**	**4**	**3**	**0**	**2**	**0**	**0**	**0**	**5**	**1**	**4**	**25**	**0**

Two-Hour Count Summaries - Bikes

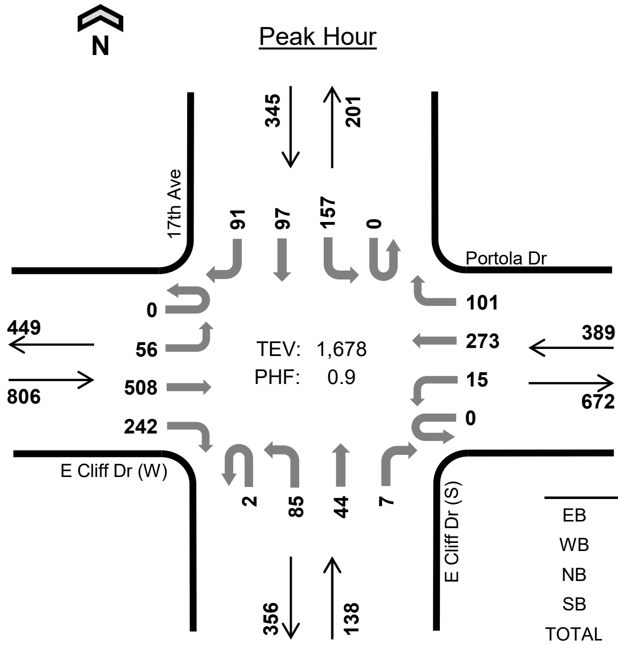
Interval Start	E Cliff Dr (W)			Portola Dr			E Cliff Dr (S)			17th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	2	0
7:15 AM	0	0	0	0	1	0	1	0	0	0	0	1	3	0
7:30 AM	0	2	0	0	4	0	2	0	0	2	0	0	10	0
7:45 AM	0	0	0	0	2	1	2	2	0	2	0	1	10	25
8:00 AM	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**9**	32
8:15 AM	**0**	**3**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**8**	37
8:30 AM	**0**	**0**	**1**	**0**	**4**	**1**	**1**	**1**	**0**	**0**	**2**	**0**	**10**	37
8:45 AM	**0**	**1**	**0**	**0**	**4**	**2**	**1**	**0**	**0**	**0**	**2**	**1**	**11**	**38**
Count Total	0	8	4	0	22	4	7	5	0	5	5	3	63	0
Peak Hour	**0**	**4**	**4**	**0**	**15**	**3**	**2**	**3**	**0**	**1**	**5**	**1**	**38**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

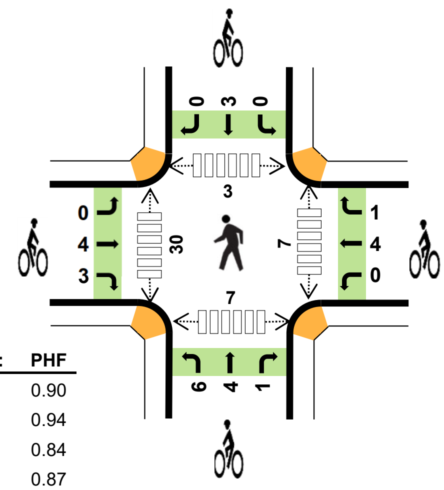
17th Ave
Portola Dr

idax

Date: 10-04-2018
Count Period: 2:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	0.7%	0.90
WB	0.5%	0.94
NB	0.0%	0.84
SB	0.9%	0.87
TOTAL	0.7%	0.90



Four-Hour Count Summaries

Interval Start		E Cliff Dr (W) Eastbound UT	LT	TH	RT	Portola Dr Westbound UT	LT	TH	RT	E Cliff Dr (S) Northbound UT	LT	TH	RT	17th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:45 PM		0	9	112	61	0	3	68	29	0	23	10	2	0	36	19	16	388	0
5:00 PM		0	11	136	56	0	6	70	21	0	20	20	1	0	36	27	25	429	0
5:15 PM		0	18	147	59	0	4	72	28	1	27	8	2	0	46	27	26	465	0
5:30 PM		0	18	113	66	0	2	63	23	1	15	6	2	0	39	24	24	396	1,678
Peak Hour	All	0	56	508	242	0	15	273	101	2	85	44	7	0	157	97	91	1,678	0
	HV	0	0	4	2	0	0	1	1	0	0	0	0	0	1	1	1	11	0
	HV%	-	0%	1%	1%	-	0%	0%	1%	0%	0%	0%	0%	-	1%	1%	1%	1%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:45 PM	4	0	0	0	*4*	5	1	3	0	*9*	2	2	0	1	*5*
5:00 PM	1	0	0	2	*3*	2	1	5	1	*9*	1	17	1	1	*20*
5:15 PM	0	1	0	1	*2*	0	1	2	1	*4*	1	5	1	5	*12*
5:30 PM	1	1	0	0	*2*	0	2	1	1	*4*	3	6	1	0	*10*
Peak Hour	6	2	0	3	*11*	7	5	11	3	*26*	7	30	3	7	*47*

Four-Hour Count Summaries

Interval Start	E Cliff Dr (W)				Portola Dr				E Cliff Dr (S)				17th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	28	62	44	0	3	73	28	0	17	13	2	0	31	27	13	341	0
2:15 PM	0	26	70	54	0	3	72	20	0	17	11	2	0	26	19	26	346	0
2:30 PM	0	23	74	34	0	2	67	23	0	21	11	4	0	21	9	25	314	0
2:45 PM	0	9	81	52	0	3	60	24	0	25	6	1	0	44	12	27	344	1,345
3:00 PM	0	15	100	38	0	6	69	23	0	21	10	4	0	23	19	21	349	1,353
3:15 PM	0	22	104	58	0	4	57	22	0	18	9	2	0	31	23	18	368	1,375
3:30 PM	0	15	103	69	0	1	79	19	0	21	10	4	0	27	20	23	391	1,452
3:45 PM	0	18	119	49	0	1	54	26	0	16	18	4	0	35	21	18	379	1,487
4:00 PM	0	12	119	49	0	5	62	19	0	20	11	2	0	32	23	11	365	1,503
4:15 PM	0	20	134	54	0	6	51	24	0	18	7	2	0	39	20	21	396	1,531
4:30 PM	0	12	111	61	0	3	63	24	0	17	9	1	0	21	22	30	374	1,514
4:45 PM	**0**	**9**	**112**	**61**	**0**	**3**	**68**	**29**	**0**	**23**	**10**	**2**	**0**	**36**	**19**	**16**	**388**	1,523
5:00 PM	**0**	**11**	**136**	**56**	**0**	**6**	**70**	**21**	**0**	**20**	**20**	**1**	**0**	**36**	**27**	**25**	**429**	1,587
5:15 PM	**0**	**18**	**147**	**59**	**0**	**4**	**72**	**28**	**1**	**27**	**8**	**2**	**0**	**46**	**27**	**26**	**465**	1,656
5:30 PM	**0**	**18**	**113**	**66**	**0**	**2**	**63**	**23**	**1**	**15**	**6**	**2**	**0**	**39**	**24**	**24**	**396**	**1,678**
5:45 PM	0	22	87	52	0	3	57	27	0	20	8	3	0	45	21	16	361	1,651
Count Total	0	278	1,672	856	0	55	1,037	380	2	316	167	38	0	532	333	340	6,006	0
Peak Hour All	**0**	**56**	**508**	**242**	**0**	**15**	**273**	**101**	**2**	**85**	**44**	**7**	**0**	**157**	**97**	**91**	**1,678**	**0**
Peak Hour HV	**0**	**0**	**4**	**2**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**11**	**0**
Peak Hour HV%	**-**	**0%**	**1%**	**1%**	**-**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**0%**	**-**	**1%**	**1%**	**1%**	**1%**	**0**

Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
2:00 PM	1	2	0	1	*4*	3	3	1	0	*7*	2	0	0	0	*2*
2:15 PM	2	0	0	0	*2*	4	1	5	0	*10*	0	5	0	0	*5*
2:30 PM	4	2	0	1	*7*	5	2	2	2	*11*	1	2	0	0	*3*
2:45 PM	2	1	0	0	*3*	3	4	0	0	*7*	3	2	1	2	*8*
3:00 PM	2	3	1	2	*8*	1	0	1	3	*5*	6	0	3	1	*10*
3:15 PM	2	1	0	1	*4*	2	0	0	1	*3*	2	6	1	1	*10*
3:30 PM	1	1	0	1	*3*	1	0	1	5	*7*	0	4	0	0	*4*
3:45 PM	0	1	1	0	*2*	3	2	3	0	*8*	0	1	0	1	*2*
4:00 PM	1	0	0	1	*2*	1	3	3	2	*9*	5	1	2	5	*13*
4:15 PM	1	2	0	1	*4*	3	2	1	3	*9*	3	2	0	3	*8*
4:30 PM	4	1	0	0	*5*	5	1	1	1	*8*	2	1	1	2	*6*
4:45 PM	**4**	**0**	**0**	**0**	***4***	**5**	**1**	**3**	**0**	***9***	**2**	**2**	**0**	**1**	*5*
5:00 PM	**1**	**0**	**0**	**2**	***3***	**2**	**1**	**5**	**1**	***9***	**1**	**17**	**1**	**1**	*20*
5:15 PM	**0**	**1**	**0**	**1**	***2***	**0**	**1**	**2**	**1**	***4***	**1**	**5**	**1**	**5**	*12*
5:30 PM	**1**	**1**	**0**	**0**	***2***	**0**	**2**	**1**	**1**	***4***	**3**	**6**	**1**	**0**	*10*
5:45 PM	0	0	0	0	*0*	0	2	3	1	*6*	0	6	1	1	*8*
Count Total	26	16	2	11	*55*	38	25	32	21	*116*	31	60	12	23	*126*
Peak Hour	**6**	**2**	**0**	**3**	***11***	**7**	**5**	**11**	**3**	***26***	**7**	**30**	**3**	**7**	*47*

Four-Hour Count Summaries - Heavy Vehicles

Interval Start	E Cliff Dr (W) Eastbound				Portola Dr Westbound				E Cliff Dr (S) Northbound				17th Ave Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	1	0	0	0	0	0	2	0	0	0	0	0	1	0	0	4	0
2:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0
2:30 PM	0	0	4	0	0	0	1	1	0	0	0	0	0	0	0	1	7	0
2:45 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	16
3:00 PM	0	1	1	0	0	0	2	1	0	1	0	0	0	1	0	1	8	20
3:15 PM	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0	0	4	22
3:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	3	18
3:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	17
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	11
4:15 PM	0	0	0	1	0	0	0	2	0	0	0	0	0	1	0	0	4	11
4:30 PM	0	0	1	3	0	0	1	0	0	0	0	0	0	0	0	0	5	13
4:45 PM	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	15
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**3**	16
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	14
5:30 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**11**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Count Total	0	2	16	8	0	0	7	9	0	1	1	0	0	5	2	4	55	0
Peak Hour	**0**	**0**	**4**	**2**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**11**	**0**

Four-Hour Count Summaries - Bikes

Interval Start	E Cliff Dr (W) Eastbound			Portola Dr Westbound			E Cliff Dr (S) Northbound			17th Ave Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
2:00 PM	0	2	1	0	1	2	1	0	0	0	0	0	7	0
2:15 PM	0	3	1	0	1	0	3	2	0	0	0	0	10	0
2:30 PM	0	0	5	0	1	1	1	0	1	1	0	1	11	0
2:45 PM	0	2	1	0	4	0	0	0	0	0	0	0	7	35
3:00 PM	0	0	1	0	0	0	0	1	0	0	0	3	5	33
3:15 PM	0	0	2	0	0	0	0	0	0	0	1	0	3	26
3:30 PM	0	1	0	0	0	0	1	0	0	0	3	2	7	22
3:45 PM	0	1	2	0	2	0	3	0	0	0	0	0	8	23
4:00 PM	0	0	1	0	3	0	3	0	0	0	2	0	9	27
4:15 PM	0	1	2	0	2	0	0	1	0	0	2	1	9	33
4:30 PM	0	1	4	0	1	0	1	0	0	0	1	0	8	34
4:45 PM	**0**	**3**	**2**	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**9**	35
5:00 PM	**0**	**1**	**1**	**0**	**1**	**0**	**1**	**4**	**0**	**0**	**1**	**0**	**9**	35
5:15 PM	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**4**	30
5:30 PM	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**4**	**26**
5:45 PM	0	0	0	0	2	0	3	0	0	0	1	0	6	23
Count Total	0	15	23	0	21	4	22	8	2	1	13	7	116	0
Peak Hour	**0**	**4**	**3**	**0**	**4**	**1**	**6**	**4**	**1**	**0**	**3**	**0**	**26**	**0**

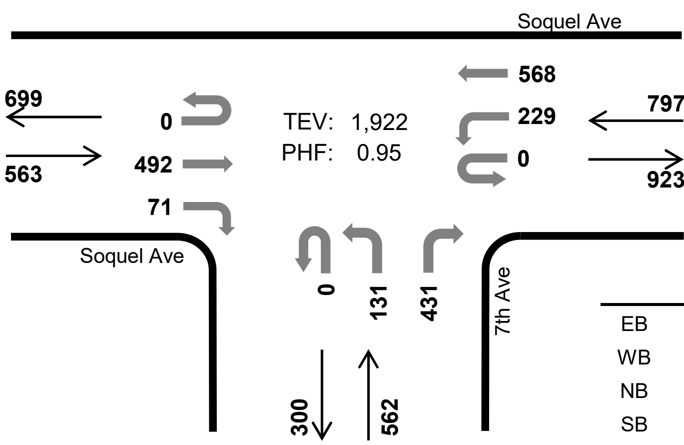
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

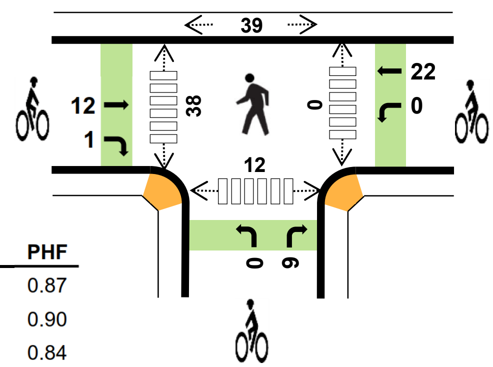
7th Ave
Soquel Ave

N

Peak Hour

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV %:	PHF
EB	4.1%	0.87
WB	4.1%	0.90
NB	1.8%	0.84
SB	-	-
TOTAL	3.4%	0.95

Two-Hour Count Summaries

Interval Start	Soquel Ave Eastbound UT	LT	TH	RT	Soquel Ave Westbound UT	LT	TH	RT	7th Ave Northbound UT	LT	TH	RT	0 Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	40	4	0	40	76	0	0	7	0	77	0	0	0	0	244	0
7:15 AM	0	0	68	8	0	48	104	0	0	11	0	77	0	0	0	0	316	0
7:30 AM	0	0	99	8	0	33	112	0	0	11	0	115	0	0	0	0	378	0
7:45 AM	**0**	**0**	**139**	**18**	**0**	**51**	**126**	**0**	**0**	**29**	**0**	**128**	**0**	**0**	**0**	**0**	**491**	1,429
8:00 AM	**0**	**0**	**110**	**16**	**0**	**55**	**147**	**0**	**0**	**51**	**0**	**117**	**0**	**0**	**0**	**0**	**496**	1,681
8:15 AM	**0**	**0**	**137**	**24**	**0**	**59**	**163**	**0**	**0**	**30**	**0**	**91**	**0**	**0**	**0**	**0**	**504**	1,869
8:30 AM	**0**	**0**	**106**	**13**	**0**	**64**	**132**	**0**	**0**	**21**	**0**	**95**	**0**	**0**	**0**	**0**	**431**	**1,922**
8:45 AM	0	0	117	5	1	54	124	0	0	21	0	103	0	0	0	0	425	1,856
Count Total	0	0	816	96	1	404	984	0	0	181	0	803	0	0	0	0	3,285	0
Peak Hour All	**0**	**0**	**492**	**71**	**0**	**229**	**568**	**0**	**0**	**131**	**0**	**431**	**0**	**0**	**0**	**0**	**1,922**	**0**
Peak Hour HV	**0**	**0**	**21**	**2**	**0**	**11**	**22**	**0**	**0**	**3**	**0**	**7**	**0**	**0**	**0**	**0**	**66**	**0**
Peak Hour HV%	**-**	**-**	**4%**	**3%**	**-**	**5%**	**4%**	**-**	**-**	**2%**	**-**	**2%**	**-**	**-**	**-**	**-**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	1	1	3	0	*5*	0	3	0	0	*3*	0	2	6	0	*8*
7:15 AM	4	4	2	0	*10*	5	5	4	0	*14*	0	8	10	0	*18*
7:30 AM	2	2	1	0	*5*	0	4	1	0	*5*	0	5	6	4	*15*
7:45 AM	**8**	**4**	**0**	**0**	***12***	**5**	**4**	**2**	**0**	***11***	**0**	**3**	**4**	**3**	*10*
8:00 AM	**4**	**9**	**8**	**0**	***21***	**4**	**10**	**5**	**0**	***19***	**0**	**20**	**19**	**5**	*44*
8:15 AM	**7**	**5**	**1**	**0**	***13***	**2**	**4**	**2**	**0**	***8***	**0**	**13**	**15**	**2**	*30*
8:30 AM	**4**	**15**	**1**	**0**	***20***	**2**	**4**	**0**	**0**	***6***	**0**	**2**	**1**	**2**	***5***
8:45 AM	6	3	3	0	*12*	1	4	1	0	*6*	0	1	0	1	*2*
Count Total	36	43	19	0	*98*	19	38	15	0	*72*	0	54	61	17	*132*
Peak Hr	**23**	**33**	**10**	**0**	***66***	**13**	**22**	**9**	**0**	***44***	**0**	**38**	**39**	**12**	***89***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Soquel Ave				Soquel Ave				7th Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	1	0	0	0	0	3	0	0	0	0	5	0
7:15 AM	0	0	4	0	0	3	1	0	0	0	0	2	0	0	0	0	10	0
7:30 AM	0	0	2	0	0	1	1	0	0	0	0	1	0	0	0	0	5	0
7:45 AM	**0**	**0**	**8**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	32
8:00 AM	**0**	**0**	**4**	**0**	**0**	**4**	**5**	**0**	**0**	**1**	**0**	**7**	**0**	**0**	**0**	**0**	**21**	48
8:15 AM	**0**	**0**	**7**	**0**	**0**	**1**	**4**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	51
8:30 AM	**0**	**0**	**2**	**2**	**0**	**6**	**9**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**66**
8:45 AM	0	0	6	0	0	1	2	0	0	1	0	2	0	0	0	0	12	66
Count Total	0	0	34	2	0	16	27	0	0	4	0	15	0	0	0	0	98	0
Peak Hour	**0**	**0**	**21**	**2**	**0**	**11**	**22**	**0**	**0**	**3**	**0**	**7**	**0**	**0**	**0**	**0**	**66**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Soquel Ave			Soquel Ave			7th Ave			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	3	0	0	0	0	0	0	0	3	0
7:15 AM	0	5	0	1	4	0	1	0	3	0	0	0	14	0
7:30 AM	0	0	0	0	4	0	1	0	0	0	0	0	5	0
7:45 AM	**0**	**5**	**0**	**0**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**11**	33
8:00 AM	**0**	**4**	**0**	**0**	**10**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**19**	49
8:15 AM	**0**	**1**	**1**	**0**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**8**	43
8:30 AM	**0**	**2**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**44**
8:45 AM	0	1	0	0	4	0	0	0	1	0	0	0	6	39
Count Total	0	18	1	1	37	0	2	0	13	0	0	0	72	0
Peak Hour	**0**	**12**	**1**	**0**	**22**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**44**	**0**

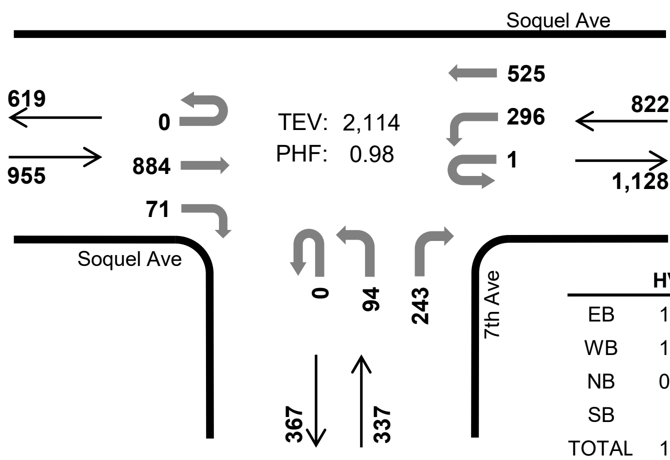
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

7th Ave
Soquel Ave

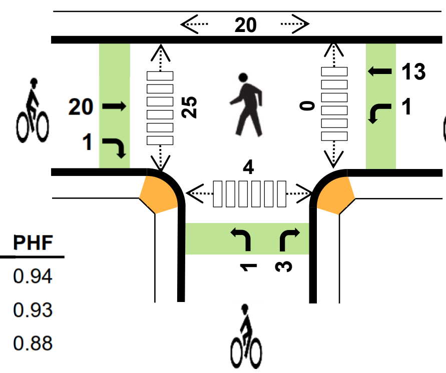
N

Peak Hour

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	1.2%	0.94
WB	1.2%	0.93
NB	0.6%	0.88
SB	-	-
TOTAL	1.1%	0.98



Two-Hour Count Summaries

Interval Start	Soquel Ave Eastbound UT	LT	TH	RT	Soquel Ave Westbound UT	LT	TH	RT	7th Ave Northbound UT	LT	TH	RT	0 Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	203	26	0	63	110	0	0	12	0	70	0	0	0	0	484	0
4:15 PM	0	0	196	22	0	69	113	0	0	21	0	46	0	0	0	0	467	0
4:30 PM	**0**	**0**	**241**	**13**	**0**	**72**	**122**	**0**	**0**	**23**	**0**	**53**	**0**	**0**	**0**	**0**	**524**	0
4:45 PM	**0**	**0**	**211**	**17**	**0**	**69**	**138**	**0**	**0**	**17**	**0**	**65**	**0**	**0**	**0**	**0**	**517**	1,992
5:00 PM	**0**	**0**	**231**	**24**	**1**	**72**	**127**	**0**	**0**	**25**	**0**	**58**	**0**	**0**	**0**	**0**	**538**	2,046
5:15 PM	**0**	**0**	**201**	**17**	**0**	**83**	**138**	**0**	**0**	**29**	**0**	**67**	**0**	**0**	**0**	**0**	**535**	**2,114**
5:30 PM	0	0	232	22	0	78	91	0	0	18	0	62	0	0	0	0	503	2,093
5:45 PM	0	0	196	13	0	72	96	0	0	22	0	56	0	0	0	0	455	2,031
Count Total	0	0	1,711	154	1	578	935	0	0	167	0	477	0	0	0	0	4,023	0
Peak Hour All	**0**	**0**	**884**	**71**	**1**	**296**	**525**	**0**	**0**	**94**	**0**	**243**	**0**	**0**	**0**	**0**	**2,114**	**0**
Peak Hour HV	**0**	**0**	**10**	**1**	**0**	**5**	**5**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**23**	**0**
Peak Hour HV%	**-**	**-**	**1%**	**1%**	**0%**	**2%**	**1%**	**-**	**-**	**1%**	**-**	**0%**	**-**	**-**	**-**	**-**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	7	2	3	0	*12*	1	2	0	0	*3*	0	6	5	1	*12*
4:15 PM	4	6	1	0	*11*	2	2	0	0	*4*	0	10	8	2	*20*
4:30 PM	**5**	**1**	**1**	**0**	***7***	**2**	**4**	**1**	**0**	***7***	**0**	**5**	**4**	**1**	*10*
4:45 PM	**2**	**2**	**1**	**0**	***5***	**6**	**3**	**3**	**0**	***12***	**0**	**9**	**7**	**1**	*17*
5:00 PM	**2**	**3**	**0**	**0**	***5***	**7**	**2**	**0**	**0**	***9***	**0**	**3**	**2**	**1**	*6*
5:15 PM	**2**	**4**	**0**	**0**	***6***	**6**	**5**	**0**	**0**	***11***	**0**	**8**	**7**	**1**	*16*
5:30 PM	1	1	1	0	*3*	4	3	1	0	*8*	0	7	10	2	*19*
5:45 PM	1	3	1	0	*5*	1	5	3	0	*9*	0	6	3	0	*9*
Count Total	24	22	8	0	*54*	29	26	8	0	*63*	0	54	46	9	*109*
Peak Hr	**11**	**10**	**2**	**0**	***23***	**21**	**14**	**4**	**0**	***39***	**0**	**25**	**20**	**4**	***49***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Soquel Ave				Soquel Ave				7th Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	7	0	0	0	2	0	0	0	0	3	0	0	0	0	12	0
4:15 PM	0	0	4	0	0	2	4	0	0	0	0	1	0	0	0	0	11	0
4:30 PM	**0**	**0**	**5**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	0
4:45 PM	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**5**	35
5:00 PM	**0**	**0**	**2**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	28
5:15 PM	**0**	**0**	**1**	**1**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**23**
5:30 PM	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	3	19
5:45 PM	0	0	1	0	0	2	1	0	0	1	0	0	0	0	0	0	5	19
Count Total	0	0	23	1	0	9	13	0	0	2	0	6	0	0	0	0	54	0
Peak Hour	**0**	**0**	**10**	**1**	**0**	**5**	**5**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**23**	**0**

Two-Hour Count Summaries - Bikes

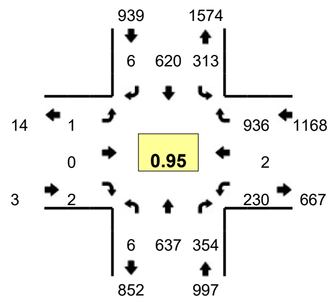
Interval Start	Soquel Ave			Soquel Ave			7th Ave			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	1	0	2	0	0	0	0	0	0	0	3	0
4:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	4	0
4:30 PM	**0**	**2**	**0**	**0**	**4**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**7**	0
4:45 PM	**0**	**6**	**0**	**1**	**2**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**12**	26
5:00 PM	**0**	**6**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	32
5:15 PM	**0**	**6**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**39**
5:30 PM	0	4	0	1	2	0	1	0	0	0	0	0	8	40
5:45 PM	0	1	0	3	2	0	0	0	3	0	0	0	9	37
Count Total	0	27	2	5	21	0	2	0	6	0	0	0	63	0
Peak Hour	**0**	**20**	**1**	**1**	**13**	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**39**	**0**

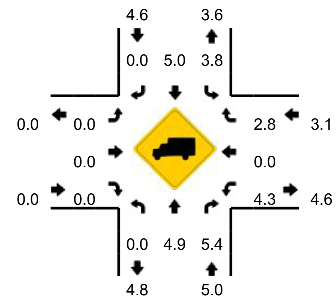
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

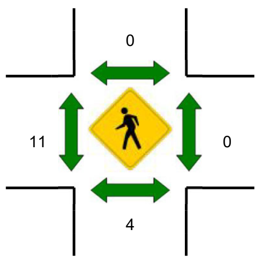
Type of peak hour being reported: Intersection Peak Method for determining peak hour: Total Entering Volume

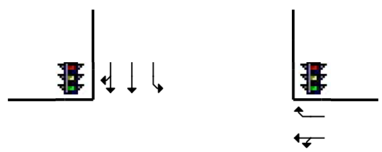
LOCATION: 1. Soquel Dr -- Soquel Ave **QC JOB #:** 14646701
CITY/STATE: Santa Cruz, CA **DATE:** Tue, Mar 06 2018

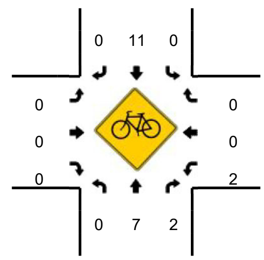
Peak-Hour: 7:40 AM -- 8:40 AM
Peak 15-Min: 7:55 AM -- 8:10 AM

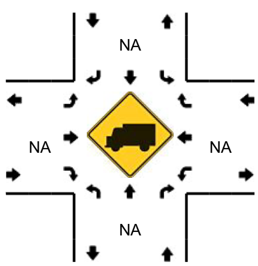


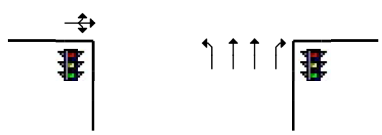


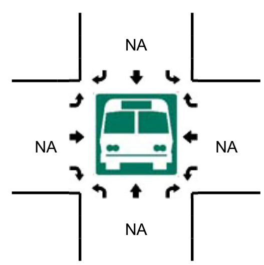












5-Min Count Period Beginning At	1. Soquel Dr (Northbound)				1. Soquel Dr (Southbound)				Soquel Ave (Eastbound)				Soquel Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	25	14	0	18	33	0	0	0	0	0	0	9	0	59	0	158	
7:05 AM	0	18	17	0	20	33	0	0	0	0	0	0	10	0	66	0	164	
7:10 AM	0	23	20	0	14	31	0	0	0	0	0	0	10	0	47	0	145	
7:15 AM	0	31	17	0	17	34	0	0	0	0	0	0	12	0	48	0	159	
7:20 AM	0	19	20	0	13	44	0	0	0	0	0	0	10	0	72	0	178	
7:25 AM	0	30	27	0	21	41	0	0	0	0	0	0	7	0	80	0	206	
7:30 AM	0	47	29	0	19	32	0	0	0	0	0	0	10	0	65	0	202	
7:35 AM	0	34	21	0	23	35	0	0	0	0	0	0	16	0	76	0	205	
7:40 AM	0	46	25	0	37	48	0	0	0	0	0	0	13	0	83	0	252	
7:45 AM	0	45	32	0	42	60	0	0	0	0	0	0	14	0	71	0	264	
7:50 AM	0	61	26	0	24	50	0	0	0	0	0	0	17	0	81	0	259	
7:55 AM	2	61	38	0	29	56	0	0	0	0	0	0	22	1	84	0	293	2485
8:00 AM	1	45	25	0	21	57	0	0	0	0	0	0	20	0	84	0	253	2580
8:05 AM	2	68	36	0	23	58	1	0	0	0	1	0	14	0	69	0	272	2688
8:10 AM	0	61	25	0	23	53	0	0	0	0	1	0	21	0	73	0	257	2800
8:15 AM	0	61	28	0	28	39	0	0	1	0	0	0	22	0	72	0	251	2892
8:20 AM	0	64	29	0	22	33	1	0	0	0	0	0	24	0	74	0	247	2961
8:25 AM	1	34	32	0	19	71	3	0	0	0	0	0	22	0	82	0	264	3019
8:30 AM	0	44	33	0	21	53	0	0	0	0	0	0	23	1	80	0	255	3072
8:35 AM	0	47	25	0	24	42	1	0	0	0	0	0	18	0	83	0	240	3107
8:40 AM	1	41	18	0	26	64	0	0	0	0	3	0	16	0	76	0	245	3100
8:45 AM	0	57	35	0	15	50	0	0	0	0	0	0	23	1	77	0	258	3094
8:50 AM	0	49	19	0	20	35	1	0	0	0	0	0	12	1	70	0	207	3042
8:55 AM	2	42	32	0	30	39	0	0	0	0	1	0	20	0	79	0	245	2994

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	696	396	0	292	684	4	0	0	0	4	0	224	4	948	0	3272
Heavy Trucks	0	48	28		12	60	0		0	0	0		16	0	32		196
Pedestrians		4				0				8				0			12
Bicycles	0	1	1		0	4	0		0	0	0		0	0	0		6
Railroad																	
Stopped Buses																	

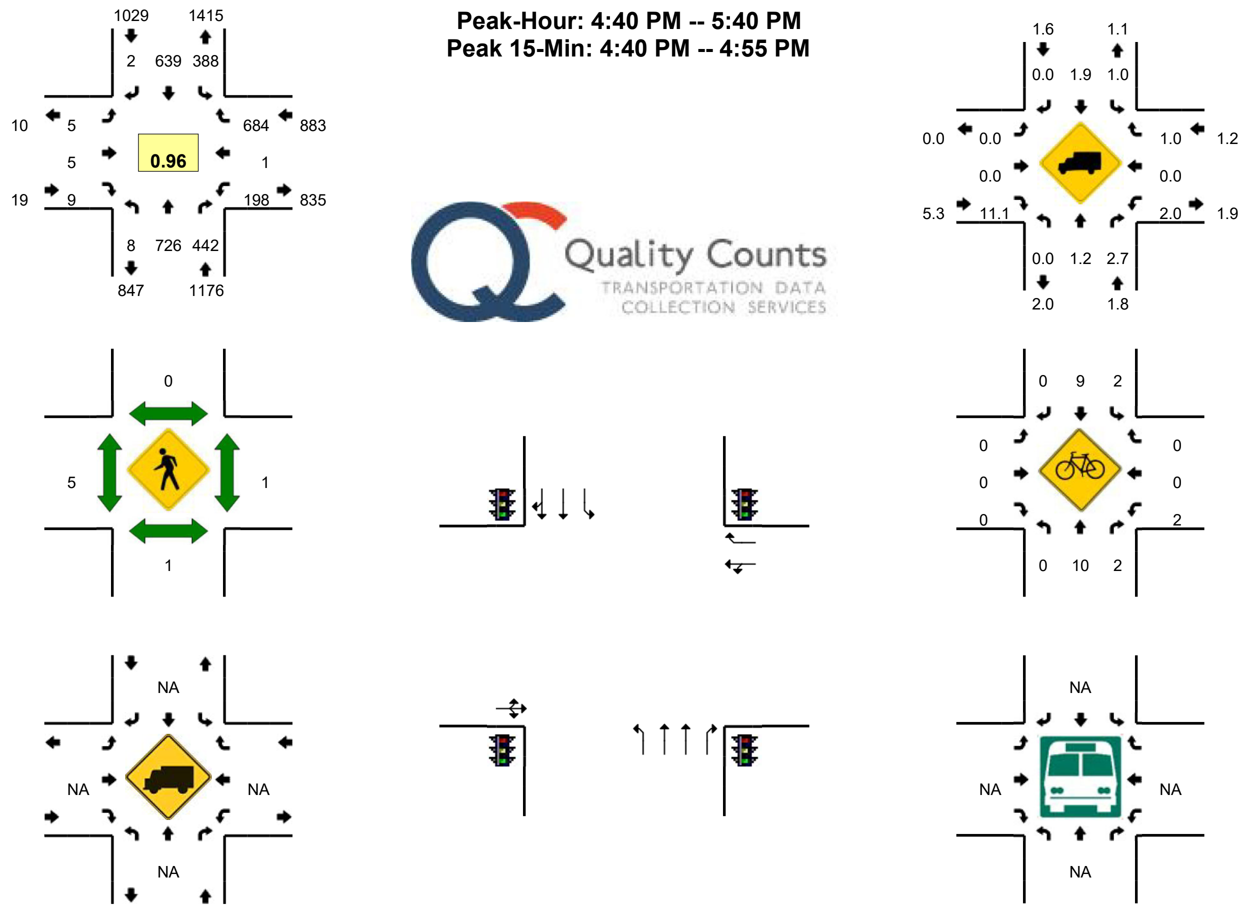
Comments:

Report generated on 3/15/2018 10:05 AM SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: 1. Soquel Dr -- Soquel Ave | **QC JOB #:** 14646702
CITY/STATE: Santa Cruz, CA | **DATE:** Tue, Mar 06 2018

Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 4:40 PM -- 4:55 PM



5-Min Count Period Beginning At	1. Soquel Dr (Northbound) Left	Thru	Right	U	1. Soquel Dr (Southbound) Left	Thru	Right	U	Soquel Ave (Eastbound) Left	Thru	Right	U	Soquel Ave (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	1	43	21	0	33	45	0	0	0	0	0	0	19	0	47	0	209	
4:05 PM	1	50	27	0	29	53	2	0	0	0	2	0	26	1	61	0	252	
4:10 PM	0	50	43	0	19	52	1	0	0	2	2	0	16	3	52	0	240	
4:15 PM	0	57	29	1	31	61	0	0	2	1	1	0	12	1	66	0	262	
4:20 PM	0	35	35	0	19	50	0	0	0	0	1	0	22	0	87	0	249	
4:25 PM	0	47	35	0	34	52	1	0	0	1	0	0	17	0	67	0	254	
4:30 PM	1	46	34	0	34	47	0	0	0	0	1	0	20	0	60	0	243	
4:35 PM	2	59	43	0	36	46	3	0	0	0	0	0	19	1	60	0	269	
4:40 PM	0	73	37	1	32	54	0	0	0	1	1	0	16	1	54	0	270	
4:45 PM	2	48	42	0	43	54	0	0	2	0	2	0	20	0	62	0	275	
4:50 PM	0	63	30	0	27	74	0	0	0	0	0	0	13	0	53	0	260	
4:55 PM	0	44	31	0	35	46	0	0	0	3	0	0	17	0	66	0	242	3025
5:00 PM	0	69	32	0	23	43	0	0	1	0	0	0	23	0	47	0	238	3054
5:05 PM	1	49	27	0	28	63	0	0	1	1	1	0	16	0	57	0	244	3046
5:10 PM	1	78	48	0	42	50	0	0	0	0	1	0	16	0	54	0	290	3096
5:15 PM	0	49	42	0	30	59	0	0	1	0	0	0	19	0	68	0	268	3102
5:20 PM	1	53	30	0	36	51	1	0	0	0	3	0	15	0	57	0	247	3100
5:25 PM	0	81	35	0	28	41	1	0	0	0	0	0	17	0	50	0	253	3099
5:30 PM	1	60	46	0	31	51	0	0	0	0	1	0	11	0	49	0	250	3106
5:35 PM	1	59	42	0	33	53	0	0	0	0	0	0	15	0	67	0	270	3107
5:40 PM	1	44	30	0	28	43	1	0	1	0	3	0	20	0	47	0	218	3055
5:45 PM	1	61	39	0	27	45	0	0	0	1	1	0	8	1	57	0	241	3021
5:50 PM	1	51	36	0	25	43	1	0	1	0	2	0	10	0	60	0	230	2991
5:55 PM	0	51	32	0	26	47	0	0	0	0	1	0	16	0	72	0	245	2994

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	8	736	436	4	408	728	0	0	8	4	12	0	196	4	676	0	3220
Heavy Trucks	0	12	16		12	12	0		0	0	4		4	0	16		76
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	3	0		0	0	0		0	0	0		3
Railroad																	
Stopped Buses																	

Comments:

Report generated on 3/15/2018 10:05 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

Location: 2. Soquel Dr & Paul Sweet Rd/Commercial Way
Date: 3/6/2018
Site Code: 14646703

	Soquel Dr Southbound					Commercial Way Westbound					Soquel Dr Northbound					Hwy 1 WB On-Ramp Northeastbound					Paul Sweet Rd Eastbound				
Start Time	Right	Right to On-Ramp	Thru	Left	U-Turn	Right	Thru	Left to On-Ramp	Left	U-Turn	Right	Thru	Left	Left to On-Ramp	U-Turn						Right to On-Ramp	Right	Thru	Left	U-Turn
7:00 AM	0	18	14	0	0	3	2	8	29	0	26	37	9	0	0	0	0	0	0	0	5	1	0	3	0
7:05 AM	1	25	19	0	0	3	8	2	18	0	28	26	7	0	0	0	0	0	0	0	1	2	0	1	0
7:10 AM	2	20	10	0	0	3	3	7	25	0	42	25	4	0	0	0	0	0	0	0	3	6	0	3	0
7:15 AM	1	28	29	0	0	4	1	5	23	0	43	39	6	0	1	0	0	0	0	0	2	4	0	1	0
7:20 AM	0	26	20	0	0	4	10	8	32	0	30	38	5	0	1	0	0	0	0	0	1	5	0	3	0
7:25 AM	1	37	23	0	0	2	3	5	18	0	47	47	12	0	0	0	0	0	0	0	2	5	0	3	0
7:30 AM	2	25	24	0	0	3	9	4	36	0	44	45	12	0	0	0	0	0	0	0	5	6	0	6	0
7:35 AM	3	39	38	1	0	2	3	4	19	0	49	58	17	1	0	0	0	0	0	0	3	9	0	0	0
7:40 AM	2	63	51	0	0	2	10	3	33	0	50	60	12	0	0	0	0	0	0	0	3	3	0	4	0
7:45 AM	1	41	31	0	0	4	11	8	27	0	58	60	7	0	0	0	0	0	0	0	9	15	0	6	0
7:50 AM	1	49	34	0	0	2	3	4	21	0	48	95	20	0	0	0	0	0	0	0	8	4	0	9	0
7:55 AM	1	54	57	0	0	4	11	5	34	0	62	79	12	0	0	0	0	0	0	0	5	5	0	4	0
8:00 AM	3	48	48	1	0	2	6	4	25	0	42	86	16	0	0	0	0	0	0	0	2	9	0	3	0
8:05 AM	1	45	43	0	0	4	9	3	31	0	43	59	8	0	1	0	0	0	0	0	3	10	0	7	0
8:10 AM	3	44	32	0	0	3	6	4	23	0	45	65	12	0	0	0	0	0	0	0	4	4	0	6	0
8:15 AM	3	41	47	1	0	2	8	5	24	0	55	59	11	0	0	0	0	0	0	0	2	2	0	3	0
8:20 AM	0	31	31	0	0	4	7	3	39	0	47	54	9	0	0	0	0	0	0	0	5	8	0	12	0
8:25 AM	4	40	51	1	0	3	7	9	29	0	44	93	15	0	0	0	0	0	0	0	4	6	0	6	0
8:30 AM	5	59	58	0	0	3	3	4	30	0	50	64	13	1	0	0	0	0	0	0	3	7	0	5	0
8:35 AM	2	44	34	0	0	1	3	4	34	0	41	50	8	0	0	0	0	0	0	0	3	8	0	4	0
8:40 AM	2	52	39	0	0	2	1	2	15	0	42	83	13	0	0	0	0	0	0	0	2	9	0	7	0
8:45 AM	2	27	36	0	0	9	3	6	20	0	42	74	9	1	0	0	0	0	0	0	3	2	0	5	0
8:50 AM	2	52	32	0	0	4	5	6	23	0	53	58	3	1	0	0	0	0	0	0	1	7	0	8	0
8:55 AM	3	59	45	0	0	3	5	2	23	0	40	76	6	0	0	0	0	0	0	0	1	2	0	4	0
Total	**45**	**967**	**846**	**4**	**0**	**76**	**137**	**115**	**631**	**0**	**1071**	**1430**	**246**	**4**	**3**	**0**	**0**	**0**	**0**	**0**	**80**	**139**	**0**	**113**	**0**
Peak Hour To	27	554	521	4	0	35	84	56	335	0	593	832	152	2	1	0	0	0	0	0	51	82	0	65	0

Peak Hour: 7:35 AM - 8:35 AM
Peak 15: 7:50 AM - 8:05 AM
PHF: 0.916307

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

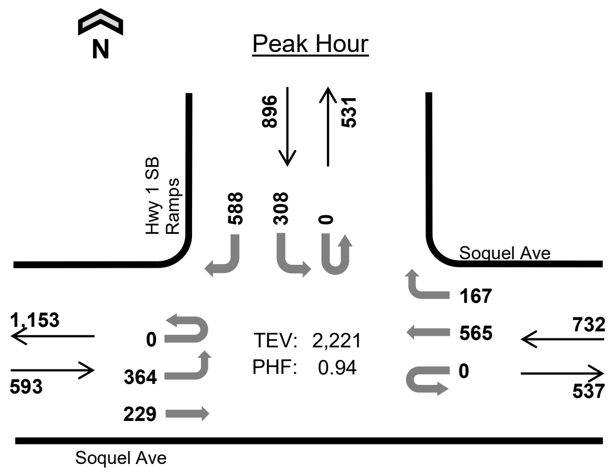
Location: 2. Soquel Dr & Paul Sweet Rd/Commercial Way
Date: 3/6/2018
Site Code: 14646704

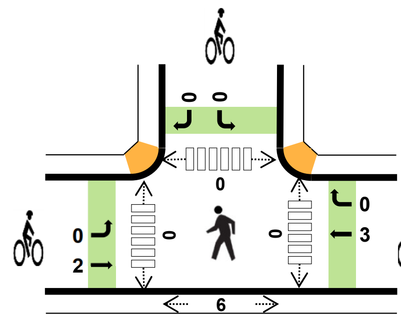
	Soquel Dr Southbound					Commercial Way Westbound					Soquel Dr Northbound					Hwy 1 WB On-Ramp Northeastbound					Paul Sweet Rd Eastbound				
Start Time	Right	Right to On-Ramp	Thru	Left	U-Turn	Right	Thru	Left to On-Ramp	Left	U-Turn	Right	Thru	Left	Left to On-Ramp	U-Turn						Right to On-Ramp	Right	Thru	Left	U-Turn
4:00 PM	2	46	48	0	0	7	0	2	18	0	30	73	5	0	1	0	0	0	0	0	10	10	0	14	0
4:05 PM	0	26	36	0	0	8	1	5	37	0	34	52	3	1	0	0	0	0	0	0	6	11	0	10	0
4:10 PM	2	42	48	0	0	2	3	1	21	0	32	83	2	0	0	0	0	0	0	0	6	8	0	14	0
4:15 PM	2	42	40	0	0	3	1	7	26	0	46	81	4	0	0	0	0	0	0	0	8	10	0	17	0
4:20 PM	1	41	33	1	0	8	3	3	34	0	33	82	4	0	1	0	0	0	0	0	8	14	0	12	0
4:25 PM	1	17	36	0	0	2	1	6	39	0	27	68	1	1	0	0	0	0	0	0	10	12	0	18	0
4:30 PM	2	32	37	0	0	5	0	13	36	0	23	76	3	1	1	0	0	0	0	0	8	17	0	13	0
4:35 PM	1	53	38	0	0	4	1	8	24	0	26	111	4	2	1	0	0	0	0	0	5	8	0	16	0
4:40 PM	2	49	51	0	0	4	0	12	23	0	38	73	2	0	0	0	0	0	0	0	5	14	0	16	0
4:45 PM	1	43	43	0	0	4	0	5	52	0	32	72	2	1	1	0	0	0	0	0	4	14	0	16	0
4:50 PM	2	47	40	0	0	6	3	5	33	0	35	87	5	1	1	0	0	0	0	0	12	9	0	5	0
4:55 PM	2	55	47	0	0	9	0	7	27	0	26	75	6	0	0	0	0	0	0	0	14	5	0	13	0
5:00 PM	0	47	50	1	0	1	1	10	21	0	43	64	3	0	0	0	0	0	0	0	8	12	0	13	0
5:05 PM	1	40	37	2	0	4	2	15	41	0	39	68	2	0	1	0	0	0	0	0	12	15	0	8	0
5:10 PM	1	42	47	0	0	4	3	9	28	0	32	95	1	0	1	0	0	0	0	0	15	19	0	12	0
5:15 PM	0	55	38	0	0	2	1	10	28	0	38	85	4	0	0	0	0	0	0	0	3	13	0	13	0
5:20 PM	1	35	38	0	0	4	2	11	39	0	37	69	1	0	0	0	0	0	0	0	4	11	0	11	0
5:25 PM	0	33	45	0	0	1	1	4	22	0	33	97	4	1	0	0	0	0	0	0	2	8	0	8	0
5:30 PM	1	35	29	0	0	4	1	14	38	0	31	64	4	0	0	0	0	0	0	0	3	12	0	20	0
5:35 PM	1	32	41	0	0	3	1	5	33	0	31	44	5	0	0	0	0	0	0	0	4	8	0	15	0
5:40 PM	3	43	36	0	0	2	2	5	31	0	30	70	3	0	1	0	0	0	0	0	3	6	0	13	0
5:45 PM	1	30	35	0	0	3	2	4	31	0	28	84	1	1	0	0	0	0	0	0	8	6	0	11	0
5:50 PM	0	26	28	0	0	7	1	5	22	0	32	65	6	1	0	0	0	0	0	0	2	14	0	10	0
5:55 PM	2	30	41	0	0	2	2	1	22	0	24	105	3	0	0	0	0	0	0	0	2	1	0	8	0
Total	**29**	**941**	**962**	**4**	**0**	**99**	**32**	**167**	**726**	**0**	**780**	**1843**	**78**	**10**	**9**	**0**	**0**	**0**	**0**	**0**	**162**	**257**	**0**	**306**	**0**

Peak Hour: 4:30 PM - 5:30 PM
Peak 15: 5:05 PM - 5:20 PM
PHF: 0.961343

Hwy 1 SB Ramps
Soquel Ave

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV %:	PHF
EB	2.7%	0.82
WB	1.6%	0.99
NB	-	-
SB	3.0%	0.97
TOTAL	2.5%	0.94

Two-Hour Count Summaries

Interval Start	Soquel Ave Eastbound UT	LT	TH	RT	Soquel Ave Westbound UT	LT	TH	RT	0 Northbound UT	LT	TH	RT	Hwy 1 SB Ramps Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	64	28	0	0	0	87	39	0	0	0	0	0	37	0	86	341	0
7:15 AM	0	63	38	0	0	0	145	31	0	0	0	0	0	39	0	108	424	0
7:30 AM	0	86	59	0	0	0	125	47	0	0	0	0	0	59	0	144	520	0
7:45 AM	0	114	54	0	0	0	138	39	0	0	0	0	0	68	0	133	546	1,831
8:00 AM	**0**	**96**	**51**	**0**	**0**	**0**	**136**	**49**	**0**	**0**	**0**	**0**	**0**	**79**	**0**	**140**	**551**	2,041
8:15 AM	**0**	**99**	**81**	**0**	**0**	**0**	**144**	**38**	**0**	**0**	**0**	**0**	**0**	**72**	**0**	**155**	**589**	2,206
8:30 AM	**0**	**81**	**52**	**0**	**0**	**0**	**148**	**33**	**0**	**0**	**0**	**0**	**0**	**71**	**0**	**149**	**534**	2,220
8:45 AM	**0**	**88**	**45**	**0**	**0**	**0**	**137**	**47**	**0**	**0**	**0**	**0**	**0**	**86**	**0**	**144**	**547**	**2,221**
Count Total	0	691	408	0	0	0	1,060	323	0	0	0	0	0	511	0	1,059	4,052	0
Peak Hour All	**0**	**364**	**229**	**0**	**0**	**0**	**565**	**167**	**0**	**0**	**0**	**0**	**0**	**308**	**0**	**588**	**2,221**	**0**
Peak Hour HV	**0**	**10**	**6**	**0**	**0**	**0**	**9**	**3**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**21**	**55**	**0**
Peak Hour HV%	**-**	**3%**	**3%**	**-**	**-**	**-**	**2%**	**2%**	**-**	**-**	**-**	**-**	**-**	**2%**	**-**	**4%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	1	1	0	1	*3*	1	0	0	0	*1*	0	0	0	4	*4*
7:15 AM	3	2	0	2	*7*	2	0	0	0	*2*	0	0	0	3	*3*
7:30 AM	2	0	0	5	*7*	1	0	0	0	*1*	0	0	0	3	*3*
7:45 AM	1	3	0	6	*10*	1	0	0	0	*1*	0	0	0	2	*2*
8:00 AM	**4**	**1**	**0**	**10**	***15***	**1**	**2**	**0**	**0**	***3***	**0**	**0**	**0**	**2**	*2*
8:15 AM	**9**	**2**	**0**	**5**	***16***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**2**	*2*
8:30 AM	**2**	**3**	**0**	**7**	***12***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**1**	*1*
8:45 AM	**1**	**6**	**0**	**5**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
Count Total	23	18	0	41	*82*	7	3	0	0	*10*	0	0	0	18	*18*
Peak Hr	**16**	**12**	**0**	**27**	***55***	**2**	**3**	**0**	**0**	***5***	**0**	**0**	**0**	**6**	***6***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Soquel Ave				Soquel Ave				0				Hwy 1 SB Ramps				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	3	0
7:15 AM	0	2	1	0	0	0	2	0	0	0	0	0	0	2	0	0	7	0
7:30 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	4	7	0
7:45 AM	0	1	0	0	0	0	3	0	0	0	0	0	0	1	0	5	10	27
8:00 AM	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**8**	**15**	39
8:15 AM	**0**	**4**	**5**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**3**	**16**	48
8:30 AM	**0**	**2**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**6**	**12**	53
8:45 AM	**0**	**1**	**0**	**0**	**0**	**0**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	**12**	**55**
Count Total	0	14	9	0	0	0	14	4	0	0	0	0	0	10	0	31	82	0
Peak Hour	**0**	**10**	**6**	**0**	**0**	**0**	**9**	**3**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**21**	**55**	**0**

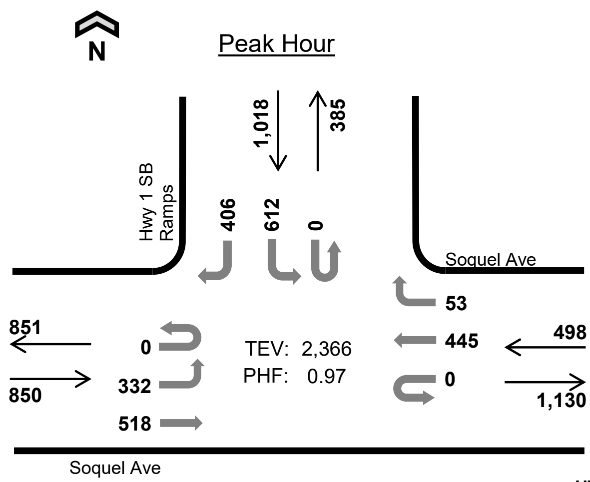
Two-Hour Count Summaries - Bikes

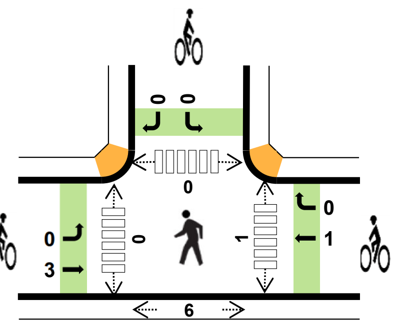
Interval Start	Soquel Ave			Soquel Ave			0			Hwy 1 SB Ramps			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	2	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	5
8:00 AM	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	7
8:15 AM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	6
8:30 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	6
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**
Count Total	0	7	0	0	3	0	0	0	0	0	0	0	10	0
Peak Hour	**0**	**2**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Hwy 1 SB Ramps
Soquel Ave

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	0.9%	0.87
WB	1.8%	0.93
NB	-	-
SB	1.3%	0.94
TOTAL	1.3%	0.97

Two-Hour Count Summaries

Interval Start		Soquel Ave Eastbound UT	LT	TH	RT	Soquel Ave Westbound UT	LT	TH	RT	0 Northbound UT	LT	TH	RT	Hwy 1 SB Ramps Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM		**0**	**88**	**114**	**0**	**0**	**0**	**122**	**12**	**0**	**0**	**0**	**0**	**0**	**143**	**0**	**102**	**581**	0
4:15 PM		**0**	**101**	**143**	**0**	**0**	**0**	**97**	**19**	**0**	**0**	**0**	**0**	**0**	**165**	**0**	**79**	**604**	0
4:30 PM		**0**	**81**	**136**	**0**	**0**	**0**	**114**	**11**	**0**	**0**	**0**	**0**	**0**	**150**	**0**	**120**	**612**	0
4:45 PM		**0**	**62**	**125**	**0**	**0**	**0**	**112**	**11**	**0**	**0**	**0**	**0**	**0**	**154**	**0**	**105**	**569**	**2,366**
5:00 PM		0	72	145	0	0	0	112	10	0	0	0	0	0	144	0	89	572	2,357
5:15 PM		0	82	136	0	0	0	115	14	0	0	0	0	0	160	0	93	600	2,353
5:30 PM		0	65	126	0	0	0	78	19	0	0	0	0	0	182	0	125	595	2,336
5:45 PM		0	59	92	0	0	0	105	11	0	0	0	0	0	160	0	114	541	2,308
Count Total		0	610	1,017	0	0	0	855	107	0	0	0	0	0	1,258	0	827	4,674	0
Peak Hour	**All**	**0**	**332**	**518**	**0**	**0**	**0**	**445**	**53**	**0**	**0**	**0**	**0**	**0**	**612**	**0**	**406**	**2,366**	**0**
	HV	**0**	**2**	**6**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**9**	**30**	**0**
	HV%	**-**	**1%**	**1%**	**-**	**-**	**-**	**2%**	**0%**	**-**	**-**	**-**	**-**	**-**	**1%**	**-**	**2%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	**3**	**3**	**0**	**5**	***11***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**1**	*2*
4:15 PM	**1**	**2**	**0**	**4**	***7***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**2**	*2*
4:30 PM	**2**	**2**	**0**	**1**	***5***	**1**	**1**	**0**	**0**	***2***	**0**	**0**	**0**	**1**	*1*
4:45 PM	**2**	**2**	**0**	**3**	***7***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**2**	***2***
5:00 PM	1	0	0	1	*2*	1	1	0	0	*2*	0	0	0	3	*3*
5:15 PM	1	0	0	1	*2*	1	1	0	0	*2*	0	0	0	2	*2*
5:30 PM	0	2	0	0	*2*	1	0	0	0	*1*	0	0	0	3	*3*
5:45 PM	0	0	0	3	*3*	1	0	0	0	*1*	0	0	0	0	*0*
Count Total	10	11	0	18	*39*	7	3	0	0	*10*	1	0	0	14	*15*
Peak Hr	**8**	**9**	**0**	**13**	***30***	**3**	**1**	**0**	**0**	***4***	**1**	**0**	**0**	**6**	***7***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Soquel Ave				Soquel Ave				0				Hwy 1 SB Ramps				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**1**	**2**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**3**	**11**	0
4:15 PM	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**7**	0
4:30 PM	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**5**	0
4:45 PM	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**7**	**30**
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	21
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	16
5:30 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	13
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3	9
Count Total	0	3	7	0	0	0	10	1	0	0	0	0	0	6	0	12	39	0
Peak Hour	**0**	**2**	**6**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**9**	**30**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Soquel Ave			Soquel Ave			0			Hwy 1 SB Ramps			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
4:30 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0
4:45 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	6
5:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	7
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	6
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	6
Count Total	0	7	0	0	3	0	0	0	0	0	0	0	10	0
Peak Hour	**0**	**3**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**

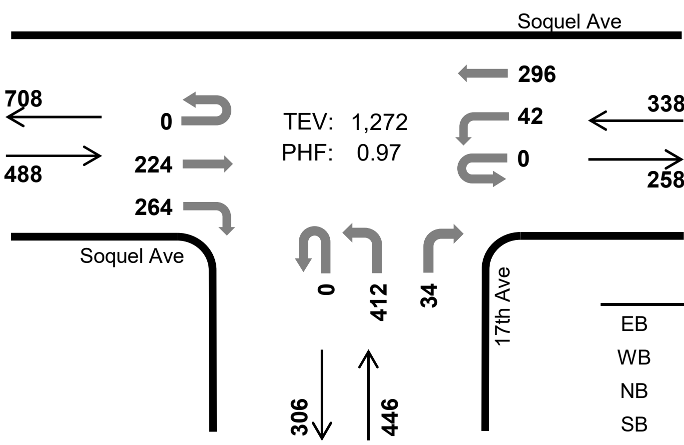
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

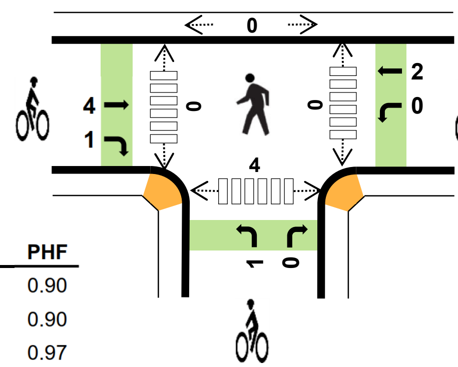
17th Ave
Soquel Ave

N

Peak Hour

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV %:	PHF
EB	1.8%	0.90
WB	1.2%	0.90
NB	2.0%	0.97
SB	-	-
TOTAL	1.7%	0.97

Two-Hour Count Summaries

Interval Start	Soquel Ave				Soquel Ave				17th Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	31	30	0	8	56	0	0	76	0	10	0	0	0	0	211	0
7:15 AM	0	0	24	45	0	13	70	0	0	98	0	6	0	0	0	0	256	0
7:30 AM	0	0	33	56	0	10	64	0	0	121	0	5	0	0	0	0	289	0
7:45 AM	0	0	51	59	0	11	75	0	0	89	0	4	0	0	0	0	289	1,045
8:00 AM	**0**	**0**	**67**	**52**	**0**	**12**	**82**	**0**	**0**	**104**	**0**	**11**	**0**	**0**	**0**	**0**	**328**	1,162
8:15 AM	**0**	**0**	**56**	**79**	**0**	**9**	**67**	**0**	**0**	**107**	**0**	**8**	**0**	**0**	**0**	**0**	**326**	1,232
8:30 AM	**0**	**0**	**47**	**69**	**0**	**11**	**75**	**0**	**0**	**98**	**0**	**6**	**0**	**0**	**0**	**0**	**306**	1,249
8:45 AM	**0**	**0**	**54**	**64**	**0**	**10**	**72**	**0**	**0**	**103**	**0**	**9**	**0**	**0**	**0**	**0**	**312**	**1,272**
Count Total	0	0	363	454	0	84	561	0	0	796	0	59	0	0	0	0	2,317	0
Peak Hour All	**0**	**0**	**224**	**264**	**0**	**42**	**296**	**0**	**0**	**412**	**0**	**34**	**0**	**0**	**0**	**0**	**1,272**	**0**
Peak Hour HV	**0**	**0**	**3**	**6**	**0**	**0**	**4**	**0**	**0**	**8**	**0**	**1**	**0**	**0**	**0**	**0**	**22**	**0**
Peak Hour HV%	**-**	**-**	**1%**	**2%**	**-**	**0%**	**1%**	**-**	**-**	**2%**	**-**	**3%**	**-**	**-**	**-**	**-**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	0	2	0	*3*	1	0	0	0	*1*	0	0	0	1	*1*
7:15 AM	3	1	0	0	*4*	3	0	0	0	*3*	0	0	0	1	*1*
7:30 AM	3	1	0	0	*4*	2	0	0	0	*2*	0	0	0	3	*3*
7:45 AM	2	2	2	0	*6*	1	0	1	0	*2*	0	0	0	0	*0*
8:00 AM	**2**	**0**	**2**	**0**	***4***	**2**	**2**	**1**	**0**	***5***	**0**	**0**	**0**	**3**	*3*
8:15 AM	**5**	**1**	**2**	**0**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:30 AM	**1**	**2**	**2**	**0**	***5***	**2**	**0**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	*0*
8:45 AM	**1**	**1**	**3**	**0**	***5***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**1**	***1***
Count Total	18	8	13	0	*39*	12	2	2	0	*16*	0	0	0	9	*9*
Peak Hr	**9**	**4**	**9**	**0**	***22***	**5**	**2**	**1**	**0**	***8***	**0**	**0**	**0**	**4**	***4***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Soquel Ave				Soquel Ave				17th Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	3	0
7:15 AM	0	0	1	2	0	0	1	0	0	0	0	0	0	0	0	0	4	0
7:30 AM	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	4	0
7:45 AM	0	0	1	1	0	2	0	0	0	2	0	0	0	0	0	0	6	17
8:00 AM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	18
8:15 AM	**0**	**0**	**1**	**4**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	22
8:30 AM	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	23
8:45 AM	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**22**
Count Total	0	0	5	13	0	3	5	0	0	11	0	2	0	0	0	0	39	0
Peak Hour	**0**	**0**	**3**	**6**	**0**	**0**	**4**	**0**	**0**	**8**	**0**	**1**	**0**	**0**	**0**	**0**	**22**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Soquel Ave			Soquel Ave			17th Ave			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	1	2	0	0	0	0	0	0	0	0	0	3	0
7:30 AM	0	1	1	0	0	0	0	0	0	0	0	0	2	0
7:45 AM	0	1	0	0	0	0	1	0	0	0	0	0	2	8
8:00 AM	**0**	**1**	**1**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**5**	12
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	9
8:30 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	9
8:45 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**8**
Count Total	0	8	4	0	2	0	2	0	0	0	0	0	16	0
Peak Hour	**0**	**4**	**1**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**8**	**0**

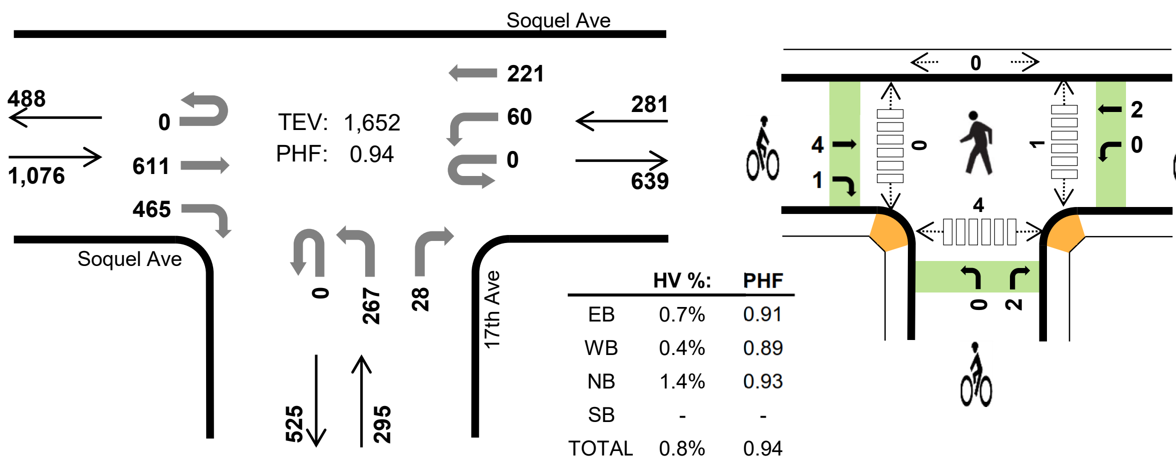
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

17th Ave
Soquel Ave

N

Peak Hour

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	0.7%	0.91
WB	0.4%	0.89
NB	1.4%	0.93
SB	-	-
TOTAL	0.8%	0.94

Two-Hour Count Summaries

Interval Start		Soquel Ave Eastbound UT	LT	TH	RT	Soquel Ave Westbound UT	LT	TH	RT	17th Ave Northbound UT	LT	TH	RT	0 Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM		0	0	144	114	0	13	57	0	0	68	0	6	0	0	0	0	402	0
4:15 PM		**0**	**0**	**163**	**134**	**0**	**11**	**68**	**0**	**0**	**57**	**0**	**7**	**0**	**0**	**0**	**0**	**440**	0
4:30 PM		**0**	**0**	**157**	**87**	**0**	**18**	**56**	**0**	**0**	**66**	**0**	**8**	**0**	**0**	**0**	**0**	**392**	0
4:45 PM		**0**	**0**	**135**	**122**	**0**	**17**	**41**	**0**	**0**	**72**	**0**	**7**	**0**	**0**	**0**	**0**	**394**	1,628
5:00 PM		**0**	**0**	**156**	**122**	**0**	**14**	**56**	**0**	**0**	**72**	**0**	**6**	**0**	**0**	**0**	**0**	**426**	**1,652**
5:15 PM		0	0	161	126	0	14	56	0	0	61	0	5	0	0	0	0	423	1,635
5:30 PM		0	0	158	130	0	7	36	0	0	56	0	7	0	0	0	0	394	1,637
5:45 PM		0	0	129	116	0	13	45	0	0	64	0	8	0	0	0	0	375	1,618
Count Total		0	0	1,203	951	0	107	415	0	0	516	0	54	0	0	0	0	3,246	0
Peak Hour	**All**	**0**	**0**	**611**	**465**	**0**	**60**	**221**	**0**	**0**	**267**	**0**	**28**	**0**	**0**	**0**	**0**	**1,652**	**0**
	HV	**0**	**0**	**6**	**2**	**0**	**0**	**1**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**0**
	HV%	**-**	**-**	**1%**	**0%**	**-**	**0%**	**0%**	**-**	**-**	**1%**	**-**	**0%**	**-**	**-**	**-**	**-**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	3	0	2	0	*5*	0	0	0	0	*0*	0	0	0	1	*1*
4:15 PM	**2**	**0**	**1**	**0**	***3***	**1**	**1**	**0**	**0**	***2***	**1**	**0**	**0**	**0**	*1*
4:30 PM	**3**	**1**	**1**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
4:45 PM	**2**	**0**	**2**	**0**	***4***	**3**	**0**	**1**	**0**	***4***	**0**	**0**	**0**	**1**	*1*
5:00 PM	**1**	**0**	**0**	**0**	***1***	**1**	**1**	**1**	**0**	***3***	**0**	**0**	**0**	**2**	***2***
5:15 PM	1	1	0	0	*2*	1	0	0	0	*1*	0	0	0	0	*0*
5:30 PM	1	1	0	0	*2*	0	0	1	0	*1*	0	0	0	4	*4*
5:45 PM	2	0	0	0	*2*	2	0	0	0	*2*	0	0	0	2	*2*
Count Total	15	3	6	0	*24*	8	2	3	0	*13*	1	0	0	11	*12*
Peak Hr	**8**	**1**	**4**	**0**	***13***	**5**	**2**	**2**	**0**	***9***	**1**	**0**	**0**	**4**	***5***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Soquel Ave				Soquel Ave				17th Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	1	0	0	0	0	0	2	0	0	0	0	0	0	5	0
4:15 PM	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	0
4:30 PM	**0**	**0**	**2**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	0
4:45 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	17
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**13**
5:15 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	12
5:30 PM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	9
5:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	7
Count Total	0	0	10	5	0	1	2	0	0	6	0	0	0	0	0	0	24	0
Peak Hour	**0**	**0**	**6**	**2**	**0**	**0**	**1**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Soquel Ave			Soquel Ave			17th Ave			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**4**	6
5:00 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**9**
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	8
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	9
5:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	2	7
Count Total	0	7	1	0	2	0	1	0	2	0	0	0	13	0
Peak Hour	**0**	**4**	**1**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**9**	**0**

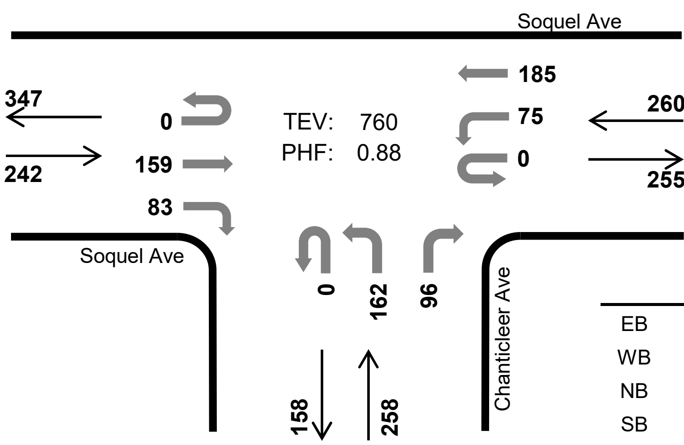
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

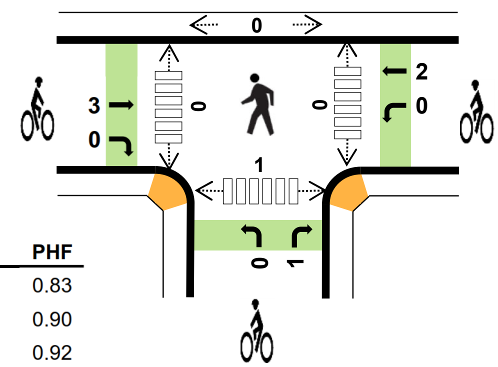
Chanticleer Ave
Soquel Ave

N

Peak Hour

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV %:	PHF
EB	2.5%	0.83
WB	1.5%	0.90
NB	0.4%	0.92
SB	-	-
TOTAL	1.4%	0.88

Two-Hour Count Summaries

Interval Start		Soquel Ave Eastbound UT	LT	TH	RT	Soquel Ave Westbound UT	LT	TH	RT	Chanticleer Ave Northbound UT	LT	TH	RT	0 Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM		0	0	28	10	0	7	35	0	0	31	0	10	0	0	0	0	121	0
7:15 AM		0	0	18	9	0	23	45	0	0	39	0	14	0	0	0	0	148	0
7:30 AM		0	0	27	13	0	14	43	0	0	35	0	27	0	0	0	0	159	0
7:45 AM		**0**	**0**	**31**	**19**	**0**	**20**	**51**	**0**	**0**	**37**	**0**	**32**	**0**	**0**	**0**	**0**	**190**	618
8:00 AM		**0**	**0**	**49**	**24**	**0**	**20**	**52**	**0**	**0**	**44**	**0**	**26**	**0**	**0**	**0**	**0**	**215**	712
8:15 AM		**0**	**0**	**47**	**23**	**0**	**24**	**39**	**0**	**0**	**37**	**0**	**20**	**0**	**0**	**0**	**0**	**190**	754
8:30 AM		**0**	**0**	**32**	**17**	**0**	**11**	**43**	**0**	**0**	**44**	**0**	**18**	**0**	**0**	**0**	**0**	**165**	**760**
8:45 AM		0	0	48	16	0	14	50	0	0	34	0	20	0	0	0	0	182	752
Count Total		0	0	280	131	0	133	358	0	0	301	0	167	0	0	0	0	1,370	0
Peak Hour	**All**	**0**	**0**	**159**	**83**	**0**	**75**	**185**	**0**	**0**	**162**	**0**	**96**	**0**	**0**	**0**	**0**	**760**	**0**
	HV	**0**	**0**	**4**	**2**	**0**	**0**	**4**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**
	HV%	**-**	**-**	**3%**	**2%**	**-**	**0%**	**2%**	**-**	**-**	**1%**	**-**	**0%**	**-**	**-**	**-**	**-**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	1	0	0	0	*1*	1	0	0	0	*1*	0	0	0	0	*0*
7:15 AM	1	0	1	0	*2*	1	0	0	0	*1*	0	0	0	0	*0*
7:30 AM	0	3	0	0	*3*	2	0	1	0	*3*	0	0	0	2	*2*
7:45 AM	**0**	**2**	**0**	**0**	***2***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**4**	**0**	**0**	**0**	***4***	**0**	**2**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**2**	**0**	**1**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
8:30 AM	**0**	**2**	**0**	**0**	***2***	**2**	**0**	**1**	**0**	***3***	**0**	**0**	**0**	**0**	***0***
8:45 AM	0	0	1	0	*1*	1	1	0	0	*2*	0	0	1	0	*1*
Count Total	8	7	3	0	*18*	8	3	2	0	*13*	0	0	1	3	*4*
Peak Hr	**6**	**4**	**1**	**0**	***11***	**3**	**2**	**1**	**0**	***6***	**0**	**0**	**0**	**1**	***1***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Soquel Ave				Soquel Ave				Chanticleer Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0
7:30 AM	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	8
8:00 AM	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	11
8:15 AM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	12
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**11**
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	10
Count Total	0	0	6	2	0	1	6	0	0	3	0	0	0	0	0	0	18	0
Peak Hour	**0**	**0**	**4**	**2**	**0**	**0**	**4**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**

Two-Hour Count Summaries - Bikes

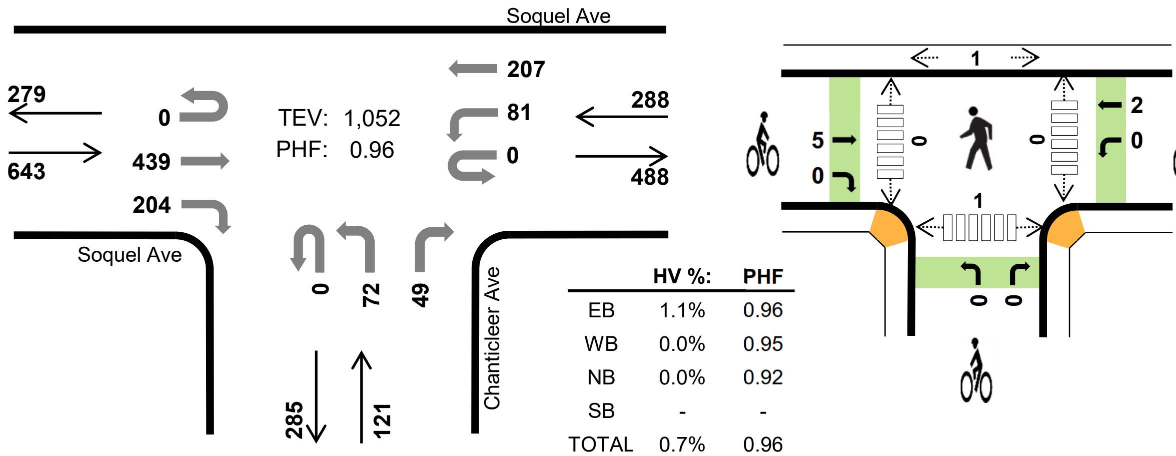
Interval Start	Soquel Ave			Soquel Ave			Chanticleer Ave			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	2	0	0	0	0	0	0	1	0	0	0	3	0
7:45 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	6
8:00 AM	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	7
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	6
8:30 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**6**
8:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	2	7
Count Total	0	8	0	0	3	0	0	0	2	0	0	0	13	0
Peak Hour	**0**	**3**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**6**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Chanticleer Ave
Soquel Ave

Peak Hour

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	1.1%	0.96
WB	0.0%	0.95
NB	0.0%	0.92
SB	-	-
TOTAL	0.7%	0.96

Two-Hour Count Summaries

Interval Start	Soquel Ave				Soquel Ave				Chanticleer Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	108	41	0	24	51	0	0	20	0	20	0	0	0	0	264	0
4:15 PM	**0**	**0**	**106**	**62**	**0**	**19**	**55**	**0**	**0**	**23**	**0**	**10**	**0**	**0**	**0**	**0**	**275**	0
4:30 PM	**0**	**0**	**121**	**45**	**0**	**20**	**56**	**0**	**0**	**14**	**0**	**14**	**0**	**0**	**0**	**0**	**270**	0
4:45 PM	**0**	**0**	**97**	**45**	**0**	**20**	**44**	**0**	**0**	**17**	**0**	**15**	**0**	**0**	**0**	**0**	**238**	1,047
5:00 PM	**0**	**0**	**115**	**52**	**0**	**22**	**52**	**0**	**0**	**18**	**0**	**10**	**0**	**0**	**0**	**0**	**269**	**1,052**
5:15 PM	0	0	102	61	0	22	48	0	0	21	0	7	0	0	0	0	261	1,038
5:30 PM	0	0	107	63	0	16	28	0	0	17	0	7	0	0	0	0	238	1,006
5:45 PM	0	0	92	49	0	21	31	0	0	24	0	2	0	0	0	0	219	987
Count Total	0	0	848	418	0	164	365	0	0	154	0	85	0	0	0	0	2,034	0
Peak Hour All	**0**	**0**	**439**	**204**	**0**	**81**	**207**	**0**	**0**	**72**	**0**	**49**	**0**	**0**	**0**	**0**	**1,052**	**0**
Peak Hour HV	**0**	**0**	**5**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**
Peak Hour HV%	**-**	**-**	**1%**	**1%**	**-**	**0%**	**0%**	**-**	**-**	**0%**	**-**	**0%**	**-**	**-**	**-**	**-**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	2	0	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	**1**	**0**	**0**	**0**	***1***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**1**	**0**	*1*
4:30 PM	**2**	**0**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**2**	**0**	**0**	**0**	***2***	**4**	**0**	**0**	**0**	***4***	**0**	**0**	**0**	**1**	*1*
5:00 PM	**2**	**0**	**0**	**0**	***2***	**1**	**1**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***
5:15 PM	1	1	0	0	*2*	1	0	1	0	*2*	0	0	0	0	*0*
5:30 PM	1	2	0	0	*3*	0	1	0	0	*1*	0	0	0	0	*0*
5:45 PM	1	1	0	0	*2*	4	0	0	0	*4*	0	0	0	1	*1*
Count Total	13	6	0	0	*19*	10	3	1	0	*14*	0	0	1	2	*3*
Peak Hr	**7**	**0**	**0**	**0**	***7***	**5**	**2**	**0**	**0**	***7***	**0**	**0**	**1**	**1**	***2***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Soquel Ave				Soquel Ave				Chanticleer Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	1	0	1	1	0	0	0	0	0	0	0	0	0	5	0
4:15 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
4:30 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0
4:45 PM	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	10
5:00 PM	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**7**
5:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	8
5:30 PM	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	3	9
5:45 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	9
Count Total	0	0	8	5	0	3	3	0	0	0	0	0	0	0	0	0	19	0
Peak Hour	**0**	**0**	**5**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Soquel Ave			Soquel Ave			Chanticleer Ave			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	5
5:00 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**7**
5:15 PM	0	1	0	0	0	0	1	0	0	0	0	0	2	8
5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	9
5:45 PM	0	4	0	0	0	0	0	0	0	0	0	0	4	9
Count Total	0	10	0	1	2	0	1	0	0	0	0	0	14	0
Peak Hour	**0**	**5**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Prepared by National Data & Surveying Services

Site Dwy & Soquel Ave

Peak Hour Turning Movement Count

ID: 18-08275-007
City: Santa Cruz

Day: Thursday
Date: 05/17/2018

	PEAK HOURS	COUNT PERIODS
AM	07:45 AM - 08:45 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

Site Dwy — SOUTHBOUND

	Right	Through	Left	U-Turn	Exit
AM	0	0	0	0	0
NOON	0	0	0	0	0
PM	0	0	0	0	0
Lanes	0	0	0	0	

Soquel Ave — EASTBOUND

	AM	NOON	PM	Lanes
Exit	324	0	293	
U-Turn	0	0	0	0
Left	0	0	0	0
Through	239	0	559	1
Right	8	0	6	0

Soquel Ave — WESTBOUND

	Lanes	PM	NOON	AM
Right	0	0	0	0
Through	1	286	0	315
Left	0	2	0	9
U-Turn	0	0	0	0
Exit		561	0	246

Site Dwy — NORTHBOUND

	Exit	U-Turn	Left	Through	Right
Lanes		0	0	1	0
PM	8	0	7	0	2
NOON	0	0	0	0	0
AM	17	0	9	0	7

CONTROL

No Control

	AM	NOON	PM
TEV	587	0	862
PHF	0.87		0.90

Cars (AM)

Approach	U-Turn	Left	Through	Right
Southbound	0	0	0	0
Eastbound		0	231	7
Westbound	0	9	309	
Northbound		6	0	5

HT (AM)

Approach	U-Turn	Left	Through	Right
Southbound	0	0	0	0
Eastbound		0	8	1
Westbound	0	0	6	
Northbound		0	0	2

Cars (NOON)

All movements: N/A

HT (NOON)

All movements: N/A

Cars (PM)

Approach	U-Turn	Left	Through	Right
Southbound	0	0	0	0
Eastbound		0	554	6
Westbound	0	2	279	
Northbound		6	0	2

HT (PM)

Approach	U-Turn	Left	Through	Right
Southbound	0	0	0	0
Eastbound		0	5	0
Westbound	0	0	7	
Northbound		1	0	0

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North (eastbound peds)	0	0	0
North (westbound peds)	0	0	0
West (southbound peds)	0	0	0
West (northbound peds)	0	0	0
East (southbound peds)	0	0	0
East (northbound peds)	0	0	0
South (eastbound peds)	3	0	1
South (westbound peds)	0	0	0
Diagonals (all four corners)	0	0	0

Prepared by National Data & Surveying Services

40th Ave & Gross Rd

Peak Hour Turning Movement Count

ID: 18-08275-003
City: Santa Cruz

Day: Thursday
Date: 05/17/2018

	PEAK HOURS	COUNT PERIODS
AM	07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

40th Ave — SOUTHBOUND

	Right	Through	Left	U-Turn	Departing
AM	4	0	247	0	339
NOON	0	0	0	0	0
PM	2	3	253	0	235
Lanes	0	1	0	0	

Gross Rd — EASTBOUND

	AM	NOON	PM	Lanes
Departing	30	0	41	
U-Turn	0	0	0	0
Left	6	0	3	0
Through	92	0	235	1
Right	0	0	3	0

Gross Rd — WESTBOUND

	Lanes	PM	NOON	AM
Right	1	231	0	332
Through	1	37	0	26
Left	0	3	0	5
U-Turn	0	0	0	0
Departing		492	0	346

40th Ave — NORTHBOUND

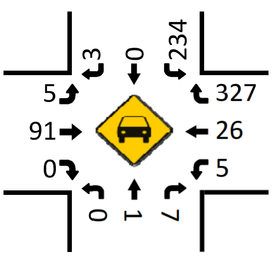
	Departing	U-Turn	Left	Through	Right
Lanes		0	0	1	0
PM	9	0	2	1	4
NOON	0	0	0	0	0
AM	5	0	0	1	7

CONTROL

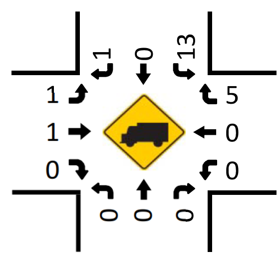
4-Way Stop

	AM	NOON	PM
TEV	720	0	777
PHF	0.91		0.96

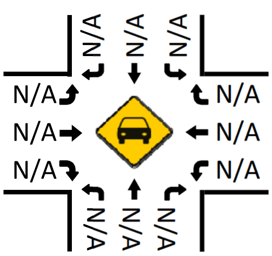
Cars (AM)



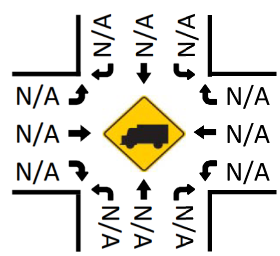
HT (AM)



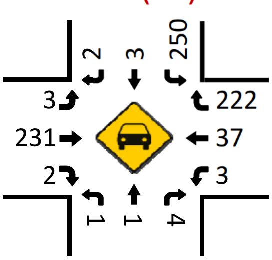
Cars (NOON)



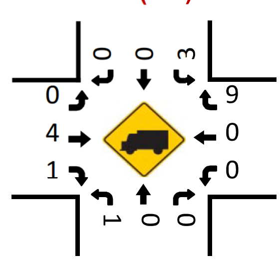
HT (NOON)



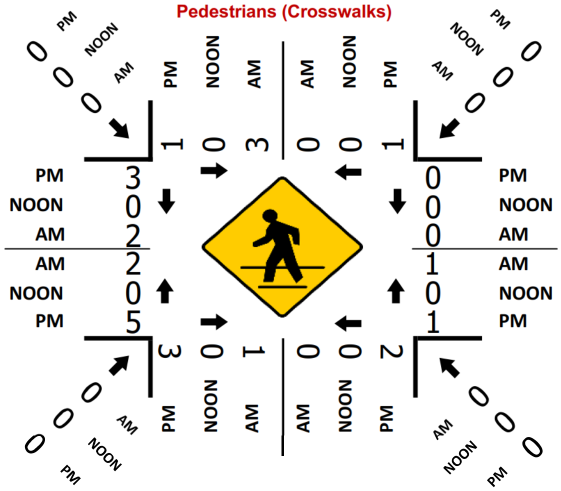
Cars (PM)



HT (PM)



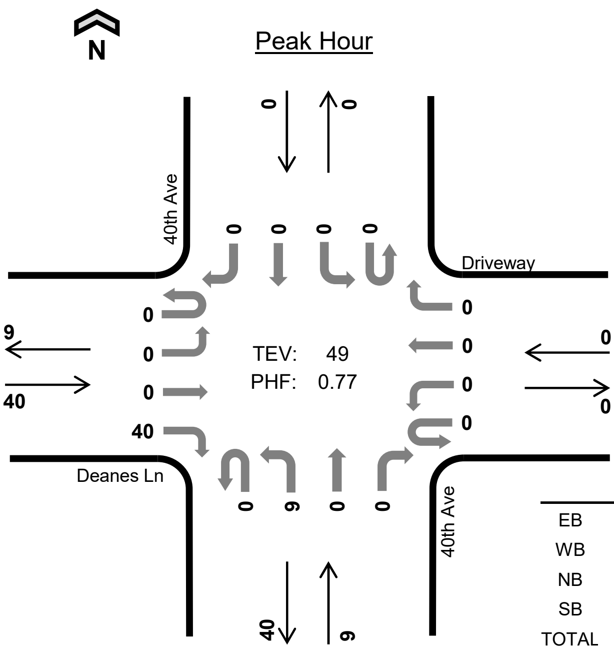
Pedestrians (Crosswalks)

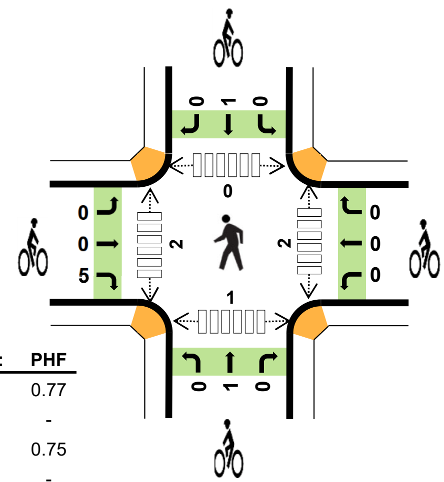


40th Ave
Deanes Ln

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM

Peak Hour





	HV %:	PHF
EB	0.0%	0.77
WB	-	-
NB	0.0%	0.75
SB	-	-
TOTAL	0.0%	0.77

Two-Hour Count Summaries

Interval Start	Deanes Ln Eastbound UT	LT	TH	RT	Driveway Westbound UT	LT	TH	RT	40th Ave Northbound UT	LT	TH	RT	40th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	0	2	0	0	0	0	1	2	0	0	0	0	0	0	5	0
7:15 AM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0
7:30 AM	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	0
7:45 AM	**0**	**0**	**0**	**13**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	37
8:00 AM	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	46
8:15 AM	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**49**
8:30 AM	0	0	0	5	0	0	0	0	1	4	0	0	0	0	0	0	10	46
8:45 AM	0	0	0	7	0	0	0	0	0	1	0	0	0	0	0	0	8	38
Count Total	0	0	0	57	0	0	0	0	2	16	0	0	0	0	0	0	75	0
Peak Hour All	**0**	**0**	**0**	**40**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**49**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Peak Hour HV%	**-**	**-**	**-**	**0%**	**-**	**-**	**-**	**-**	**-**	**0%**	**-**	**-**	**-**	**-**	**-**	**-**	**0%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	1	0	0	*1*
7:15 AM	0	0	0	0	*0*	0	0	1	0	*1*	1	1	0	0	*2*
7:30 AM	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**0**	**1**	***6***	**0**	**1**	**0**	**1**	*2*
7:45 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**2**	**0**	**0**	**0**	*2*
8:00 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
8:15 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:30 AM	0	0	0	0	*0*	0	0	1	1	*2*	0	1	0	1	*2*
8:45 AM	0	0	0	0	*0*	1	0	0	0	*1*	0	1	0	0	*1*
Count Total	0	0	0	0	*0*	6	0	3	2	*11*	3	6	0	2	*11*
Peak Hour	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**1**	**1**	***7***	**2**	**2**	**0**	**1**	***5***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Deanes Ln Eastbound UT	LT	TH	RT	Driveway Westbound UT	LT	TH	RT	40th Ave Northbound UT	LT	TH	RT	40th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Deanes Ln Eastbound LT	TH	RT	Driveway Westbound LT	TH	RT	40th Ave Northbound LT	TH	RT	40th Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
7:30 AM	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**6**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	8
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	8
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**
8:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	3
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	3
Count Total	0	0	6	0	0	0	0	3	0	0	2	0	11	0
Peak Hour	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**7**	**0**

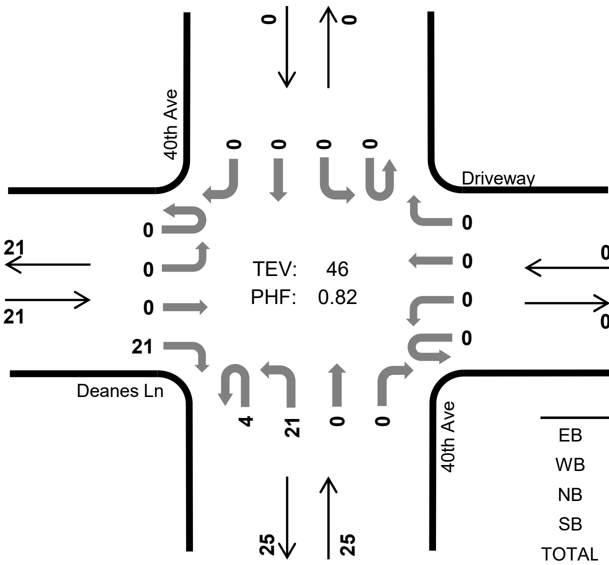
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

40th Ave
Deanes Ln

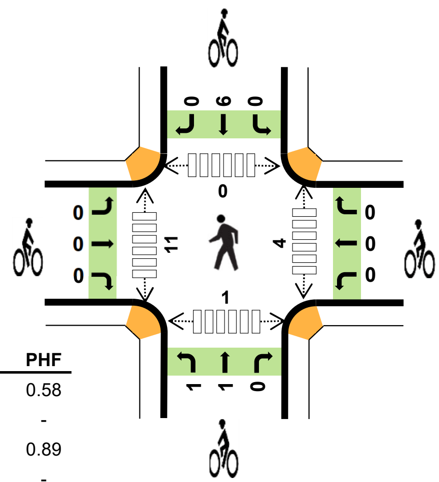
Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM

N

Peak Hour



	HV %:	PHF
EB	4.8%	0.58
WB	-	-
NB	0.0%	0.89
SB	-	-
TOTAL	2.2%	0.82



Two-Hour Count Summaries

Interval Start	Deanes Ln Eastbound UT	LT	TH	RT	Driveway Westbound UT	LT	TH	RT	40th Ave Northbound UT	LT	TH	RT	40th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	6	0
4:15 PM	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	0
4:30 PM	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	0
4:45 PM	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	41
5:00 PM	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**46**
5:15 PM	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	4	36
5:30 PM	0	0	0	2	0	0	0	0	0	5	0	0	0	0	0	0	7	33
5:45 PM	0	0	0	3	0	0	0	0	0	7	0	0	0	0	0	0	10	32
Count Total	0	0	0	28	0	0	0	0	5	40	0	0	0	0	0	0	73	0
Peak Hour All	**0**	**0**	**0**	**21**	**0**	**0**	**0**	**0**	**4**	**21**	**0**	**0**	**0**	**0**	**0**	**0**	**46**	**0**
Peak Hour HV	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
Peak Hour HV%	**-**	**-**	**-**	**5%**	**-**	**-**	**-**	**-**	**0%**	**0%**	**-**	**-**	**-**	**-**	**-**	**-**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	0	0	0	0	*0*	0	0	0	0	*0*	3	3	0	0	*6*
4:15 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**0**	**0**	*3*
4:30 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**5**	***5***	**3**	**2**	**0**	**1**	*6*
4:45 PM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**1**	**1**	***2***	**1**	**1**	**0**	**0**	*2*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***	**0**	**5**	**0**	**0**	***5***
5:15 PM	0	0	0	0	*0*	0	0	1	0	*1*	0	1	0	0	*1*
5:30 PM	0	0	0	0	*0*	1	0	1	0	*2*	1	1	0	0	*2*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	1	1	0	0	*2*
Count Total	1	0	0	0	*1*	1	0	4	6	*11*	9	17	0	1	*27*
Peak Hour	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**2**	**6**	***8***	**4**	**11**	**0**	**1**	***16***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Deanes Ln Eastbound UT	LT	TH	RT	Driveway Westbound UT	LT	TH	RT	40th Ave Northbound UT	LT	TH	RT	40th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Deanes Ln Eastbound LT	TH	RT	Driveway Westbound LT	TH	RT	40th Ave Northbound LT	TH	RT	40th Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**5**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	7
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**8**
5:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	9
5:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	2	6
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Count Total	0	0	1	0	0	0	3	1	0	0	6	0	11	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**6**	**0**	**8**	**0**

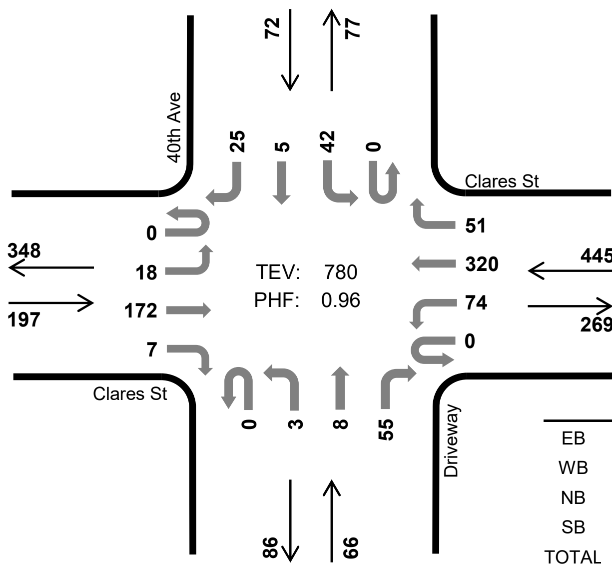
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

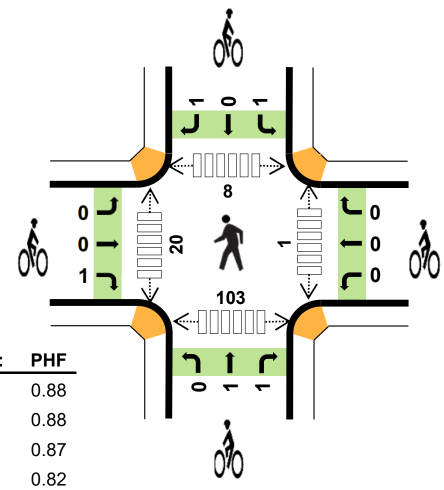
40th Ave
Clares St

idax

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour





	HV %:	PHF
EB	1.5%	0.88
WB	1.8%	0.88
NB	4.5%	0.87
SB	0.0%	0.82
TOTAL	1.8%	0.96

Two-Hour Count Summaries

Interval Start	Clares St Eastbound UT	LT	TH	RT	Clares St Westbound UT	LT	TH	RT	Driveway Northbound UT	LT	TH	RT	40th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	2	20	2	0	9	19	5	0	2	1	14	0	9	2	5	90	0
7:15 AM	0	0	18	0	0	17	29	3	0	1	0	8	0	4	0	4	84	0
7:30 AM	0	1	24	5	0	12	38	4	0	1	3	15	0	13	1	7	124	0
7:45 AM	0	4	27	5	0	12	49	10	0	1	1	17	0	18	0	3	147	445
8:00 AM	**0**	**5**	**38**	**1**	**0**	**17**	**81**	**12**	**0**	**0**	**1**	**18**	**0**	**14**	**0**	**4**	**191**	546
8:15 AM	**0**	**5**	**42**	**4**	**0**	**10**	**85**	**9**	**0**	**1**	**0**	**11**	**0**	**10**	**0**	**8**	**185**	647
8:30 AM	**0**	**2**	**43**	**1**	**0**	**22**	**87**	**18**	**0**	**1**	**2**	**13**	**0**	**7**	**1**	**6**	**203**	726
8:45 AM	**0**	**6**	**49**	**1**	**0**	**25**	**67**	**12**	**0**	**1**	**5**	**13**	**0**	**11**	**4**	**7**	**201**	**780**
Count Total	0	25	261	19	0	124	455	73	0	8	13	109	0	86	8	44	1,225	0
Peak Hour All	**0**	**18**	**172**	**7**	**0**	**74**	**320**	**51**	**0**	**3**	**8**	**55**	**0**	**42**	**5**	**25**	**780**	**0**
Peak Hour HV	**0**	**0**	**3**	**0**	**0**	**0**	**7**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**14**	**0**
Peak Hour HV%	**-**	**0%**	**2%**	**0%**	**-**	**0%**	**2%**	**2%**	**-**	**0%**	**0%**	**5%**	**-**	**0%**	**0%**	**0%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	0	0	1	0	*1*	1	0	0	0	*1*	0	0	0	24	*24*
7:15 AM	0	1	0	0	*1*	1	2	0	1	*4*	0	2	0	22	*24*
7:30 AM	1	2	1	0	*4*	0	0	4	6	*10*	0	6	0	18	*24*
7:45 AM	1	3	0	1	*5*	1	0	0	0	*1*	0	4	0	21	*25*
8:00 AM	**0**	**2**	**1**	**0**	***3***	**1**	**0**	**0**	**0**	***1***	**1**	**1**	**0**	**27**	***29***
8:15 AM	**2**	**3**	**1**	**0**	***6***	**0**	**0**	**1**	**1**	***2***	**0**	**4**	**2**	**19**	***25***
8:30 AM	**1**	**2**	**1**	**0**	***4***	**0**	**0**	**1**	**1**	***2***	**0**	**5**	**2**	**18**	***25***
8:45 AM	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**10**	**4**	**39**	***53***
Count Total	5	14	5	1	*25*	4	2	6	9	*21*	1	32	8	188	*229*
Peak Hour	**3**	**8**	**3**	**0**	***14***	**1**	**0**	**2**	**2**	***5***	**1**	**20**	**8**	**103**	***132***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Clares St				Clares St				Driveway				40th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	1	0	0	0	2	0	0	0	0	1	0	0	0	0	4	0
7:45 AM	0	0	1	0	0	0	3	0	0	0	0	0	0	1	0	0	5	11
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	13
8:15 AM	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**6**	18
8:30 AM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	18
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**14**
Count Total	0	0	5	0	0	0	13	1	0	0	0	5	0	1	0	0	25	0
Peak Hour	**0**	**0**	**3**	**0**	**0**	**0**	**7**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**14**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Clares St			Clares St			Driveway			40th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	1	0	0	1	1	0	0	0	0	1	0	4	0
7:30 AM	0	0	0	0	0	0	0	2	2	6	0	0	10	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	16
8:00 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	16
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**2**	14
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**2**	6
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**
Count Total	0	3	1	0	1	1	0	3	3	7	1	1	21	0
Peak Hour	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**1**	**5**	**0**

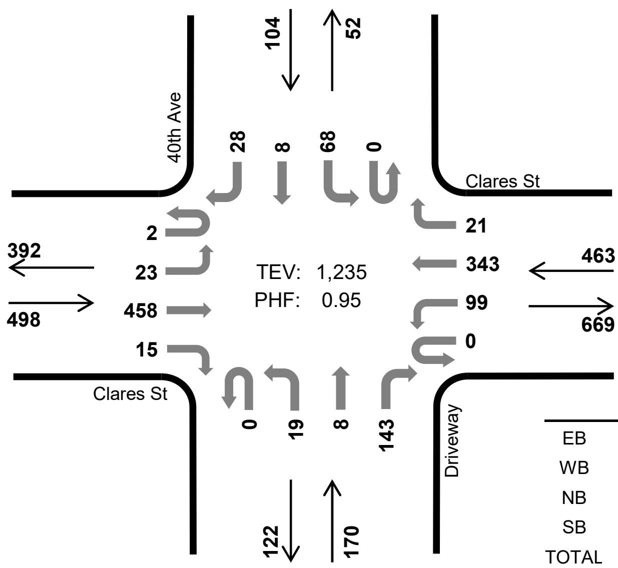
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

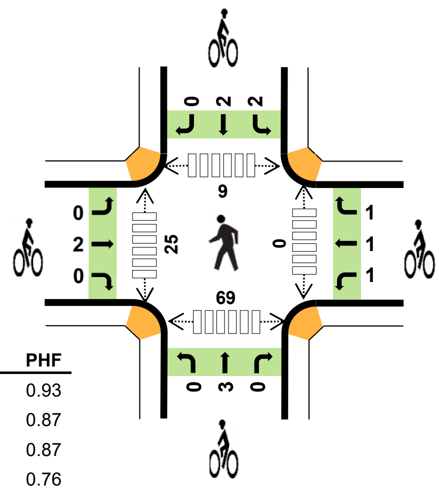
40th Ave
Clares St

idax

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

Peak Hour





	HV %:	PHF
EB	0.4%	0.93
WB	0.2%	0.87
NB	1.2%	0.87
SB	1.0%	0.76
TOTAL	0.5%	0.95

Two-Hour Count Summaries

Interval Start	Clares St Eastbound				Clares St Westbound				Driveway Northbound				40th Ave Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	1	3	114	2	0	27	91	10	0	2	3	38	0	16	2	6	315	0
4:15 PM	1	9	114	4	0	14	72	4	0	5	3	27	0	21	8	8	290	0
4:30 PM	0	6	103	2	0	30	68	7	0	3	1	38	0	16	2	5	281	0
4:45 PM	**0**	**5**	**122**	**7**	**0**	**24**	**102**	**7**	**0**	**5**	**2**	**23**	**0**	**14**	**5**	**10**	**326**	1,212
5:00 PM	**0**	**4**	**115**	**1**	**0**	**27**	**78**	**5**	**0**	**8**	**2**	**34**	**0**	**26**	**1**	**7**	**308**	1,205
5:15 PM	**0**	**4**	**120**	**2**	**0**	**28**	**80**	**4**	**0**	**1**	**2**	**44**	**0**	**18**	**0**	**7**	**310**	1,225
5:30 PM	**2**	**10**	**101**	**5**	**0**	**20**	**83**	**5**	**0**	**5**	**2**	**42**	**0**	**10**	**2**	**4**	**291**	**1,235**
5:45 PM	0	9	86	7	0	26	90	7	0	6	3	34	0	12	6	4	290	1,199
Count Total	4	50	875	30	0	196	664	49	0	35	18	280	0	133	26	51	2,411	0
Peak Hour All	**2**	**23**	**458**	**15**	**0**	**99**	**343**	**21**	**0**	**19**	**8**	**143**	**0**	**68**	**8**	**28**	**1,235**	**0**
Peak Hour HV	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**6**	**0**
Peak Hour HV%	**0%**	**0%**	**0%**	**7%**	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**1%**	**-**	**1%**	**0%**	**0%**	**0%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	0	0	0	*2*	0	0	0	0	*0*	0	10	1	14	*25*
4:15 PM	0	0	1	1	*2*	0	0	0	2	*2*	0	11	3	19	*33*
4:30 PM	0	0	3	0	*3*	1	2	0	7	*10*	0	9	1	13	*23*
4:45 PM	**0**	**1**	**0**	**1**	***2***	**1**	**0**	**0**	**2**	***3***	**0**	**4**	**4**	**7**	*15*
5:00 PM	**0**	**0**	**1**	**0**	***1***	**1**	**0**	**1**	**0**	***2***	**0**	**14**	**3**	**19**	*36*
5:15 PM	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**1**	***3***	**0**	**5**	**2**	**26**	*33*
5:30 PM	**2**	**0**	**1**	**0**	***3***	**0**	**2**	**1**	**1**	***4***	**0**	**2**	**0**	**17**	***19***
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	2	1	16	*19*
Count Total	4	1	6	2	*13*	3	5	3	13	*24*	0	57	15	131	*203*
Peak Hour	**2**	**1**	**2**	**1**	***6***	**2**	**3**	**3**	**4**	***12***	**0**	**25**	**9**	**69**	***103***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Clares St				Clares St				Driveway				40th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	9
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	8
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	6
5:30 PM	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**6**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Count Total	0	1	2	1	0	0	1	0	0	0	0	6	0	1	0	1	13	0
Peak Hour	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**6**	**0**

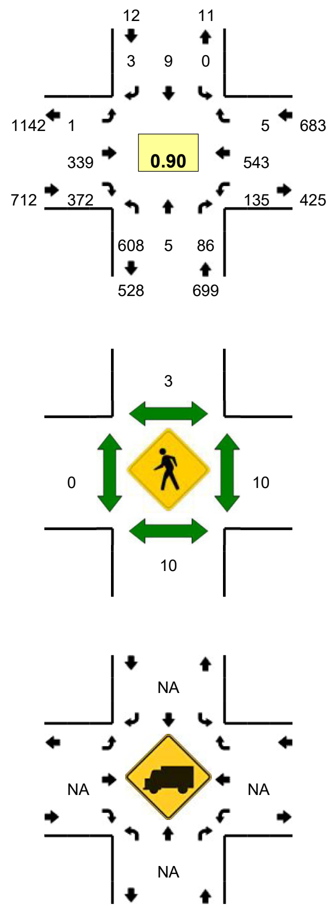
Two-Hour Count Summaries - Bikes

Interval Start	Clares St			Clares St			Driveway			40th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0
4:30 PM	0	1	0	0	2	0	0	0	0	2	5	0	10	0
4:45 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**3**	15
5:00 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	17
5:15 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**3**	18
5:30 PM	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**4**	**12**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Count Total	0	3	0	1	3	1	0	3	0	4	9	0	24	0
Peak Hour	**0**	**2**	**0**	**1**	**1**	**1**	**0**	**3**	**0**	**2**	**2**	**0**	**12**	**0**

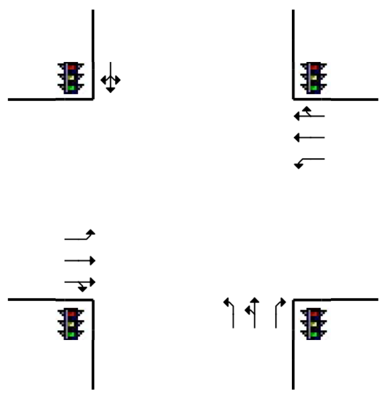
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

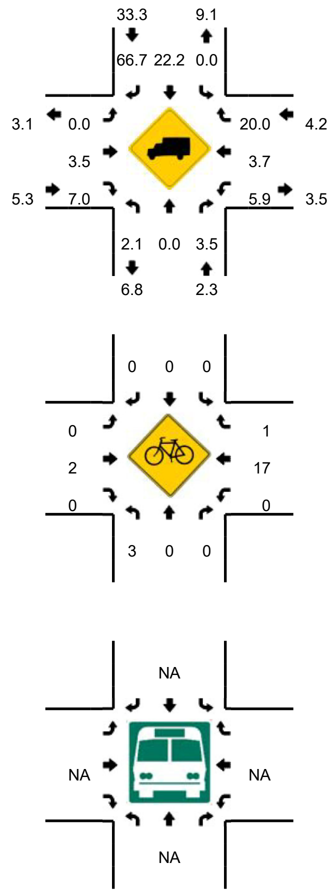
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: 41st Ave -- Soquel Dr | **QC JOB #:** 13932403
CITY/STATE: Soquel, CA | **DATE:** Tue, Oct 18 2016



Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 7:55 AM -- 8:10 AM





5-Min Count Period Beginning At	41st Ave (Northbound)				41st Ave (Southbound)				Soquel Dr (Eastbound)				Soquel Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	34	0	1	0	0	0	0	0	0	8	15	0	6	12	0	0	76	
7:05 AM	25	1	1	1	0	0	0	0	0	7	14	0	3	12	0	0	64	
7:10 AM	25	3	8	0	0	0	0	0	0	16	11	0	3	21	0	0	87	
7:15 AM	22	1	3	1	0	1	1	0	0	16	8	0	7	24	0	0	84	
7:20 AM	30	1	9	1	0	2	0	0	2	14	15	0	3	19	0	0	96	
7:25 AM	31	1	3	0	0	0	0	0	0	19	13	0	11	31	0	0	109	
7:30 AM	40	2	7	2	1	0	0	0	0	25	11	0	7	33	1	0	129	
7:35 AM	50	0	6	1	0	0	0	0	0	17	33	0	7	43	0	0	157	
7:40 AM	55	1	5	1	0	2	1	0	0	25	28	0	9	32	0	0	159	
7:45 AM	60	0	5	1	0	0	0	0	0	25	28	0	12	44	0	0	175	
7:50 AM	48	1	11	0	0	0	0	0	0	36	30	0	9	59	0	0	194	
7:55 AM	82	0	10	2	0	1	0	0	1	22	25	0	10	50	2	0	205	1535
8:00 AM	27	2	14	0	0	0	0	0	0	43	39	0	10	51	0	0	186	1645
8:05 AM	46	0	9	3	0	1	0	0	0	40	43	0	9	45	0	0	196	1777
8:10 AM	54	0	6	0	0	0	1	0	0	35	42	0	6	37	0	0	181	1871
8:15 AM	28	0	9	0	0	1	1	0	0	26	31	0	15	33	0	0	144	1931
8:20 AM	54	0	3	2	0	1	0	0	0	15	28	0	22	55	0	0	180	2015
8:25 AM	57	0	5	1	0	3	0	0	0	26	24	0	10	46	0	0	172	2078
8:30 AM	35	1	3	1	0	0	0	0	0	29	21	0	16	48	3	0	157	2106
8:35 AM	42	1	5	1	1	0	0	0	0	14	42	0	7	42	2	0	157	2106
8:40 AM	37	1	12	0	0	2	0	0	0	22	27	0	9	44	0	0	154	2101
8:45 AM	39	0	6	1	0	0	0	0	1	39	32	0	5	44	0	0	167	2093
8:50 AM	46	2	3	1	0	0	0	0	1	33	18	0	9	32	0	0	145	2044
8:55 AM	44	3	2	2	1	1	1	0	0	14	26	0	10	39	1	0	144	1983

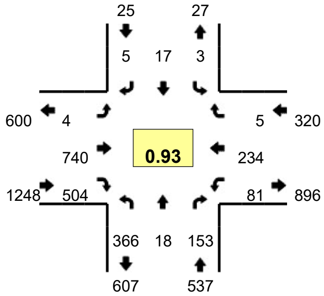
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	620	8	132	20	0	8	0	0	4	420	428	0	116	584	8	0	2348
Heavy Trucks	4	0	0		0	0	0		0	20	40		4	28	0		96
Pedestrians		0				0				0				4			4
Bicycles	1	0	0		0	0	0		0	0	0		0	2	0		3
Railroad																	
Stopped Buses																	

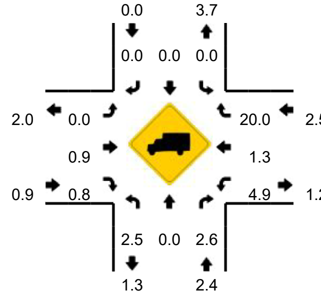
Comments:

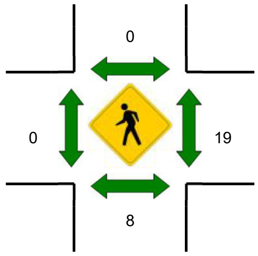
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

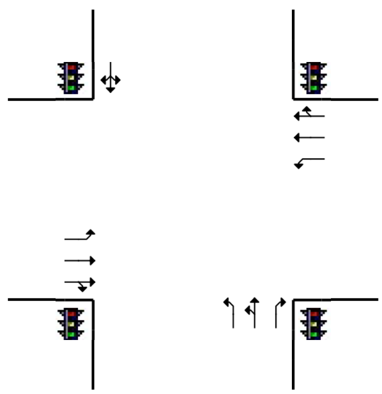
LOCATION: 41st Ave -- Soquel Dr | **QC JOB #:** 13932404
CITY/STATE: Soquel, CA | **DATE:** Tue, Oct 18 2016

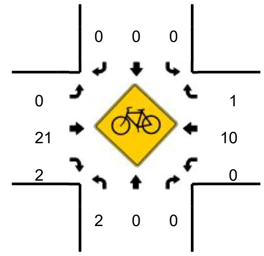
Peak-Hour: 4:55 PM -- 5:55 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

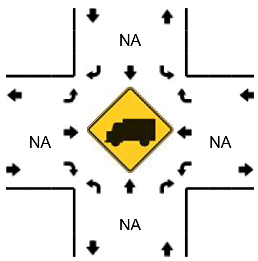


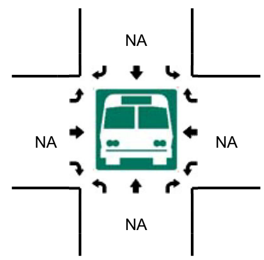












5-Min Count Period Beginning At	41st Ave (Northbound) Left	Thru	Right	U	41st Ave (Southbound) Left	Thru	Right	U	Soquel Dr (Eastbound) Left	Thru	Right	U	Soquel Dr (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	34	0	13	0	3	2	2	0	2	38	25	0	8	21	1	0	149	
4:05 PM	35	1	11	0	1	4	0	0	1	77	31	0	6	27	0	0	194	
4:10 PM	37	0	8	1	0	0	2	0	0	54	42	0	4	20	0	0	168	
4:15 PM	36	0	14	1	0	0	0	0	0	73	33	0	9	33	0	0	199	
4:20 PM	44	0	10	3	0	1	1	0	0	57	30	0	9	18	0	0	173	
4:25 PM	44	4	11	1	0	0	1	0	0	67	31	0	11	29	0	0	199	
4:30 PM	33	0	6	1	0	0	1	0	0	64	55	0	6	26	0	0	192	
4:35 PM	36	1	11	2	0	3	0	0	1	31	28	0	7	19	1	0	140	
4:40 PM	21	1	14	0	1	1	1	0	2	65	39	0	8	28	0	0	181	
4:45 PM	40	1	15	1	1	1	1	0	0	48	28	0	7	23	1	0	167	
4:50 PM	28	0	15	1	1	0	0	0	1	53	35	0	2	32	0	0	168	
4:55 PM	40	4	12	1	0	0	0	0	1	42	28	0	5	8	0	0	141	2071
5:00 PM	18	3	13	0	0	1	2	0	0	68	55	0	2	16	1	0	179	2101
5:05 PM	31	1	15	0	2	6	0	0	0	60	37	0	7	19	0	0	178	2085
5:10 PM	32	1	12	1	0	2	2	0	1	59	44	0	10	29	1	0	194	2111
5:15 PM	25	2	20	0	0	2	0	0	0	41	47	0	12	24	0	0	173	2085
5:20 PM	26	2	9	1	0	0	0	0	1	60	47	0	5	32	0	0	183	2095
5:25 PM	29	1	19	0	0	2	0	0	0	65	32	0	3	9	0	0	160	2056
5:30 PM	37	3	10	1	0	1	0	0	0	66	27	0	12	23	0	0	180	2044
5:35 PM	30	0	10	1	0	0	0	0	1	81	57	0	3	15	0	0	198	2102
5:40 PM	27	1	15	0	1	2	1	0	0	69	51	0	5	19	1	0	192	2113
5:45 PM	32	0	7	0	0	1	0	0	0	59	31	0	10	22	1	0	163	2109
5:50 PM	34	0	11	0	0	0	0	0	0	70	48	0	7	18	1	0	189	2130
5:55 PM	26	4	12	0	0	3	1	0	0	41	22	0	7	19	1	0	136	2125

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	376	16	140	8	4	12	4	0	4	864	540	0	80	228	4	0	2280
Heavy Trucks	8	0	8		0	0	0		0	4	0		4	4	0		28
Pedestrians		0				0				0				12			12
Bicycles	0	0	0		0	0	0		0	5	0		0	4	0		9
Railroad																	
Stopped Buses																	

Comments:

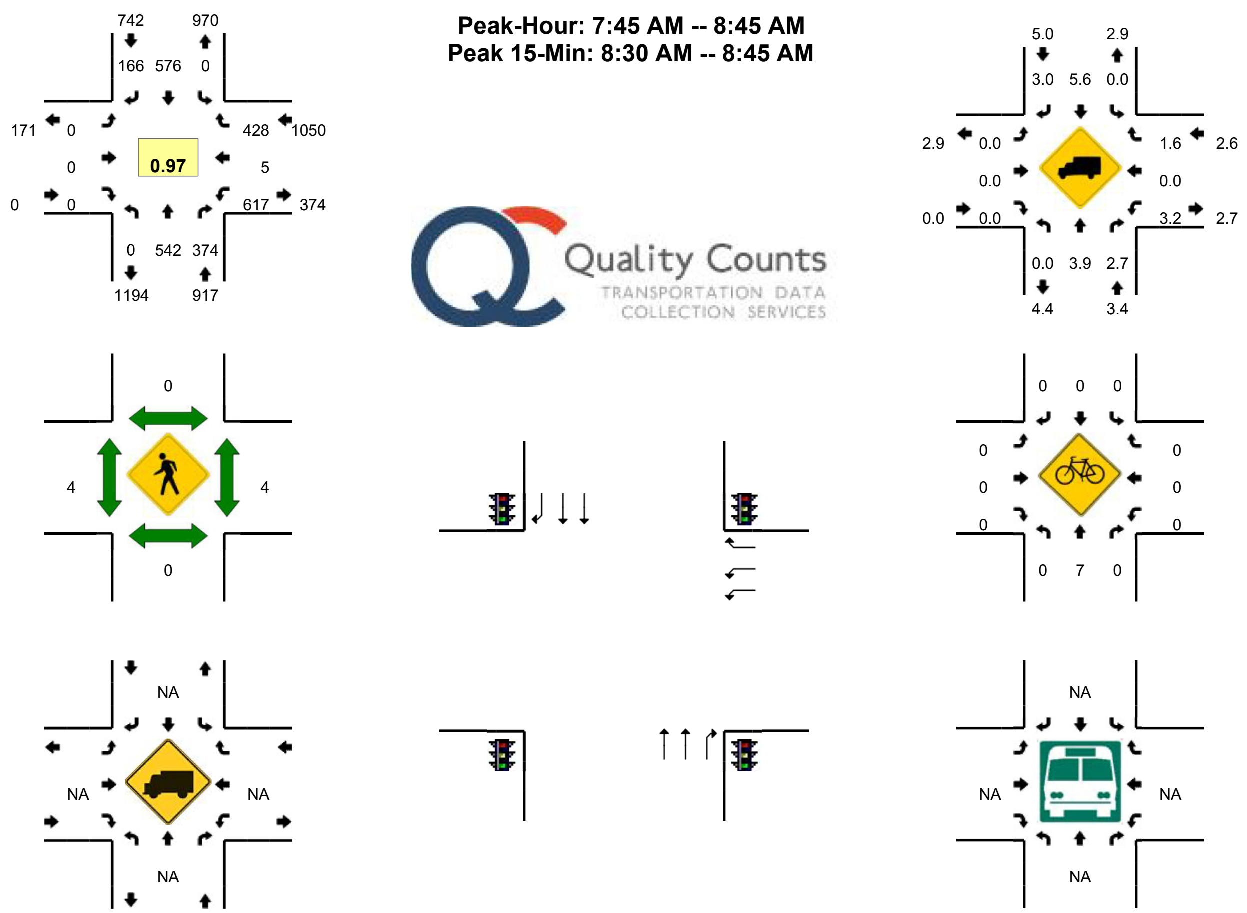
Report generated on 10/25/2016 2:14 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: 41st Ave -- Hwy 1 NB Ramps | **QC JOB #:** 13932413

CITY/STATE: Soquel, CA | **DATE:** Tue, Oct 18 2016

Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:30 AM -- 8:45 AM



5-Min Count Period Beginning At	41st Ave (Northbound) Left	Thru	Right	U	41st Ave (Southbound) Left	Thru	Right	U	Hwy 1 NB Ramps (Eastbound) Left	Thru	Right	U	Hwy 1 NB Ramps (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	0	16	13	0	0	26	4	0	0	0	0	0	42	0	28	0	129	
7:05 AM	0	29	29	0	0	19	7	0	0	0	0	0	46	0	18	0	148	
7:10 AM	0	30	42	0	0	18	10	0	0	0	0	0	45	0	28	0	173	
7:15 AM	0	28	31	0	0	19	7	0	0	0	0	0	48	0	31	0	164	
7:20 AM	0	22	19	0	0	27	9	0	0	0	0	0	58	0	25	0	160	
7:25 AM	0	20	23	0	0	26	15	0	0	0	0	0	50	0	37	0	171	
7:30 AM	0	46	31	0	0	21	14	0	0	0	0	0	48	0	31	0	191	
7:35 AM	0	36	41	0	0	39	19	0	0	0	0	0	40	0	44	0	219	
7:40 AM	0	42	32	0	0	48	12	0	0	0	0	0	45	1	35	0	215	
7:45 AM	0	39	40	0	0	45	9	0	0	0	0	0	55	0	39	0	227	
7:50 AM	0	62	27	0	0	40	18	0	0	0	0	0	45	0	48	0	240	
7:55 AM	0	50	29	0	0	37	14	0	0	0	0	0	48	1	31	0	210	2247
8:00 AM	0	38	32	0	0	52	13	0	0	0	0	0	60	0	38	0	233	2351
8:05 AM	0	43	30	0	0	53	7	0	0	0	0	0	41	1	35	0	210	2413
8:10 AM	0	52	24	0	0	52	12	0	0	0	0	0	46	1	34	0	221	2461
8:15 AM	0	47	33	0	0	56	16	0	0	0	0	0	28	0	34	0	214	2511
8:20 AM	0	52	31	0	0	50	12	0	0	0	0	0	51	0	28	0	224	2575
8:25 AM	0	41	26	0	0	41	18	0	0	0	0	0	67	0	42	0	235	2639
8:30 AM	0	29	32	0	0	46	10	0	0	0	0	0	62	0	34	0	213	2661
8:35 AM	0	37	33	0	0	59	21	0	0	0	0	0	56	2	26	0	234	2676
8:40 AM	0	53	37	0	0	45	16	0	0	0	0	0	58	0	39	0	248	2709
8:45 AM	0	33	36	0	0	41	17	0	0	0	0	0	48	0	29	0	204	2686
8:50 AM	0	51	36	0	0	31	11	0	0	0	0	0	53	1	27	0	210	2656
8:55 AM	0	44	32	0	0	42	13	0	0	0	0	0	61	0	30	0	222	2668

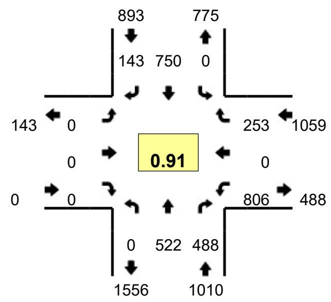
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	477	408	0	0	600	188	0	0	0	0	0	704	8	396	0	2780
Heavy Trucks	0	32	12		0	24	8		0	0	0		36	0	12		124
Pedestrians		0				0				4				8			12
Bicycles	0	1	0		0	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

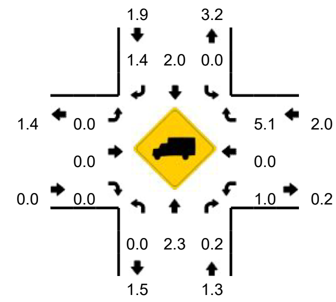
Report generated on 10/25/2016 2:14 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

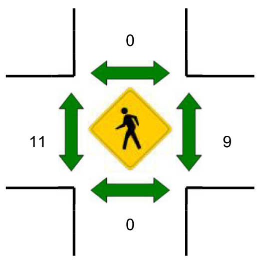
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

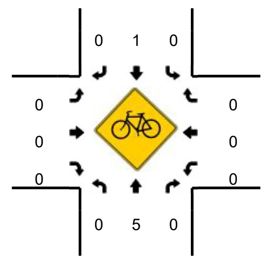
LOCATION: 41st Ave -- Hwy 1 NB Ramps | **QC JOB #:** 13932414
CITY/STATE: Soquel, CA | **DATE:** Tue, Oct 18 2016

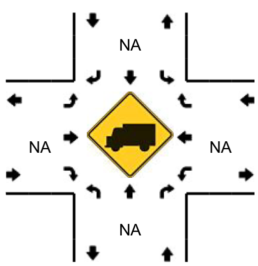


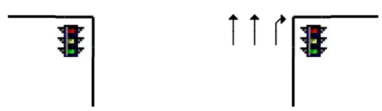
Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

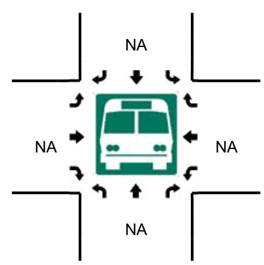












5-Min Count Period Beginning At	41st Ave (Northbound) Left	Thru	Right	U	41st Ave (Southbound) Left	Thru	Right	U	Hwy 1 NB Ramps (Eastbound) Left	Thru	Right	U	Hwy 1 NB Ramps (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	0	44	35	0	0	71	8	0	0	0	0	0	67	1	14	0	240	
4:05 PM	0	41	39	0	0	66	9	0	0	0	0	0	73	1	33	0	262	
4:10 PM	0	42	37	0	0	66	16	0	0	0	0	0	55	0	23	0	239	
4:15 PM	0	34	46	0	0	55	10	0	0	0	0	0	76	0	19	0	240	
4:20 PM	0	55	28	0	0	57	22	0	0	0	0	0	53	0	24	0	239	
4:25 PM	0	48	35	0	0	41	17	0	0	0	0	0	54	0	25	0	220	
4:30 PM	0	35	20	0	0	63	20	0	0	0	0	0	64	0	18	0	220	
4:35 PM	0	26	32	0	0	65	13	0	0	0	0	0	47	2	10	0	195	
4:40 PM	0	51	43	0	0	55	14	0	0	0	0	0	80	0	25	0	268	
4:45 PM	0	51	44	0	0	60	12	0	0	0	0	0	79	0	25	0	271	
4:50 PM	0	38	45	0	0	46	19	0	0	0	0	0	70	0	20	0	238	
4:55 PM	0	43	32	0	0	57	8	0	0	0	0	0	58	0	25	0	223	2855
5:00 PM	0	37	35	0	0	60	11	0	0	0	0	0	57	0	14	0	214	2829
5:05 PM	0	51	36	0	0	79	6	0	0	0	0	0	57	0	17	0	246	2813
5:10 PM	0	48	63	0	0	74	16	0	0	0	0	0	70	0	24	0	295	2869
5:15 PM	0	51	46	0	0	68	12	0	0	0	0	0	64	0	21	0	262	2891
5:20 PM	0	39	44	0	0	65	18	0	0	0	0	0	76	0	19	0	261	2913
5:25 PM	0	40	25	0	0	65	6	0	0	0	0	0	71	0	18	0	225	2918
5:30 PM	0	31	33	0	0	57	12	0	0	0	0	0	52	0	28	0	213	2911
5:35 PM	0	42	42	0	0	64	9	0	0	0	0	0	72	0	17	0	246	2962
5:40 PM	0	47	36	0	0	84	17	0	0	0	0	0	50	0	22	0	256	2950
5:45 PM	0	41	28	0	0	53	12	0	0	0	0	0	69	0	17	0	220	2899
5:50 PM	0	46	33	0	0	74	8	0	0	0	0	0	44	0	18	0	223	2884
5:55 PM	0	41	32	0	0	41	6	0	0	0	0	0	57	0	16	0	193	2854

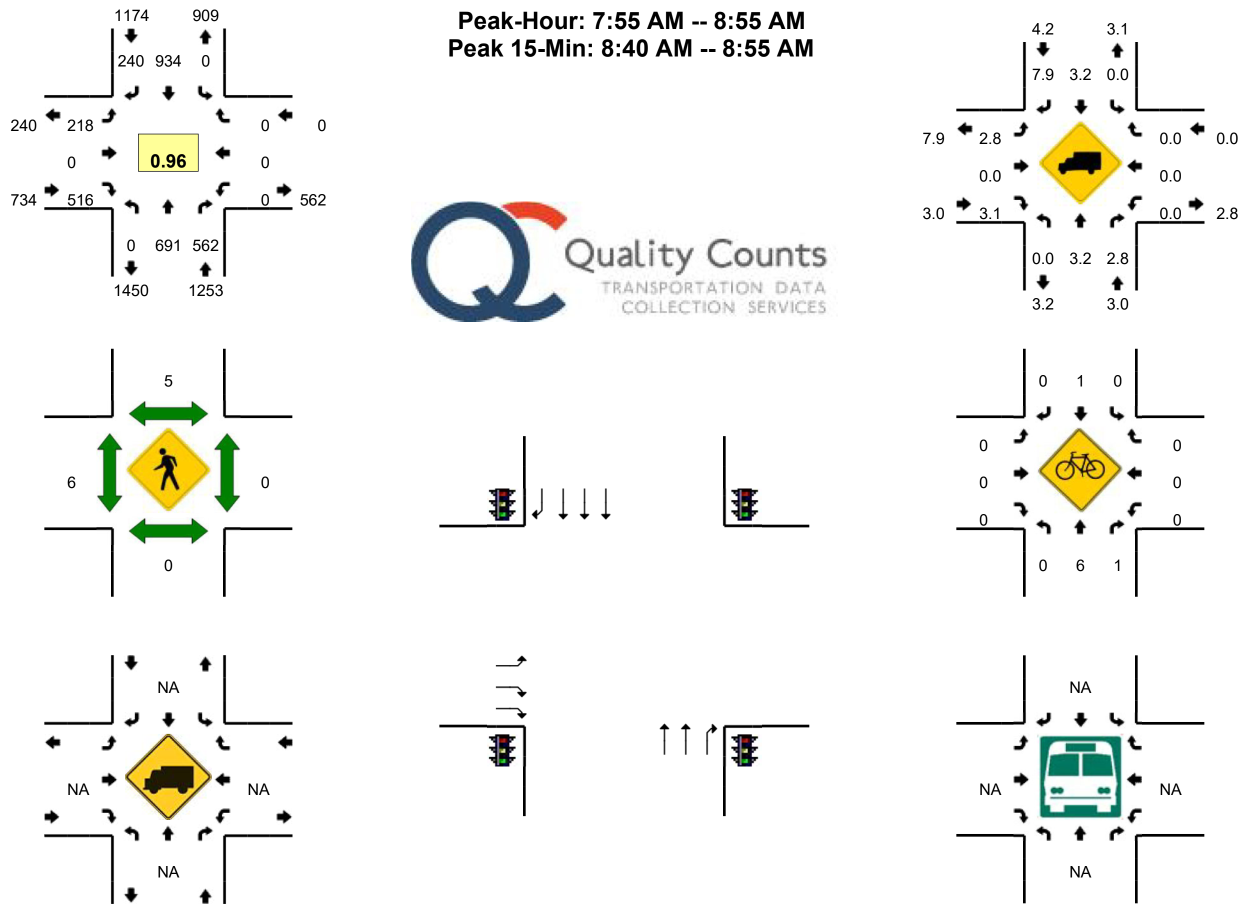
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	552	612	0	0	828	184	0	0	0	0	0	840	0	256	0	3272
Heavy Trucks	0	8	0		0	28	4		0	0	0		8	0	0		48
Pedestrians		0				0				8				16			24
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: 41st Ave -- Hwy 1 SB Ramps | **QC JOB #:** 13932415
CITY/STATE: Capitola, CA | **DATE:** Tue, Oct 18 2016

Peak-Hour: 7:55 AM -- 8:55 AM
Peak 15-Min: 8:40 AM -- 8:55 AM



5-Min Count Period Beginning At	41st Ave (Northbound) Left	Thru	Right	U	41st Ave (Southbound) Left	Thru	Right	U	Hwy 1 SB Ramps (Eastbound) Left	Thru	Right	U	Hwy 1 SB Ramps (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	0	22	27	0	0	52	15	0	6	0	14	0	0	0	0	0	136	
7:05 AM	0	47	40	0	0	54	8	0	13	0	9	0	0	0	0	0	171	
7:10 AM	0	58	44	0	0	61	11	0	13	0	14	0	0	0	0	0	201	
7:15 AM	0	46	31	0	0	56	10	0	13	0	21	0	0	0	0	0	177	
7:20 AM	0	31	41	0	0	66	11	0	11	0	13	0	0	0	0	0	173	
7:25 AM	0	35	39	0	0	56	13	0	11	0	25	0	0	0	0	0	179	
7:30 AM	0	65	50	0	0	58	8	0	6	0	27	0	0	0	0	0	214	
7:35 AM	0	63	32	0	0	66	21	0	15	0	17	0	0	0	0	0	214	
7:40 AM	0	60	59	0	0	72	25	0	16	0	20	0	0	0	0	0	252	
7:45 AM	0	70	54	0	0	74	27	0	8	0	18	0	0	0	0	0	251	
7:50 AM	0	77	50	0	0	65	14	0	18	0	31	0	0	0	0	0	255	
7:55 AM	0	65	60	0	0	69	20	0	16	0	36	0	0	0	0	0	266	2489
8:00 AM	0	62	47	0	0	72	23	0	13	0	36	0	0	0	0	0	253	2606
8:05 AM	0	54	53	0	0	72	24	0	18	0	35	0	0	0	0	0	256	2691
8:10 AM	0	58	54	0	0	76	25	0	24	0	30	0	0	0	0	0	267	2757
8:15 AM	0	59	50	0	0	63	21	0	18	0	45	0	0	0	0	0	256	2836
8:20 AM	0	63	38	0	0	90	19	0	22	0	47	0	0	0	0	0	279	2942
8:25 AM	0	43	37	0	0	80	10	0	18	0	49	0	0	0	0	0	237	3000
8:30 AM	0	45	44	0	0	101	16	0	20	0	47	0	0	0	0	0	273	3059
8:35 AM	0	53	40	0	0	71	26	0	20	0	39	0	0	0	0	0	249	3094
8:40 AM	0	70	49	0	0	100	21	0	12	0	45	0	0	0	0	0	297	3139
8:45 AM	0	51	49	0	0	68	23	0	21	0	51	0	0	0	0	0	263	3151
8:50 AM	0	68	41	0	0	72	12	0	16	0	56	0	0	0	0	0	265	3161
8:55 AM	0	61	38	0	0	74	9	0	16	0	49	0	0	0	0	0	247	3142

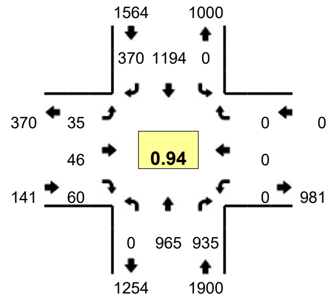
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	756	556	0	0	960	224	0	196	0	608	0	0	0	0	0	3300
Heavy Trucks	0	32	20		0	24	20		4	0	24		0	0	0		124
Pedestrians		0				8				12				0			20
Bicycles	0	1	1		0	1	0		0	0	0		0	0	0		3
Railroad																	
Stopped Buses																	

Comments:

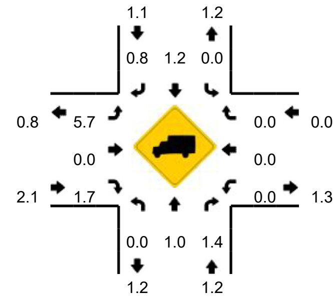
Report generated on 10/25/2016 2:14 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

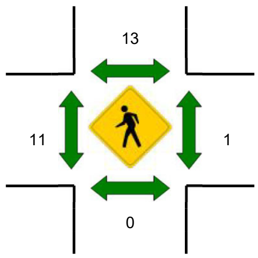
Type of peak hour being reported: Intersection Peak　　　　Method for determining peak hour: Total Entering Volume

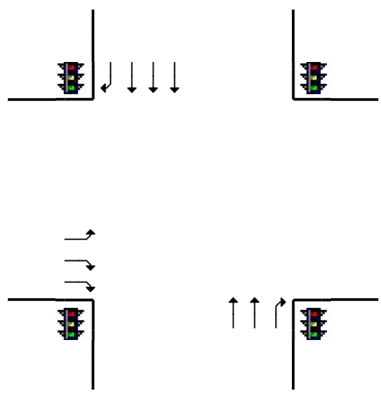
LOCATION: 41st Ave -- Hwy 1 SB Ramps　　　　**QC JOB #:** 13932416
CITY/STATE: Capitola, CA　　　　**DATE:** Tue, Oct 18 2016

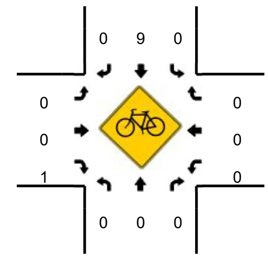


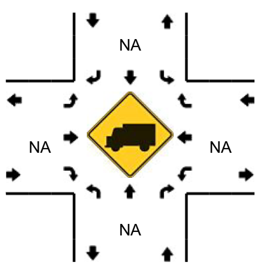
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

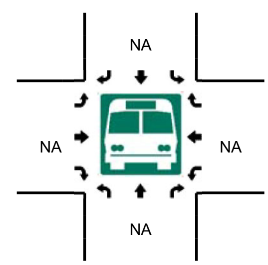












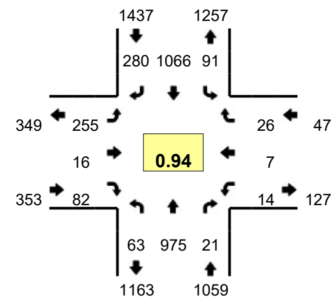
5-Min Count Period Beginning At	41st Ave (Northbound) Left	Thru	Right	U	41st Ave (Southbound) Left	Thru	Right	U	Hwy 1 SB Ramps (Eastbound) Left	Thru	Right	U	Hwy 1 SB Ramps (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	0	75	71	0	0	109	25	1	4	2	11	0	0	0	0	0	298	
4:05 PM	0	72	79	0	0	91	25	0	11	0	7	0	0	0	0	0	285	
4:10 PM	0	70	86	0	0	104	32	0	3	1	3	0	0	0	0	0	299	
4:15 PM	0	82	81	0	0	106	26	0	3	5	8	0	0	0	0	0	311	
4:20 PM	0	76	78	0	0	91	27	0	4	0	6	0	0	0	0	0	282	
4:25 PM	0	79	89	0	0	80	16	0	8	4	12	0	0	0	0	0	288	
4:30 PM	0	59	87	0	0	95	24	0	2	3	4	0	0	0	0	0	274	
4:35 PM	0	76	69	0	0	85	29	0	4	3	7	0	0	0	0	0	273	
4:40 PM	0	69	52	0	0	104	25	0	2	7	5	0	0	0	0	0	264	
4:45 PM	0	85	85	0	0	100	24	0	5	3	7	0	0	0	0	0	309	
4:50 PM	0	82	87	0	0	115	31	0	2	2	8	0	0	0	0	0	327	
4:55 PM	0	67	78	0	0	95	25	0	4	3	5	0	0	0	0	0	277	3487
5:00 PM	0	74	81	0	0	89	24	0	3	3	3	0	0	0	0	0	277	3466
5:05 PM	0	85	73	0	0	89	39	0	4	5	6	0	0	0	0	0	301	3482
5:10 PM	0	111	70	0	0	107	26	0	2	3	3	0	0	0	0	0	322	3505
5:15 PM	0	88	78	0	0	100	38	0	3	5	4	0	0	0	0	0	316	3510
5:20 PM	0	83	85	0	0	104	30	0	2	6	9	0	0	0	0	0	319	3547
5:25 PM	0	60	69	0	0	106	45	0	5	5	3	0	0	0	0	0	293	3552
5:30 PM	0	66	84	0	0	94	23	0	2	4	6	0	0	0	0	0	279	3557
5:35 PM	0	83	69	0	0	88	28	0	1	2	4	0	0	0	0	0	275	3559
5:40 PM	0	81	76	0	0	107	37	0	2	5	2	0	0	0	0	0	310	3605
5:45 PM	0	77	84	0	0	94	24	0	2	7	7	0	0	0	0	0	295	3591
5:50 PM	0	78	77	0	0	100	27	0	2	8	4	0	0	0	0	0	296	3560
5:55 PM	0	76	76	0	0	89	17	0	4	5	6	0	0	0	0	0	273	3556

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	1128	932	0	0	1244	376	0	28	56	64	0	0	0	0	0	3828
Heavy Trucks	0	4	8		0	28	4		0	0	0		0	0	0		44
Pedestrians		0				12				8				0			20
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

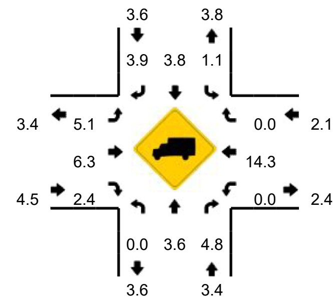
Comments:

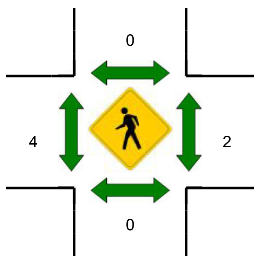
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

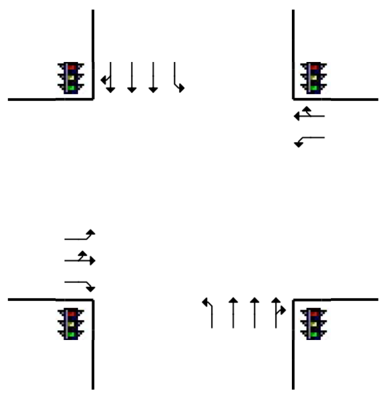
LOCATION: 41st Ave -- Gross St | **QC JOB #:** 13932417
CITY/STATE: Santa Cruz, CA | **DATE:** Tue, Oct 18 2016

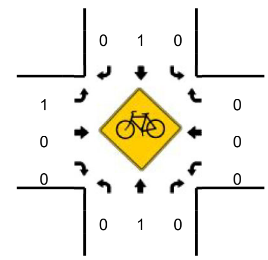


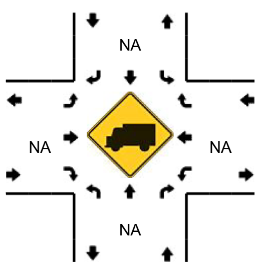
Peak-Hour: 7:55 AM -- 8:55 AM
Peak 15-Min: 8:40 AM -- 8:55 AM

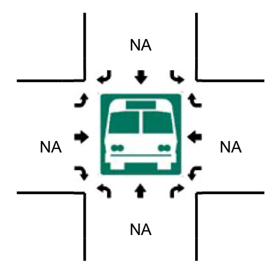












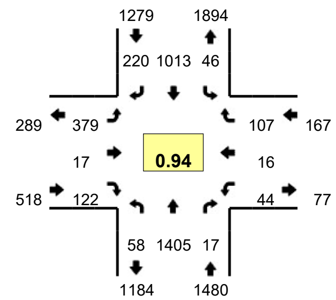
5-Min Count Period Beginning At	41st Ave (Northbound) Left	Thru	Right	U	41st Ave (Southbound) Left	Thru	Right	U	Gross St (Eastbound) Left	Thru	Right	U	Gross St (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	1	42	0	0	3	43	19	0	9	0	0	0	0	0	0	0	117	
7:05 AM	4	74	1	0	3	52	11	0	12	0	1	0	0	0	0	0	158	
7:10 AM	2	90	0	0	8	46	16	0	8	2	1	0	0	2	1	0	176	
7:15 AM	5	66	1	0	6	50	15	0	8	0	4	0	0	0	2	0	157	
7:20 AM	4	62	1	0	1	51	27	0	10	1	2	0	0	0	0	0	159	
7:25 AM	7	60	0	0	11	59	21	0	14	0	3	0	1	0	2	0	178	
7:30 AM	1	90	0	0	2	50	26	0	24	3	8	0	1	0	1	0	206	
7:35 AM	2	80	0	0	5	54	25	0	15	1	5	0	1	0	0	0	188	
7:40 AM	2	101	0	0	6	56	29	0	16	3	7	0	1	0	2	0	223	
7:45 AM	9	98	1	0	5	57	32	1	22	2	9	0	0	0	3	0	239	
7:50 AM	5	87	0	0	8	59	18	0	33	2	1	0	2	1	3	0	219	
7:55 AM	6	88	3	0	9	71	23	0	31	2	6	0	0	0	3	0	242	2262
8:00 AM	10	62	3	0	3	83	31	0	34	2	6	0	1	0	6	0	241	2386
8:05 AM	1	77	1	0	9	83	19	0	31	1	10	0	2	0	1	0	235	2463
8:10 AM	5	90	3	0	2	76	24	0	19	0	9	0	1	2	1	0	232	2519
8:15 AM	7	85	3	0	3	81	15	0	23	2	7	0	0	1	2	0	229	2591
8:20 AM	5	85	0	0	11	96	31	0	17	1	3	0	1	0	4	0	254	2686
8:25 AM	7	62	0	0	10	91	25	0	16	1	5	0	3	2	1	0	223	2731
8:30 AM	4	74	2	1	4	106	32	0	19	1	5	0	2	0	1	0	251	2776
8:35 AM	4	64	1	0	12	77	25	1	20	1	6	0	2	2	4	0	219	2807
8:40 AM	2	108	0	0	8	108	22	0	15	1	7	0	1	0	0	0	272	2856
8:45 AM	4	82	3	0	9	97	18	0	16	1	10	0	1	0	2	0	243	2860
8:50 AM	7	98	2	0	10	97	15	0	14	3	8	0	0	0	1	0	255	2896
8:55 AM	2	78	3	0	7	97	16	0	19	0	9	0	5	1	3	0	240	2894

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	52	1152	20	0	108	1208	220	0	180	20	100	0	8	0	12	0	3080
Heavy Trucks	0	48	0		4	48	4		8	4	0		0	0	0		116
Pedestrians		0				0				4				4			8
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

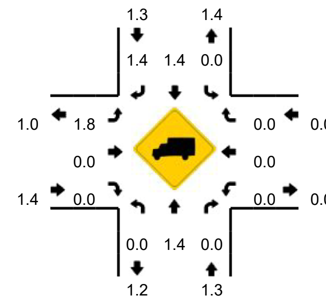
Comments:

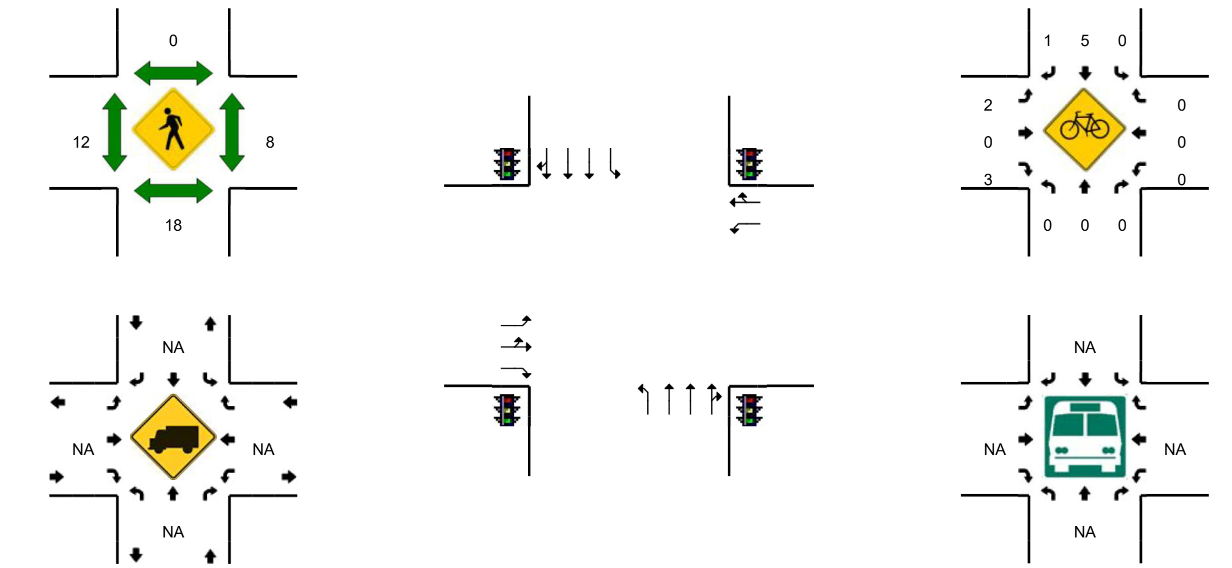
Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

LOCATION: 41st Ave -- Gross St — **QC JOB #:** 13932418
CITY/STATE: Santa Cruz, CA — **DATE:** Tue, Oct 18 2016



Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:10 PM -- 5:25 PM





5-Min Count Period Beginning At	41st Ave (Northbound) Left	Thru	Right	U	41st Ave (Southbound) Left	Thru	Right	U	Gross St (Eastbound) Left	Thru	Right	U	Gross St (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	6	109	0	0	3	95	15	0	28	2	7	0	3	0	7	0	275	
4:05 PM	7	119	2	1	8	80	15	1	32	2	13	0	1	1	7	0	289	
4:10 PM	5	112	0	0	1	86	14	0	36	0	13	0	4	2	6	0	279	
4:15 PM	6	134	1	0	1	94	20	1	22	0	13	0	2	1	7	0	302	
4:20 PM	2	120	0	0	2	84	17	0	36	0	11	0	1	2	3	0	278	
4:25 PM	7	125	5	0	5	75	13	2	23	0	8	0	4	2	13	0	282	
4:30 PM	8	108	1	0	0	77	18	0	40	3	6	0	5	2	10	0	278	
4:35 PM	6	113	0	1	3	83	14	0	17	0	3	0	3	1	11	0	255	
4:40 PM	9	94	1	0	10	73	18	1	28	1	12	0	5	1	5	0	258	
4:45 PM	3	124	0	0	7	90	25	0	28	3	14	0	5	2	12	0	313	
4:50 PM	6	129	3	0	3	103	14	0	28	3	11	0	5	7	8	0	320	
4:55 PM	2	114	1	1	2	76	18	0	28	1	13	0	3	0	5	0	264	3393
5:00 PM	6	109	0	2	3	65	14	0	47	2	13	0	5	0	6	0	272	3390
5:05 PM	0	115	0	0	1	88	18	0	30	3	8	0	2	1	12	0	278	3379
5:10 PM	3	148	0	0	6	90	20	0	23	0	8	0	6	2	10	0	316	3416
5:15 PM	7	133	1	1	3	77	19	0	29	4	7	0	4	0	8	0	293	3407
5:20 PM	7	127	3	0	7	89	23	0	29	0	7	0	0	0	11	0	303	3432
5:25 PM	6	86	2	1	2	80	23	1	27	1	8	0	2	1	14	0	254	3404
5:30 PM	5	111	1	0	4	84	17	1	31	0	9	0	5	1	9	0	278	3404
5:35 PM	7	108	3	0	1	71	15	0	41	0	14	0	4	1	6	0	271	3420
5:40 PM	1	101	3	0	4	100	14	1	38	0	10	0	3	1	6	0	282	3444
5:45 PM	8	121	1	0	0	67	16	0	35	1	8	0	3	0	8	0	268	3399
5:50 PM	4	106	1	0	3	95	17	0	28	4	4	0	3	1	11	0	277	3356
5:55 PM	6	108	1	0	1	89	10	1	30	2	5	0	1	0	6	0	260	3352

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	68	1632	16	4	64	1024	248	0	324	16	88	0	40	8	116	0	3648
Heavy Trucks	0	20	0		0	32	0		4	0	0		0	0	0		56
Pedestrians		8				0				4				8			20
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

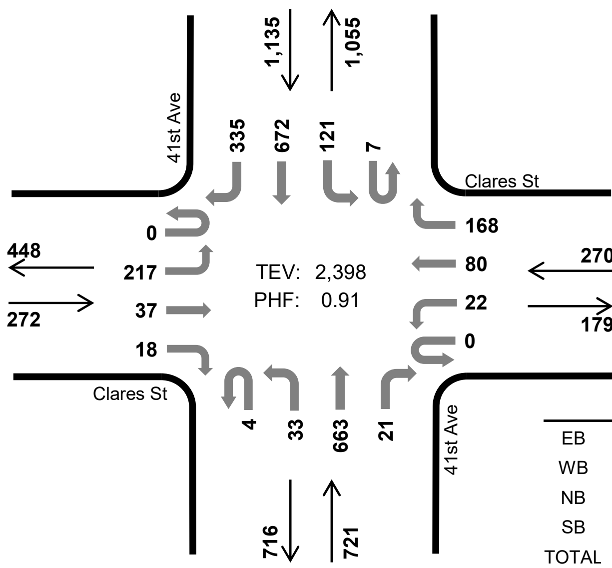
Comments:

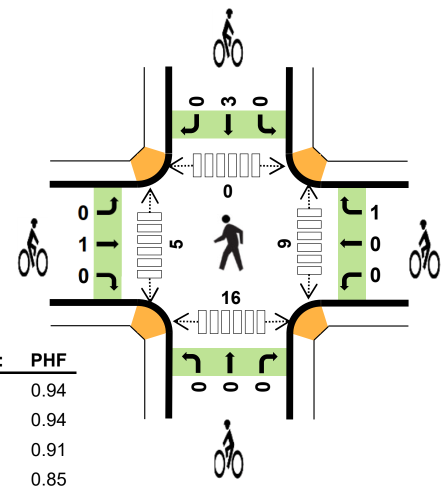
Report generated on 11/14/2016 3:40 PM — SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

41st Ave
Clares St

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour





	HV %:	PHF
EB	2.2%	0.94
WB	1.1%	0.94
NB	2.6%	0.91
SB	2.6%	0.85
TOTAL	2.4%	0.91

Two-Hour Count Summaries

Interval Start		Clares St Eastbound UT	LT	TH	RT	Clares St Westbound UT	LT	TH	RT	41st Ave Northbound UT	LT	TH	RT	41st Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM		0	33	4	5	0	0	10	35	0	3	141	4	2	12	90	19	358	0
7:15 AM		0	25	4	2	0	1	11	40	1	5	160	3	2	15	100	30	399	0
7:30 AM		0	41	5	2	0	3	21	43	1	1	178	2	3	18	120	35	473	0
7:45 AM		0	45	13	2	0	2	20	62	0	6	197	7	5	18	155	43	575	1,805
8:00 AM		**0**	**49**	**15**	**4**	**0**	**9**	**15**	**43**	**0**	**8**	**144**	**8**	**2**	**29**	**132**	**86**	**544**	1,991
8:15 AM		**0**	**61**	**6**	**3**	**0**	**4**	**20**	**43**	**0**	**8**	**163**	**5**	**1**	**34**	**145**	**77**	**570**	2,162
8:30 AM		**0**	**50**	**8**	**4**	**0**	**2**	**28**	**42**	**2**	**11**	**170**	**4**	**3**	**32**	**211**	**89**	**656**	2,345
8:45 AM		**0**	**57**	**8**	**7**	**0**	**7**	**17**	**40**	**2**	**6**	**186**	**4**	**1**	**26**	**184**	**83**	**628**	**2,398**
Count Total		0	361	63	29	0	28	142	348	6	48	1,339	37	19	184	1,137	462	4,203	0
Peak Hour	**All**	**0**	**217**	**37**	**18**	**0**	**22**	**80**	**168**	**4**	**33**	**663**	**21**	**7**	**121**	**672**	**335**	**2,398**	**0**
	HV	**0**	**6**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**1**	**17**	**1**	**0**	**1**	**23**	**6**	**58**	**0**
	HV%	**-**	**3%**	**0%**	**0%**	**-**	**0%**	**1%**	**1%**	**0%**	**3%**	**3%**	**5%**	**0%**	**1%**	**3%**	**2%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	1	1	3	4	*9*	0	1	0	0	*1*	0	0	0	0	*0*
7:15 AM	0	0	4	4	*8*	2	1	0	0	*3*	2	2	0	5	*9*
7:30 AM	2	0	5	14	*21*	4	0	0	1	*5*	2	0	0	12	*14*
7:45 AM	2	0	3	10	*15*	1	0	0	0	*1*	2	1	0	8	*11*
8:00 AM	**1**	**1**	**6**	**7**	***15***	**0**	**0**	**0**	**1**	***1***	**0**	**1**	**0**	**2**	*3*
8:15 AM	**3**	**0**	**5**	**8**	***16***	**0**	**0**	**0**	**0**	***0***	**2**	**2**	**0**	**5**	*9*
8:30 AM	**2**	**2**	**2**	**9**	***15***	**1**	**0**	**0**	**0**	***1***	**4**	**0**	**0**	**4**	*8*
8:45 AM	**0**	**0**	**6**	**6**	***12***	**0**	**1**	**0**	**2**	***3***	**3**	**2**	**0**	**5**	*10*
Count Total	11	4	34	62	*111*	8	3	0	4	*15*	15	8	0	41	*64*
Peak Hour	**6**	**3**	**19**	**30**	***58***	**1**	**1**	**0**	**3**	***5***	**9**	**5**	**0**	**16**	***30***

Project Manager: (415) 310-6469
project.manager.ca@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Clares St Eastbound UT	LT	TH	RT	Clares St Westbound UT	LT	TH	RT	41st Ave Northbound UT	LT	TH	RT	41st Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	1	0	0	0	0	0	1	0	0	2	1	0	0	4	0	9	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	3	1	8	0
7:30 AM	0	2	0	0	0	0	0	0	0	0	5	0	0	0	12	2	21	0
7:45 AM	0	1	0	1	0	0	0	0	0	0	3	0	0	0	7	3	15	53
8:00 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**5**	**1**	**0**	**1**	**4**	**2**	**15**	59
8:15 AM	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**0**	**0**	**0**	**7**	**1**	**16**	67
8:30 AM	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**7**	**2**	**15**	61
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**5**	**1**	**12**	**58**
Count Total	0	10	0	1	0	0	1	3	0	1	31	2	0	1	49	12	111	0
Peak Hour	**0**	**6**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**1**	**17**	**1**	**0**	**1**	**23**	**6**	**58**	**0**

Two-Hour Count Summaries - Bikes

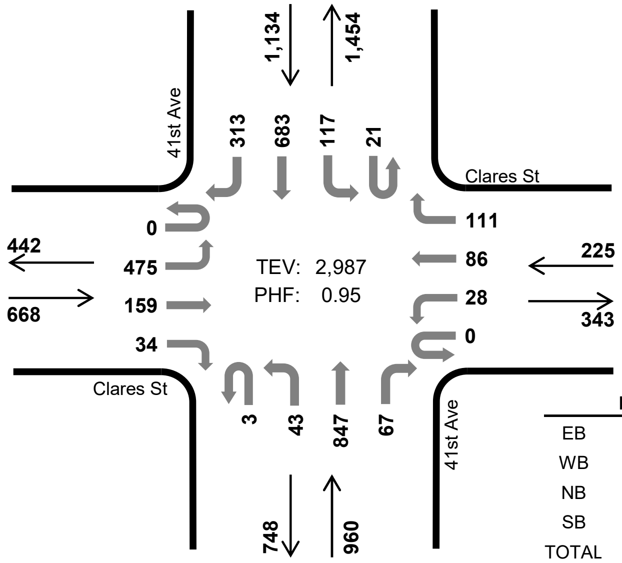
Interval Start	Clares St Eastbound LT	TH	RT	Clares St Westbound LT	TH	RT	41st Ave Northbound LT	TH	RT	41st Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	0
7:15 AM	0	2	0	0	1	0	0	0	0	0	0	0	3	0
7:30 AM	1	3	0	0	0	0	0	0	0	0	1	0	5	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	10
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	10
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	7
8:30 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	3
8:45 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**3**	**5**
Count Total	1	7	0	0	1	2	0	0	0	0	4	0	15	0
Peak Hour	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**0**	**5**	**0**

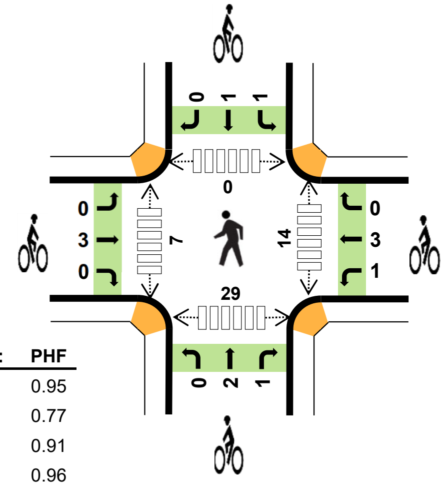
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

41st Ave
Clares St

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM

Peak Hour





	HV %:	PHF
EB	1.0%	0.95
WB	0.0%	0.77
NB	0.9%	0.91
SB	0.9%	0.96
TOTAL	0.9%	0.95

Two-Hour Count Summaries

Interval Start	Clares St Eastbound UT	LT	TH	RT	Clares St Westbound UT	LT	TH	RT	41st Ave Northbound UT	LT	TH	RT	41st Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	111	32	8	0	4	23	32	2	19	244	22	3	34	164	88	786	0
4:15 PM	**0**	**125**	**42**	**5**	**0**	**4**	**17**	**25**	**1**	**7**	**232**	**25**	**5**	**32**	**167**	**68**	**755**	0
4:30 PM	**0**	**113**	**33**	**13**	**0**	**10**	**22**	**41**	**0**	**9**	**203**	**10**	**8**	**29**	**168**	**68**	**727**	0
4:45 PM	**0**	**109**	**45**	**8**	**0**	**5**	**28**	**19**	**1**	**15**	**178**	**15**	**4**	**35**	**162**	**92**	**716**	2,984
5:00 PM	**0**	**128**	**39**	**8**	**0**	**9**	**19**	**26**	**1**	**12**	**234**	**17**	**4**	**21**	**186**	**85**	**789**	**2,987**
5:15 PM	0	120	44	13	0	5	17	26	0	11	208	15	3	24	181	77	744	2,976
5:30 PM	0	108	41	6	0	4	19	22	2	11	194	20	3	30	147	82	689	2,938
5:45 PM	0	104	28	8	0	13	15	25	1	13	210	18	2	47	167	93	744	2,966
Count Total	0	918	304	69	0	54	160	216	8	97	1,703	142	32	252	1,342	653	5,950	0
Peak Hour All	**0**	**475**	**159**	**34**	**0**	**28**	**86**	**111**	**3**	**43**	**847**	**67**	**21**	**117**	**683**	**313**	**2,987**	**0**
Peak Hour HV	**0**	**5**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**1**	**1**	**6**	**2**	**26**	**0**
Peak Hour HV%	**-**	**1%**	**0%**	**6%**	**-**	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**0%**	**5%**	**1%**	**1%**	**1%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	1	0	2	1	*4*	0	0	1	1	*2*	3	1	1	3	*8*
4:15 PM	**1**	**0**	**4**	**2**	***7***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**5**	*5*
4:30 PM	**1**	**0**	**1**	**4**	***6***	**2**	**4**	**1**	**0**	***7***	**5**	**1**	**0**	**13**	*19*
4:45 PM	**4**	**0**	**1**	**2**	***7***	**1**	**0**	**0**	**0**	***1***	**3**	**4**	**0**	**3**	*10*
5:00 PM	**1**	**0**	**3**	**2**	***6***	**0**	**0**	**1**	**2**	***3***	**6**	**2**	**0**	**8**	***16***
5:15 PM	0	0	1	0	*1*	0	1	0	3	*4*	3	0	0	6	*9*
5:30 PM	2	0	1	1	*4*	0	1	0	1	*2*	6	4	0	2	*12*
5:45 PM	0	0	1	2	*3*	0	1	0	2	*3*	3	2	0	4	*9*
Count Total	10	0	14	14	*38*	3	7	4	9	*23*	29	14	1	44	*88*
Peak Hour	**7**	**0**	**9**	**10**	***26***	**3**	**4**	**3**	**2**	***12***	**14**	**7**	**0**	**29**	***50***

Project Manager: (415) 310-6469
project.manager.ca@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Clares St Eastbound UT	LT	TH	RT	Clares St Westbound UT	LT	TH	RT	41st Ave Northbound UT	LT	TH	RT	41st Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	1	0	0	0	0	0	0	0	0	2	0	0	0	1	0	4	0
4:15 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**1**	**1**	**0**	**7**	0
4:30 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**3**	**0**	**6**	0
4:45 PM	**0**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**7**	24
5:00 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**1**	**6**	**26**
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	20
5:30 PM	0	2	0	0	0	0	0	0	0	0	1	0	0	0	1	0	4	18
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	3	14
Count Total	0	8	0	2	0	0	0	0	0	0	13	1	1	1	10	2	38	0
Peak Hour	**0**	**5**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**1**	**1**	**6**	**2**	**26**	**0**

Two-Hour Count Summaries - Bikes

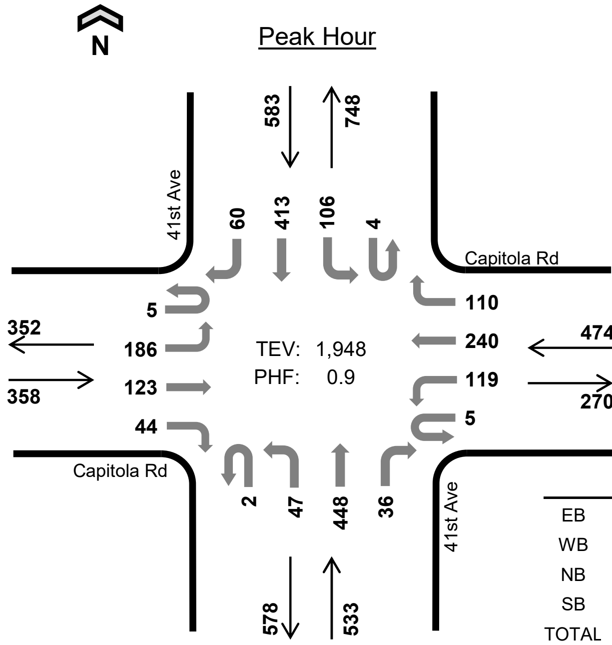
Interval Start	Clares St Eastbound LT	TH	RT	Clares St Westbound LT	TH	RT	41st Ave Northbound LT	TH	RT	41st Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	0	0	0	0	0	0	1	0	1	0	2	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	0
4:30 PM	**0**	**2**	**0**	**1**	**3**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**7**	0
4:45 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	11
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**3**	**12**
5:15 PM	0	0	0	0	1	0	0	0	0	2	1	0	4	15
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	1	2	10
5:45 PM	0	0	0	0	0	1	0	0	0	1	1	0	3	12
Count Total	0	3	0	1	5	1	0	2	2	4	4	1	23	0
Peak Hour	**0**	**3**	**0**	**1**	**3**	**0**	**0**	**2**	**1**	**1**	**1**	**0**	**12**	**0**

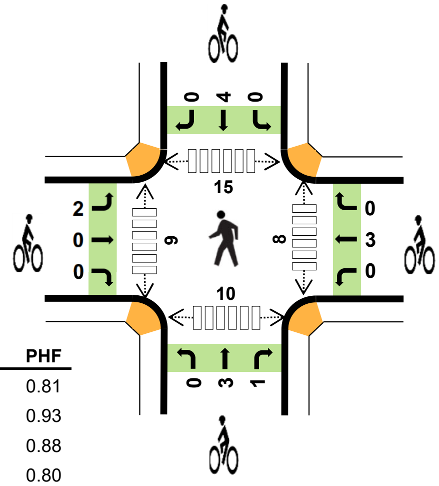
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

41st Ave
Capitola Rd

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour





	HV %:	PHF
EB	3.4%	0.81
WB	2.7%	0.93
NB	3.6%	0.88
SB	2.9%	0.80
TOTAL	3.1%	0.90

Two-Hour Count Summaries

Interval Start		Capitola Rd				Capitola Rd				41st Ave				41st Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		1	41	13	4	0	9	18	15	0	6	93	6	1	10	59	5	281	0
7:15 AM		0	50	20	1	0	19	25	20	2	4	96	9	0	16	68	11	341	0
7:30 AM		0	55	29	9	1	18	50	34	4	6	115	9	0	23	83	15	451	0
7:45 AM		0	63	38	4	0	23	49	27	2	3	114	10	0	29	89	7	458	1,531
8:00 AM		**1**	**53**	**30**	**3**	**1**	**28**	**57**	**26**	**1**	**9**	**88**	**11**	**0**	**18**	**94**	**18**	**438**	1,688
8:15 AM		**1**	**49**	**20**	**13**	**1**	**29**	**68**	**27**	**1**	**9**	**107**	**9**	**1**	**18**	**92**	**9**	**454**	1,801
8:30 AM		**3**	**35**	**31**	**8**	**3**	**21**	**57**	**28**	**0**	**13**	**123**	**11**	**3**	**40**	**125**	**15**	**516**	1,866
8:45 AM		**0**	**49**	**42**	**20**	**0**	**41**	**58**	**29**	**0**	**16**	**130**	**5**	**0**	**30**	**102**	**18**	**540**	**1,948**
Count Total		6	395	223	62	6	188	382	206	10	66	866	70	5	184	712	98	3,479	0
Peak Hour	**All**	**5**	**186**	**123**	**44**	**5**	**119**	**240**	**110**	**2**	**47**	**448**	**36**	**4**	**106**	**413**	**60**	**1,948**	**0**
	HV	**0**	**7**	**2**	**3**	**0**	**3**	**6**	**4**	**0**	**1**	**16**	**2**	**0**	**2**	**13**	**2**	**61**	**0**
	HV%	**0%**	**4%**	**2%**	**7%**	**0%**	**3%**	**3%**	**4%**	**0%**	**2%**	**4%**	**6%**	**0%**	**2%**	**3%**	**3%**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	2	2	4	5	*13*	0	0	0	0	*0*	0	1	1	2	*4*
7:15 AM	2	2	1	2	*7*	0	2	0	0	*2*	1	1	2	5	*9*
7:30 AM	1	1	3	13	*18*	0	4	0	0	*4*	0	2	2	3	*7*
7:45 AM	0	0	3	5	*8*	1	0	0	1	*2*	0	2	1	5	*8*
8:00 AM	**3**	**4**	**4**	**2**	***13***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**5**	**1**	***8***
8:15 AM	**4**	**5**	**3**	**5**	***17***	**0**	**3**	**0**	**0**	***3***	**2**	**3**	**3**	**3**	***11***
8:30 AM	**3**	**2**	**4**	**8**	***17***	**1**	**0**	**3**	**0**	***4***	**2**	**2**	**3**	**4**	***11***
8:45 AM	**2**	**2**	**8**	**2**	***14***	**1**	**0**	**1**	**4**	***6***	**2**	**4**	**4**	**2**	***12***
Count Total	17	18	30	42	*107*	3	9	4	5	*21*	9	15	21	25	*70*
Peak Hour	**12**	**13**	**19**	**17**	***61***	**2**	**3**	**4**	**4**	***13***	**8**	**9**	**15**	**10**	***42***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd				Capitola Rd				41st Ave				41st Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	0	1	0	0	1	1	0	0	3	1	0	1	4	0	13	0
7:15 AM	0	2	0	0	0	1	0	1	0	0	1	0	0	0	2	0	7	0
7:30 AM	0	1	0	0	0	1	0	0	0	0	3	0	0	1	12	0	18	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	1	4	0	8	46
8:00 AM	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**3**	**0**	**1**	**3**	**0**	**0**	**0**	**2**	**0**	**13**	46
8:15 AM	**0**	**3**	**0**	**1**	**0**	**2**	**2**	**1**	**0**	**0**	**2**	**1**	**0**	**0**	**5**	**0**	**17**	56
8:30 AM	**0**	**0**	**2**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**1**	**0**	**2**	**5**	**1**	**17**	55
8:45 AM	**0**	**1**	**0**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**1**	**1**	**14**	**61**
Count Total	0	11	2	4	0	5	7	6	0	1	26	3	0	5	35	2	107	0
Peak Hour	**0**	**7**	**2**	**3**	**0**	**3**	**6**	**4**	**0**	**1**	**16**	**2**	**0**	**2**	**13**	**2**	**61**	**0**

Two-Hour Count Summaries - Bikes

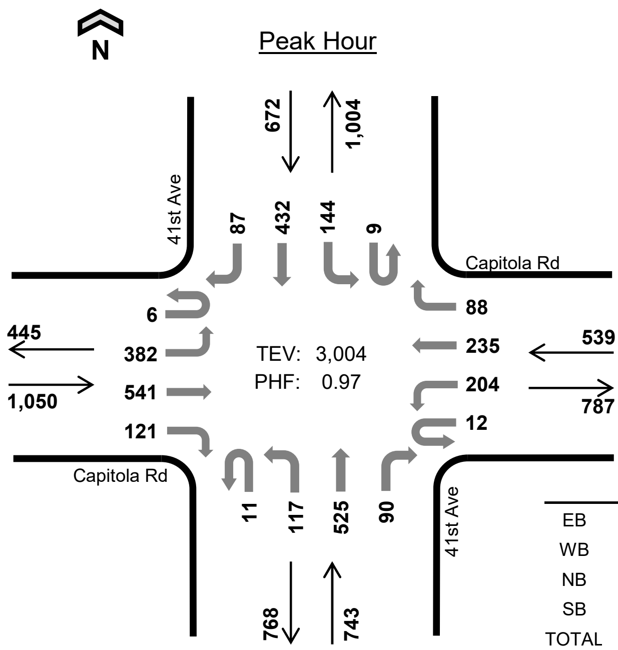
Interval Start	Capitola Rd			Capitola Rd			41st Ave			41st Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	1	1	0	0	0	0	0	0	0	2	0
7:30 AM	0	0	0	0	4	0	0	0	0	0	0	0	4	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	1	2	8
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	8
8:15 AM	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	9
8:30 AM	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**4**	9
8:45 AM	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**4**	**0**	**6**	**13**
Count Total	2	0	1	1	8	0	0	3	1	0	4	1	21	0
Peak Hour	**2**	**0**	**0**	**0**	**3**	**0**	**0**	**3**	**1**	**0**	**4**	**0**	**13**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

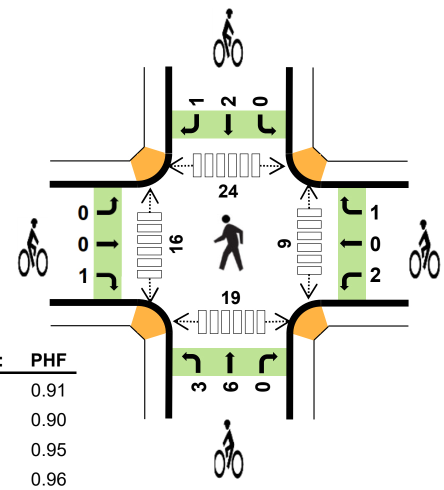
www.idaxdata.com

41st Ave
Capitola Rd

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	0.8%	0.91
WB	0.0%	0.90
NB	0.8%	0.95
SB	1.0%	0.96
TOTAL	0.7%	0.97



Two-Hour Count Summaries

Interval Start	Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	41st Ave Northbound UT	LT	TH	RT	41st Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	2	107	130	27	4	45	73	27	3	30	140	30	2	22	101	15	758	0
4:15 PM	1	90	119	30	1	52	59	32	4	27	153	14	2	24	92	23	723	0
4:30 PM	**4**	**100**	**152**	**31**	**2**	**43**	**64**	**25**	**3**	**25**	**122**	**22**	**1**	**30**	**114**	**23**	**761**	0
4:45 PM	**0**	**77**	**134**	**34**	**4**	**58**	**61**	**21**	**3**	**30**	**130**	**20**	**4**	**38**	**97**	**20**	**731**	2,973
5:00 PM	**2**	**103**	**123**	**26**	**2**	**56**	**59**	**32**	**3**	**38**	**132**	**22**	**0**	**40**	**107**	**28**	**773**	2,988
5:15 PM	**0**	**102**	**132**	**30**	**4**	**47**	**51**	**10**	**2**	**24**	**141**	**26**	**4**	**36**	**114**	**16**	**739**	**3,004**
5:30 PM	2	100	146	23	1	42	64	21	6	26	156	16	2	36	78	21	740	2,983
5:45 PM	0	96	118	23	3	33	36	22	1	19	117	16	3	23	116	18	644	2,896
Count Total	11	775	1,054	224	21	376	467	190	25	219	1,091	166	18	249	819	164	5,869	0
Peak Hour All	**6**	**382**	**541**	**121**	**12**	**204**	**235**	**88**	**11**	**117**	**525**	**90**	**9**	**144**	**432**	**87**	**3,004**	**0**
Peak Hour HV	**0**	**5**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**1**	**5**	**1**	**21**	**0**
Peak Hour HV%	**0%**	**1%**	**0%**	**1%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**0%**	**0%**	**1%**	**1%**	**1%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	4	2	0	1	*7*	0	3	1	2	*6*	1	12	8	4	*25*
4:15 PM	4	2	1	0	*7*	0	1	1	0	*2*	3	4	6	1	*14*
4:30 PM	**2**	**0**	**1**	**5**	***8***	**0**	**0**	**2**	**1**	***3***	**3**	**4**	**6**	**4**	*17*
4:45 PM	**1**	**0**	**1**	**1**	***3***	**0**	**1**	**2**	**0**	***3***	**2**	**7**	**9**	**5**	*23*
5:00 PM	**3**	**0**	**2**	**1**	***6***	**1**	**1**	**4**	**1**	***7***	**3**	**3**	**3**	**9**	*18*
5:15 PM	**2**	**0**	**2**	**0**	***4***	**0**	**1**	**1**	**1**	***3***	**1**	**2**	**6**	**1**	*10*
5:30 PM	0	1	2	2	*5*	0	1	1	0	*2*	3	5	1	5	*14*
5:45 PM	1	0	0	2	*3*	0	2	2	2	*6*	3	2	2	9	*16*
Count Total	17	5	9	12	*43*	1	10	14	7	*32*	19	39	41	38	*137*
Peak Hour	**8**	**0**	**6**	**7**	***21***	**1**	**3**	**9**	**3**	***16***	**9**	**16**	**24**	**19**	***68***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	41st Ave Northbound UT	LT	TH	RT	41st Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	2	1	1	0	0	2	0	0	0	0	0	0	0	1	0	7	0
4:15 PM	0	3	1	0	0	0	1	1	0	0	1	0	0	0	0	0	7	0
4:30 PM	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**3**	**1**	**8**	0
4:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**3**	25
5:00 PM	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**6**	24
5:15 PM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**4**	**21**
5:30 PM	0	0	0	0	0	0	0	1	0	0	2	0	0	1	1	0	5	18
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	3	18
Count Total	0	11	4	2	0	0	3	2	0	0	9	0	0	4	7	1	43	0
Peak Hour	**0**	**5**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**1**	**5**	**1**	**21**	**0**

Two-Hour Count Summaries - Bikes

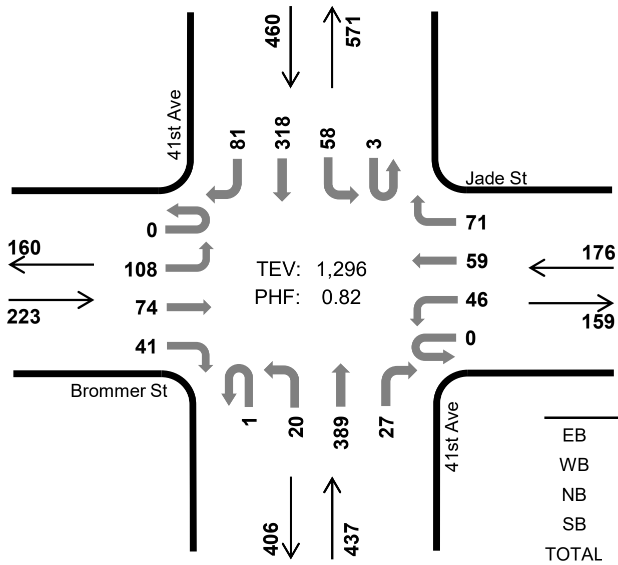
Interval Start	Capitola Rd Eastbound LT	TH	RT	Capitola Rd Westbound LT	TH	RT	41st Ave Northbound LT	TH	RT	41st Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	0	1	2	0	0	0	1	0	2	0	6	0
4:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	2	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**3**	0
4:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**3**	14
5:00 PM	**0**	**0**	**1**	**0**	**0**	**1**	**2**	**2**	**0**	**0**	**1**	**0**	**7**	15
5:15 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**3**	**16**
5:30 PM	0	0	0	0	1	0	1	0	0	0	0	0	2	15
5:45 PM	0	0	0	0	2	0	1	1	0	0	1	1	6	18
Count Total	0	0	1	3	6	1	5	8	1	0	5	2	32	0
Peak Hour	**0**	**0**	**1**	**2**	**0**	**1**	**3**	**6**	**0**	**0**	**2**	**1**	**16**	**0**

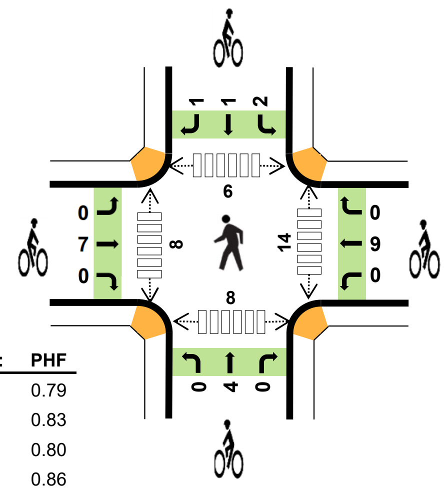
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

41st Ave
Brommer St

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour





	HV %:	PHF
EB	3.1%	0.79
WB	1.1%	0.83
NB	2.7%	0.80
SB	3.7%	0.86
TOTAL	2.9%	0.82

Two-Hour Count Summaries

Interval Start		Brommer St				Jade St				41st Ave				41st Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	27	11	6	0	1	9	7	0	3	61	4	1	1	47	22	200	0
7:15 AM		0	33	20	5	0	4	13	7	0	4	71	4	2	11	38	23	235	0
7:30 AM		0	28	17	1	0	6	20	10	0	2	80	7	0	10	61	15	257	0
7:45 AM		0	35	21	8	0	6	21	8	0	7	86	4	0	14	58	18	286	978
8:00 AM		**0**	**34**	**14**	**7**	**0**	**11**	**10**	**12**	**0**	**1**	**76**	**5**	**0**	**11**	**74**	**20**	**275**	1,053
8:15 AM		**0**	**19**	**15**	**7**	**0**	**8**	**16**	**15**	**1**	**5**	**96**	**6**	**1**	**19**	**61**	**17**	**286**	1,104
8:30 AM		**0**	**24**	**22**	**10**	**0**	**12**	**14**	**25**	**0**	**8**	**96**	**7**	**1**	**13**	**87**	**23**	**342**	1,189
8:45 AM		**0**	**31**	**23**	**17**	**0**	**15**	**19**	**19**	**0**	**6**	**121**	**9**	**1**	**15**	**96**	**21**	**393**	**1,296**
Count Total		0	231	143	61	0	63	122	103	1	36	687	46	6	94	522	159	2,274	0
Peak Hour	**All**	**0**	**108**	**74**	**41**	**0**	**46**	**59**	**71**	**1**	**20**	**389**	**27**	**3**	**58**	**318**	**81**	**1,296**	**0**
	HV	**0**	**6**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**11**	**1**	**0**	**0**	**15**	**2**	**38**	**0**
	HV%	**-**	**6%**	**0%**	**2%**	**-**	**0%**	**0%**	**3%**	**0%**	**0%**	**3%**	**4%**	**0%**	**0%**	**5%**	**2%**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	2	1	4	*7*	1	0	0	1	*2*	1	0	2	0	*3*
7:15 AM	1	0	1	2	*4*	2	1	0	1	*4*	0	1	2	1	*4*
7:30 AM	0	0	2	8	*10*	0	0	0	1	*1*	1	1	1	0	*3*
7:45 AM	2	0	1	2	*5*	3	1	0	2	*6*	2	2	3	0	*7*
8:00 AM	**1**	**0**	**3**	**3**	***7***	**0**	**2**	**0**	**1**	***3***	**1**	**1**	**1**	**2**	***5***
8:15 AM	**1**	**1**	**1**	**4**	***7***	**5**	**0**	**1**	**0**	***6***	**4**	**0**	**2**	**1**	***7***
8:30 AM	**2**	**1**	**3**	**4**	***10***	**0**	**3**	**3**	**0**	***6***	**7**	**2**	**2**	**5**	***16***
8:45 AM	**3**	**0**	**5**	**6**	***14***	**2**	**4**	**0**	**3**	***9***	**2**	**5**	**1**	**0**	***8***
Count Total	10	4	17	33	*64*	13	11	4	9	*37*	18	12	14	9	*53*
Peak Hour	**7**	**2**	**12**	**17**	***38***	**7**	**9**	**4**	**4**	***24***	**14**	**8**	**6**	**8**	***36***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Brommer St				Jade St				41st Ave				41st Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	2	0	0	1	0	0	0	2	2	7	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	1	4	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	6	2	10	0
7:45 AM	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	2	5	26
8:00 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**0**	**7**	26
8:15 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**1**	**7**	29
8:30 AM	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**1**	**0**	**0**	**3**	**1**	**10**	29
8:45 AM	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**6**	**0**	**14**	**38**
Count Total	0	9	0	1	0	0	0	4	0	0	16	1	0	0	24	9	64	0
Peak Hour	**0**	**6**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**11**	**1**	**0**	**0**	**15**	**2**	**38**	**0**

Two-Hour Count Summaries - Bikes

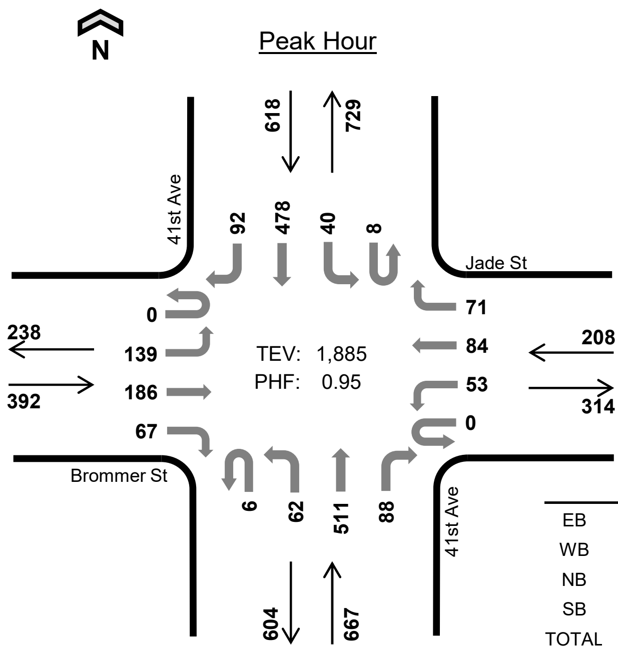
Interval Start	Brommer St			Jade St			41st Ave			41st Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	1	2	0
7:15 AM	0	2	0	0	1	0	0	0	0	0	0	1	4	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:45 AM	0	0	3	0	1	0	0	0	0	0	1	1	6	13
8:00 AM	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	14
8:15 AM	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**6**	16
8:30 AM	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**6**	21
8:45 AM	**0**	**2**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**9**	**24**
Count Total	0	10	3	0	11	0	0	4	0	2	3	4	37	0
Peak Hour	**0**	**7**	**0**	**0**	**9**	**0**	**0**	**4**	**0**	**2**	**1**	**1**	**24**	**0**

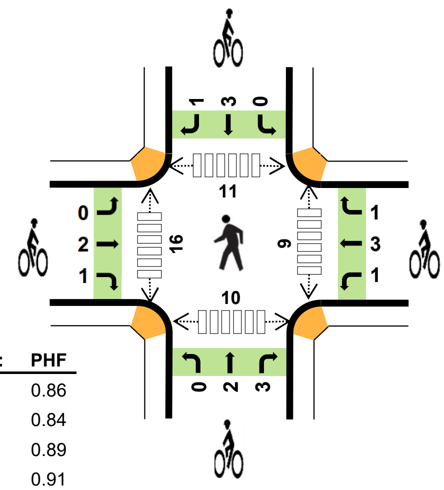
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

41st Ave
Brommer St

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

Peak Hour





	HV %:	PHF
EB	0.0%	0.86
WB	0.0%	0.84
NB	1.0%	0.89
SB	0.6%	0.91
TOTAL	0.6%	0.95

Two-Hour Count Summaries

Interval Start		Brommer St Eastbound UT	LT	TH	RT	Jade St Westbound UT	LT	TH	RT	41st Ave Northbound UT	LT	TH	RT	41st Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM		0	44	40	13	0	14	19	22	4	12	128	20	1	12	112	26	467	0
4:15 PM		0	42	48	14	0	19	15	21	3	14	114	14	3	14	98	23	442	0
4:30 PM		0	31	42	26	0	11	19	9	3	11	109	27	2	11	100	38	439	0
4:45 PM		**0**	**29**	**46**	**18**	**0**	**12**	**19**	**13**	**2**	**13**	**138**	**19**	**4**	**14**	**119**	**15**	**461**	1,809
5:00 PM		**0**	**34**	**43**	**17**	**0**	**18**	**25**	**19**	**2**	**15**	**131**	**22**	**2**	**9**	**133**	**25**	**495**	1,837
5:15 PM		**0**	**39**	**57**	**18**	**0**	**11**	**18**	**22**	**0**	**20**	**96**	**21**	**2**	**13**	**117**	**25**	**459**	1,854
5:30 PM		**0**	**37**	**40**	**14**	**0**	**12**	**22**	**17**	**2**	**14**	**146**	**26**	**0**	**4**	**109**	**27**	**470**	**1,885**
5:45 PM		0	33	41	19	0	20	14	15	3	15	98	20	1	14	115	33	441	1,865
Count Total		0	289	357	139	0	117	151	138	19	114	960	169	15	91	903	212	3,674	0
Peak Hour	**All**	**0**	**139**	**186**	**67**	**0**	**53**	**84**	**71**	**6**	**62**	**511**	**88**	**8**	**40**	**478**	**92**	**1,885**	**0**
	HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**1**	**0**	**0**	**3**	**1**	**11**	**0**
	HV%	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**1%**	**0%**	**0%**	**1%**	**1%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	1	0	0	3	*4*	2	1	0	3	*6*	3	5	4	3	*15*
4:15 PM	0	0	0	1	*1*	4	0	2	1	*7*	0	4	0	0	*4*
4:30 PM	1	0	2	3	*6*	3	0	4	2	*9*	2	2	2	1	*7*
4:45 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**4**	**1**	***5***	**2**	**1**	**2**	**3**	***8***
5:00 PM	**0**	**0**	**4**	**1**	***5***	**0**	**3**	**1**	**3**	***7***	**1**	**4**	**6**	**2**	***13***
5:15 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**2**	**3**	**1**	**4**	***10***
5:30 PM	**0**	**0**	**2**	**1**	***3***	**3**	**2**	**0**	**0**	***5***	**4**	**8**	**2**	**1**	***15***
5:45 PM	0	0	0	0	*0*	1	1	3	1	*6*	0	5	1	1	*7*
Count Total	2	0	9	11	*22*	13	7	14	11	*45*	14	32	18	15	*79*
Peak Hour	**0**	**0**	**7**	**4**	***11***	**3**	**5**	**5**	**4**	***17***	**9**	**16**	**11**	**10**	***46***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Brommer St Eastbound UT	LT	TH	RT	Jade St Westbound UT	LT	TH	RT	41st Ave Northbound UT	LT	TH	RT	41st Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1	4	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:30 PM	0	1	0	0	0	0	0	0	0	0	1	1	0	0	3	0	6	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	14
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**1**	**5**	15
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	14
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**3**	**11**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Count Total	0	2	0	0	0	0	0	0	0	0	7	2	0	0	9	2	22	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**1**	**0**	**0**	**3**	**1**	**11**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Brommer St Eastbound LT	TH	RT	Jade St Westbound LT	TH	RT	41st Ave Northbound LT	TH	RT	41st Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	2	0	0	1	0	0	0	0	0	3	0	6	0
4:15 PM	2	2	0	0	0	0	0	2	0	0	1	0	7	0
4:30 PM	0	3	0	0	0	0	0	3	1	0	1	1	9	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**0**	**1**	**0**	**5**	27
5:00 PM	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**1**	**0**	**0**	**2**	**1**	**7**	28
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	21
5:30 PM	**0**	**2**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**17**
5:45 PM	0	1	0	0	1	0	0	3	0	0	1	0	6	18
Count Total	2	10	1	1	5	1	0	10	4	0	9	2	45	0
Peak Hour	**0**	**2**	**1**	**1**	**3**	**1**	**0**	**2**	**3**	**0**	**3**	**1**	**17**	**0**

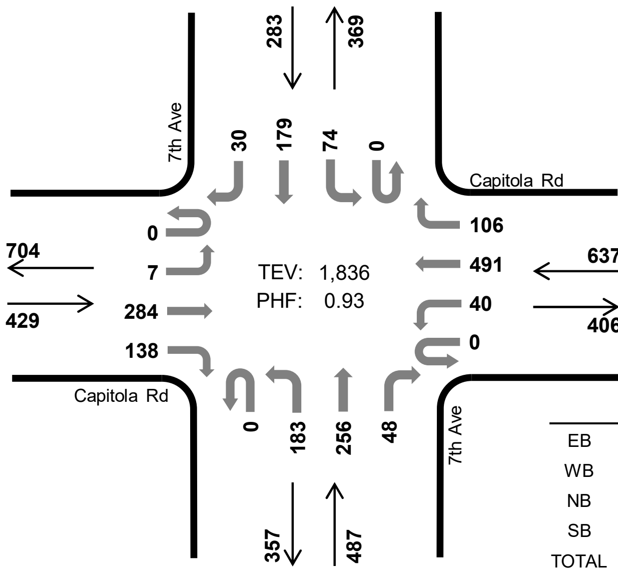
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

7th Ave
Capitola Rd

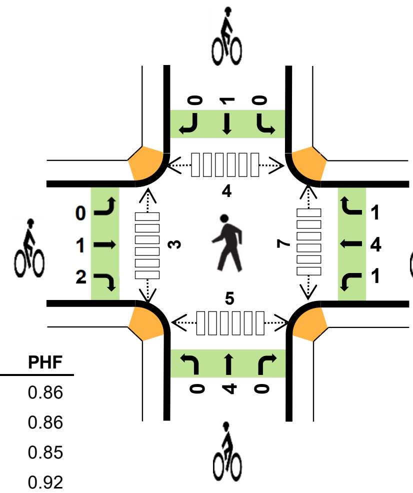
idax

Date: 10-11-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour



	HV %:	PHF
EB	1.9%	0.86
WB	1.3%	0.86
NB	2.7%	0.85
SB	2.1%	0.92
TOTAL	1.9%	0.93



Two-Hour Count Summaries

Interval Start	Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	7th Ave Northbound UT	LT	TH	RT	7th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	30	5	0	4	39	27	0	10	53	4	0	8	21	1	202	0
7:15 AM	0	2	33	14	0	7	81	27	0	31	49	9	0	9	16	2	280	0
7:30 AM	0	0	52	18	0	9	110	30	0	30	62	9	0	11	24	4	359	0
7:45 AM	0	1	42	26	0	13	121	34	0	45	96	14	0	7	38	7	444	1,285
8:00 AM	**0**	**2**	**59**	**26**	**0**	**9**	**155**	**22**	**0**	**48**	**80**	**15**	**0**	**16**	**44**	**16**	**492**	1,575
8:15 AM	**0**	**3**	**81**	**41**	**0**	**5**	**119**	**33**	**0**	**54**	**65**	**8**	**0**	**21**	**32**	**2**	**464**	1,759
8:30 AM	**0**	**0**	**74**	**35**	**0**	**14**	**108**	**24**	**0**	**31**	**56**	**11**	**0**	**20**	**50**	**7**	**430**	1,830
8:45 AM	**0**	**2**	**70**	**36**	**0**	**12**	**109**	**27**	**0**	**50**	**55**	**14**	**0**	**17**	**53**	**5**	**450**	**1,836**
Count Total	0	10	441	201	0	73	842	224	0	299	516	84	0	109	278	44	3,121	0
Peak Hour All	**0**	**7**	**284**	**138**	**0**	**40**	**491**	**106**	**0**	**183**	**256**	**48**	**0**	**74**	**179**	**30**	**1,836**	**0**
Peak Hour HV	**0**	**0**	**5**	**3**	**0**	**1**	**5**	**2**	**0**	**4**	**9**	**0**	**0**	**1**	**5**	**0**	**35**	**0**
Peak Hour HV%	**-**	**0%**	**2%**	**2%**	**-**	**3%**	**1%**	**2%**	**-**	**2%**	**4%**	**0%**	**-**	**1%**	**3%**	**0%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	1	2	3	0	*6*	0	0	0	0	*0*	0	2	0	0	*2*
7:15 AM	2	5	2	0	*9*	0	3	2	0	*5*	4	0	2	3	*9*
7:30 AM	0	5	2	1	*8*	0	3	3	2	*8*	1	1	1	1	*4*
7:45 AM	2	2	2	4	*10*	0	4	1	0	*5*	5	8	8	0	*21*
8:00 AM	**1**	**1**	**5**	**4**	***11***	**1**	**2**	**4**	**0**	***7***	**4**	**2**	**0**	**0**	*6*
8:15 AM	**3**	**1**	**3**	**0**	***7***	**0**	**1**	**0**	**1**	***2***	**1**	**1**	**1**	**0**	*3*
8:30 AM	**1**	**3**	**2**	**2**	***8***	**0**	**1**	**0**	**0**	***1***	**2**	**0**	**1**	**1**	*4*
8:45 AM	**3**	**3**	**3**	**0**	***9***	**2**	**2**	**0**	**0**	***4***	**0**	**0**	**2**	**4**	*6*
Count Total	13	22	22	11	*68*	3	16	10	3	*32*	17	14	15	9	*55*
Peak Hour	**8**	**8**	**13**	**6**	***35***	**3**	**6**	**4**	**1**	***14***	**7**	**3**	**4**	**5**	***19***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd				Capitola Rd				7th Ave				7th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	1	1	0	0	3	0	0	0	0	0	6	0
7:15 AM	0	0	1	1	0	0	2	3	0	2	0	0	0	0	0	0	9	0
7:30 AM	0	0	0	0	0	2	2	1	0	0	2	0	0	1	0	0	8	0
7:45 AM	0	0	0	2	0	0	2	0	0	2	0	0	0	1	2	1	10	33
8:00 AM	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**4**	**0**	**0**	**1**	**3**	**0**	**11**	38
8:15 AM	**0**	**0**	**2**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**7**	36
8:30 AM	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**8**	36
8:45 AM	**0**	**0**	**2**	**1**	**0**	**0**	**2**	**1**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**9**	**35**
Count Total	0	0	7	6	0	3	12	7	0	8	14	0	0	3	7	1	68	0
Peak Hour	**0**	**0**	**5**	**3**	**0**	**1**	**5**	**2**	**0**	**4**	**9**	**0**	**0**	**1**	**5**	**0**	**35**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Capitola Rd			Capitola Rd			7th Ave			7th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	1	2	0	0	1	1	0	0	0	5	0
7:30 AM	0	0	0	1	2	0	1	2	0	0	2	0	8	0
7:45 AM	0	0	0	0	4	0	0	1	0	0	0	0	5	18
8:00 AM	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**7**	25
8:15 AM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	22
8:30 AM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	15
8:45 AM	**0**	**1**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**14**
Count Total	0	1	2	3	12	1	1	8	1	0	3	0	32	0
Peak Hour	**0**	**1**	**2**	**1**	**4**	**1**	**0**	**4**	**0**	**0**	**1**	**0**	**14**	**0**

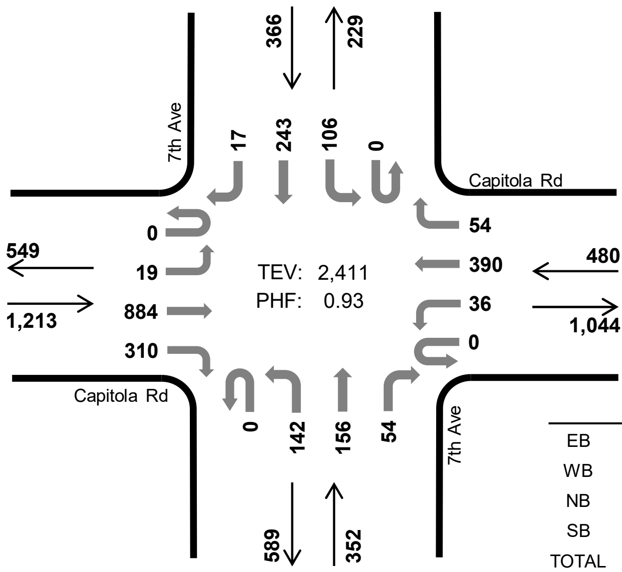
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

7th Ave
Capitola Rd

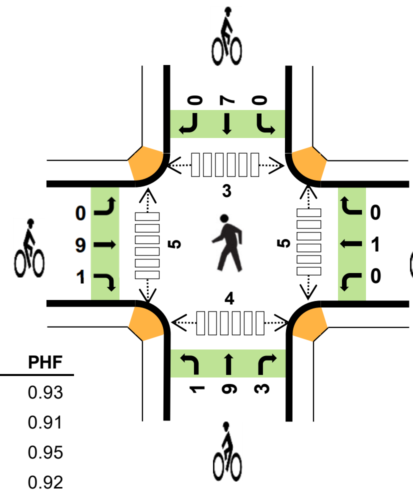
Date: 10-11-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

N

Peak Hour



	HV %:	PHF
EB	0.6%	0.93
WB	1.0%	0.91
NB	0.6%	0.95
SB	1.1%	0.92
TOTAL	0.7%	0.93



Two-Hour Count Summaries

Interval Start	Capitola Rd				Capitola Rd				7th Ave				7th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	9	204	82	0	14	99	16	0	19	47	11	0	18	67	6	592	0
4:15 PM	0	4	236	83	0	21	98	14	0	32	37	16	0	32	59	7	639	0
4:30 PM	0	3	200	62	1	22	95	9	0	33	44	18	0	24	45	9	565	0
4:45 PM	**0**	**5**	**205**	**64**	**0**	**8**	**91**	**19**	**0**	**29**	**41**	**23**	**0**	**25**	**47**	**3**	**560**	2,356
5:00 PM	**0**	**1**	**221**	**79**	**0**	**10**	**93**	**14**	**0**	**34**	**43**	**6**	**0**	**23**	**64**	**5**	**593**	2,357
5:15 PM	**0**	**5**	**244**	**76**	**0**	**7**	**116**	**9**	**0**	**40**	**43**	**10**	**0**	**31**	**62**	**6**	**649**	2,367
5:30 PM	**0**	**8**	**214**	**91**	**0**	**11**	**90**	**12**	**0**	**39**	**29**	**15**	**0**	**27**	**70**	**3**	**609**	**2,411**
5:45 PM	0	3	200	63	0	14	80	9	0	27	45	8	0	11	53	4	517	2,368
Count Total	0	38	1,724	600	1	107	762	102	0	253	329	107	0	191	467	43	4,724	0
Peak Hour All	**0**	**19**	**884**	**310**	**0**	**36**	**390**	**54**	**0**	**142**	**156**	**54**	**0**	**106**	**243**	**17**	**2,411**	**0**
Peak Hour HV	**0**	**0**	**5**	**2**	**0**	**0**	**5**	**0**	**0**	**1**	**1**	**0**	**0**	**3**	**1**	**0**	**18**	**0**
Peak Hour HV%	**-**	**0%**	**1%**	**1%**	**-**	**0%**	**1%**	**0%**	**-**	**1%**	**1%**	**0%**	**-**	**3%**	**0%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	4	1	2	1	*8*	2	0	1	2	*5*	0	0	0	2	*2*
4:15 PM	2	2	5	0	*9*	1	1	0	1	*3*	0	2	0	1	*3*
4:30 PM	2	2	1	0	*5*	1	2	4	0	*7*	1	1	7	1	*10*
4:45 PM	**3**	**0**	**1**	**2**	***6***	**4**	**0**	**2**	**2**	***8***	**1**	**0**	**1**	**0**	*2*
5:00 PM	**2**	**2**	**0**	**1**	***5***	**0**	**0**	**4**	**2**	***6***	**1**	**2**	**2**	**1**	*6*
5:15 PM	**1**	**2**	**1**	**0**	***4***	**2**	**1**	**2**	**0**	***5***	**3**	**1**	**0**	**1**	*5*
5:30 PM	**1**	**1**	**0**	**1**	***3***	**4**	**0**	**5**	**3**	***12***	**0**	**2**	**0**	**2**	*4*
5:45 PM	2	1	0	1	*4*	1	3	1	0	*5*	4	1	3	2	*10*
Count Total	17	11	10	6	*44*	15	7	19	10	*51*	10	9	13	10	*42*
Peak Hour	**7**	**5**	**2**	**4**	***18***	**10**	**1**	**13**	**7**	***31***	**5**	**5**	**3**	**4**	***17***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd				Capitola Rd				7th Ave				7th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	2	1	0	0	1	0	0	2	0	0	0	0	1	0	8	0
4:15 PM	0	0	1	1	0	0	2	0	0	3	1	1	0	0	0	0	9	0
4:30 PM	0	0	2	0	0	0	2	0	0	0	1	0	0	0	0	0	5	0
4:45 PM	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**6**	28
5:00 PM	**0**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**5**	25
5:15 PM	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	20
5:30 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**18**
5:45 PM	0	0	2	0	0	0	0	1	0	0	0	0	0	0	1	0	4	16
Count Total	0	1	12	4	0	0	10	1	0	6	3	1	0	3	3	0	44	0
Peak Hour	**0**	**0**	**5**	**2**	**0**	**0**	**5**	**0**	**0**	**1**	**1**	**0**	**0**	**3**	**1**	**0**	**18**	**0**

Two-Hour Count Summaries - Bikes

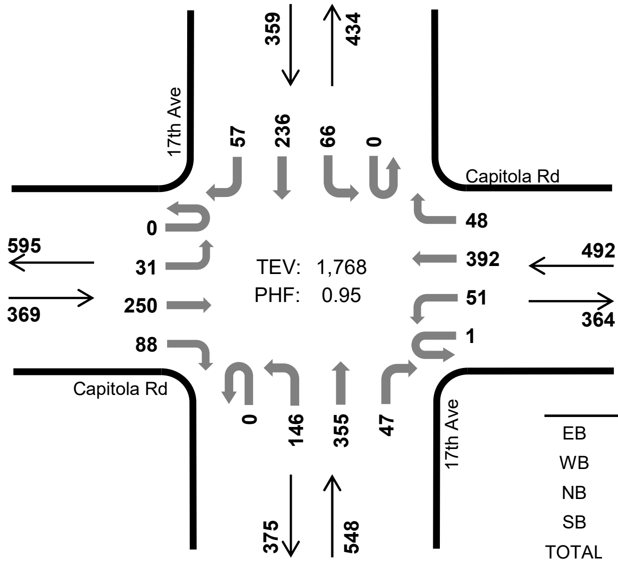
Interval Start	Capitola Rd			Capitola Rd			7th Ave			7th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	2	0	0	0	0	0	0	1	0	2	0	5	0
4:15 PM	0	0	1	1	0	0	0	0	0	0	1	0	3	0
4:30 PM	0	1	0	0	1	1	1	3	0	0	0	0	7	0
4:45 PM	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**8**	23
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**1**	**0**	**2**	**0**	**6**	24
5:15 PM	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**5**	26
5:30 PM	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**3**	**2**	**0**	**3**	**0**	**12**	**31**
5:45 PM	0	1	0	0	3	0	0	1	0	0	0	0	5	28
Count Total	0	13	2	1	5	1	2	13	4	0	10	0	51	0
Peak Hour	**0**	**9**	**1**	**0**	**1**	**0**	**1**	**9**	**3**	**0**	**7**	**0**	**31**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

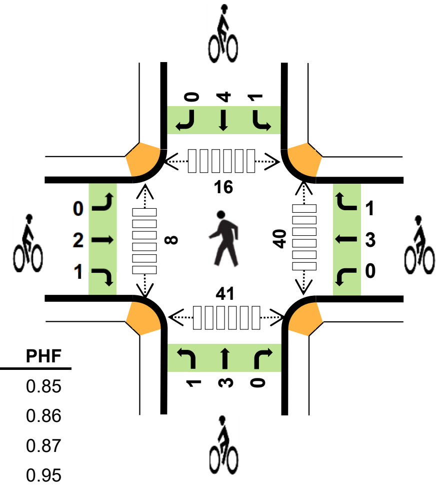
17th Ave
Capitola Rd

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour



	HV %:	PHF
EB	2.4%	0.85
WB	1.6%	0.86
NB	1.8%	0.87
SB	1.7%	0.95
TOTAL	1.9%	0.95



Two-Hour Count Summaries

Interval Start	Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	17th Ave Northbound UT	LT	TH	RT	17th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	5	21	7	0	8	44	8	0	16	63	4	0	5	23	9	213	0
7:15 AM	0	3	34	9	1	12	58	7	0	35	92	3	0	1	43	10	308	0
7:30 AM	0	10	31	21	0	13	92	14	0	30	97	8	0	14	59	9	398	0
7:45 AM	0	9	47	21	0	21	89	10	0	42	83	12	0	10	57	15	416	1,335
8:00 AM	**0**	**4**	**49**	**20**	**0**	**16**	**88**	**8**	**0**	**46**	**101**	**11**	**0**	**14**	**61**	**11**	**429**	1,551
8:15 AM	**0**	**5**	**64**	**16**	**0**	**8**	**90**	**15**	**0**	**36**	**93**	**10**	**0**	**18**	**54**	**19**	**428**	1,671
8:30 AM	**0**	**12**	**60**	**31**	**0**	**17**	**111**	**15**	**0**	**32**	**85**	**15**	**0**	**15**	**61**	**12**	**466**	1,739
8:45 AM	**0**	**10**	**77**	**21**	**1**	**10**	**103**	**10**	**0**	**32**	**76**	**11**	**0**	**19**	**60**	**15**	**445**	**1,768**
Count Total	0	58	383	146	2	105	675	87	0	269	690	74	0	96	418	100	3,103	0
Peak Hour All	**0**	**31**	**250**	**88**	**1**	**51**	**392**	**48**	**0**	**146**	**355**	**47**	**0**	**66**	**236**	**57**	**1,768**	**0**
Peak Hour HV	**0**	**2**	**5**	**2**	**0**	**1**	**6**	**1**	**0**	**3**	**6**	**1**	**0**	**0**	**4**	**2**	**33**	**0**
Peak Hour HV%	**-**	**6%**	**2%**	**2%**	**0%**	**2%**	**2%**	**2%**	**-**	**2%**	**2%**	**2%**	**-**	**0%**	**2%**	**4%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	2	2	2	1	*7*	1	2	1	0	*4*	2	1	0	1	*4*
7:15 AM	1	0	3	1	*5*	0	1	0	3	*4*	1	7	0	1	*9*
7:30 AM	1	2	0	5	*8*	1	3	6	6	*16*	7	9	3	3	*22*
7:45 AM	2	2	3	2	*9*	4	3	6	3	*16*	4	9	1	3	*17*
8:00 AM	**1**	**1**	**3**	**1**	***6***	**2**	**1**	**3**	**1**	***7***	**17**	**3**	**4**	**21**	*45*
8:15 AM	**3**	**0**	**3**	**4**	***10***	**0**	**2**	**1**	**4**	***7***	**13**	**2**	**4**	**13**	*32*
8:30 AM	**3**	**4**	**4**	**0**	***11***	**0**	**1**	**0**	**0**	***1***	**5**	**1**	**3**	**5**	*14*
8:45 AM	**2**	**3**	**0**	**1**	***6***	**1**	**0**	**0**	**0**	***1***	**5**	**2**	**5**	**2**	***14***
Count Total	15	14	18	15	*62*	9	13	17	17	*56*	54	34	20	49	*157*
Peak Hour	**9**	**8**	**10**	**6**	***33***	**3**	**4**	**4**	**5**	***16***	**40**	**8**	**16**	**41**	***105***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd				Capitola Rd				17th Ave				17th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	1	0	0	1	1	0	0	1	1	0	0	0	1	0	7	0
7:15 AM	0	0	1	0	0	0	0	0	0	2	1	0	0	0	1	0	5	0
7:30 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	1	4	0	8	0
7:45 AM	0	0	1	1	0	0	2	0	0	1	2	0	0	1	1	0	9	29
8:00 AM	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**6**	28
8:15 AM	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**3**	**1**	**10**	33
8:30 AM	**0**	**1**	**2**	**0**	**0**	**1**	**3**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**11**	36
8:45 AM	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**6**	**33**
Count Total	0	3	9	3	0	2	11	1	0	7	10	1	0	2	11	2	62	0
Peak Hour	**0**	**2**	**5**	**2**	**0**	**1**	**6**	**1**	**0**	**3**	**6**	**1**	**0**	**0**	**4**	**2**	**33**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Capitola Rd			Capitola Rd			17th Ave			17th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	1	0	0	2	0	0	1	0	0	0	0	4	0
7:15 AM	0	0	0	0	1	0	0	0	0	0	2	1	4	0
7:30 AM	0	1	0	0	2	1	1	5	0	1	4	1	16	0
7:45 AM	0	4	0	0	3	0	0	6	0	0	3	0	16	40
8:00 AM	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**1**	**0**	**0**	**7**	43
8:15 AM	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**4**	**0**	**7**	46
8:30 AM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	31
8:45 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**16**
Count Total	0	8	1	0	11	2	2	15	0	2	13	2	56	0
Peak Hour	**0**	**2**	**1**	**0**	**3**	**1**	**1**	**3**	**0**	**1**	**4**	**0**	**16**	**0**

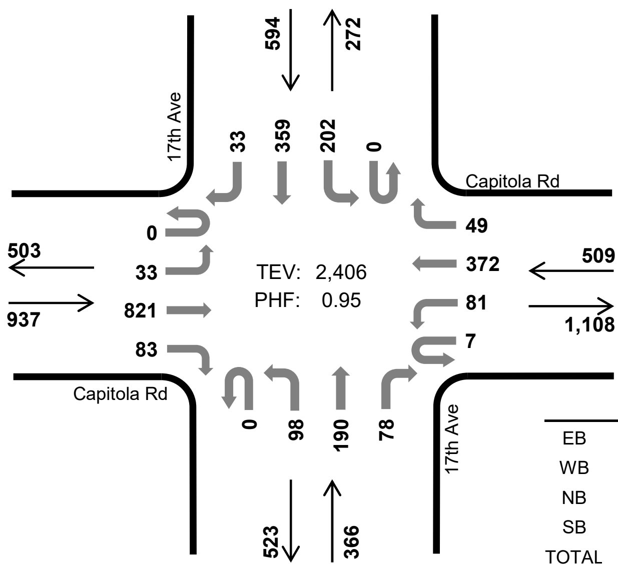
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

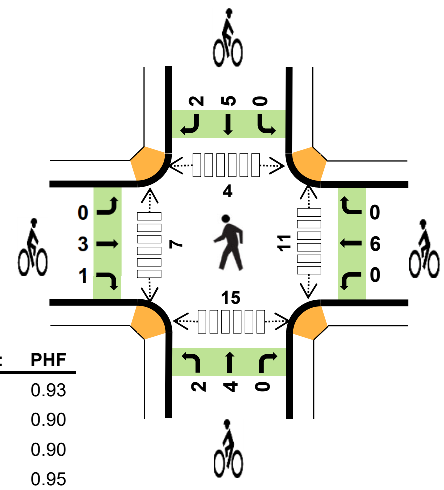
17th Ave
Capitola Rd

idax

Date: 10-04-2018
Count Period: 2:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM

Peak Hour





	HV %:	PHF
EB	0.3%	0.93
WB	0.4%	0.90
NB	0.0%	0.90
SB	0.0%	0.95
TOTAL	0.2%	0.95

Four-Hour Count Summaries

Interval Start		Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	17th Ave Northbound UT	LT	TH	RT	17th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
5:00 PM		0	9	213	26	1	23	106	11	0	23	53	23	0	48	89	5	630	0
5:15 PM		0	6	213	26	2	14	78	15	0	33	48	21	0	49	102	6	613	0
5:30 PM		0	12	210	29	3	16	91	10	0	15	34	18	0	55	87	8	588	0
5:45 PM		0	6	185	2	1	28	97	13	0	27	55	16	0	50	81	14	575	2,406
Peak Hour	All	0	33	821	83	7	81	372	49	0	98	190	78	0	202	359	33	2,406	0
	HV	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	0
	HV%	-	0%	0%	0%	0%	0%	1%	0%	-	0%	0%	0%	-	0%	0%	0%	0%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
5:00 PM	0	1	0	0	*1*	0	1	0	0	*1*	2	1	2	3	*8*
5:15 PM	2	0	0	0	*2*	0	3	2	2	*7*	7	3	0	7	*17*
5:30 PM	0	1	0	0	*1*	1	1	0	4	*6*	0	1	1	0	*2*
5:45 PM	1	0	0	0	*1*	3	1	4	1	*9*	2	2	1	5	*10*
Peak Hour	3	2	0	0	*5*	4	6	6	7	*23*	11	7	4	15	*37*

Four-Hour Count Summaries

Interval Start	Capitola Rd				Capitola Rd				17th Ave				17th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	5	106	20	0	12	99	16	0	24	68	16	0	20	79	12	477	0
2:15 PM	0	12	102	22	1	17	106	12	0	16	76	16	0	21	80	16	497	0
2:30 PM	0	11	126	19	0	26	136	18	0	32	58	18	0	32	71	15	562	0
2:45 PM	0	7	140	15	1	20	107	11	0	23	78	23	0	44	74	9	552	2,088
3:00 PM	0	10	176	35	0	22	112	11	0	23	63	22	0	27	66	9	576	2,187
3:15 PM	0	12	170	35	1	21	90	15	0	25	61	14	0	31	74	16	565	2,255
3:30 PM	0	7	194	19	0	26	106	14	0	21	52	12	0	49	77	7	584	2,277
3:45 PM	0	6	194	27	1	18	73	12	0	26	60	21	0	34	93	10	575	2,300
4:00 PM	0	13	212	30	1	19	119	19	0	24	36	14	0	43	69	9	608	2,332
4:15 PM	0	7	198	28	0	11	91	10	0	32	55	19	0	49	86	11	597	2,364
4:30 PM	0	6	210	22	0	29	79	9	0	13	48	14	0	43	59	11	543	2,323
4:45 PM	0	8	171	31	2	24	82	13	0	23	51	18	0	41	84	4	552	2,300
5:00 PM	**0**	**9**	**213**	**26**	**1**	**23**	**106**	**11**	**0**	**23**	**53**	**23**	**0**	**48**	**89**	**5**	**630**	2,322
5:15 PM	**0**	**6**	**213**	**26**	**2**	**14**	**78**	**15**	**0**	**33**	**48**	**21**	**0**	**49**	**102**	**6**	**613**	2,338
5:30 PM	**0**	**12**	**210**	**29**	**3**	**16**	**91**	**10**	**0**	**15**	**34**	**18**	**0**	**55**	**87**	**8**	**588**	2,383
5:45 PM	**0**	**6**	**185**	**2**	**1**	**28**	**97**	**13**	**0**	**27**	**55**	**16**	**0**	**50**	**81**	**14**	**575**	**2,406**
Count Total	0	137	2,820	386	14	326	1,572	209	0	380	896	285	0	636	1,271	162	9,094	0
Peak Hour All	**0**	**33**	**821**	**83**	**7**	**81**	**372**	**49**	**0**	**98**	**190**	**78**	**0**	**202**	**359**	**33**	**2,406**	**0**
Peak Hour HV	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**
Peak Hour HV%	**-**	**0%**	**0%**	**0%**	**0%**	**0%**	**1%**	**0%**	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**0%**	**0**

Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
2:00 PM	2	2	2	3	*9*	2	2	1	1	*6*	6	3	1	9	*19*
2:15 PM	1	1	3	3	*8*	1	1	1	0	*3*	2	1	3	2	*8*
2:30 PM	2	5	1	1	*9*	0	2	0	0	*2*	1	1	0	10	*12*
2:45 PM	3	1	3	4	*11*	4	0	6	2	*12*	7	19	4	5	*35*
3:00 PM	4	2	2	1	*9*	4	2	2	1	*9*	13	5	16	7	*41*
3:15 PM	2	2	1	3	*8*	2	2	1	3	*8*	0	10	2	0	*12*
3:30 PM	1	2	2	4	*9*	4	0	0	5	*9*	2	2	3	0	*7*
3:45 PM	3	2	1	7	*13*	0	1	1	1	*3*	2	1	3	0	*6*
4:00 PM	0	3	0	3	*6*	2	0	0	1	*3*	0	2	4	1	*7*
4:15 PM	2	0	4	1	*7*	1	0	0	0	*1*	5	4	2	2	*13*
4:30 PM	0	2	1	2	*5*	1	0	0	1	*2*	6	1	4	0	*11*
4:45 PM	3	1	1	0	*5*	3	0	1	0	*4*	4	0	2	2	*8*
5:00 PM	**0**	**1**	**0**	**0**	***1***	**0**	**1**	**0**	**0**	***1***	**2**	**1**	**2**	**3**	*8*
5:15 PM	**2**	**0**	**0**	**0**	*2*	**0**	**3**	**2**	**2**	*7*	**7**	**3**	**0**	**7**	*17*
5:30 PM	**0**	**1**	**0**	**0**	*1*	**1**	**1**	**0**	**4**	*6*	**0**	**1**	**1**	**0**	*2*
5:45 PM	**1**	**0**	**0**	**0**	*1*	**3**	**1**	**4**	**1**	*9*	**2**	**2**	**1**	**5**	*10*
Count Total	26	25	21	32	*104*	28	16	19	22	*85*	59	56	48	53	*216*
Peak Hour	**3**	**2**	**0**	**0**	***5***	**4**	**6**	**6**	**7**	***23***	**11**	**7**	**4**	**15**	***37***

Four-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd				Capitola Rd				17th Ave				17th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	0	2	0	0	0	2	0	0	0	1	1	0	0	3	0	9	0
2:15 PM	0	0	1	0	0	1	0	0	0	1	2	0	0	1	1	1	8	0
2:30 PM	0	1	1	0	0	1	3	1	0	0	0	1	0	0	1	0	9	0
2:45 PM	0	2	1	0	0	0	0	1	0	0	2	1	0	1	3	0	11	37
3:00 PM	0	0	4	0	0	1	1	0	0	0	2	0	0	0	1	0	9	37
3:15 PM	0	0	2	0	0	0	2	0	0	0	1	0	0	0	3	0	8	37
3:30 PM	0	0	1	0	0	0	1	1	0	0	2	0	0	0	4	0	9	37
3:45 PM	0	0	3	0	0	1	1	0	0	1	0	0	0	0	6	1	13	39
4:00 PM	0	0	0	0	0	0	2	1	0	0	0	0	0	1	2	0	6	36
4:15 PM	0	0	2	0	0	0	0	0	0	3	1	0	0	0	1	0	7	35
4:30 PM	0	0	0	0	0	1	1	0	0	0	1	0	0	0	2	0	5	31
4:45 PM	0	0	2	1	0	0	0	1	0	0	1	0	0	0	0	0	5	23
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	18
5:15 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	13
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	9
5:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**
Count Total	0	3	22	1	0	5	15	5	0	5	13	3	0	3	27	2	104	0
Peak Hour	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**

Four-Hour Count Summaries - Bikes

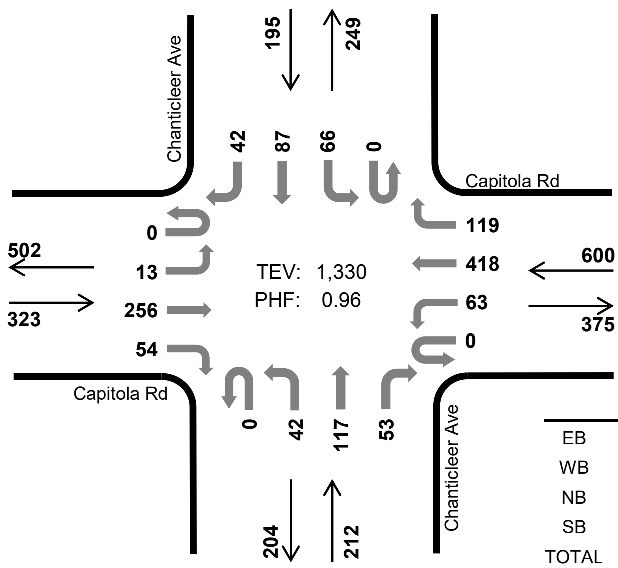
Interval Start	Capitola Rd			Capitola Rd			17th Ave			17th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
2:00 PM	0	2	0	0	2	0	1	0	0	0	1	0	6	0
2:15 PM	0	1	0	0	1	0	0	1	0	0	0	0	3	0
2:30 PM	0	0	0	1	0	1	0	0	0	0	0	0	2	0
2:45 PM	0	3	1	0	0	0	0	6	0	0	2	0	12	23
3:00 PM	0	2	2	0	2	0	0	2	0	0	1	0	9	26
3:15 PM	0	2	0	0	2	0	1	0	0	0	3	0	8	31
3:30 PM	0	4	0	0	0	0	0	0	0	0	5	0	9	38
3:45 PM	0	0	0	1	0	0	0	1	0	0	1	0	3	29
4:00 PM	0	2	0	0	0	0	0	0	0	0	1	0	3	23
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	16
4:30 PM	0	1	0	0	0	0	0	0	0	0	1	0	2	9
4:45 PM	0	3	0	0	0	0	0	1	0	0	0	0	4	10
5:00 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	8
5:15 PM	**0**	**0**	**0**	**0**	**3**	**0**	**2**	**0**	**0**	**0**	**1**	**1**	**7**	14
5:30 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**6**	18
5:45 PM	**0**	**2**	**1**	**0**	**1**	**0**	**0**	**4**	**0**	**0**	**0**	**1**	**9**	**23**
Count Total	0	24	4	2	13	1	4	15	0	0	20	2	85	0
Peak Hour	**0**	**3**	**1**	**0**	**6**	**0**	**2**	**4**	**0**	**0**	**5**	**2**	**23**	**0**

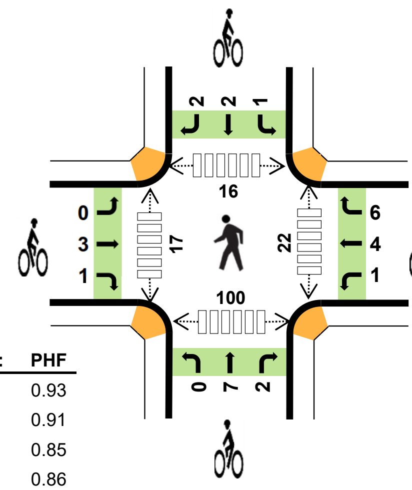
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Chanticleer Ave
Capitola Rd

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM

Peak Hour





	HV %:	PHF
EB	2.2%	0.93
WB	1.5%	0.91
NB	0.9%	0.85
SB	0.5%	0.86
TOTAL	1.4%	0.96

Two-Hour Count Summaries

Interval Start		Capitola Rd Eastbound				Capitola Rd Westbound				Chanticleer Ave Northbound				Chanticleer Ave Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	1	25	2	0	2	52	23	0	3	10	2	0	2	8	5	135	0
7:15 AM		0	5	33	0	0	2	71	23	0	3	14	3	0	6	11	5	176	0
7:30 AM		0	4	36	6	0	6	112	26	0	4	30	6	0	6	15	10	261	0
7:45 AM		**0**	**5**	**58**	**7**	**0**	**10**	**109**	**45**	**0**	**2**	**36**	**10**	**0**	**11**	**22**	**10**	**325**	897
8:00 AM		**0**	**3**	**61**	**17**	**0**	**22**	**95**	**30**	**0**	**13**	**35**	**14**	**0**	**22**	**25**	**10**	**347**	1,109
8:15 AM		**0**	**2**	**71**	**14**	**0**	**20**	**95**	**21**	**0**	**11**	**22**	**11**	**0**	**19**	**19**	**12**	**317**	1,250
8:30 AM		**0**	**3**	**66**	**16**	**0**	**11**	**119**	**23**	**0**	**16**	**24**	**18**	**0**	**14**	**21**	**10**	**341**	**1,330**
8:45 AM		0	3	100	7	0	6	103	20	0	11	17	13	0	13	18	13	324	1,329
Count Total		0	26	450	69	0	79	756	211	0	63	188	77	0	93	139	75	2,226	0
Peak Hour	**All**	**0**	**13**	**256**	**54**	**0**	**63**	**418**	**119**	**0**	**42**	**117**	**53**	**0**	**66**	**87**	**42**	**1,330**	**0**
	HV	**0**	**0**	**7**	**0**	**0**	**0**	**7**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**19**	**0**
	HV%	**-**	**0%**	**3%**	**0%**	**-**	**0%**	**2%**	**2%**	**-**	**5%**	**0%**	**0%**	**-**	**0%**	**1%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	2	0	0	*3*	1	2	1	1	*5*	0	2	1	1	*4*
7:15 AM	1	0	0	0	*1*	0	2	3	1	*6*	0	2	0	2	*4*
7:30 AM	2	1	0	1	*4*	2	4	0	3	*9*	0	3	7	4	*14*
7:45 AM	**2**	**3**	**0**	**0**	***5***	**3**	**4**	**0**	**2**	***9***	**6**	**1**	**1**	**24**	***32***
8:00 AM	**0**	**0**	**0**	**1**	***1***	**0**	**2**	**1**	**2**	***5***	**9**	**3**	**3**	**36**	***51***
8:15 AM	**3**	**1**	**0**	**0**	***4***	**0**	**4**	**4**	**0**	***8***	**6**	**11**	**10**	**29**	***56***
8:30 AM	**2**	**5**	**2**	**0**	***9***	**1**	**1**	**4**	**1**	***7***	**1**	**2**	**2**	**11**	***16***
8:45 AM	2	2	0	0	*4*	2	1	0	5	*8*	0	0	2	10	*12*
Count Total	13	14	2	2	*31*	9	20	13	15	*57*	22	24	26	117	*189*
Peak Hour	**7**	**9**	**2**	**1**	***19***	**4**	**11**	**9**	**5**	***29***	**22**	**17**	**16**	**100**	***155***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd				Capitola Rd				Chanticleer Ave				Chanticleer Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	3	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	1	4	0
7:45 AM	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	13
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	11
8:15 AM	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	14
8:30 AM	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**19**
8:45 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	18
Count Total	0	0	13	0	0	0	11	3	0	2	0	0	0	0	1	1	31	0
Peak Hour	**0**	**0**	**7**	**0**	**0**	**0**	**7**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**19**	**0**

Two-Hour Count Summaries - Bikes

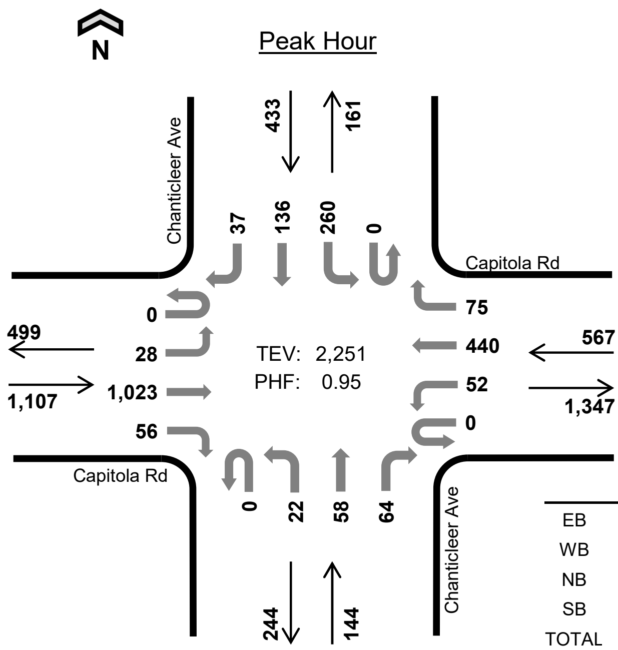
Interval Start	Capitola Rd			Capitola Rd			Chanticleer Ave			Chanticleer Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	1	0	0	1	1	0	0	1	0	0	1	5	0
7:15 AM	0	0	0	0	1	1	0	3	0	0	0	1	6	0
7:30 AM	0	2	0	1	3	0	0	0	0	0	2	1	9	0
7:45 AM	**0**	**2**	**1**	**0**	**1**	**3**	**0**	**0**	**0**	**1**	**1**	**0**	**9**	29
8:00 AM	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**5**	29
8:15 AM	**0**	**0**	**0**	**0**	**1**	**3**	**0**	**4**	**0**	**0**	**0**	**0**	**8**	31
8:30 AM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**2**	**0**	**0**	**1**	**7**	**29**
8:45 AM	0	2	0	0	1	0	0	0	0	1	2	2	8	28
Count Total	0	8	1	2	10	8	0	10	3	2	6	7	57	0
Peak Hour	**0**	**3**	**1**	**1**	**4**	**6**	**0**	**7**	**2**	**1**	**2**	**2**	**29**	**0**

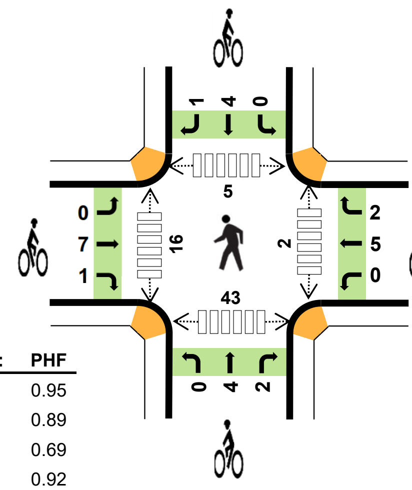
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Chanticleer Ave
Capitola Rd

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM

Peak Hour





	HV %:	PHF
EB	0.3%	0.95
WB	0.4%	0.89
NB	0.7%	0.69
SB	0.2%	0.92
TOTAL	0.3%	0.95

Two-Hour Count Summaries

Interval Start		Capitola Rd Eastbound				Capitola Rd Westbound				Chanticleer Ave Northbound				Chanticleer Ave Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	4	255	8	0	5	128	24	0	6	15	9	0	46	25	6	531	0
4:15 PM		0	4	238	8	0	15	96	16	0	3	11	11	0	58	42	9	511	0
4:30 PM		0	7	264	10	0	13	121	20	0	6	10	6	0	62	30	8	557	0
4:45 PM		0	4	239	5	0	15	107	20	0	3	15	9	0	51	29	6	503	2,102
5:00 PM		**0**	**6**	**258**	**15**	**0**	**8**	**128**	**23**	**0**	**8**	**12**	**14**	**0**	**74**	**33**	**11**	**590**	2,161
5:15 PM		**0**	**10**	**242**	**16**	**0**	**19**	**86**	**10**	**0**	**8**	**17**	**12**	**0**	**67**	**39**	**9**	**535**	2,185
5:30 PM		**0**	**4**	**278**	**10**	**0**	**13**	**118**	**22**	**0**	**0**	**10**	**11**	**0**	**67**	**32**	**7**	**572**	2,200
5:45 PM		**0**	**8**	**245**	**15**	**0**	**12**	**108**	**20**	**0**	**6**	**19**	**27**	**0**	**52**	**32**	**10**	**554**	2,251
Count Total		0	47	2,019	87	0	100	892	155	0	40	109	99	0	477	262	66	4,353	0
Peak Hour	**All**	**0**	**28**	**1,023**	**56**	**0**	**52**	**440**	**75**	**0**	**22**	**58**	**64**	**0**	**260**	**136**	**37**	**2,251**	**0**
	HV	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**7**	**0**
	HV%	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**2%**	**-**	**0%**	**1%**	**0%**	**0%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	3	1	1	*7*	2	0	1	3	*6*	0	3	2	4	*9*
4:15 PM	1	0	0	0	*1*	1	0	2	2	*5*	1	0	0	1	*2*
4:30 PM	1	2	0	0	*3*	2	1	1	1	*5*	1	0	3	2	*6*
4:45 PM	2	0	0	1	*3*	3	0	2	0	*5*	3	1	1	3	*8*
5:00 PM	**0**	**1**	**1**	**0**	***2***	**0**	**1**	**1**	**0**	***2***	**0**	**7**	**1**	**1**	***9***
5:15 PM	**2**	**0**	**0**	**0**	***2***	**1**	**3**	**0**	**0**	***4***	**0**	**1**	**2**	**30**	***33***
5:30 PM	**0**	**1**	**0**	**0**	***1***	**3**	**2**	**4**	**2**	***11***	**1**	**0**	**1**	**10**	***12***
5:45 PM	**1**	**0**	**0**	**1**	***2***	**4**	**1**	**1**	**3**	***9***	**1**	**8**	**1**	**2**	***12***
Count Total	9	7	2	3	*21*	16	8	12	11	*47*	7	20	11	53	*91*
Peak Hour	**3**	**2**	**1**	**1**	***7***	**8**	**7**	**6**	**5**	***26***	**2**	**16**	**5**	**43**	***66***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	Chanticleer Ave Northbound UT	LT	TH	RT	Chanticleer Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	2	0	0	0	3	0	0	0	1	0	0	0	1	0	7	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
4:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	3	14
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	9
5:15 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	10
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	8
5:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**7**
Count Total	0	0	9	0	0	0	7	0	0	0	1	1	0	1	2	0	21	0
Peak Hour	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**7**	**0**

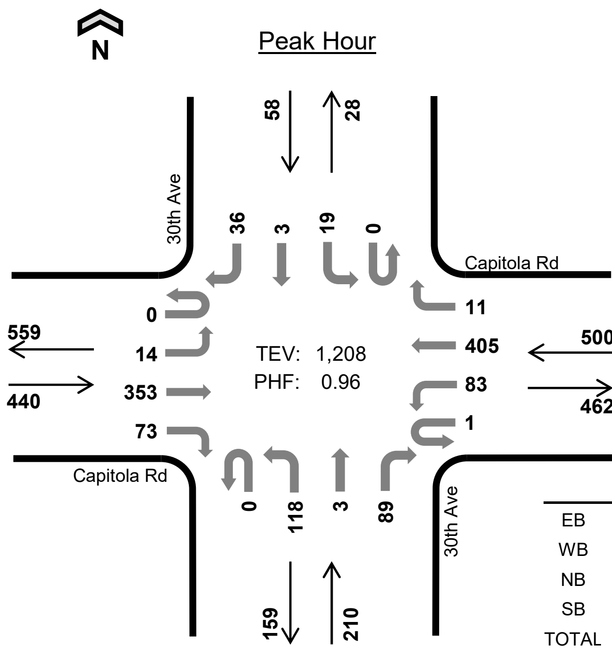
Two-Hour Count Summaries - Bikes

Interval Start	Capitola Rd Eastbound LT	TH	RT	Capitola Rd Westbound LT	TH	RT	Chanticleer Ave Northbound LT	TH	RT	Chanticleer Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	2	0	0	0	0	0	1	0	1	2	0	6	0
4:15 PM	0	1	0	0	0	0	0	1	1	1	1	0	5	0
4:30 PM	0	2	0	0	1	0	0	0	1	0	1	0	5	0
4:45 PM	0	3	0	0	0	0	0	2	0	0	0	0	5	21
5:00 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	17
5:15 PM	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	16
5:30 PM	**0**	**3**	**0**	**0**	**1**	**1**	**0**	**2**	**2**	**0**	**2**	**0**	**11**	22
5:45 PM	**0**	**3**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**1**	**9**	**26**
Count Total	0	15	1	0	6	2	0	8	4	2	8	1	47	0
Peak Hour	**0**	**7**	**1**	**0**	**5**	**2**	**0**	**4**	**2**	**0**	**4**	**1**	**26**	**0**

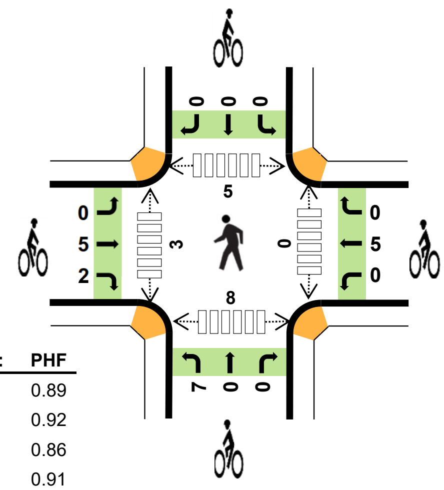
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

30th Ave
Capitola Rd

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	1.6%	0.89
WB	1.6%	0.92
NB	0.5%	0.86
SB	0.0%	0.91
TOTAL	1.3%	0.96



Two-Hour Count Summaries

Interval Start		Capitola Rd				Capitola Rd				30th Ave				30th Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	27	3	0	5	44	1	0	24	0	15	0	4	1	6	130	0
7:15 AM		0	1	34	2	0	9	57	0	0	28	0	14	0	5	0	7	157	0
7:30 AM		0	2	57	13	0	16	81	4	0	46	1	23	0	3	1	13	260	0
7:45 AM		0	1	72	13	2	15	88	0	0	40	2	14	0	3	0	13	263	810
8:00 AM		**0**	**5**	**74**	**20**	**0**	**27**	**100**	**4**	**0**	**35**	**2**	**21**	**0**	**6**	**1**	**9**	**304**	984
8:15 AM		**0**	**2**	**86**	**25**	**1**	**17**	**89**	**2**	**0**	**35**	**0**	**26**	**0**	**7**	**0**	**9**	**299**	1,126
8:30 AM		**0**	**5**	**88**	**11**	**0**	**17**	**105**	**2**	**0**	**27**	**0**	**21**	**0**	**2**	**2**	**9**	**289**	1,155
8:45 AM		**0**	**2**	**105**	**17**	**0**	**22**	**111**	**3**	**0**	**21**	**1**	**21**	**0**	**4**	**0**	**9**	**316**	**1,208**
Count Total		0	18	543	104	3	128	675	16	0	256	6	155	0	34	5	75	2,018	0
Peak Hour	**All**	**0**	**14**	**353**	**73**	**1**	**83**	**405**	**11**	**0**	**118**	**3**	**89**	**0**	**19**	**3**	**36**	**1,208**	**0**
	HV	**0**	**0**	**7**	**0**	**0**	**1**	**7**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**0**
	HV%	**-**	**0%**	**2%**	**0%**	**0%**	**1%**	**2%**	**0%**	**-**	**1%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	2	0	0	*3*	4	1	0	0	*5*	3	0	4	0	*7*
7:15 AM	2	0	0	0	*2*	1	3	1	0	*5*	0	1	3	2	*6*
7:30 AM	1	1	1	0	*3*	3	6	0	0	*9*	0	3	2	2	*7*
7:45 AM	2	2	1	1	*6*	4	0	0	1	*5*	3	0	10	6	*19*
8:00 AM	**0**	**0**	**0**	**0**	***0***	**1**	**2**	**5**	**0**	***8***	**0**	**0**	**3**	**0**	*3*
8:15 AM	**3**	**1**	**0**	**0**	***4***	**1**	**3**	**0**	**0**	***4***	**0**	**2**	**0**	**5**	*7*
8:30 AM	**2**	**4**	**1**	**0**	***7***	**3**	**0**	**1**	**0**	***4***	**0**	**1**	**0**	**2**	*3*
8:45 AM	**2**	**3**	**0**	**0**	***5***	**2**	**0**	**1**	**0**	***3***	**0**	**0**	**2**	**1**	***3***
Count Total	13	13	3	1	*30*	19	15	8	1	*43*	6	7	24	18	*55*
Peak Hour	**7**	**8**	**1**	**0**	***16***	**7**	**5**	**7**	**0**	***19***	**0**	**3**	**5**	**8**	***16***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd				Capitola Rd				30th Ave				30th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
7:15 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
7:30 AM	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	3	0
7:45 AM	0	0	2	0	0	0	2	0	0	1	0	0	0	0	0	1	6	14
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	11
8:15 AM	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	13
8:30 AM	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	17
8:45 AM	**0**	**0**	**2**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**16**
Count Total	0	0	13	0	0	1	12	0	0	2	1	0	0	0	0	1	30	0
Peak Hour	**0**	**0**	**7**	**0**	**0**	**1**	**7**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Capitola Rd			Capitola Rd			30th Ave			30th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	3	1	0	1	0	0	0	0	0	0	0	5	0
7:15 AM	0	1	0	1	2	0	0	0	1	0	0	0	5	0
7:30 AM	0	3	0	0	5	1	0	0	0	0	0	0	9	0
7:45 AM	0	3	1	0	0	0	0	0	0	0	0	1	5	24
8:00 AM	**0**	**1**	**0**	**0**	**2**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**8**	27
8:15 AM	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	26
8:30 AM	**0**	**2**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**4**	21
8:45 AM	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**19**
Count Total	0	15	4	1	13	1	7	0	1	0	0	1	43	0
Peak Hour	**0**	**5**	**2**	**0**	**5**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**19**	**0**

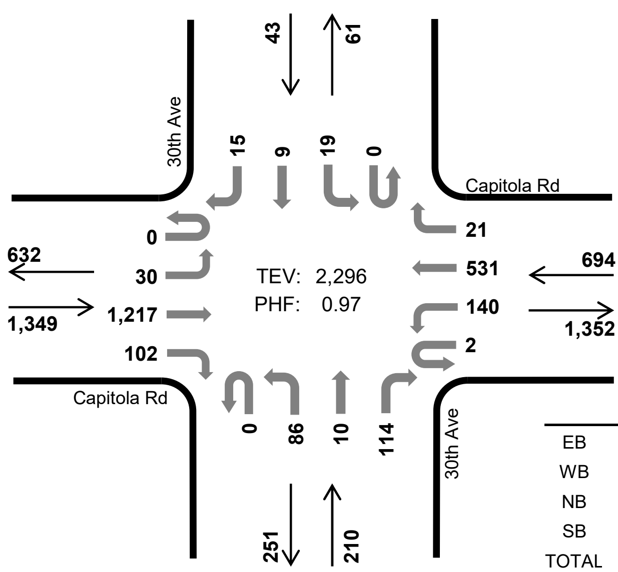
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

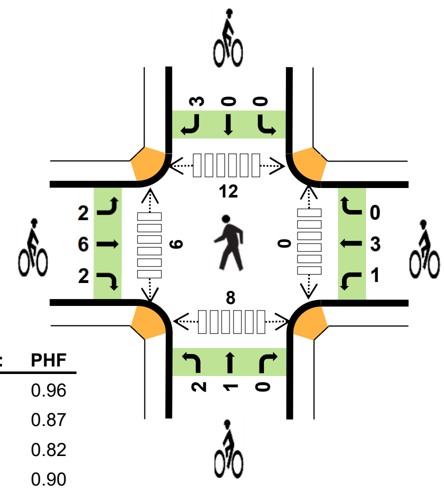
30th Ave
Capitola Rd

idax

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

Peak Hour





	HV %:	PHF
EB	0.4%	0.96
WB	0.3%	0.87
NB	0.5%	0.82
SB	0.0%	0.90
TOTAL	0.4%	0.97

Two-Hour Count Summaries

Interval Start	Capitola Rd Eastbound UT	LT	TH	RT	Capitola Rd Westbound UT	LT	TH	RT	30th Ave Northbound UT	LT	TH	RT	30th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	1	3	296	24	0	34	148	2	0	12	3	29	0	4	1	5	562	0
4:15 PM	1	6	305	30	1	29	131	2	0	21	2	31	0	1	0	0	560	0
4:30 PM	0	3	317	15	1	37	138	3	0	21	0	39	0	5	0	2	581	0
4:45 PM	**0**	**7**	**297**	**21**	**1**	**41**	**130**	**3**	**0**	**23**	**3**	**24**	**0**	**7**	**1**	**1**	**559**	2,262
5:00 PM	**0**	**6**	**288**	**30**	**0**	**35**	**159**	**5**	**0**	**24**	**6**	**24**	**0**	**3**	**5**	**3**	**588**	2,288
5:15 PM	**0**	**9**	**317**	**25**	**0**	**34**	**110**	**8**	**0**	**14**	**1**	**27**	**0**	**7**	**2**	**3**	**557**	2,285
5:30 PM	**0**	**8**	**315**	**26**	**1**	**30**	**132**	**5**	**0**	**25**	**0**	**39**	**0**	**2**	**1**	**8**	**592**	**2,296**
5:45 PM	0	10	288	17	0	33	116	4	0	22	0	31	0	4	0	6	531	2,268
Count Total	2	52	2,423	188	4	273	1,064	32	0	162	15	244	0	33	10	28	4,530	0
Peak Hour All	**0**	**30**	**1,217**	**102**	**2**	**140**	**531**	**21**	**0**	**86**	**10**	**114**	**0**	**19**	**9**	**15**	**2,296**	**0**
Peak Hour HV	**0**	**0**	**6**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**
Peak Hour HV%	**-**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**-**	**1%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**0%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	4	3	2	0	*9*	4	1	0	0	*5*	1	2	3	2	*8*
4:15 PM	0	0	0	1	*1*	3	1	0	0	*4*	0	0	3	5	*8*
4:30 PM	2	1	0	0	*3*	5	1	0	1	*7*	0	6	2	0	*8*
4:45 PM	**3**	**0**	**1**	**0**	*4*	**4**	**0**	**0**	**0**	*4*	**0**	**1**	**3**	**4**	*8*
5:00 PM	**1**	**1**	**0**	**0**	*2*	**2**	**2**	**0**	**2**	*6*	**0**	**0**	**4**	**0**	*4*
5:15 PM	**2**	**0**	**0**	**0**	*2*	**3**	**2**	**1**	**0**	*6*	**0**	**0**	**5**	**1**	*6*
5:30 PM	**0**	**1**	**0**	**0**	*1*	**1**	**0**	**2**	**1**	*4*	**0**	**5**	**0**	**3**	*8*
5:45 PM	1	0	0	0	*1*	3	1	1	1	*6*	1	1	1	4	*7*
Count Total	13	6	3	1	*23*	25	8	4	5	*42*	2	15	21	19	*57*
Peak Hour	**6**	**2**	**1**	**0**	***9***	**10**	**4**	**3**	**3**	***20***	**0**	**6**	**12**	**8**	***26***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Capitola Rd				Capitola Rd				30th Ave				30th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	3	1	0	0	3	0	0	0	1	1	0	0	0	0	9	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
4:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0
4:45 PM	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	17
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	10
5:15 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	11
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**9**
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
Count Total	0	0	12	1	0	0	6	0	0	1	1	1	0	1	0	0	23	0
Peak Hour	**0**	**0**	**6**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**

Two-Hour Count Summaries - Bikes

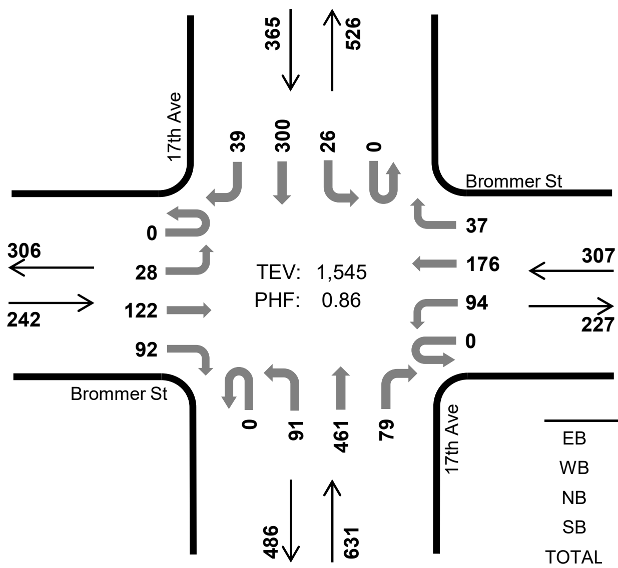
Interval Start	Capitola Rd			Capitola Rd			30th Ave			30th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	3	1	0	1	0	0	0	0	0	0	0	5	0
4:15 PM	0	3	0	0	1	0	0	0	0	0	0	0	4	0
4:30 PM	0	5	0	0	1	0	0	0	0	0	0	1	7	0
4:45 PM	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	20
5:00 PM	**1**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**6**	21
5:15 PM	**0**	**1**	**2**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**6**	23
5:30 PM	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**4**	**20**
5:45 PM	0	3	0	0	1	0	0	1	0	1	0	0	6	22
Count Total	2	20	3	1	7	0	2	2	0	1	0	4	42	0
Peak Hour	**2**	**6**	**2**	**1**	**3**	**0**	**2**	**1**	**0**	**0**	**0**	**3**	**20**	**0**

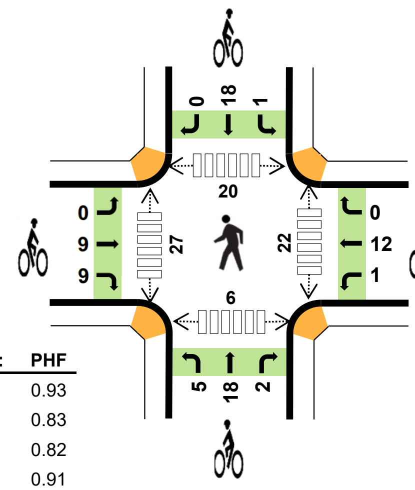
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

17th Ave
Brommer St

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM

Peak Hour





	HV %:	PHF
EB	2.1%	0.93
WB	2.3%	0.83
NB	1.6%	0.82
SB	2.5%	0.91
TOTAL	2.0%	0.86

Two-Hour Count Summaries

Interval Start		Brommer St Eastbound UT	LT	TH	RT	Brommer St Westbound UT	LT	TH	RT	17th Ave Northbound UT	LT	TH	RT	17th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM		0	6	15	10	0	9	25	7	0	10	68	11	0	0	28	10	199	0
7:15 AM		0	2	15	12	0	22	28	12	0	16	94	11	0	6	46	4	268	0
7:30 AM		0	4	22	16	0	18	44	6	0	12	103	9	0	5	72	4	315	0
7:45 AM		**0**	**4**	**30**	**25**	**0**	**30**	**52**	**9**	**0**	**25**	**112**	**25**	**0**	**5**	**77**	**7**	**401**	1,183
8:00 AM		**0**	**9**	**23**	**33**	**0**	**32**	**47**	**13**	**0**	**30**	**137**	**25**	**0**	**6**	**88**	**6**	**449**	1,433
8:15 AM		**0**	**4**	**36**	**13**	**0**	**22**	**36**	**8**	**0**	**22**	**114**	**16**	**0**	**6**	**65**	**12**	**354**	1,519
8:30 AM		**0**	**11**	**33**	**21**	**0**	**10**	**41**	**7**	**0**	**14**	**98**	**13**	**0**	**9**	**70**	**14**	**341**	**1,545**
8:45 AM		0	8	34	12	0	18	44	8	0	20	91	15	0	5	68	5	328	1,472
Count Total		0	48	208	142	0	161	317	70	0	149	817	125	0	42	514	62	2,655	0
Peak Hour	**All**	**0**	**28**	**122**	**92**	**0**	**94**	**176**	**37**	**0**	**91**	**461**	**79**	**0**	**26**	**300**	**39**	**1,545**	**0**
	HV	**0**	**0**	**4**	**1**	**0**	**1**	**4**	**2**	**0**	**1**	**8**	**1**	**0**	**1**	**6**	**2**	**31**	**0**
	HV%	**-**	**0%**	**3%**	**1%**	**-**	**1%**	**2%**	**5%**	**-**	**1%**	**2%**	**1%**	**-**	**4%**	**2%**	**5%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	2	0	3	1	*6*	3	0	2	1	*6*	1	0	3	0	*4*
7:15 AM	0	1	3	1	*5*	6	6	4	2	*18*	6	6	4	1	*17*
7:30 AM	0	0	0	5	*5*	4	4	5	5	*18*	8	4	4	2	*18*
7:45 AM	**3**	**3**	**2**	**2**	***10***	**9**	**4**	**7**	**6**	***26***	**12**	**13**	**6**	**2**	*33*
8:00 AM	**1**	**0**	**3**	**1**	***5***	**3**	**4**	**8**	**9**	***24***	**4**	**10**	**8**	**3**	*25*
8:15 AM	**0**	**2**	**2**	**4**	***8***	**5**	**5**	**7**	**3**	***20***	**4**	**1**	**3**	**1**	*9*
8:30 AM	**1**	**2**	**3**	**2**	***8***	**1**	**0**	**3**	**1**	***5***	**2**	**3**	**3**	**0**	*8*
8:45 AM	0	0	1	0	*1*	6	2	1	3	*12*	2	0	2	1	*5*
Count Total	7	8	17	16	*48*	37	25	37	30	*129*	39	37	33	10	*119*
Peak Hour	**5**	**7**	**10**	**9**	***31***	**18**	**13**	**25**	**19**	***75***	**22**	**27**	**20**	**6**	***75***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Brommer St				Brommer St				17th Ave				17th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	2	0	0	0	0	0	1	2	0	0	0	1	0	6	0
7:15 AM	0	0	0	0	0	0	1	0	0	0	2	1	0	0	1	0	5	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	5	0
7:45 AM	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**1**	**10**	26
8:00 AM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**5**	25
8:15 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**1**	**2**	**1**	**8**	28
8:30 AM	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**2**	**0**	**8**	**31**
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	22
Count Total	0	0	4	3	0	1	5	2	0	2	13	2	0	2	12	2	48	0
Peak Hour	**0**	**0**	**4**	**1**	**0**	**1**	**4**	**2**	**0**	**1**	**8**	**1**	**0**	**1**	**6**	**2**	**31**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Brommer St			Brommer St			17th Ave			17th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	3	0	0	0	0	2	0	0	0	0	1	6	0
7:15 AM	0	2	4	0	6	0	1	3	0	0	2	0	18	0
7:30 AM	0	0	4	0	4	0	0	5	0	0	5	0	18	0
7:45 AM	**0**	**3**	**6**	**0**	**4**	**0**	**0**	**7**	**0**	**0**	**6**	**0**	**26**	68
8:00 AM	**0**	**2**	**1**	**1**	**3**	**0**	**1**	**7**	**0**	**0**	**9**	**0**	**24**	86
8:15 AM	**0**	**3**	**2**	**0**	**5**	**0**	**2**	**4**	**1**	**0**	**3**	**0**	**20**	88
8:30 AM	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**1**	**0**	**0**	**5**	**75**
8:45 AM	1	1	4	0	2	0	0	1	0	0	2	1	12	61
Count Total	1	15	21	1	24	0	8	27	2	1	27	2	129	0
Peak Hour	**0**	**9**	**9**	**1**	**12**	**0**	**5**	**18**	**2**	**1**	**18**	**0**	**75**	**0**

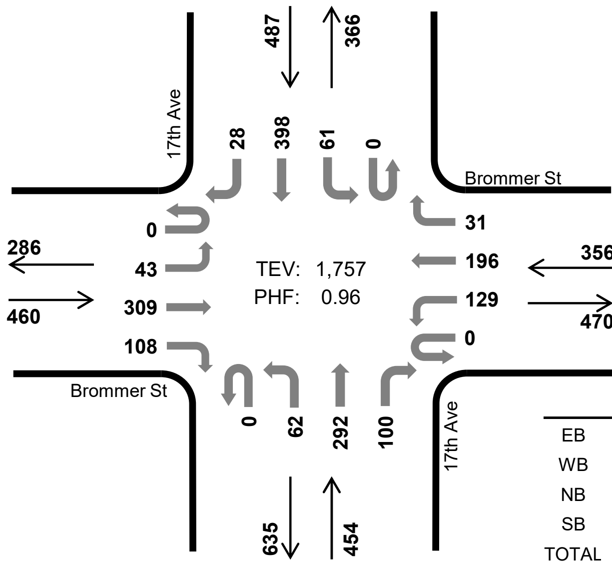
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

17th Ave
Brommer St

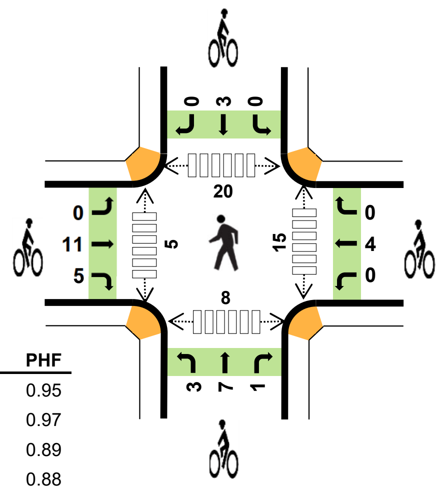
Date: 10-04-2018
Count Period: 2:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

N

Peak Hour



	HV %:	PHF
EB	0.7%	0.95
WB	0.0%	0.97
NB	0.7%	0.89
SB	0.4%	0.88
TOTAL	0.5%	0.96



Four-Hour Count Summaries

Interval Start		Brommer St Eastbound UT	LT	TH	RT	Brommer St Westbound UT	LT	TH	RT	17th Ave Northbound UT	LT	TH	RT	17th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:45 PM		0	7	71	30	0	38	42	8	0	13	76	24	0	16	90	9	424	0
5:00 PM		0	14	73	30	0	27	55	6	0	18	77	33	0	18	85	10	446	0
5:15 PM		0	11	81	22	0	30	45	13	0	18	80	21	0	16	117	5	459	0
5:30 PM		0	11	84	26	0	34	54	4	0	13	59	22	0	11	106	4	428	1,757
Peak Hour	All	0	43	309	108	0	129	196	31	0	62	292	100	0	61	398	28	1,757	0
	HV	0	0	1	2	0	0	0	0	0	1	2	0	0	0	2	0	8	0
	HV%	-	0%	0%	2%	-	0%	0%	0%	-	2%	1%	0%	-	0%	1%	0%	0%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:45 PM	2	0	1	0	*3*	3	1	1	2	*7*	1	0	11	1	*13*
5:00 PM	1	0	1	2	*4*	3	0	1	1	*5*	4	1	4	2	*11*
5:15 PM	0	0	1	0	*1*	3	1	6	0	*10*	4	3	5	1	*13*
5:30 PM	0	0	0	0	*0*	7	2	3	0	*12*	6	1	0	4	*11*
Peak Hour	3	0	3	2	*8*	16	4	11	3	*34*	15	5	20	8	*48*

Four-Hour Count Summaries

Interval Start	Brommer St				Brommer St				17th Ave				17th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	12	33	20	0	18	47	5	0	13	90	19	0	17	88	12	374	0
2:15 PM	0	10	44	25	0	20	35	11	0	20	81	26	0	8	93	7	380	0
2:30 PM	0	12	36	21	0	22	40	5	0	19	87	17	0	12	88	11	370	0
2:45 PM	0	15	63	22	0	31	45	6	0	23	94	27	0	15	79	4	424	1,548
3:00 PM	0	8	75	31	0	26	52	7	0	22	87	22	0	14	67	9	420	1,594
3:15 PM	0	14	78	30	0	26	59	4	0	15	80	23	0	17	113	11	470	1,684
3:30 PM	0	11	81	28	0	28	46	5	0	12	76	25	0	11	82	15	420	1,734
3:45 PM	0	1	69	21	0	29	41	7	0	17	90	9	0	12	93	8	397	1,707
4:00 PM	0	6	72	31	0	25	44	7	0	23	65	32	0	20	84	8	417	1,704
4:15 PM	0	16	87	27	0	24	56	5	0	19	85	25	0	16	92	5	457	1,691
4:30 PM	0	9	76	39	0	23	46	9	0	21	67	29	0	16	82	8	425	1,696
4:45 PM	**0**	**7**	**71**	**30**	**0**	**38**	**42**	**8**	**0**	**13**	**76**	**24**	**0**	**16**	**90**	**9**	**424**	1,723
5:00 PM	**0**	**14**	**73**	**30**	**0**	**27**	**55**	**6**	**0**	**18**	**77**	**33**	**0**	**18**	**85**	**10**	**446**	1,752
5:15 PM	**0**	**11**	**81**	**22**	**0**	**30**	**45**	**13**	**0**	**18**	**80**	**21**	**0**	**16**	**117**	**5**	**459**	1,754
5:30 PM	**0**	**11**	**84**	**26**	**0**	**34**	**54**	**4**	**0**	**13**	**59**	**22**	**0**	**11**	**106**	**4**	**428**	**1,757**
5:45 PM	0	13	49	34	0	30	49	8	0	10	89	24	0	11	99	7	423	1,756
Count Total	0	170	1,072	437	0	431	756	110	0	276	1,283	378	0	230	1,458	133	6,734	0
Peak Hour All	**0**	**43**	**309**	**108**	**0**	**129**	**196**	**31**	**0**	**62**	**292**	**100**	**0**	**61**	**398**	**28**	**1,757**	**0**
Peak Hour HV	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**2**	**0**	**8**	**0**
Peak Hour HV%	**-**	**0%**	**0%**	**2%**	**-**	**0%**	**0%**	**0%**	**-**	**2%**	**1%**	**0%**	**-**	**0%**	**1%**	**0%**	**0%**	**0**

Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
2:00 PM	2	1	2	2	*7*	2	2	3	1	*8*	3	3	2	0	*8*
2:15 PM	2	1	5	2	*10*	1	1	2	0	*4*	0	0	1	0	*1*
2:30 PM	1	1	2	2	*6*	2	1	1	2	*6*	0	2	3	1	*6*
2:45 PM	3	2	3	3	*11*	1	1	18	2	*22*	29	34	28	8	*99*
3:00 PM	3	1	5	2	*11*	3	2	3	0	*8*	9	33	30	4	*76*
3:15 PM	2	0	2	4	*8*	2	1	3	1	*7*	9	3	5	2	*19*
3:30 PM	2	2	1	3	*8*	3	1	4	6	*14*	4	2	5	2	*13*
3:45 PM	2	2	2	7	*13*	3	1	2	4	*10*	4	6	4	1	*15*
4:00 PM	2	0	3	0	*5*	5	2	3	3	*13*	6	1	13	3	*23*
4:15 PM	0	0	5	1	*6*	6	1	0	2	*9*	6	3	4	2	*15*
4:30 PM	1	0	1	2	*4*	2	1	0	3	*6*	4	4	4	1	*13*
4:45 PM	**2**	**0**	**1**	**0**	***3***	**3**	**1**	**1**	**2**	***7***	**1**	**0**	**11**	**1**	*13*
5:00 PM	**1**	**0**	**1**	**2**	***4***	**3**	**0**	**1**	**1**	***5***	**4**	**1**	**4**	**2**	*11*
5:15 PM	**0**	**0**	**1**	**0**	***1***	**3**	**1**	**6**	**0**	***10***	**4**	**3**	**5**	**1**	*13*
5:30 PM	**0**	**0**	**0**	**0**	***0***	**7**	**2**	**3**	**0**	***12***	**6**	**1**	**0**	**4**	***11***
5:45 PM	0	0	0	0	*0*	8	5	1	2	*16*	7	0	0	0	*7*
Count Total	23	10	34	30	*97*	54	23	51	29	*157*	96	96	119	32	*343*
Peak Hour	**3**	**0**	**3**	**2**	***8***	**16**	**4**	**11**	**3**	***34***	**15**	**5**	**20**	**8**	***48***

Four-Hour Count Summaries - Heavy Vehicles

Interval Start	Brommer St				Brommer St				17th Ave				17th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	0	0	2	0	1	0	0	0	0	2	0	0	0	2	0	7	0
2:15 PM	0	0	0	2	0	0	0	1	0	1	4	0	0	0	2	0	10	0
2:30 PM	0	0	0	1	0	0	1	0	0	1	1	0	0	0	2	0	6	0
2:45 PM	0	1	2	0	0	1	1	0	0	1	2	0	0	0	3	0	11	34
3:00 PM	0	1	0	2	0	0	1	0	0	2	2	1	0	0	2	0	11	38
3:15 PM	0	0	1	1	0	0	0	0	0	1	1	0	0	0	4	0	8	36
3:30 PM	0	1	1	0	0	0	2	0	0	0	1	0	0	0	2	1	8	38
3:45 PM	0	0	1	1	0	1	1	0	0	0	1	1	0	0	5	2	13	40
4:00 PM	0	0	1	1	0	0	0	0	0	2	1	0	0	0	0	0	5	34
4:15 PM	0	0	0	0	0	0	0	0	0	1	4	0	0	1	0	0	6	32
4:30 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	1	4	28
4:45 PM	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	18
5:00 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**4**	17
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	12
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Count Total	0	3	8	12	0	3	6	1	0	10	22	2	0	2	24	4	97	0
Peak Hour	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**2**	**0**	**8**	**0**

Four-Hour Count Summaries - Bikes

Interval Start	Brommer St			Brommer St			17th Ave			17th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
2:00 PM	0	2	0	0	2	0	2	1	0	0	1	0	8	0
2:15 PM	0	1	0	0	0	1	1	1	0	0	0	0	4	0
2:30 PM	0	1	1	0	1	0	0	1	0	0	1	1	6	0
2:45 PM	0	1	0	0	1	0	4	12	2	0	2	0	22	40
3:00 PM	0	2	1	0	2	0	0	3	0	0	0	0	8	40
3:15 PM	0	1	1	0	1	0	0	3	0	0	1	0	7	43
3:30 PM	0	2	1	1	0	0	1	2	1	0	6	0	14	51
3:45 PM	0	0	3	0	1	0	0	1	1	0	4	0	10	39
4:00 PM	0	5	0	0	2	0	0	3	0	0	3	0	13	44
4:15 PM	0	5	1	0	1	0	0	0	0	0	2	0	9	46
4:30 PM	0	2	0	0	1	0	0	0	0	0	2	1	6	38
4:45 PM	**0**	**0**	**3**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**7**	35
5:00 PM	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**5**	27
5:15 PM	**0**	**3**	**0**	**0**	**1**	**0**	**1**	**4**	**1**	**0**	**0**	**0**	**10**	28
5:30 PM	**0**	**6**	**1**	**0**	**2**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**12**	**34**
5:45 PM	0	7	1	2	3	0	0	0	1	0	0	2	16	43
Count Total	0	40	14	3	19	1	11	34	6	0	25	4	157	0
Peak Hour	**0**	**11**	**5**	**0**	**4**	**0**	**3**	**7**	**1**	**0**	**3**	**0**	**34**	**0**

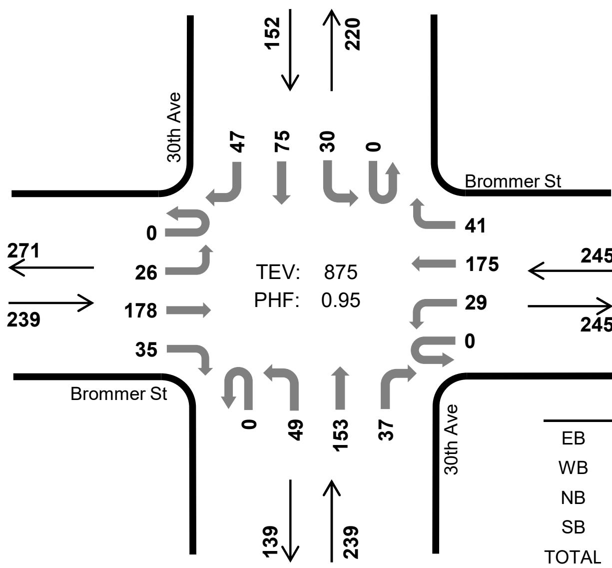
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

30th Ave
Brommer St

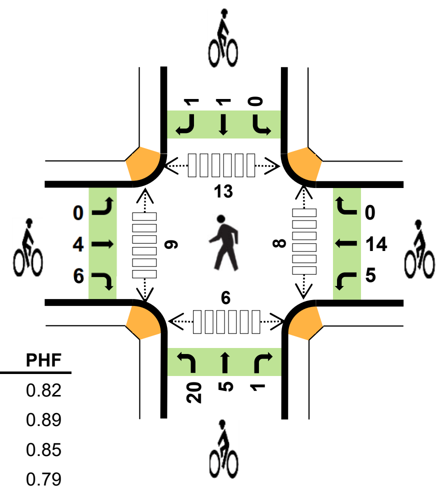
Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM

N

Peak Hour



	HV %:	PHF
EB	2.9%	0.82
WB	1.2%	0.89
NB	0.4%	0.85
SB	0.0%	0.79
TOTAL	1.3%	0.95



Two-Hour Count Summaries

Interval Start	Brommer St Eastbound UT	LT	TH	RT	Brommer St Westbound UT	LT	TH	RT	30th Ave Northbound UT	LT	TH	RT	30th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	3	26	3	0	3	28	4	0	4	29	8	0	1	5	3	117	0
7:15 AM	0	5	33	5	0	6	46	16	0	11	24	6	0	1	7	4	164	0
7:30 AM	**0**	**3**	**28**	**10**	**0**	**6**	**49**	**14**	**0**	**13**	**47**	**10**	**0**	**7**	**11**	**15**	**213**	0
7:45 AM	**0**	**3**	**59**	**11**	**0**	**8**	**49**	**10**	**0**	**10**	**37**	**8**	**0**	**6**	**20**	**9**	**230**	724
8:00 AM	**0**	**9**	**44**	**7**	**0**	**6**	**43**	**9**	**0**	**10**	**32**	**9**	**0**	**7**	**27**	**14**	**217**	824
8:15 AM	**0**	**11**	**47**	**7**	**0**	**9**	**34**	**8**	**0**	**16**	**37**	**10**	**0**	**10**	**17**	**9**	**215**	**875**
8:30 AM	0	9	53	10	0	9	41	12	0	4	26	10	0	4	17	12	207	869
8:45 AM	0	9	53	12	0	9	42	10	0	5	23	14	0	8	19	14	218	857
Count Total	0	52	343	65	0	56	332	83	0	73	255	75	0	44	123	80	1,581	0
Peak Hour All	**0**	**26**	**178**	**35**	**0**	**29**	**175**	**41**	**0**	**49**	**153**	**37**	**0**	**30**	**75**	**47**	**875**	**0**
Peak Hour HV	**0**	**0**	**5**	**2**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**11**	**0**
Peak Hour HV%	**-**	**0%**	**3%**	**6%**	**-**	**0%**	**1%**	**5%**	**-**	**0%**	**0%**	**3%**	**-**	**0%**	**0%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	0	0	0	0	*0*	1	2	2	1	*6*	1	2	2	1	*6*
7:15 AM	0	0	0	0	*0*	4	7	6	1	*18*	2	3	1	2	*8*
7:30 AM	**1**	**2**	**1**	**0**	***4***	**3**	**7**	**4**	**1**	***15***	**0**	**2**	**1**	**1**	*4*
7:45 AM	**4**	**1**	**0**	**0**	***5***	**1**	**6**	**7**	**1**	***15***	**3**	**3**	**8**	**3**	*17*
8:00 AM	**2**	**0**	**0**	**0**	***2***	**3**	**3**	**13**	**0**	***19***	**5**	**1**	**2**	**0**	*8*
8:15 AM	**0**	**0**	**0**	**0**	***0***	**3**	**3**	**2**	**0**	***8***	**0**	**3**	**2**	**2**	*7*
8:30 AM	2	3	0	0	*5*	2	1	1	1	*5*	2	1	1	1	*5*
8:45 AM	0	0	0	1	*1*	3	0	1	1	*5*	0	2	0	0	*2*
Count Total	9	6	1	1	*17*	20	29	36	6	*91*	13	17	17	10	*57*
Peak Hour	**7**	**3**	**1**	**0**	***11***	**10**	**19**	**26**	**2**	***57***	**8**	**9**	**13**	**6**	***36***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Brommer St Eastbound UT	LT	TH	RT	Brommer St Westbound UT	LT	TH	RT	30th Ave Northbound UT	LT	TH	RT	30th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	0
7:45 AM	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	9
8:00 AM	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	11
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**
8:30 AM	0	0	2	0	0	0	2	1	0	0	0	0	0	0	0	0	5	12
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	8
Count Total	0	0	7	2	0	0	3	3	0	0	0	1	0	0	1	0	17	0
Peak Hour	**0**	**0**	**5**	**2**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**11**	**0**

Two-Hour Count Summaries - Bikes

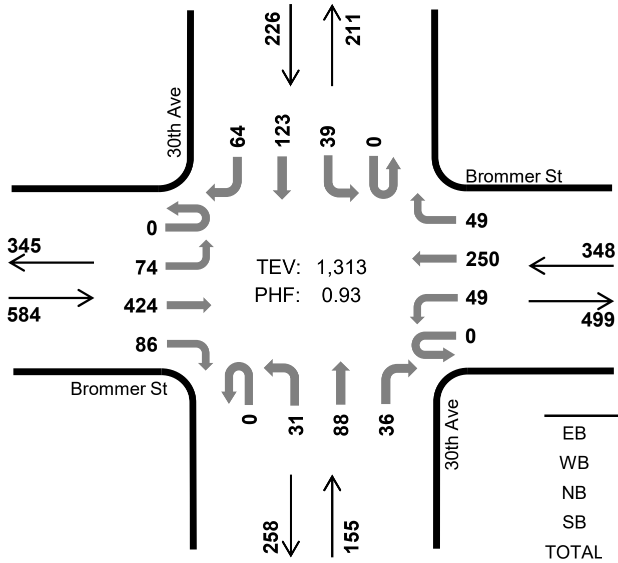
Interval Start	Brommer St Eastbound LT	TH	RT	Brommer St Westbound LT	TH	RT	30th Ave Northbound LT	TH	RT	30th Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	1	0	0	2	0	1	1	0	0	1	0	6	0
7:15 AM	1	2	1	3	4	0	5	1	0	0	0	1	18	0
7:30 AM	**0**	**0**	**3**	**2**	**5**	**0**	**3**	**1**	**0**	**0**	**0**	**1**	**15**	0
7:45 AM	**0**	**0**	**1**	**0**	**6**	**0**	**6**	**0**	**1**	**0**	**1**	**0**	**15**	54
8:00 AM	**0**	**2**	**1**	**1**	**2**	**0**	**9**	**4**	**0**	**0**	**0**	**0**	**19**	67
8:15 AM	**0**	**2**	**1**	**2**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**8**	**57**
8:30 AM	0	1	1	0	1	0	0	0	1	0	1	0	5	47
8:45 AM	0	1	2	0	0	0	0	1	0	0	1	0	5	37
Count Total	1	9	10	8	21	0	26	8	2	0	4	2	91	0
Peak Hour	**0**	**4**	**6**	**5**	**14**	**0**	**20**	**5**	**1**	**0**	**1**	**1**	**57**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

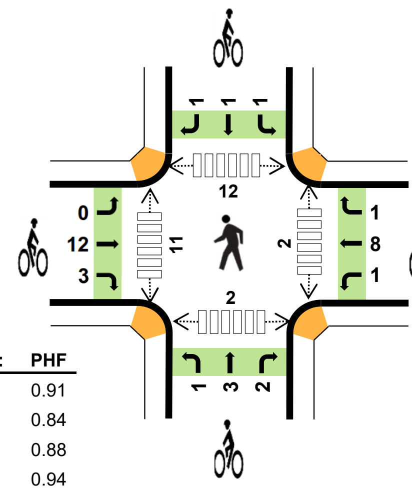
30th Ave
Brommer St

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM

Peak Hour



	HV %:	PHF
EB	0.2%	0.91
WB	0.3%	0.84
NB	0.0%	0.88
SB	0.0%	0.94
TOTAL	0.2%	0.93



Two-Hour Count Summaries

Interval Start	Brommer St Eastbound UT	LT	TH	RT	Brommer St Westbound UT	LT	TH	RT	30th Ave Northbound UT	LT	TH	RT	30th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	15	107	11	0	13	62	7	0	4	28	6	0	7	33	12	305	0
4:15 PM	0	19	106	16	0	12	56	11	0	3	20	12	0	13	37	9	314	0
4:30 PM	**0**	**23**	**113**	**24**	**0**	**12**	**55**	**16**	**0**	**6**	**22**	**4**	**0**	**6**	**24**	**19**	**324**	0
4:45 PM	**0**	**18**	**90**	**23**	**0**	**9**	**51**	**5**	**0**	**9**	**24**	**11**	**0**	**7**	**37**	**16**	**300**	1,243
5:00 PM	**0**	**16**	**112**	**19**	**0**	**13**	**71**	**12**	**0**	**6**	**22**	**7**	**0**	**18**	**27**	**13**	**336**	1,274
5:15 PM	**0**	**17**	**109**	**20**	**0**	**15**	**73**	**16**	**0**	**10**	**20**	**14**	**0**	**8**	**35**	**16**	**353**	**1,313**
5:30 PM	0	19	96	16	0	8	48	9	0	4	30	10	0	12	24	13	289	1,278
5:45 PM	0	13	92	17	0	14	45	5	0	12	23	4	0	8	29	14	276	1,254
Count Total	0	140	825	146	0	96	461	81	0	54	189	68	0	79	246	112	2,497	0
Peak Hour All	**0**	**74**	**424**	**86**	**0**	**49**	**250**	**49**	**0**	**31**	**88**	**36**	**0**	**39**	**123**	**64**	**1,313**	**0**
Peak Hour HV	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**
Peak Hour HV%	**-**	**0%**	**0%**	**1%**	**-**	**0%**	**0%**	**2%**	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**0%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	1	0	1	1	*3*	6	3	1	1	*11*	2	5	1	0	*8*
4:15 PM	1	0	0	0	*1*	6	1	1	1	*9*	0	2	5	0	*7*
4:30 PM	**1**	**1**	**0**	**0**	***2***	**4**	**2**	**2**	**0**	***8***	**0**	**1**	**2**	**0**	*3*
4:45 PM	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**0**	**2**	***4***	**0**	**2**	**0**	**2**	*4*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**3**	**2**	**0**	**1**	***6***	**0**	**2**	**4**	**0**	*6*
5:15 PM	**0**	**0**	**0**	**0**	***0***	**7**	**5**	**4**	**0**	***16***	**2**	**6**	**6**	**0**	***14***
5:30 PM	0	0	0	0	*0*	4	3	2	0	*9*	1	2	1	0	*4*
5:45 PM	0	0	0	0	*0*	6	4	0	1	*11*	1	0	1	0	*2*
Count Total	3	1	1	1	*6*	37	21	10	6	*74*	6	20	20	2	*48*
Peak Hour	**1**	**1**	**0**	**0**	***2***	**15**	**10**	**6**	**3**	***34***	**2**	**11**	**12**	**2**	***27***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Brommer St				Brommer St				30th Ave				30th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	3	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	6
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	3
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	2	1	0	0	0	1	0	0	1	0	0	0	1	0	6	0
Peak Hour	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**

Two-Hour Count Summaries - Bikes

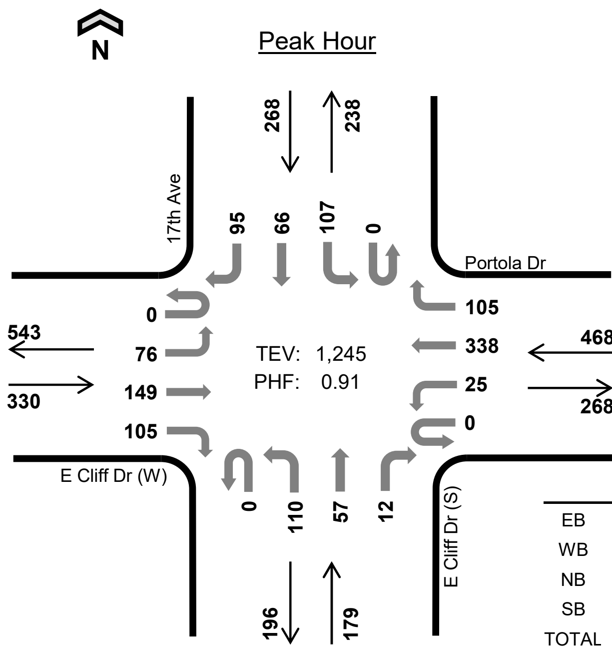
Interval Start	Brommer St			Brommer St			30th Ave			30th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	6	0	0	2	1	0	1	0	0	1	0	11	0
4:15 PM	1	4	1	0	1	0	0	1	0	0	0	1	9	0
4:30 PM	**0**	**3**	**1**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**8**	0
4:45 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**4**	32
5:00 PM	**0**	**3**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**6**	27
5:15 PM	**0**	**5**	**2**	**0**	**4**	**1**	**1**	**1**	**2**	**0**	**0**	**0**	**16**	**34**
5:30 PM	1	3	0	0	3	0	0	2	0	0	0	0	9	35
5:45 PM	1	0	5	0	4	0	0	0	0	0	0	1	11	42
Count Total	3	25	9	1	18	2	1	7	2	1	2	3	74	0
Peak Hour	**0**	**12**	**3**	**1**	**8**	**1**	**1**	**3**	**2**	**1**	**1**	**1**	**34**	**0**

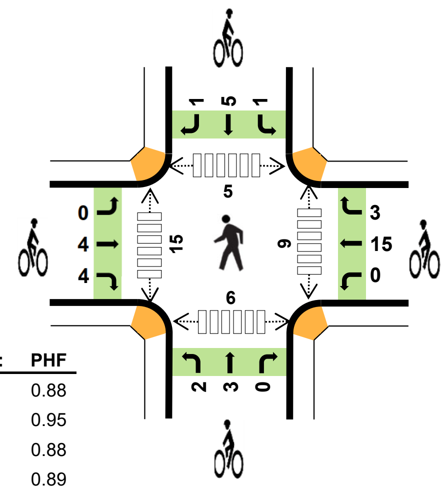
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

17th Ave
Portola Dr

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour





	HV %:	PHF
EB	1.8%	0.88
WB	1.5%	0.95
NB	1.1%	0.88
SB	3.7%	0.89
TOTAL	2.0%	0.91

Two-Hour Count Summaries

Interval Start		E Cliff Dr (W) Eastbound UT	LT	TH	RT	Portola Dr Westbound UT	LT	TH	RT	E Cliff Dr (S) Northbound UT	LT	TH	RT	17th Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM		0	10	15	8	0	1	43	12	0	17	8	1	0	3	9	8	135	0
7:15 AM		0	8	18	14	0	1	49	19	0	9	12	0	0	3	9	13	155	0
7:30 AM		0	16	25	13	0	7	66	26	0	27	14	4	0	13	11	17	239	0
7:45 AM		0	23	34	22	0	6	86	27	0	25	9	4	0	17	14	25	292	821
8:00 AM		**0**	**24**	**43**	**25**	**0**	**6**	**78**	**39**	**0**	**31**	**19**	**1**	**0**	**30**	**13**	**32**	**341**	1,027
8:15 AM		**0**	**28**	**40**	**26**	**0**	**7**	**86**	**19**	**0**	**22**	**8**	**5**	**0**	**22**	**16**	**35**	**314**	1,186
8:30 AM		**0**	**13**	**29**	**33**	**0**	**7**	**86**	**21**	**0**	**26**	**13**	**3**	**0**	**29**	**24**	**11**	**295**	1,242
8:45 AM		**0**	**11**	**37**	**21**	**0**	**5**	**88**	**26**	**0**	**31**	**17**	**3**	**0**	**26**	**13**	**17**	**295**	**1,245**
Count Total		0	133	241	162	0	40	582	189	0	188	100	21	0	143	109	158	2,066	0
Peak Hour	**All**	**0**	**76**	**149**	**105**	**0**	**25**	**338**	**105**	**0**	**110**	**57**	**12**	**0**	**107**	**66**	**95**	**1,245**	**0**
	HV	**0**	**2**	**4**	**0**	**0**	**0**	**4**	**3**	**0**	**2**	**0**	**0**	**0**	**5**	**1**	**4**	**25**	**0**
	HV%	**-**	**3%**	**3%**	**0%**	**-**	**0%**	**1%**	**3%**	**-**	**2%**	**0%**	**0%**	**-**	**5%**	**2%**	**4%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	1	1	0	1	*3*	2	0	0	0	*2*	1	5	2	0	*8*
7:15 AM	0	1	0	1	*2*	0	1	1	1	*3*	3	2	1	2	*8*
7:30 AM	4	1	1	1	*7*	2	4	2	2	*10*	5	1	0	1	*7*
7:45 AM	0	2	0	0	*2*	0	3	4	3	*10*	3	2	0	3	*8*
8:00 AM	**2**	**1**	**1**	**3**	***7***	**0**	**6**	**2**	**1**	***9***	**3**	**4**	**3**	**0**	*10*
8:15 AM	**2**	**1**	**0**	**3**	***6***	**6**	**1**	**0**	**1**	***8***	**3**	**1**	**0**	**4**	*8*
8:30 AM	**1**	**1**	**1**	**3**	***6***	**1**	**5**	**2**	**2**	***10***	**2**	**2**	**0**	**2**	*6*
8:45 AM	**1**	**4**	**0**	**1**	***6***	**1**	**6**	**1**	**3**	***11***	**1**	**8**	**2**	**0**	***11***
Count Total	11	12	3	13	*39*	12	26	12	13	*63*	21	25	8	12	*66*
Peak Hour	**6**	**7**	**2**	**10**	***25***	**8**	**18**	**5**	**7**	***38***	**9**	**15**	**5**	**6**	***35***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Cliff Dr (W) Eastbound				Portola Dr Westbound				E Cliff Dr (S) Northbound				17th Ave Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	3	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2	0
7:30 AM	0	1	3	0	0	0	1	0	0	0	1	0	0	0	1	0	7	0
7:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	14
8:00 AM	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	**7**	18
8:15 AM	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**6**	22
8:30 AM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**1**	**0**	**6**	21
8:45 AM	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**6**	**25**
Count Total	0	4	7	0	0	0	5	7	0	2	1	0	0	6	2	5	39	0
Peak Hour	**0**	**2**	**4**	**0**	**0**	**0**	**4**	**3**	**0**	**2**	**0**	**0**	**0**	**5**	**1**	**4**	**25**	**0**

Two-Hour Count Summaries - Bikes

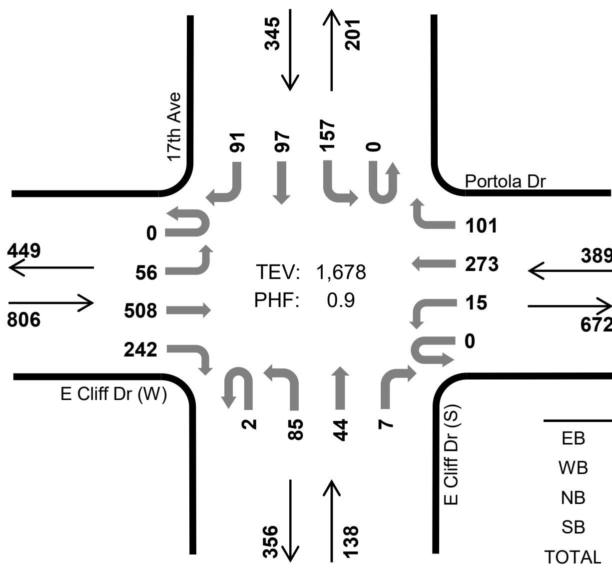
Interval Start	E Cliff Dr (W) Eastbound			Portola Dr Westbound			E Cliff Dr (S) Northbound			17th Ave Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	2	0
7:15 AM	0	0	0	0	1	0	1	0	0	0	0	1	3	0
7:30 AM	0	2	0	0	4	0	2	0	0	2	0	0	10	0
7:45 AM	0	0	0	0	2	1	2	2	0	2	0	1	10	25
8:00 AM	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**9**	32
8:15 AM	**0**	**3**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**8**	37
8:30 AM	**0**	**0**	**1**	**0**	**4**	**1**	**1**	**1**	**0**	**0**	**2**	**0**	**10**	37
8:45 AM	**0**	**1**	**0**	**0**	**4**	**2**	**1**	**0**	**0**	**0**	**2**	**1**	**11**	**38**
Count Total	0	8	4	0	22	4	7	5	0	5	5	3	63	0
Peak Hour	**0**	**4**	**4**	**0**	**15**	**3**	**2**	**3**	**0**	**1**	**5**	**1**	**38**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

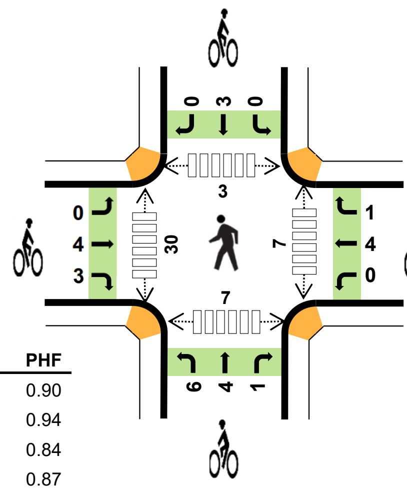
17th Ave
Portola Dr

Date: 10-04-2018
Count Period: 2:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

Peak Hour



	HV %:	PHF
EB	0.7%	0.90
WB	0.5%	0.94
NB	0.0%	0.84
SB	0.9%	0.87
TOTAL	0.7%	0.90



Four-Hour Count Summaries

Interval Start		E Cliff Dr (W)				Portola Dr				E Cliff Dr (S)				17th Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:45 PM		0	9	112	61	0	3	68	29	0	23	10	2	0	36	19	16	388	0
5:00 PM		0	11	136	56	0	6	70	21	0	20	20	1	0	36	27	25	429	0
5:15 PM		0	18	147	59	0	4	72	28	1	27	8	2	0	46	27	26	465	0
5:30 PM		0	18	113	66	0	2	63	23	1	15	6	2	0	39	24	24	396	1,678
Peak Hour	All	0	56	508	242	0	15	273	101	2	85	44	7	0	157	97	91	1,678	0
	HV	0	0	4	2	0	0	1	1	0	0	0	0	0	1	1	1	11	0
	HV%	-	0%	1%	1%	-	0%	0%	1%	0%	0%	0%	0%	-	1%	1%	1%	1%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:45 PM	4	0	0	0	*4*	5	1	3	0	*9*	2	2	0	1	*5*
5:00 PM	1	0	0	2	*3*	2	1	5	1	*9*	1	17	1	1	*20*
5:15 PM	0	1	0	1	*2*	0	1	2	1	*4*	1	5	1	5	*12*
5:30 PM	1	1	0	0	*2*	0	2	1	1	*4*	3	6	1	0	*10*
Peak Hour	6	2	0	3	*11*	7	5	11	3	*26*	7	30	3	7	*47*

Four-Hour Count Summaries

Interval Start	E Cliff Dr (W)				Portola Dr				E Cliff Dr (S)				17th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	28	62	44	0	3	73	28	0	17	13	2	0	31	27	13	341	0
2:15 PM	0	26	70	54	0	3	72	20	0	17	11	2	0	26	19	26	346	0
2:30 PM	0	23	74	34	0	2	67	23	0	21	11	4	0	21	9	25	314	0
2:45 PM	0	9	81	52	0	3	60	24	0	25	6	1	0	44	12	27	344	1,345
3:00 PM	0	15	100	38	0	6	69	23	0	21	10	4	0	23	19	21	349	1,353
3:15 PM	0	22	104	58	0	4	57	22	0	18	9	2	0	31	23	18	368	1,375
3:30 PM	0	15	103	69	0	1	79	19	0	21	10	4	0	27	20	23	391	1,452
3:45 PM	0	18	119	49	0	1	54	26	0	16	18	4	0	35	21	18	379	1,487
4:00 PM	0	12	119	49	0	5	62	19	0	20	11	2	0	32	23	11	365	1,503
4:15 PM	0	20	134	54	0	6	51	24	0	18	7	2	0	39	20	21	396	1,531
4:30 PM	0	12	111	61	0	3	63	24	0	17	9	1	0	21	22	30	374	1,514
4:45 PM	**0**	**9**	**112**	**61**	**0**	**3**	**68**	**29**	**0**	**23**	**10**	**2**	**0**	**36**	**19**	**16**	**388**	1,523
5:00 PM	**0**	**11**	**136**	**56**	**0**	**6**	**70**	**21**	**0**	**20**	**20**	**1**	**0**	**36**	**27**	**25**	**429**	1,587
5:15 PM	**0**	**18**	**147**	**59**	**0**	**4**	**72**	**28**	**1**	**27**	**8**	**2**	**0**	**46**	**27**	**26**	**465**	1,656
5:30 PM	**0**	**18**	**113**	**66**	**0**	**2**	**63**	**23**	**1**	**15**	**6**	**2**	**0**	**39**	**24**	**24**	**396**	**1,678**
5:45 PM	0	22	87	52	0	3	57	27	0	20	8	3	0	45	21	16	361	1,651
Count Total	0	278	1,672	856	0	55	1,037	380	2	316	167	38	0	532	333	340	6,006	0
Peak Hour All	**0**	**56**	**508**	**242**	**0**	**15**	**273**	**101**	**2**	**85**	**44**	**7**	**0**	**157**	**97**	**91**	**1,678**	**0**
Peak Hour HV	**0**	**0**	**4**	**2**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**11**	**0**
Peak Hour HV%	**-**	**0%**	**1%**	**1%**	**-**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**0%**	**-**	**1%**	**1%**	**1%**	**1%**	**0**

Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
2:00 PM	1	2	0	1	*4*	3	3	1	0	*7*	2	0	0	0	*2*
2:15 PM	2	0	0	0	*2*	4	1	5	0	*10*	0	5	0	0	*5*
2:30 PM	4	2	0	1	*7*	5	2	2	2	*11*	1	2	0	0	*3*
2:45 PM	2	1	0	0	*3*	3	4	0	0	*7*	3	2	1	2	*8*
3:00 PM	2	3	1	2	*8*	1	0	1	3	*5*	6	0	3	1	*10*
3:15 PM	2	1	0	1	*4*	2	0	0	1	*3*	2	6	1	1	*10*
3:30 PM	1	1	0	1	*3*	1	0	1	5	*7*	0	4	0	0	*4*
3:45 PM	0	1	1	0	*2*	3	2	3	0	*8*	0	1	0	1	*2*
4:00 PM	1	0	0	1	*2*	1	3	3	2	*9*	5	1	2	5	*13*
4:15 PM	1	2	0	1	*4*	3	2	1	3	*9*	3	2	0	3	*8*
4:30 PM	4	1	0	0	*5*	5	1	1	1	*8*	2	1	1	2	*6*
4:45 PM	**4**	**0**	**0**	**0**	***4***	**5**	**1**	**3**	**0**	***9***	**2**	**2**	**0**	**1**	*5*
5:00 PM	**1**	**0**	**0**	**2**	***3***	**2**	**1**	**5**	**1**	***9***	**1**	**17**	**1**	**1**	*20*
5:15 PM	**0**	**1**	**0**	**1**	***2***	**0**	**1**	**2**	**1**	***4***	**1**	**5**	**1**	**5**	*12*
5:30 PM	**1**	**1**	**0**	**0**	***2***	**0**	**2**	**1**	**1**	***4***	**3**	**6**	**1**	**0**	***10***
5:45 PM	0	0	0	0	*0*	0	2	3	1	*6*	0	6	1	1	*8*
Count Total	26	16	2	11	*55*	38	25	32	21	*116*	31	60	12	23	*126*
Peak Hour	**6**	**2**	**0**	**3**	***11***	**7**	**5**	**11**	**3**	***26***	**7**	**30**	**3**	**7**	***47***

Four-Hour Count Summaries - Heavy Vehicles

Interval Start	E Cliff Dr (W)				Portola Dr				E Cliff Dr (S)				17th Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	1	0	0	0	0	0	2	0	0	0	0	0	1	0	0	4	0
2:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0
2:30 PM	0	0	4	0	0	0	1	1	0	0	0	0	0	0	0	1	7	0
2:45 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	16
3:00 PM	0	1	1	0	0	0	2	1	0	1	0	0	0	1	0	1	8	20
3:15 PM	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0	0	4	22
3:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	3	18
3:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	17
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	11
4:15 PM	0	0	0	1	0	0	0	2	0	0	0	0	0	1	0	0	4	11
4:30 PM	0	0	1	3	0	0	1	0	0	0	0	0	0	0	0	0	5	13
4:45 PM	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	15
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**3**	16
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	14
5:30 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**11**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Count Total	0	2	16	8	0	0	7	9	0	1	1	0	0	5	2	4	55	0
Peak Hour	**0**	**0**	**4**	**2**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**11**	**0**

Four-Hour Count Summaries - Bikes

Interval Start	E Cliff Dr (W)			Portola Dr			E Cliff Dr (S)			17th Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
2:00 PM	0	2	1	0	1	2	1	0	0	0	0	0	7	0
2:15 PM	0	3	1	0	1	0	3	2	0	0	0	0	10	0
2:30 PM	0	0	5	0	1	1	1	0	1	1	0	1	11	0
2:45 PM	0	2	1	0	4	0	0	0	0	0	0	0	7	35
3:00 PM	0	0	1	0	0	0	0	1	0	0	0	3	5	33
3:15 PM	0	0	2	0	0	0	0	0	0	0	1	0	3	26
3:30 PM	0	1	0	0	0	0	1	0	0	0	3	2	7	22
3:45 PM	0	1	2	0	2	0	3	0	0	0	0	0	8	23
4:00 PM	0	0	1	0	3	0	3	0	0	0	2	0	9	27
4:15 PM	0	1	2	0	2	0	0	1	0	0	2	1	9	33
4:30 PM	0	1	4	0	1	0	1	0	0	0	1	0	8	34
4:45 PM	**0**	**3**	**2**	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**9**	35
5:00 PM	**0**	**1**	**1**	**0**	**1**	**0**	**1**	**4**	**0**	**0**	**1**	**0**	**9**	35
5:15 PM	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**4**	30
5:30 PM	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**4**	**26**
5:45 PM	0	0	0	0	2	0	3	0	0	0	1	0	6	23
Count Total	0	15	23	0	21	4	22	8	2	1	13	7	116	0
Peak Hour	**0**	**4**	**3**	**0**	**4**	**1**	**6**	**4**	**1**	**0**	**3**	**0**	**26**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

APPENDIX B.
EXISTING CONDITIONS
SYNCHRO OUTPUT SHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	529	314	63	514	65	541	24	88	27	23	12
Future Volume (veh/h)	28	529	314	63	514	65	541	24	88	27	23	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	29	545	0	65	530	67	576	0	0	28	24	12
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	48	2088		84	1922	242	625	0		53	46	83
Arrive On Green	0.03	0.58	0.00	0.05	0.60	0.60	0.17	0.00	0.00	0.05	0.05	0.05
Sat Flow, veh/h	1795	3582	1598	1795	3187	401	3591	0	1598	996	854	1551
Grp Volume(v), veh/h	29	545	0	65	297	300	576	0	0	52	0	12
Grp Sat Flow(s),veh/h/ln	1795	1791	1598	1795	1791	1797	1795	0	1598	1850	0	1551
Q Serve(g_s), s	1.8	8.4	0.0	4.0	8.8	8.9	17.7	0.0	0.0	3.1	0.0	0.8
Cycle Q Clear(g_c), s	1.8	8.4	0.0	4.0	8.8	8.9	17.7	0.0	0.0	3.1	0.0	0.8
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	0.54		1.00
Lane Grp Cap(c), veh/h	48	2088		84	1080	1084	625	0		99	0	83
V/C Ratio(X)	0.61	0.26		0.78	0.27	0.28	0.92	0.00		0.53	0.00	0.14
Avail Cap(c_a), veh/h	88	2088		88	1080	1084	625	0		372	0	312
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.97	0.97	0.97	0.80	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.9	11.5	0.0	52.8	10.6	10.6	45.5	0.0	0.0	51.6	0.0	50.6
Incr Delay (d2), s/veh	4.6	0.3	0.0	29.2	0.6	0.6	15.9	0.0	0.0	1.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.4	0.0	2.5	3.6	3.7	9.1	0.0	0.0	1.5	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	11.8	0.0	82.0	11.2	11.2	61.4	0.0	0.0	53.2	0.0	50.9
LnGrp LOS	E	B		F	B	B	E	A		D	A	D
Approach Vol, veh/h		574	A		662			576	A		64	
Approach Delay, s/veh		14.1			18.1			61.4			52.8	
Approach LOS		B			B			E			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	69.3		10.0	7.0	71.5		23.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.5	48.5		22.5	5.5	48.5		19.5				
Max Q Clear Time (g_c+I1), s	6.0	10.4		5.1	3.8	10.9		19.7				
Green Ext Time (p_c), s	0.0	4.4		0.1	0.0	4.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			31.4
HCM 6th LOS			C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	492	71	229	568	131	431
Future Volume (veh/h)	492	71	229	568	131	431
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.95	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	502	72	234	580	134	440
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	862	123	290	1854	562	500
Arrive On Green	0.28	0.28	0.16	0.52	0.31	0.31
Sat Flow, veh/h	3215	445	1795	3676	1795	1598
Grp Volume(v), veh/h	287	287	234	580	134	440
Grp Sat Flow(s),veh/h/ln	1791	1775	1795	1791	1795	1598
Q Serve(g_s), s	7.8	7.8	7.1	5.2	3.1	14.7
Cycle Q Clear(g_c), s	7.8	7.8	7.1	5.2	3.1	14.7
Prop In Lane		0.25	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	495	490	290	1854	562	500
V/C Ratio(X)	0.58	0.59	0.81	0.31	0.24	0.88
Avail Cap(c_a), veh/h	1052	1043	623	2104	911	811
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.5	17.5	22.7	7.8	14.3	18.3
Incr Delay (d2), s/veh	1.5	1.6	2.1	0.1	0.1	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	3.0	2.8	1.6	1.2	5.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.0	19.1	24.8	7.9	14.4	22.2
LnGrp LOS	B	B	C	A	B	C
Approach Vol, veh/h	574			814	574	
Approach Delay, s/veh	19.1			12.8	20.4	
Approach LOS	B			B	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.6	20.5		22.1		34.1
Change Period (Y+Rc), s	4.5	5.0		4.5		5.0
Max Green Setting (Gmax), s	19.5	33.0		28.5		33.0
Max Q Clear Time (g_c+I1), s	9.1	9.8		16.7		7.2
Green Ext Time (p_c), s	0.2	4.9		0.9		5.6

Intersection Summary		
HCM 6th Ctrl Delay		16.8
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	643	354	313	588	6	230	2	936	1	0	2
Future Volume (veh/h)	6	643	354	313	588	6	230	2	936	1	0	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1737	1870	1900	1900	1885	1885	1856	1870	1870	1870
Adj Flow Rate, veh/h	6	670	0	326	612	6	240	2	0	1	0	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	11	2	0	0	1	1	3	2	2	2
Cap, veh/h	11	1981		344	2696	26	262	2		9	0	17
Arrive On Green	0.01	0.55	0.00	0.39	1.00	1.00	0.15	0.15	0.00	0.02	0.00	0.02
Sat Flow, veh/h	1810	3610	1472	1781	3663	36	1781	15	1572	495	0	990
Grp Volume(v), veh/h	6	670	0	326	302	316	242	0	0	3	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1472	1781	1805	1894	1796	0	1572	1485	0	0
Q Serve(g_s), s	0.5	15.4	0.0	26.6	0.0	0.0	19.9	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	15.4	0.0	26.6	0.0	0.0	19.9	0.0	0.0	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.99		1.00	0.33		0.67
Lane Grp Cap(c), veh/h	11	1981		344	1328	1394	264	0		26	0	0
V/C Ratio(X)	0.56	0.34		0.95	0.23	0.23	0.92	0.00		0.11	0.00	0.00
Avail Cap(c_a), veh/h	48	1981		487	1328	1394	281	0		218	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.00	1.00	1.00	1.00	0.54	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	74.4	18.7	0.0	45.3	0.0	0.0	63.0	0.0	0.0	72.5	0.0	0.0
Incr Delay (d2), s/veh	12.6	0.4	0.0	20.1	0.4	0.4	19.6	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	6.5	0.0	11.9	0.1	0.1	10.6	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.9	19.1	0.0	65.4	0.4	0.4	82.6	0.0	0.0	74.0	0.0	0.0
LnGrp LOS	F	B		E	A	A	F	A		E	A	A
Approach Vol, veh/h		676	A		944			242	A		3	
Approach Delay, s/veh		19.7			22.8			82.6			74.0	
Approach LOS		B			C			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.0	86.3		6.1	3.9	114.4		25.6				
Change Period (Y+Rc), s	3.0	4.0		3.5	3.0	4.0		3.5				
Max Green Setting (Gmax), s	41.0	49.5		22.0	4.0	86.5		23.5				
Max Q Clear Time (g_c+I1), s	28.6	17.4		2.3	2.5	2.0		21.9				
Green Ext Time (p_c), s	0.4	7.1		0.0	0.0	6.3		0.2				

Intersection Summary			
HCM 6th Ctrl Delay			29.5
HCM 6th LOS			C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	832	593	4	1075	27	391	84	35	65	82	51
Future Volume (veh/h)	155	832	593	4	1075	27	391	84	35	65	82	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1841	1900	1841	1841	1811	1870	1856	1870	1900	1900
Adj Flow Rate, veh/h	161	867	0	4	1120	28	470	0	0	68	85	53
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	3	4	0	4	4	6	2	3	2	0	0
Cap, veh/h	101	2198		9	1992	50	539	0		169	104	65
Arrive On Green	0.06	0.62	0.00	0.01	0.57	0.57	0.16	0.00	0.00	0.10	0.10	0.10
Sat Flow, veh/h	1781	3526	1560	1810	3483	87	3450	0	1572	1781	1090	680
Grp Volume(v), veh/h	161	867	0	4	562	586	470	0	0	68	0	138
Grp Sat Flow(s),veh/h/ln	1781	1763	1560	1810	1749	1821	1725	0	1572	1781	0	1770
Q Serve(g_s), s	8.5	18.4	0.0	0.3	30.4	30.4	20.0	0.0	0.0	5.4	0.0	11.5
Cycle Q Clear(g_c), s	8.5	18.4	0.0	0.3	30.4	30.4	20.0	0.0	0.0	5.4	0.0	11.5
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	101	2198		9	1000	1042	539	0		169	0	168
V/C Ratio(X)	1.60	0.39		0.43	0.56	0.56	0.87	0.00		0.40	0.00	0.82
Avail Cap(c_a), veh/h	101	2198		62	1000	1042	793	0		338	0	336
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	70.7	14.1	0.0	74.4	20.2	20.2	61.8	0.0	0.0	63.9	0.0	66.6
Incr Delay (d2), s/veh	309.2	0.5	0.0	28.7	2.3	2.2	7.3	0.0	0.0	1.5	0.0	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	7.5	0.0	0.2	12.8	13.3	9.4	0.0	0.0	2.5	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	379.9	14.6	0.0	103.1	22.5	22.4	69.1	0.0	0.0	65.4	0.0	76.0
LnGrp LOS	F	B		F	C	C	E	A		E	A	E
Approach Vol, veh/h		1028	A		1152			470	A		206	
Approach Delay, s/veh		71.8			22.8			69.1			72.5	
Approach LOS		E			C			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	98.0		27.9	13.0	90.3		18.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.1	63.9		34.5	8.5	60.5		28.5
Max Q Clear Time (g_c+I1), s	2.3	20.4		22.0	10.5	32.4		13.5
Green Ext Time (p_c), s	0.0	7.6		1.5	0.0	8.6		0.8

Intersection Summary	
HCM 6th Ctrl Delay	51.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	364	229	565	167	308	588
Future Volume (veh/h)	364	229	565	167	308	588
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	375	236	582	172	318	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	870	868	795	347	432	
Arrive On Green	0.48	0.48	0.22	0.22	0.12	0.00
Sat Flow, veh/h	1795	1885	3647	1551	3483	1598
Grp Volume(v), veh/h	375	236	582	172	318	0
Grp Sat Flow(s),veh/h/ln	1795	1791	1777	1551	1742	1598
Q Serve(g_s), s	10.9	6.3	12.2	7.7	7.0	0.0
Cycle Q Clear(g_c), s	10.9	6.3	12.2	7.7	7.0	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	870	868	795	347	432	
V/C Ratio(X)	0.43	0.27	0.73	0.50	0.74	
Avail Cap(c_a), veh/h	870	868	795	347	906	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.47	0.47	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.4	12.2	28.8	27.1	33.8	0.0
Incr Delay (d2), s/veh	0.7	0.4	5.9	5.0	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	2.5	5.7	3.3	3.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.2	12.6	34.7	32.1	36.2	0.0
LnGrp LOS	B	B	C	C	D	
Approach Vol, veh/h		611	754		318	A
Approach Delay, s/veh		13.6	34.1		36.2	
Approach LOS		B	C		D	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		43.4		14.1		22.5
Change Period (Y+Rc), s		4.6		* 4.2		4.6
Max Green Setting (Gmax), s		27.9		* 21		17.9
Max Q Clear Time (g_c+I1), s		12.9		9.0		14.2
Green Ext Time (p_c), s		3.5		0.9		1.6

Intersection Summary		
HCM 6th Ctrl Delay		27.1
HCM 6th LOS		C

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	224	264	42	296	412	34
Future Volume (veh/h)	224	264	42	296	412	34
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	238	281	45	315	472	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	0	0	1	0
Cap, veh/h	606	498	57	912	892	400
Arrive On Green	0.32	0.32	0.03	0.48	0.25	0.00
Sat Flow, veh/h	1885	1549	1810	1900	3591	1610
Grp Volume(v), veh/h	238	281	45	315	472	0
Grp Sat Flow(s),veh/h/ln	1885	1549	1810	1900	1795	1610
Q Serve(g_s), s	2.7	4.2	0.7	2.9	3.1	0.0
Cycle Q Clear(g_c), s	2.7	4.2	0.7	2.9	3.1	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	606	498	57	912	892	400
V/C Ratio(X)	0.39	0.56	0.78	0.35	0.53	0.00
Avail Cap(c_a), veh/h	2047	1681	1965	2063	3898	1748
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.3	7.8	13.3	4.5	9.0	0.0
Incr Delay (d2), s/veh	0.4	1.0	20.4	0.2	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.0	0.5	0.4	0.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.7	8.8	33.7	4.7	9.5	0.0
LnGrp LOS	A	A	C	A	A	A
Approach Vol, veh/h	519			360	472	
Approach Delay, s/veh	8.3			8.3	9.5	
Approach LOS	A			A	A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	4.4	12.9		10.4		17.3
Change Period (Y+Rc), s	3.5	4.0		3.5		4.0
Max Green Setting (Gmax), s	30.0	30.0		30.0		30.0
Max Q Clear Time (g_c+I1), s	2.7	6.2		5.1		4.9
Green Ext Time (p_c), s	0.1	2.5		1.7		1.8

Intersection Summary	
HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	5.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	159	83	75	185	162	96
Future Vol, veh/h	159	83	75	185	162	96
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	170	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	166	86	78	193	169	100

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	253	0	516	167
Stage 1	-	-	-	-	167	-
Stage 2	-	-	-	-	349	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1324	-	523	882
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	719	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1323	-	492	881
Mov Cap-2 Maneuver	-	-	-	-	492	-
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	719	-

Approach	EB		WB		NB
HCM Control Delay, s	0		2.3		13.7
HCM LOS					B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	492	881	-	-	1323	-
HCM Lane V/C Ratio	0.343	0.114	-	-	0.059	-
HCM Control Delay (s)	16.1	9.6	-	-	7.9	-
HCM Lane LOS	C	A	-	-	A	-
HCM 95th %tile Q(veh)	1.5	0.4	-	-	0.2	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	239	8	9	315	9	7
Future Vol, veh/h	239	8	9	315	9	7
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	1	2	2	11	11
Mvmt Flow	266	9	10	350	10	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	276	0	642	272
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	370	-
Critical Hdwy	-	-	4.12	-	6.51	6.31
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.218	-	3.599	3.399
Pot Cap-1 Maneuver	-	-	1287	-	424	746
Stage 1	-	-	-	-	753	-
Stage 2	-	-	-	-	679	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1286	-	419	745
Mov Cap-2 Maneuver	-	-	-	-	512	-
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	679	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	593	-	-	1286	-
HCM Lane V/C Ratio	0.03	-	-	0.008	-
HCM Control Delay (s)	11.3	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	92	0	5	26	332	0	1	7	247	0	4
Future Vol, veh/h	6	92	0	5	26	332	0	1	7	247	0	4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	3	3	3	14	14	14	1	1	1
Mvmt Flow	6	96	0	5	27	346	0	1	7	257	0	4
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	9.2	11	8.3	11.5
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	6%	16%	0%	98%
Vol Thru, %	12%	94%	84%	0%	0%
Vol Right, %	88%	0%	0%	100%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	98	31	332	251
LT Vol	0	6	5	0	247
Through Vol	1	92	26	0	0
RT Vol	7	0	0	332	4
Lane Flow Rate	8	102	32	346	261
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.012	0.148	0.049	0.449	0.378
Departure Headway (Hd)	5.219	5.212	5.464	4.677	5.21
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	690	682	653	764	685
Service Time	3.219	3.291	3.22	2.433	3.282
HCM Lane V/C Ratio	0.012	0.15	0.049	0.453	0.381
HCM Control Delay	8.3	9.2	8.5	11.2	11.5
HCM Lane LOS	A	A	A	B	B
HCM 95th-tile Q	0	0.5	0.2	2.3	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	339	372	135	543	5	608	5	86	0	9	3
Future Volume (veh/h)	1	339	372	135	543	5	608	5	86	0	9	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1687	1687	1634	1687	1687	1856	1900	1856	1900	1900	1900
Adj Flow Rate, veh/h	1	365	400	145	584	5	658	0	92	0	10	3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	5	1	1	3	0	3	0	0	0
Cap, veh/h	2	597	517	178	1582	14	874	0	380	0	22	7
Arrive On Green	0.00	0.37	0.37	0.11	0.49	0.49	0.25	0.00	0.25	0.00	0.02	0.02
Sat Flow, veh/h	1619	1602	1386	1556	3255	28	3534	0	1536	0	1370	411
Grp Volume(v), veh/h	1	365	400	145	287	302	658	0	92	0	0	13
Grp Sat Flow(s),veh/h/ln	1619	1602	1386	1556	1602	1681	1767	0	1536	0	0	1781
Q Serve(g_s), s	0.0	13.7	18.9	6.7	8.3	8.3	12.8	0.0	3.6	0.0	0.0	0.5
Cycle Q Clear(g_c), s	0.0	13.7	18.9	6.7	8.3	8.3	12.8	0.0	3.6	0.0	0.0	0.5
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.00		0.23
Lane Grp Cap(c), veh/h	2	597	517	178	779	817	874	0	380	0	0	28
V/C Ratio(X)	0.46	0.61	0.77	0.82	0.37	0.37	0.75	0.00	0.24	0.00	0.00	0.46
Avail Cap(c_a), veh/h	699	692	599	672	779	817	1908	0	830	0	0	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	37.0	18.9	20.5	32.0	11.9	11.9	25.8	0.0	22.3	0.0	0.0	36.1
Incr Delay (d2), s/veh	46.8	3.7	9.4	3.4	1.1	1.0	1.3	0.0	0.3	0.0	0.0	13.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.2	6.9	2.6	2.8	3.0	5.3	0.0	1.3	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.7	22.6	29.9	35.5	13.0	12.9	27.1	0.0	22.6	0.0	0.0	49.6
LnGrp LOS	F	C	C	D	B	B	C	A	C	A	A	D
Approach Vol, veh/h		766			734			750			13	
Approach Delay, s/veh		26.5			17.4			26.6			49.6	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.0	32.6		5.7	4.6	41.0		22.8
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	32.0	32.0		20.0	32.0	31.0		40.0
Max Q Clear Time (g_c+I1), s	8.7	20.9		2.5	2.0	10.3		14.8
Green Ext Time (p_c), s	0.2	6.8		0.0	0.0	7.8		3.0

Intersection Summary		
HCM 6th Ctrl Delay		23.7
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	617	5	428	0	542	374	0	576	166
Future Volume (veh/h)	0	0	0	617	5	428	0	542	374	0	576	166
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		0.97
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				1885	1900	1826	0	1870	1900	0	1870	1870
Adj Flow Rate, veh/h				682	0	470	0	596	0	0	633	182
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				1	0	5	0	2	0	0	2	2
Cap, veh/h				1143	0	492	0	1809		0	1376	395
Arrive On Green				0.32	0.00	0.32	0.00	0.51	0.00	0.00	0.51	0.51
Sat Flow, veh/h				3591	0	1547	0	3647	1610	0	2796	776
Grp Volume(v), veh/h				682	0	470	0	596	0	0	416	399
Grp Sat Flow(s),veh/h/ln				1795	0	1547	0	1777	1610	0	1777	1701
Q Serve(g_s), s				8.8	0.0	16.4	0.0	5.4	0.0	0.0	8.3	8.3
Cycle Q Clear(g_c), s				8.8	0.0	16.4	0.0	5.4	0.0	0.0	8.3	8.3
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.46
Lane Grp Cap(c), veh/h				1143	0	492	0	1809		0	905	866
V/C Ratio(X)				0.60	0.00	0.95	0.00	0.33		0.00	0.46	0.46
Avail Cap(c_a), veh/h				1143	0	492	0	1809		0	905	866
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.96	0.00	0.00	0.77	0.77
Uniform Delay (d), s/veh				15.8	0.0	18.4	0.0	8.0	0.0	0.0	8.7	8.7
Incr Delay (d2), s/veh				0.9	0.0	29.4	0.0	0.5	0.0	0.0	1.3	1.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.2	0.0	8.9	0.0	1.7	0.0	0.0	2.9	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				16.7	0.0	47.8	0.0	8.4	0.0	0.0	9.9	10.0
LnGrp LOS				B	A	D	A	A		A	A	B
Approach Vol, veh/h					1152			596	A		815	
Approach Delay, s/veh					29.4			8.4			10.0	
Approach LOS					C			A			A	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	33.3	33.3	21.7
Change Period (Y+Rc), s	5.3	5.3	4.2
Max Green Setting (Gmax), s	28.0	28.0	17.5
Max Q Clear Time (g_c+I1), s	7.4	10.3	18.4
Green Ext Time (p_c), s	4.6	6.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	18.3
HCM 6th LOS	B

Notes
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	218	0	516	0	0	0	0	691	562	0	934	240
Future Volume (vph)	218	0	516	0	0	0	0	691	562	0	934	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6					4.9	4.9		4.9	4.0
Lane Util. Factor		1.00	0.88					0.95	1.00		0.91	1.00
Frpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	0.97
Flpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	1.00
Frt		1.00	0.85					1.00	0.85		1.00	0.85
Flt Protected		0.95	1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)		1646	2694					3455	1546		4964	1501
Flt Permitted		0.95	1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)		1646	2694					3455	1546		4964	1501
Peak-hour factor, PHF	0.80	0.72	0.75	0.92	0.92	0.92	0.92	0.85	0.94	0.92	0.96	0.82
Adj. Flow (vph)	272	0	688	0	0	0	0	813	598	0	973	293
RTOR Reduction (vph)	0	0	319	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	273	369	0	0	0	0	813	598	0	973	293
Confl. Peds. (#/hr)	13					13	11		1	1		11
Confl. Bikes (#/hr)												9
Heavy Vehicles (%)	6%	0%	2%	0%	0%	0%	0%	1%	1%	0%	1%	1%
Turn Type	Split	NA	Perm					NA	Prot		NA	Free
Protected Phases	2	2						1 3 4	1 3 4		1 3 4	
Permitted Phases			2									Free
Actuated Green, G (s)		16.0	16.0					95.1	95.1		95.1	119.9
Effective Green, g (s)		16.0	16.0					90.9	90.9		90.9	119.9
Actuated g/C Ratio		0.13	0.13					0.76	0.76		0.76	1.00
Clearance Time (s)		4.6	4.6									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		219	359					2619	1172		3763	1501
v/s Ratio Prot		c0.17						0.24	c0.39		0.20	
v/s Ratio Perm			0.14									0.20
v/c Ratio		1.25	1.03					0.31	0.51		0.26	0.20
Uniform Delay, d1		52.0	52.0					4.6	5.7		4.4	0.0
Progression Factor		1.00	1.00					0.02	0.66		1.00	1.00
Incremental Delay, d2		143.2	54.9					0.1	0.3		0.0	0.3
Delay (s)		195.1	106.9					0.1	4.1		4.4	0.3
Level of Service		F	F					A	A		A	A
Approach Delay (s)		131.9			0.0			1.8			3.4	
Approach LOS		F			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	16	82	14	7	26	63	975	21	91	1066	280
Future Volume (vph)	255	16	82	14	7	26	63	975	21	91	1066	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.97		1.00	1.00	1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1625	1647	1509		1792	1561	1745	4939		1745	4716	
Flt Permitted	0.95	0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1625	1647	1509		1792	1561	1745	4939		1745	4716	
Peak-hour factor, PHF	0.86	0.61	0.80	0.85	0.44	0.79	0.66	0.86	0.61	0.67	0.94	0.85
Adj. Flow (vph)	297	26	102	16	16	33	95	1134	34	136	1134	329
RTOR Reduction (vph)	0	0	78	0	0	28	0	3	0	0	41	0
Lane Group Flow (vph)	160	163	25	0	32	5	95	1165	0	136	1422	0
Confl. Peds. (#/hr)			18	18			12		8	8		12
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	1		2	6	
Permitted Phases			4			3						
Actuated Green, G (s)	29.0	29.0	29.0		17.0	17.0	11.7	40.0		16.0	45.2	
Effective Green, g (s)	29.0	29.0	29.0		17.0	17.0	11.7	40.0		16.0	45.2	
Actuated g/C Ratio	0.24	0.24	0.24		0.14	0.14	0.10	0.33		0.13	0.38	
Clearance Time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.2	
Lane Grp Cap (vph)	393	398	364		254	221	170	1647		232	1777	
v/s Ratio Prot	0.10	c0.10			c0.02		0.05	0.24		c0.08	c0.30	
v/s Ratio Perm			0.02			0.00						
v/c Ratio	0.41	0.41	0.07		0.13	0.02	0.56	0.71		0.59	0.80	
Uniform Delay, d1	38.2	38.2	35.0		45.0	44.3	51.6	34.8		48.8	33.3	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.07	0.87	
Incremental Delay, d2	0.7	0.7	0.1		0.2	0.0	3.9	2.6		3.1	3.2	
Delay (s)	38.9	38.9	35.1		45.2	44.3	55.6	37.4		55.6	32.3	
Level of Service	D	D	D		D	D	E	D		E	C	
Approach Delay (s)		38.0			44.7			38.8			34.2	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	36.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	217	37	18	22	80	168	37	663	21	128	672	335
Future Volume (veh/h)	217	37	18	22	80	168	37	663	21	128	672	335
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	228	39	19	23	84	177	39	698	22	135	707	353
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	553	185	90	63	229	232	53	1904	60	179	2277	691
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.03	0.37	0.37	0.10	0.44	0.44
Sat Flow, veh/h	3483	1165	568	404	1476	1496	1795	5118	161	1795	5147	1563
Grp Volume(v), veh/h	228	0	58	107	0	177	39	467	253	135	707	353
Grp Sat Flow(s),veh/h/ln	1742	0	1733	1880	0	1496	1795	1716	1848	1795	1716	1563
Q Serve(g_s), s	4.6	0.0	2.3	3.9	0.0	8.8	1.7	7.7	7.7	5.7	6.9	12.6
Cycle Q Clear(g_c), s	4.6	0.0	2.3	3.9	0.0	8.8	1.7	7.7	7.7	5.7	6.9	12.6
Prop In Lane	1.00		0.33	0.21		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	553	0	275	292	0	232	53	1277	688	179	2277	691
V/C Ratio(X)	0.41	0.00	0.21	0.37	0.00	0.76	0.74	0.37	0.37	0.75	0.31	0.51
Avail Cap(c_a), veh/h	945	0	470	510	0	406	371	2012	1084	603	3018	917
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	0.0	28.3	29.3	0.0	31.3	37.3	17.7	17.7	33.9	14.0	15.5
Incr Delay (d2), s/veh	1.8	0.0	1.4	1.1	0.0	7.2	24.8	0.8	1.5	8.8	0.4	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	1.0	1.8	0.0	3.6	1.1	3.0	3.3	2.8	2.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	0.0	29.7	30.4	0.0	38.5	62.1	18.5	19.2	42.7	14.3	18.2
LnGrp LOS	C	A	C	C	A	D	E	B	B	D	B	B
Approach Vol, veh/h		286			284			759			1195	
Approach Delay, s/veh		30.8			35.4			21.0			18.7	
Approach LOS		C			D			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	38.8		16.0	11.7	33.4		16.3				
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0				
Max Green Setting (Gmax), s	16.0	45.4		21.0	26.0	45.4		21.0				
Max Q Clear Time (g_c+I1), s	3.7	14.6		10.8	7.7	9.7		6.6				
Green Ext Time (p_c), s	0.1	19.6		1.3	0.5	15.5		2.5				
Intersection Summary												
HCM 6th Ctrl Delay			22.6									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	191	123	44	124	240	110	49	448	36	110	413	60
Future Volume (veh/h)	191	123	44	124	240	110	49	448	36	110	413	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	123	231	45	128	247	113	51	462	37	113	426	62
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	331	564	107	381	521	229	66	1321	104	266	1117	484
Arrive On Green	0.18	0.18	0.18	0.21	0.21	0.21	0.04	0.27	0.27	0.08	0.31	0.31
Sat Flow, veh/h	1795	3056	582	1810	2472	1087	1795	4848	383	3483	3582	1552
Grp Volume(v), veh/h	123	140	136	128	188	172	51	325	174	113	426	62
Grp Sat Flow(s),veh/h/ln	1795	1885	1753	1810	1900	1659	1795	1716	1800	1742	1791	1552
Q Serve(g_s), s	4.2	4.6	4.8	4.2	6.0	6.4	2.0	5.3	5.4	2.2	6.5	2.0
Cycle Q Clear(g_c), s	4.2	4.6	4.8	4.2	6.0	6.4	2.0	5.3	5.4	2.2	6.5	2.0
Prop In Lane	1.00		0.33	1.00		0.66	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	331	348	323	381	400	350	66	935	490	266	1117	484
V/C Ratio(X)	0.37	0.40	0.42	0.34	0.47	0.49	0.77	0.35	0.35	0.42	0.38	0.13
Avail Cap(c_a), veh/h	655	688	640	660	693	605	671	2238	1174	1301	2337	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.8	25.0	25.1	23.3	24.0	24.2	33.2	20.4	20.4	30.7	18.7	17.2
Incr Delay (d2), s/veh	1.0	1.1	1.2	0.7	1.2	1.5	22.7	0.8	1.6	1.5	0.8	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	2.1	2.0	1.8	2.8	2.6	1.2	2.1	2.3	0.9	2.6	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.8	26.1	26.3	24.1	25.3	25.7	55.9	21.2	22.0	32.2	19.5	17.6
LnGrp LOS	C	C	C	C	C	C	E	C	C	C	B	B
Approach Vol, veh/h		399			488			550			601	
Approach Delay, s/veh		26.1			25.1			24.6			21.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	23.6		19.3	6.6	26.3		17.4				
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		4.6				
Max Green Setting (Gmax), s	26.0	45.4		25.4	26.0	45.4		25.4				
Max Q Clear Time (g_c+I1), s	4.2	7.4		8.4	4.0	8.5		6.8				
Green Ext Time (p_c), s	0.5	8.6		3.4	0.1	8.2		2.7				

Intersection Summary	
HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C

Notes
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	74	41	46	59	71	21	389	27	61	318	81
Future Volume (veh/h)	108	74	41	46	59	71	21	389	27	61	318	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	114	78	43	48	62	75	22	409	28	64	335	85
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	1	1	1
Cap, veh/h	173	118	65	104	135	198	38	1024	70	84	920	229
Arrive On Green	0.20	0.20	0.20	0.13	0.13	0.13	0.02	0.30	0.30	0.05	0.33	0.33
Sat Flow, veh/h	866	593	327	811	1048	1542	1795	3390	231	1795	2809	700
Grp Volume(v), veh/h	235	0	0	110	0	75	22	215	222	64	211	209
Grp Sat Flow(s),veh/h/ln	1786	0	0	1859	0	1542	1795	1791	1830	1795	1791	1718
Q Serve(g_s), s	6.2	0.0	0.0	2.8	0.0	2.3	0.6	4.9	4.9	1.8	4.6	4.8
Cycle Q Clear(g_c), s	6.2	0.0	0.0	2.8	0.0	2.3	0.6	4.9	4.9	1.8	4.6	4.8
Prop In Lane	0.49		0.18	0.44		1.00	1.00		0.13	1.00		0.41
Lane Grp Cap(c), veh/h	357	0	0	239	0	198	38	541	553	84	587	563
V/C Ratio(X)	0.66	0.00	0.00	0.46	0.00	0.38	0.58	0.40	0.40	0.76	0.36	0.37
Avail Cap(c_a), veh/h	904	0	0	941	0	781	909	1583	1617	909	1583	1519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	0.0	20.7	0.0	20.5	24.9	14.2	14.2	24.2	13.2	13.2
Incr Delay (d2), s/veh	2.1	0.0	0.0	1.4	0.0	1.2	13.5	1.7	1.7	13.4	1.4	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	0.0	1.2	0.0	0.8	0.4	2.0	2.1	1.0	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.0	0.0	0.0	22.1	0.0	21.7	38.4	15.9	15.9	37.6	14.5	14.7
LnGrp LOS	C	A	A	C	A	C	D	B	B	D	B	B
Approach Vol, veh/h		235			185			459			484	
Approach Delay, s/veh		21.0			21.9			17.0			17.6	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.4	20.1		10.6	5.1	21.4		14.3
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0
Max Green Setting (Gmax), s	26.0	45.4		26.0	26.0	45.4		26.0
Max Q Clear Time (g_c+I1), s	3.8	6.9		4.8	2.6	6.8		8.2
Green Ext Time (p_c), s	0.1	7.6		0.8	0.0	7.0		1.3

Intersection Summary			
HCM 6th Ctrl Delay			18.6
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	284	138	40	491	106	183	256	48	74	179	30
Future Volume (veh/h)	7	284	138	40	491	106	183	256	48	74	179	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	8	305	148	43	528	114	197	275	52	80	192	32
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	19	948	406	79	869	187	258	560	464	116	313	52
Arrive On Green	0.01	0.26	0.26	0.04	0.30	0.30	0.14	0.30	0.30	0.06	0.20	0.20
Sat Flow, veh/h	1795	3582	1534	1795	2916	626	1795	1885	1560	1795	1568	261
Grp Volume(v), veh/h	8	305	148	43	323	319	197	275	52	80	0	224
Grp Sat Flow(s),veh/h/ln	1795	1791	1534	1795	1791	1751	1795	1885	1560	1795	0	1830
Q Serve(g_s), s	0.2	3.7	2.4	1.3	8.4	8.5	5.8	6.5	1.3	2.4	0.0	6.1
Cycle Q Clear(g_c), s	0.2	3.7	2.4	1.3	8.4	8.5	5.8	6.5	1.3	2.4	0.0	6.1
Prop In Lane	1.00		1.00	1.00		0.36	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	19	948	406	79	534	522	258	560	464	116	0	365
V/C Ratio(X)	0.43	0.32	0.36	0.55	0.61	0.61	0.76	0.49	0.11	0.69	0.00	0.61
Avail Cap(c_a), veh/h	856	2954	1265	856	1477	1444	856	1037	858	856	0	1006
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.8	16.1	5.0	25.6	16.4	16.4	22.5	15.8	13.9	25.0	0.0	19.9
Incr Delay (d2), s/veh	14.5	0.2	0.7	5.8	1.3	1.4	1.8	0.2	0.0	8.6	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.4	1.4	0.6	3.3	3.2	2.4	2.6	0.4	1.2	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.4	16.4	5.7	31.3	17.7	17.8	24.2	16.0	14.0	33.6	0.0	21.9
LnGrp LOS	D	B	A	C	B	B	C	B	B	C	A	C
Approach Vol, veh/h		461			685			524			304	
Approach Delay, s/veh		13.4			18.6			18.9			25.0	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	21.3	7.5	21.2	6.4	19.4	12.8	15.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	26.0	45.0	26.0	30.0	26.0	45.0	26.0	* 30
Max Q Clear Time (g_c+I1), s	2.2	10.5	4.4	8.5	3.3	5.7	7.8	8.1
Green Ext Time (p_c), s	0.0	5.5	0.2	0.6	0.1	3.2	0.1	1.6

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	250	88	52	392	48	146	355	47	66	236	57
Future Volume (veh/h)	31	250	88	52	392	48	146	355	47	66	236	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.94	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	33	263	93	55	413	51	154	374	49	69	248	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	53	616	211	76	804	98	205	537	70	90	387	94
Arrive On Green	0.03	0.24	0.24	0.04	0.25	0.25	0.11	0.33	0.33	0.05	0.26	0.26
Sat Flow, veh/h	1810	2596	888	1810	3212	393	1810	1640	215	1810	1469	355
Grp Volume(v), veh/h	33	180	176	55	231	233	154	0	423	69	0	308
Grp Sat Flow(s),veh/h/ln	1810	1805	1679	1810	1805	1801	1810	0	1855	1810	0	1824
Q Serve(g_s), s	0.9	4.4	4.7	1.6	5.8	5.9	4.3	0.0	10.4	2.0	0.0	7.8
Cycle Q Clear(g_c), s	0.9	4.4	4.7	1.6	5.8	5.9	4.3	0.0	10.4	2.0	0.0	7.8
Prop In Lane	1.00		0.53	1.00		0.22	1.00		0.12	1.00		0.19
Lane Grp Cap(c), veh/h	53	428	398	76	452	451	205	0	608	90	0	481
V/C Ratio(X)	0.63	0.42	0.44	0.72	0.51	0.52	0.75	0.00	0.70	0.77	0.00	0.64
Avail Cap(c_a), veh/h	708	1223	1137	708	1223	1220	708	0	902	708	0	887
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.2	16.9	17.0	24.8	16.9	16.9	22.5	0.0	15.3	24.6	0.0	17.1
Incr Delay (d2), s/veh	8.7	0.2	0.3	9.2	1.1	1.1	5.4	0.0	1.1	13.0	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.7	1.6	0.8	2.3	2.3	2.0	0.0	4.0	1.1	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.9	17.2	17.3	34.0	18.0	18.0	28.0	0.0	16.4	37.6	0.0	18.8
LnGrp LOS	C	B	B	C	B	B	C	A	B	D	A	B
Approach Vol, veh/h		389			519			577			377	
Approach Delay, s/veh		18.7			19.7			19.5			22.2	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	16.9	7.1	21.7	6.0	17.6	10.4	18.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.5	35.5	20.5	25.5	20.5	35.5	20.5	25.5
Max Q Clear Time (g_c+I1), s	3.6	6.7	4.0	12.4	2.9	7.9	6.3	9.8
Green Ext Time (p_c), s	0.1	1.4	0.1	1.8	0.0	3.5	0.3	1.9

Intersection Summary	
HCM 6th Ctrl Delay	19.9
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	256	54	63	418	119	42	117	53	66	87	42
Future Volume (veh/h)	13	256	54	63	418	119	42	117	53	66	87	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.92	1.00		0.94	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	14	269	57	66	440	125	44	123	56	69	92	44
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	26	926	191	89	958	269	67	287	131	92	303	145
Arrive On Green	0.01	0.32	0.32	0.05	0.35	0.35	0.04	0.24	0.24	0.05	0.25	0.25
Sat Flow, veh/h	1810	2920	603	1810	2722	763	1795	1200	546	1810	1199	574
Grp Volume(v), veh/h	14	164	162	66	290	275	44	0	179	69	0	136
Grp Sat Flow(s),veh/h/ln	1810	1805	1718	1810	1805	1679	1795	0	1747	1810	0	1773
Q Serve(g_s), s	0.4	3.2	3.3	1.7	5.8	5.9	1.1	0.0	4.0	1.8	0.0	2.9
Cycle Q Clear(g_c), s	0.4	3.2	3.3	1.7	5.8	5.9	1.1	0.0	4.0	1.8	0.0	2.9
Prop In Lane	1.00		0.35	1.00		0.45	1.00		0.31	1.00		0.32
Lane Grp Cap(c), veh/h	26	572	545	89	636	591	67	0	418	92	0	448
V/C Ratio(X)	0.54	0.29	0.30	0.74	0.46	0.47	0.66	0.00	0.43	0.75	0.00	0.30
Avail Cap(c_a), veh/h	622	1783	1697	622	1783	1659	810	0	600	816	0	609
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.8	11.9	12.0	21.8	11.6	11.7	22.1	0.0	15.0	21.8	0.0	14.1
Incr Delay (d2), s/veh	16.7	0.3	0.3	11.3	0.5	0.6	10.4	0.0	0.7	11.6	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.1	1.1	0.9	2.0	1.9	0.6	0.0	1.5	1.0	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	12.2	12.3	33.1	12.2	12.3	32.6	0.0	15.7	33.4	0.0	14.5
LnGrp LOS	D	B	B	C	B	B	C	A	B	C	A	B
Approach Vol, veh/h		340			631			223			205	
Approach Delay, s/veh		13.4			14.4			19.0			20.8	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	15.1	6.3	18.8	5.7	15.8	4.7	20.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	21.0	16.0	16.0	46.0	21.0	16.0	16.0	46.0
Max Q Clear Time (g_c+I1), s	3.8	6.0	3.7	5.3	3.1	4.9	2.4	7.9
Green Ext Time (p_c), s	0.1	0.7	0.1	2.1	0.1	0.5	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	15.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	353	73	84	405	11	118	3	89	19	3	36
Future Volume (veh/h)	14	353	73	84	405	11	118	3	89	19	3	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	14	364	75	87	418	11	122	3	92	20	3	37
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	26	687	139	115	556	450	149	2	651	141	12	672
Arrive On Green	0.01	0.23	0.23	0.06	0.29	0.29	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	1810	2956	600	1810	1900	1540	0	5	1553	0	29	1603
Grp Volume(v), veh/h	14	220	219	87	418	11	125	0	92	23	0	37
Grp Sat Flow(s),veh/h/ln	1810	1805	1751	1810	1900	1540	5	0	1553	29	0	1603
Q Serve(g_s), s	0.4	5.1	5.2	2.3	9.5	0.2	0.0	0.0	1.7	0.0	0.0	0.7
Cycle Q Clear(g_c), s	0.4	5.1	5.2	2.3	9.5	0.2	20.0	0.0	1.7	20.0	0.0	0.7
Prop In Lane	1.00		0.34	1.00		1.00	0.98		1.00	0.87		1.00
Lane Grp Cap(c), veh/h	26	419	407	115	556	450	151	0	651	153	0	672
V/C Ratio(X)	0.54	0.52	0.54	0.75	0.75	0.02	0.83	0.00	0.14	0.15	0.00	0.06
Avail Cap(c_a), veh/h	986	1698	1647	967	1787	1448	151	0	651	153	0	672
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.4	16.0	16.1	22.0	15.3	12.0	23.6	0.0	8.6	13.6	0.0	8.2
Incr Delay (d2), s/veh	16.8	0.4	0.4	9.5	0.8	0.0	28.7	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.9	1.9	1.2	3.7	0.1	2.5	0.0	0.5	0.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.1	16.4	16.5	31.5	16.1	12.0	52.2	0.0	8.6	13.7	0.0	8.3
LnGrp LOS	D	B	B	C	B	B	D	A	A	B	A	A
Approach Vol, veh/h		453			516			217			60	
Approach Delay, s/veh		17.2			18.6			33.7			10.4	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	7.5	16.2	24.0	4.7	19.1	24.0
Change Period (Y+Rc), s	4.5	5.1	4.0	4.0	5.1	4.0
Max Green Setting (Gmax), s	25.5	44.9	20.0	26.0	44.9	20.0
Max Q Clear Time (g_c+I1), s	4.3	7.2	22.0	2.4	11.5	22.0
Green Ext Time (p_c), s	0.2	1.8	0.0	0.0	1.9	0.0

Intersection Summary	
HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	122	92	94	176	37	91	461	79	26	300	39
Future Volume (veh/h)	28	122	92	94	176	37	91	461	79	26	300	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.94	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	29	127	96	98	183	39	95	480	82	27	312	41
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	0	0	0
Cap, veh/h	57	213	161	131	395	84	127	603	103	55	568	75
Arrive On Green	0.03	0.22	0.22	0.07	0.26	0.26	0.07	0.39	0.39	0.03	0.35	0.35
Sat Flow, veh/h	1795	956	723	1810	1498	319	1795	1556	266	1810	1635	215
Grp Volume(v), veh/h	29	0	223	98	0	222	95	0	562	27	0	353
Grp Sat Flow(s),veh/h/ln	1795	0	1679	1810	0	1817	1795	0	1822	1810	0	1850
Q Serve(g_s), s	0.9	0.0	7.1	3.2	0.0	6.1	3.1	0.0	16.2	0.9	0.0	9.1
Cycle Q Clear(g_c), s	0.9	0.0	7.1	3.2	0.0	6.1	3.1	0.0	16.2	0.9	0.0	9.1
Prop In Lane	1.00		0.43	1.00		0.18	1.00		0.15	1.00		0.12
Lane Grp Cap(c), veh/h	57	0	375	131	0	479	127	0	706	55	0	643
V/C Ratio(X)	0.50	0.00	0.60	0.75	0.00	0.46	0.75	0.00	0.80	0.49	0.00	0.55
Avail Cap(c_a), veh/h	802	0	991	808	0	1072	802	0	1075	808	0	1091
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.3	0.0	20.7	27.0	0.0	18.3	27.1	0.0	16.1	28.3	0.0	15.6
Incr Delay (d2), s/veh	6.7	0.0	1.5	8.1	0.0	0.7	8.6	0.0	3.3	6.7	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.8	1.6	0.0	2.5	1.5	0.0	6.5	0.5	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	0.0	22.2	35.1	0.0	19.0	35.6	0.0	19.3	35.0	0.0	16.7
LnGrp LOS	C	A	C	D	A	B	D	A	B	D	A	B
Approach Vol, veh/h		252			320			657			380	
Approach Delay, s/veh		23.6			24.0			21.7			18.0	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	18.2	7.7	25.6	5.4	20.6	5.3	28.0
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0
Max Green Setting (Gmax), s	26.5	35.0	26.5	35.0	26.5	35.0	26.5	35.0
Max Q Clear Time (g_c+I1), s	5.2	9.1	5.1	11.1	2.9	8.1	2.9	18.2
Green Ext Time (p_c), s	0.2	1.5	0.2	3.1	0.0	1.4	0.0	4.8

Intersection Summary	
HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	178	35	29	175	41	49	153	37	30	75	47
Future Vol, veh/h	26	178	35	29	175	41	49	153	37	30	75	47
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	28	191	38	31	188	44	53	165	40	32	81	51
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	12.1	12	12.5	10.8
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	21%	13%	0%	14%	0%	20%
Vol Thru, %	64%	87%	0%	86%	0%	49%
Vol Right, %	15%	0%	100%	0%	100%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	239	204	35	204	41	152
LT Vol	49	26	0	29	0	30
Through Vol	153	178	0	175	0	75
RT Vol	37	0	35	0	41	47
Lane Flow Rate	257	219	38	219	44	163
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.402	0.378	0.057	0.378	0.066	0.26
Departure Headway (Hd)	5.633	6.2	5.423	6.2	5.415	5.726
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	637	579	657	579	659	624
Service Time	3.692	3.958	3.18	3.957	3.172	3.793
HCM Lane V/C Ratio	0.403	0.378	0.058	0.378	0.067	0.261
HCM Control Delay	12.5	12.7	8.5	12.7	8.6	10.8
HCM Lane LOS	B	B	A	B	A	B
HCM 95th-tile Q	1.9	1.8	0.2	1.8	0.2	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	149	105	25	338	105	110	57	12	107	66	95
Future Volume (veh/h)	76	149	105	25	338	105	110	57	12	107	66	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.91	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	84	166	0	28	376	0	122	63	13	119	73	106
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	124	601		58	532		160	347	72	155	150	218
Arrive On Green	0.07	0.32	0.00	0.03	0.28	0.00	0.09	0.23	0.23	0.09	0.23	0.23
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1499	309	1795	655	951
Grp Volume(v), veh/h	84	166	0	28	376	0	122	0	76	119	0	179
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	0	1808	1795	0	1605
Q Serve(g_s), s	2.3	3.3	0.0	0.8	8.9	0.0	3.3	0.0	1.7	3.2	0.0	4.8
Cycle Q Clear(g_c), s	2.3	3.3	0.0	0.8	8.9	0.0	3.3	0.0	1.7	3.2	0.0	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.59
Lane Grp Cap(c), veh/h	124	601		58	532		160	0	419	155	0	369
V/C Ratio(X)	0.68	0.28		0.48	0.71		0.76	0.00	0.18	0.77	0.00	0.49
Avail Cap(c_a), veh/h	576	1341		576	1341		580	0	761	576	0	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.7	12.7	0.0	23.7	16.1	0.0	22.2	0.0	15.4	22.3	0.0	16.7
Incr Delay (d2), s/veh	4.8	0.2	0.0	4.6	1.7	0.0	2.9	0.0	0.2	3.0	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.3	0.0	0.4	3.6	0.0	1.4	0.0	0.7	1.4	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	12.9	0.0	28.3	17.8	0.0	25.1	0.0	15.5	25.3	0.0	17.4
LnGrp LOS	C	B		C	B		C	A	B	C	A	B
Approach Vol, veh/h		250	A		404	A		198			298	
Approach Delay, s/veh		17.8			18.5			21.4			20.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.6	20.4	8.4	15.5	7.4	18.6	8.3	15.6
Change Period (Y+Rc), s	4.0	4.5	4.0	4.0	4.0	4.5	4.0	4.0
Max Green Setting (Gmax), s	16.0	35.5	16.0	21.0	16.0	35.5	16.0	21.0
Max Q Clear Time (g_c+I1), s	2.8	5.3	5.3	6.8	4.3	10.9	5.2	3.7
Green Ext Time (p_c), s	0.0	1.0	0.1	0.7	0.1	2.3	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	964	1085	72	408	35	485	19	31	53	31	25
Future Volume (veh/h)	12	964	1085	72	408	35	485	19	31	53	31	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	12	994	0	74	421	36	514	0	0	55	32	26
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	25	2060		88	2032	173	577	0		84	49	113
Arrive On Green	0.01	0.58	0.00	0.05	0.61	0.61	0.16	0.00	0.00	0.07	0.07	0.07
Sat Flow, veh/h	1795	3582	1598	1795	3331	283	3591	0	1598	1164	677	1562
Grp Volume(v), veh/h	12	994	0	74	225	232	514	0	0	87	0	26
Grp Sat Flow(s),veh/h/ln	1795	1791	1598	1795	1791	1823	1795	0	1598	1842	0	1562
Q Serve(g_s), s	0.7	18.3	0.0	4.6	6.3	6.4	15.7	0.0	0.0	5.2	0.0	1.8
Cycle Q Clear(g_c), s	0.7	18.3	0.0	4.6	6.3	6.4	15.7	0.0	0.0	5.2	0.0	1.8
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	0.63		1.00
Lane Grp Cap(c), veh/h	25	2060		88	1093	1112	577	0		133	0	113
V/C Ratio(X)	0.48	0.48		0.84	0.21	0.21	0.89	0.00		0.65	0.00	0.23
Avail Cap(c_a), veh/h	88	2060		88	1093	1112	625	0		370	0	314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.98	0.98	0.98	0.92	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.8	14.0	0.0	52.8	9.7	9.7	46.0	0.0	0.0	50.6	0.0	49.0
Incr Delay (d2), s/veh	5.2	0.8	0.0	45.3	0.4	0.4	12.5	0.0	0.0	2.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	7.5	0.0	3.2	2.6	2.6	7.9	0.0	0.0	2.5	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.0	14.8	0.0	98.1	10.2	10.2	58.5	0.0	0.0	52.6	0.0	49.4
LnGrp LOS	E	B		F	B	B	E	A		D	A	D
Approach Vol, veh/h		1006	A		531			514	A		113	
Approach Delay, s/veh		15.4			22.4			58.5			51.9	
Approach LOS		B			C			E			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	68.4		12.1	5.6	72.3		22.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.5	48.5		22.5	5.5	48.5		19.5
Max Q Clear Time (g_c+I1), s	6.6	20.3		7.2	2.7	8.4		17.7
Green Ext Time (p_c), s	0.0	8.7		0.3	0.0	3.2		0.3

Intersection Summary	
HCM 6th Ctrl Delay	29.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	884	71	297	525	94	243
Future Volume (veh/h)	884	71	297	525	94	243
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.96	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	902	72	303	536	96	248
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	1294	103	356	2355	341	303
Arrive On Green	0.39	0.39	0.20	0.66	0.19	0.19
Sat Flow, veh/h	3441	267	1795	3676	1795	1598
Grp Volume(v), veh/h	483	491	303	536	96	248
Grp Sat Flow(s),veh/h/ln	1791	1823	1795	1791	1795	1598
Q Serve(g_s), s	14.1	14.1	10.1	3.7	2.8	9.3
Cycle Q Clear(g_c), s	14.1	14.1	10.1	3.7	2.8	9.3
Prop In Lane		0.15	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	693	705	356	2355	341	303
V/C Ratio(X)	0.70	0.70	0.85	0.23	0.28	0.82
Avail Cap(c_a), veh/h	950	967	563	2355	823	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	16.0	24.0	4.3	21.6	24.2
Incr Delay (d2), s/veh	1.9	1.8	4.1	0.1	0.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	5.4	4.3	0.9	1.2	3.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.9	17.9	28.1	4.4	21.7	26.2
LnGrp LOS	B	B	C	A	C	C
Approach Vol, veh/h	974			839	344	
Approach Delay, s/veh	17.9			12.9	25.0	
Approach LOS	B			B	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	16.8	29.1		16.3		45.9
Change Period (Y+Rc), s	4.5	5.0		4.5		5.0
Max Green Setting (Gmax), s	19.5	33.0		28.5		33.0
Max Q Clear Time (g_c+I1), s	12.1	16.1		11.3		5.7
Green Ext Time (p_c), s	0.3	7.8		0.5		5.2

Intersection Summary		
HCM 6th Ctrl Delay		17.1
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	726	442	388	639	2	198	1	684	5	5	9
Future Volume (veh/h)	8	726	442	388	639	2	198	1	684	5	5	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.87
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1737	1870	1900	1900	1885	1885	1856	1870	1870	1870
Adj Flow Rate, veh/h	8	756	0	404	666	2	206	1	0	5	5	9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	11	2	0	0	1	1	3	2	2	2
Cap, veh/h	14	1857		419	2741	8	230	1		12	12	21
Arrive On Green	0.01	0.51	0.00	0.47	1.00	1.00	0.13	0.13	0.00	0.03	0.03	0.03
Sat Flow, veh/h	1810	3610	1472	1781	3692	11	1787	9	1572	416	416	750
Grp Volume(v), veh/h	8	756	0	404	326	342	207	0	0	19	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1472	1781	1805	1898	1796	0	1572	1582	0	0
Q Serve(g_s), s	0.7	19.3	0.0	32.9	0.0	0.0	17.0	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear(g_c), s	0.7	19.3	0.0	32.9	0.0	0.0	17.0	0.0	0.0	1.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.26		0.47
Lane Grp Cap(c), veh/h	14	1857		419	1340	1409	231	0		44	0	0
V/C Ratio(X)	0.58	0.41		0.96	0.24	0.24	0.89	0.00		0.43	0.00	0.00
Avail Cap(c_a), veh/h	48	1857		487	1340	1409	281	0		232	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.00	1.00	1.00	1.00	0.68	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	74.2	22.4	0.0	39.1	0.0	0.0	64.3	0.0	0.0	71.7	0.0	0.0
Incr Delay (d2), s/veh	9.2	0.4	0.0	28.4	0.4	0.4	17.0	0.0	0.0	4.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	8.3	0.0	15.0	0.2	0.2	9.0	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.4	22.8	0.0	67.5	0.4	0.4	81.3	0.0	0.0	76.6	0.0	0.0
LnGrp LOS	F	C		E	A	A	F	A		E	A	A
Approach Vol, veh/h		764	A		1072			207	A		19	
Approach Delay, s/veh		23.4			25.7			81.3			76.6	
Approach LOS		C			C			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	38.3	81.2		7.7	4.1	115.4		22.8				
Change Period (Y+Rc), s	3.0	4.0		3.5	3.0	4.0		3.5				
Max Green Setting (Gmax), s	41.0	49.5		22.0	4.0	86.5		23.5				
Max Q Clear Time (g_c+I1), s	34.9	21.3		3.8	2.7	2.0		19.0				
Green Ext Time (p_c), s	0.4	7.9		0.0	0.0	6.9		0.3				

Intersection Summary			
HCM 6th Ctrl Delay			30.9
HCM 6th LOS			C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	972	402	3	1042	13	483	14	48	114	145	92
Future Volume (veh/h)	49	972	402	3	1042	13	483	14	48	114	145	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1841	1900	1841	1841	1811	1870	1856	1870	1900	1900
Adj Flow Rate, veh/h	51	1012	0	3	1085	14	514	0	0	119	151	96
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	3	4	0	4	4	6	2	3	2	0	0
Cap, veh/h	65	1942		7	1831	24	583	0		278	169	108
Arrive On Green	0.05	0.73	0.00	0.00	0.52	0.52	0.17	0.00	0.00	0.16	0.16	0.16
Sat Flow, veh/h	1781	3526	1560	1810	3534	46	3450	0	1572	1781	1083	688
Grp Volume(v), veh/h	51	1012	0	3	537	562	514	0	0	119	0	247
Grp Sat Flow(s),veh/h/ln	1781	1763	1560	1810	1749	1830	1725	0	1572	1781	0	1771
Q Serve(g_s), s	4.2	18.6	0.0	0.2	32.0	32.0	21.8	0.0	0.0	9.1	0.0	20.5
Cycle Q Clear(g_c), s	4.2	18.6	0.0	0.2	32.0	32.0	21.8	0.0	0.0	9.1	0.0	20.5
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	65	1942		7	906	948	583	0		278	0	277
V/C Ratio(X)	0.78	0.52		0.42	0.59	0.59	0.88	0.00		0.43	0.00	0.89
Avail Cap(c_a), veh/h	101	1942		62	906	948	793	0		338	0	337
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	70.7	11.5	0.0	74.5	25.1	25.1	60.9	0.0	0.0	57.2	0.0	62.0
Incr Delay (d2), s/veh	18.4	1.0	0.0	35.4	2.8	2.7	8.8	0.0	0.0	1.0	0.0	21.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	6.2	0.0	0.2	13.9	14.5	10.4	0.0	0.0	4.2	0.0	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.1	12.5	0.0	110.0	28.0	27.9	69.7	0.0	0.0	58.3	0.0	83.8
LnGrp LOS	F	B		F	C	C	E	A		E	A	F
Approach Vol, veh/h		1063	A		1102			514	A		366	
Approach Delay, s/veh		16.2			28.1			69.7			75.5	
Approach LOS		B			C			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	87.1		29.8	10.0	82.2		27.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	63.9		34.5	8.5	60.5		28.5				
Max Q Clear Time (g_c+I1), s	2.2	20.6		23.8	6.2	34.0		22.5				
Green Ext Time (p_c), s	0.0	9.4		1.5	0.0	8.0		0.9				
Intersection Summary												
HCM 6th Ctrl Delay			36.7									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	332	518	445	53	612	406
Future Volume (veh/h)	332	518	445	53	612	406
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	342	534	459	55	631	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	531	894	795	347	745	
Arrive On Green	0.39	0.39	0.22	0.22	0.21	0.00
Sat Flow, veh/h	1346	2357	3647	1551	3483	1598
Grp Volume(v), veh/h	462	414	459	55	631	0
Grp Sat Flow(s),veh/h/ln	1818	1791	1777	1551	1742	1598
Q Serve(g_s), s	16.5	14.6	9.2	2.3	13.9	0.0
Cycle Q Clear(g_c), s	16.5	14.6	9.2	2.3	13.9	0.0
Prop In Lane	0.74			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	718	707	795	347	745	
V/C Ratio(X)	0.64	0.59	0.58	0.16	0.85	
Avail Cap(c_a), veh/h	718	707	795	347	906	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.10	0.10	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.6	19.0	27.7	25.0	30.2	0.0
Incr Delay (d2), s/veh	0.5	0.4	3.0	1.0	6.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	5.9	4.2	0.9	6.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.1	19.4	30.7	26.0	36.6	0.0
LnGrp LOS	C	B	C	C	D	
Approach Vol, veh/h		876	514		631	A
Approach Delay, s/veh		19.8	30.2		36.6	
Approach LOS		B	C		D	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		36.2		21.3		22.5
Change Period (Y+Rc), s		4.6		* 4.2		4.6
Max Green Setting (Gmax), s		27.9		* 21		17.9
Max Q Clear Time (g_c+I1), s		18.5		15.9		11.2
Green Ext Time (p_c), s		4.0		1.2		1.8

Intersection Summary			
HCM 6th Ctrl Delay			27.7
HCM 6th LOS			C

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	611	465	60	221	267	28
Future Volume (veh/h)	611	465	60	221	267	28
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	650	495	64	235	312	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	0	0	1	0
Cap, veh/h	936	772	81	1207	584	262
Arrive On Green	0.50	0.50	0.04	0.64	0.16	0.00
Sat Flow, veh/h	1885	1555	1810	1900	3591	1610
Grp Volume(v), veh/h	650	495	64	235	312	0
Grp Sat Flow(s),veh/h/ln	1885	1555	1810	1900	1795	1610
Q Serve(g_s), s	9.8	8.7	1.3	1.9	3.0	0.0
Cycle Q Clear(g_c), s	9.8	8.7	1.3	1.9	3.0	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	936	772	81	1207	584	262
V/C Ratio(X)	0.69	0.64	0.79	0.19	0.53	0.00
Avail Cap(c_a), veh/h	1523	1256	1462	1535	2901	1301
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.2	6.9	17.6	2.8	14.3	0.0
Incr Delay (d2), s/veh	0.9	0.9	15.6	0.1	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	2.0	0.8	0.2	1.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.1	7.8	33.2	2.9	15.0	0.0
LnGrp LOS	A	A	C	A	B	A
Approach Vol, veh/h	1145			299	312	
Approach Delay, s/veh	8.0			9.4	15.0	
Approach LOS	A			A	B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.2	22.4		9.5		27.6
Change Period (Y+Rc), s	3.5	4.0		3.5		4.0
Max Green Setting (Gmax), s	30.0	30.0		30.0		30.0
Max Q Clear Time (g_c+I1), s	3.3	11.8		5.0		3.9
Green Ext Time (p_c), s	0.1	6.6		1.1		1.3

Intersection Summary		
HCM 6th Ctrl Delay		9.5
HCM 6th LOS		A

Notes
User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	439	204	81	207	72	49
Future Vol, veh/h	439	204	81	207	72	49
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	170	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	457	213	84	216	75	51

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	671	0	842	458
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	384	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	929	-	337	607
Stage 1	-	-	-	-	641	-
Stage 2	-	-	-	-	693	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	928	-	306	606
Mov Cap-2 Maneuver	-	-	-	-	306	-
Stage 1	-	-	-	-	582	-
Stage 2	-	-	-	-	693	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.6	16.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	306	606	-	-	928	-
HCM Lane V/C Ratio	0.245	0.084	-	-	0.091	-
HCM Control Delay (s)	20.5	11.5	-	-	9.3	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.9	0.3	-	-	0.3	-

Intersection						
Int Delay, s/veh	0.2					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	559	6	2	286	7	2
Future Vol, veh/h	559	6	2	286	7	2
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	1	2	2	11	11
Mvmt Flow	621	7	2	318	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	629	0	948	626
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	322	-
Critical Hdwy	-	-	4.12	-	6.51	6.31
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.218	-	3.599	3.399
Pot Cap-1 Maneuver	-	-	953	-	279	468
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	715	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	952	-	278	468
Mov Cap-2 Maneuver	-	-	-	-	394	-
Stage 1	-	-	-	-	514	-
Stage 2	-	-	-	-	715	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	14
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	408	-	-	952	-
HCM Lane V/C Ratio	0.025	-	-	0.002	-
HCM Control Delay (s)	14	-	-	8.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	36.5
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	341	3	3	37	231	2	1	4	500	3	2
Future Vol, veh/h	3	341	3	3	37	231	2	1	4	500	3	2
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.58	0.58	0.58	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	3	3	3	14	14	14	1	1	1
Mvmt Flow	3	383	3	3	40	251	3	2	7	556	3	2
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	24.7	14.5	10.9	56.8
HCM LOS	C	B	B	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	29%	1%	7%	0%	99%
Vol Thru, %	14%	98%	93%	0%	1%
Vol Right, %	57%	1%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	347	40	231	505
LT Vol	2	3	3	0	500
Through Vol	1	341	37	0	3
RT Vol	4	3	0	231	2
Lane Flow Rate	12	390	43	251	561
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.025	0.716	0.089	0.464	0.976
Departure Headway (Hd)	7.595	6.607	7.407	6.649	6.261
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	469	546	483	540	578
Service Time	5.685	4.656	5.165	4.407	4.3
HCM Lane V/C Ratio	0.026	0.714	0.089	0.465	0.971
HCM Control Delay	10.9	24.7	10.9	15.1	56.8
HCM Lane LOS	B	C	B	C	F
HCM 95th-tile Q	0.1	5.8	0.3	2.4	13.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	740	504	81	234	5	366	18	153	3	17	5
Future Volume (veh/h)	4	740	504	81	234	5	366	18	153	3	17	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1687	1687	1634	1687	1687	1856	1900	1856	1900	1900	1900
Adj Flow Rate, veh/h	4	796	542	87	252	5	408	0	165	3	18	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	5	1	1	3	0	3	0	0	0
Cap, veh/h	7	822	549	108	1663	33	665	0	287	6	35	10
Arrive On Green	0.00	0.45	0.45	0.07	0.52	0.52	0.19	0.00	0.19	0.03	0.03	0.03
Sat Flow, veh/h	1619	1817	1214	1556	3211	64	3534	0	1525	207	1241	345
Grp Volume(v), veh/h	4	700	638	87	125	132	408	0	165	26	0	0
Grp Sat Flow(s),veh/h/ln	1619	1602	1428	1556	1602	1673	1767	0	1525	1792	0	0
Q Serve(g_s), s	0.2	30.0	31.2	3.9	2.9	2.9	7.5	0.0	7.0	1.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	30.0	31.2	3.9	2.9	2.9	7.5	0.0	7.0	1.0	0.0	0.0
Prop In Lane	1.00		0.85	1.00		0.04	1.00		1.00	0.12		0.19
Lane Grp Cap(c), veh/h	7	725	646	108	830	866	665	0	287	51	0	0
V/C Ratio(X)	0.58	0.97	0.99	0.81	0.15	0.15	0.61	0.00	0.58	0.51	0.00	0.00
Avail Cap(c_a), veh/h	733	725	646	704	830	866	1999	0	863	507	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.1	18.8	19.1	32.4	8.9	8.9	26.3	0.0	26.1	33.9	0.0	0.0
Incr Delay (d2), s/veh	25.2	25.8	32.2	5.2	0.3	0.3	0.9	0.0	1.8	9.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	14.7	14.6	1.6	0.9	1.0	3.2	0.0	2.6	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	44.6	51.4	37.6	9.2	9.2	27.3	0.0	28.0	43.2	0.0	0.0
LnGrp LOS	E	D	D	D	A	A	C	A	C	D	A	A
Approach Vol, veh/h		1342			344			573			26	
Approach Delay, s/veh		47.9			16.4			27.5			43.2	
Approach LOS		D			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	37.0		6.5	4.8	41.6		17.8				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	32.0	32.0		20.0	32.0	31.0		40.0				
Max Q Clear Time (g_c+I1), s	5.9	33.2		3.0	2.2	4.9		9.5				
Green Ext Time (p_c), s	0.1	0.0		0.1	0.0	3.4		2.2				

Intersection Summary			
HCM 6th Ctrl Delay			38.0
HCM 6th LOS			D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	806	0	253	0	522	488	0	750	143
Future Volume (veh/h)	0	0	0	806	0	253	0	522	488	0	750	143
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		0.97
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				1885	1900	1826	0	1870	1900	0	1870	1870
Adj Flow Rate, veh/h				886	0	278	0	574	0	0	824	157
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				1	0	5	0	2	0	0	2	2
Cap, veh/h				1062	0	458	0	1888		0	1573	300
Arrive On Green				0.30	0.00	0.30	0.00	0.53	0.00	0.00	0.53	0.53
Sat Flow, veh/h				3591	0	1547	0	3647	1610	0	3054	564
Grp Volume(v), veh/h				886	0	278	0	574	0	0	495	486
Grp Sat Flow(s),veh/h/ln				1795	0	1547	0	1777	1610	0	1777	1748
Q Serve(g_s), s				12.7	0.0	8.5	0.0	5.0	0.0	0.0	9.9	9.9
Cycle Q Clear(g_c), s				12.7	0.0	8.5	0.0	5.0	0.0	0.0	9.9	9.9
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.32
Lane Grp Cap(c), veh/h				1062	0	458	0	1888		0	944	929
V/C Ratio(X)				0.83	0.00	0.61	0.00	0.30		0.00	0.52	0.52
Avail Cap(c_a), veh/h				1143	0	492	0	1888		0	944	929
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.90	0.00	0.00	0.92	0.92
Uniform Delay (d), s/veh				18.1	0.0	16.6	0.0	7.2	0.0	0.0	8.4	8.4
Incr Delay (d2), s/veh				5.3	0.0	2.1	0.0	0.4	0.0	0.0	1.9	1.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.3	0.0	2.9	0.0	1.5	0.0	0.0	3.6	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				23.4	0.0	18.8	0.0	7.6	0.0	0.0	10.3	10.3
LnGrp LOS				C	A	B	A	A		A	B	B
Approach Vol, veh/h					1164			574	A		981	
Approach Delay, s/veh					22.3			7.6			10.3	
Approach LOS					C			A			B	

Timer - Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		34.5				34.5		20.5
Change Period (Y+Rc), s		5.3				5.3		4.2
Max Green Setting (Gmax), s		28.0				28.0		17.5
Max Q Clear Time (g_c+I1), s		7.0				11.9		14.7
Green Ext Time (p_c), s		4.4				7.2		1.6

Intersection Summary		
HCM 6th Ctrl Delay		14.9
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	46	60	0	0	0	0	1071	1038	0	1194	370
Future Volume (vph)	35	46	60	0	0	0	0	1071	1038	0	1194	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6					4.9	4.9		4.9	4.0
Lane Util. Factor		1.00	0.88					0.95	1.00		0.91	1.00
Frpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	0.97
Flpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	1.00
Frt		1.00	0.85					1.00	0.85		1.00	0.85
Flt Protected		0.98	1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)		1757	2694					3455	1546		4964	1501
Flt Permitted		0.98	1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)		1757	2694					3455	1546		4964	1501
Peak-hour factor, PHF	0.80	0.72	0.75	0.92	0.92	0.92	0.92	0.85	0.94	0.92	0.96	0.82
Adj. Flow (vph)	44	64	80	0	0	0	0	1260	1104	0	1244	451
RTOR Reduction (vph)	0	0	72	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	108	8	0	0	0	0	1260	1104	0	1244	451
Confl. Peds. (#/hr)	13					13	11		1	1		11
Confl. Bikes (#/hr)												9
Heavy Vehicles (%)	6%	0%	2%	0%	0%	0%	0%	1%	1%	0%	1%	1%
Turn Type	Split	NA	Perm					NA	Prot		NA	Free
Protected Phases	2	2						1 3 4	1 3 4		1 3 4	
Permitted Phases			2									Free
Actuated Green, G (s)		12.4	12.4					98.7	98.7		98.7	119.9
Effective Green, g (s)		12.4	12.4					94.5	94.5		94.5	119.9
Actuated g/C Ratio		0.10	0.10					0.79	0.79		0.79	1.00
Clearance Time (s)		4.6	4.6									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		181	278					2723	1218		3912	1501
v/s Ratio Prot		c0.06						0.36	c0.71		0.25	
v/s Ratio Perm			0.00									c0.30
v/c Ratio		0.60	0.03					0.46	0.91		0.32	0.30
Uniform Delay, d1		51.4	48.3					4.2	9.4		3.6	0.0
Progression Factor		1.00	1.00					0.03	1.13		1.00	1.00
Incremental Delay, d2		5.2	0.0					0.1	4.5		0.0	0.5
Delay (s)		56.6	48.4					0.2	15.2		3.6	0.5
Level of Service		E	D					A	B		A	A
Approach Delay (s)		53.1			0.0			7.2			2.8	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	627	26	214	44	16	107	58	1405	17	46	1013	220
Future Volume (vph)	627	26	214	44	16	107	58	1405	17	46	1013	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.97		1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1625	1641	1509		1784	1561	1745	4949		1745	4750	
Flt Permitted	0.95	0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1625	1641	1509		1784	1561	1745	4949		1745	4750	
Peak-hour factor, PHF	0.86	0.61	0.80	0.85	0.44	0.79	0.66	0.86	0.61	0.67	0.94	0.85
Adj. Flow (vph)	729	43	268	52	36	135	88	1634	28	69	1078	259
RTOR Reduction (vph)	0	0	104	0	0	117	0	1	0	0	32	0
Lane Group Flow (vph)	386	386	164	0	88	18	88	1661	0	69	1305	0
Confl. Peds. (#/hr)			18	18			12		8	8		12
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	1		2	6	
Permitted Phases			4			3						
Actuated Green, G (s)	30.0	30.0	30.0		16.0	16.0	11.4	43.6		12.4	45.5	
Effective Green, g (s)	30.0	30.0	30.0		16.0	16.0	11.4	43.6		12.4	45.5	
Actuated g/C Ratio	0.25	0.25	0.25		0.13	0.13	0.10	0.36		0.10	0.38	
Clearance Time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.2	
Lane Grp Cap (vph)	406	410	377		238	208	165	1799		180	1802	
v/s Ratio Prot	c0.24	0.24			c0.05		c0.05	c0.34		0.04	0.27	
v/s Ratio Perm			0.11			0.01						
v/c Ratio	0.95	0.94	0.43		0.37	0.09	0.53	0.92		0.38	0.72	
Uniform Delay, d1	44.2	44.1	37.8		47.4	45.5	51.7	36.5		50.2	31.8	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.17	0.92	
Incremental Delay, d2	32.1	29.9	0.8		1.0	0.2	3.3	9.4		1.3	2.5	
Delay (s)	76.4	74.0	38.6		48.3	45.7	55.0	46.0		60.2	31.8	
Level of Service	E	E	D		D	D	E	D		E	C	
Approach Delay (s)		65.8			46.8			46.4			33.2	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	46.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	475	159	34	28	86	111	46	847	67	138	683	313
Future Volume (veh/h)	475	159	34	28	86	111	46	847	67	138	683	313
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.91	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	500	167	36	29	91	117	48	892	71	145	719	329
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	738	315	68	51	161	165	62	1850	147	187	2324	706
Arrive On Green	0.21	0.21	0.21	0.11	0.11	0.11	0.03	0.38	0.38	0.10	0.45	0.45
Sat Flow, veh/h	3483	1485	320	454	1424	1461	1795	4844	384	1795	5147	1563
Grp Volume(v), veh/h	500	0	203	120	0	117	48	631	332	145	719	329
Grp Sat Flow(s),veh/h/ln	1742	0	1805	1877	0	1461	1795	1716	1797	1795	1716	1563
Q Serve(g_s), s	11.6	0.0	8.8	5.3	0.0	6.8	2.3	12.2	12.3	6.9	7.8	12.9
Cycle Q Clear(g_c), s	11.6	0.0	8.8	5.3	0.0	6.8	2.3	12.2	12.3	6.9	7.8	12.9
Prop In Lane	1.00		0.18	0.24		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	738	0	382	212	0	165	62	1311	686	187	2324	706
V/C Ratio(X)	0.68	0.00	0.53	0.57	0.00	0.71	0.77	0.48	0.48	0.77	0.31	0.47
Avail Cap(c_a), veh/h	832	0	431	448	0	349	327	1772	928	531	2657	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	0.0	30.8	36.9	0.0	37.6	42.1	20.6	20.6	38.4	15.4	16.7
Incr Delay (d2), s/veh	4.1	0.0	4.1	3.3	0.0	7.7	24.3	1.3	2.4	9.3	0.3	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	4.2	2.6	0.0	2.8	1.4	4.9	5.3	3.4	2.9	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.0	0.0	34.9	40.3	0.0	45.3	66.3	21.8	23.0	47.7	15.7	19.0
LnGrp LOS	D	A	C	D	A	D	E	C	C	D	B	B
Approach Vol, veh/h		703			237			1011			1193	
Approach Delay, s/veh		35.7			42.7			24.3			20.5	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	44.3		13.9	13.2	38.2		22.6				
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0				
Max Green Setting (Gmax), s	16.0	45.4		21.0	26.0	45.4		21.0				
Max Q Clear Time (g_c+I1), s	4.3	14.9		8.8	8.9	14.3		13.6				
Green Ext Time (p_c), s	0.1	19.4		1.2	0.5	19.3		4.0				

Intersection Summary			
HCM 6th Ctrl Delay			26.8
HCM 6th LOS			C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	541	121	216	235	88	128	525	90	153	432	87
Future Volume (veh/h)	388	541	121	216	235	88	128	525	90	153	432	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	361	613	125	185	295	91	132	541	93	158	445	90
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	469	791	161	349	536	161	171	1217	205	253	907	391
Arrive On Green	0.26	0.26	0.26	0.19	0.19	0.19	0.10	0.28	0.28	0.07	0.25	0.25
Sat Flow, veh/h	1795	3024	615	1810	2776	835	1795	4410	742	3483	3582	1546
Grp Volume(v), veh/h	361	382	356	185	200	186	132	418	216	158	445	90
Grp Sat Flow(s),veh/h/ln	1795	1885	1754	1810	1900	1711	1795	1716	1721	1742	1791	1546
Q Serve(g_s), s	16.8	16.9	17.0	8.3	8.6	8.9	6.5	9.1	9.4	4.0	9.6	4.2
Cycle Q Clear(g_c), s	16.8	16.9	17.0	8.3	8.6	8.9	6.5	9.1	9.4	4.0	9.6	4.2
Prop In Lane	1.00		0.35	1.00		0.49	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	469	493	459	349	367	330	171	947	475	253	907	391
V/C Ratio(X)	0.77	0.77	0.78	0.53	0.54	0.56	0.77	0.44	0.45	0.62	0.49	0.23
Avail Cap(c_a), veh/h	505	530	493	509	534	481	517	1725	865	1003	1800	777
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	30.9	30.9	32.8	32.9	33.0	39.9	27.0	27.1	40.7	28.8	26.8
Incr Delay (d2), s/veh	7.2	7.2	7.8	1.8	1.8	2.2	9.9	1.2	2.5	3.6	1.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	8.6	8.1	3.8	4.1	3.9	3.3	3.7	4.0	1.8	4.2	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	38.0	38.8	34.5	34.7	35.2	49.7	28.1	29.5	44.2	30.3	27.8
LnGrp LOS	D	D	D	C	C	D	D	C	C	D	C	C
Approach Vol, veh/h		1099			571			766			693	
Approach Delay, s/veh		38.3			34.8			32.3			33.1	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	29.5		22.0	12.6	27.5		28.2				
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		4.6				
Max Green Setting (Gmax), s	26.0	45.4		25.4	26.0	45.4		25.4				
Max Q Clear Time (g_c+I1), s	6.0	11.4		10.9	8.5	11.6		19.0				
Green Ext Time (p_c), s	0.7	10.9		3.6	0.5	8.7		4.0				

Intersection Summary		
HCM 6th Ctrl Delay		35.0
HCM 6th LOS		D

Notes
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	186	67	53	84	74	68	511	88	48	478	92
Future Volume (veh/h)	139	186	67	53	84	74	68	511	88	48	478	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	146	196	71	56	88	78	72	538	93	51	503	97
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	1	1	1
Cap, veh/h	174	233	84	97	153	207	95	994	171	66	925	177
Arrive On Green	0.27	0.27	0.27	0.13	0.13	0.13	0.05	0.33	0.33	0.04	0.31	0.31
Sat Flow, veh/h	637	856	310	725	1139	1544	1795	3031	521	1795	2970	569
Grp Volume(v), veh/h	413	0	0	144	0	78	72	317	314	51	302	298
Grp Sat Flow(s),veh/h/ln	1803	0	0	1864	0	1544	1795	1791	1762	1795	1791	1748
Q Serve(g_s), s	15.7	0.0	0.0	5.3	0.0	3.3	2.9	10.5	10.6	2.0	10.1	10.3
Cycle Q Clear(g_c), s	15.7	0.0	0.0	5.3	0.0	3.3	2.9	10.5	10.6	2.0	10.1	10.3
Prop In Lane	0.35		0.17	0.39		1.00	1.00		0.30	1.00		0.33
Lane Grp Cap(c), veh/h	491	0	0	250	0	207	95	587	578	66	558	545
V/C Ratio(X)	0.84	0.00	0.00	0.58	0.00	0.38	0.76	0.54	0.54	0.78	0.54	0.55
Avail Cap(c_a), veh/h	645	0	0	667	0	553	643	1120	1101	643	1120	1093
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	0.0	0.0	29.5	0.0	28.7	33.9	19.9	20.0	34.7	20.7	20.7
Incr Delay (d2), s/veh	7.6	0.0	0.0	2.1	0.0	1.1	11.5	2.8	2.9	17.5	3.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	0.0	0.0	2.5	0.0	1.3	1.5	4.7	4.6	1.2	4.4	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.5	0.0	0.0	31.6	0.0	29.8	45.5	22.7	22.8	52.2	23.7	23.8
LnGrp LOS	C	A	A	C	A	C	D	C	C	D	C	C
Approach Vol, veh/h		413			222			703			651	
Approach Delay, s/veh		32.5			30.9			25.1			26.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.7	28.4		13.8	7.8	27.2		23.8
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0
Max Green Setting (Gmax), s	26.0	45.4		26.0	26.0	45.4		26.0
Max Q Clear Time (g_c+I1), s	4.0	12.6		7.3	4.9	12.3		17.7
Green Ext Time (p_c), s	0.1	11.2		1.0	0.1	10.0		1.7

Intersection Summary			
HCM 6th Ctrl Delay			27.6
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	884	310	36	390	54	142	156	54	106	243	17
Future Volume (veh/h)	19	884	310	36	390	54	142	156	54	106	243	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	20	951	333	39	419	58	153	168	58	114	261	18
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	41	1405	606	67	1282	176	199	457	377	152	353	24
Arrive On Green	0.02	0.39	0.39	0.04	0.41	0.41	0.11	0.24	0.24	0.08	0.20	0.20
Sat Flow, veh/h	1795	3582	1544	1795	3152	433	1795	1885	1556	1795	1740	120
Grp Volume(v), veh/h	20	951	333	39	237	240	153	168	58	114	0	279
Grp Sat Flow(s),veh/h/ln	1795	1791	1544	1795	1791	1794	1795	1885	1556	1795	0	1860
Q Serve(g_s), s	0.8	16.3	7.4	1.6	6.7	6.8	6.1	5.5	2.2	4.6	0.0	10.4
Cycle Q Clear(g_c), s	0.8	16.3	7.4	1.6	6.7	6.8	6.1	5.5	2.2	4.6	0.0	10.4
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	41	1405	606	67	728	730	199	457	377	152	0	378
V/C Ratio(X)	0.49	0.68	0.55	0.58	0.33	0.33	0.77	0.37	0.15	0.75	0.00	0.74
Avail Cap(c_a), veh/h	631	2178	939	631	1089	1091	631	764	631	631	0	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.7	18.6	6.2	35.1	15.0	15.0	32.0	23.3	22.0	33.1	0.0	27.6
Incr Delay (d2), s/veh	8.8	0.7	0.9	7.8	0.3	0.3	2.4	0.2	0.1	8.6	0.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.2	3.9	0.8	2.6	2.6	2.7	2.4	0.8	2.3	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	19.3	7.1	42.9	15.3	15.4	34.4	23.5	22.1	41.7	0.0	31.1
LnGrp LOS	D	B	A	D	B	B	C	C	C	D	A	C
Approach Vol, veh/h		1304			516			379			393	
Approach Delay, s/veh		16.6			17.4			27.7			34.2	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	35.1	10.3	22.9	6.8	34.0	13.2	20.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	26.0	45.0	26.0	30.0	26.0	45.0	26.0	* 30
Max Q Clear Time (g_c+I1), s	2.8	8.8	6.6	7.5	3.6	18.3	8.1	12.4
Green Ext Time (p_c), s	0.0	3.8	0.3	0.4	0.1	10.8	0.1	1.8

Intersection Summary	
HCM 6th Ctrl Delay	21.0
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)	33	821	83	88	372	49	98	190	78	202	359	33
Future Volume (veh/h)	33	821	83	88	372	49	98	190	78	202	359	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	35	864	87	93	392	52	103	200	82	213	378	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	50	1057	106	122	1149	151	136	280	115	263	497	46
Arrive On Green	0.03	0.32	0.32	0.07	0.36	0.36	0.08	0.22	0.22	0.15	0.29	0.29
Sat Flow, veh/h	1810	3295	332	1810	3187	419	1810	1267	520	1810	1708	158
Grp Volume(v), veh/h	35	473	478	93	221	223	103	0	282	213	0	413
Grp Sat Flow(s),veh/h/ln	1810	1805	1821	1810	1805	1801	1810	0	1787	1810	0	1866
Q Serve(g_s), s	1.4	17.7	17.7	3.7	6.5	6.6	4.1	0.0	10.7	8.4	0.0	14.8
Cycle Q Clear(g_c), s	1.4	17.7	17.7	3.7	6.5	6.6	4.1	0.0	10.7	8.4	0.0	14.8
Prop In Lane	1.00		0.18	1.00		0.23	1.00		0.29	1.00		0.08
Lane Grp Cap(c), veh/h	50	579	584	122	651	649	136	0	395	263	0	543
V/C Ratio(X)	0.70	0.82	0.82	0.76	0.34	0.34	0.76	0.00	0.71	0.81	0.00	0.76
Avail Cap(c_a), veh/h	506	875	882	506	875	872	506	0	622	506	0	650
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.3	22.9	22.9	33.6	17.1	17.1	33.2	0.0	26.4	30.3	0.0	23.7
Incr Delay (d2), s/veh	12.0	2.1	2.1	7.1	0.4	0.4	8.3	0.0	1.8	5.9	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	7.4	7.4	1.8	2.6	2.7	2.1	0.0	4.5	3.9	0.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.3	25.0	25.0	40.6	17.4	17.5	41.5	0.0	28.2	36.3	0.0	28.3
LnGrp LOS	D	C	C	D	B	B	D	A	C	D	A	C
Approach Vol, veh/h		986			537			385			626	
Approach Delay, s/veh		25.8			21.5			31.8			31.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	28.0	15.1	20.7	6.5	30.9	10.0	25.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.5	35.5	20.5	25.5	20.5	35.5	20.5	25.5
Max Q Clear Time (g_c+I1), s	5.7	19.7	10.4	12.7	3.4	8.6	6.1	16.8
Green Ext Time (p_c), s	0.1	3.8	0.4	1.1	0.0	3.4	0.2	1.9

Intersection Summary	
HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	1023	56	52	440	75	22	58	64	260	136	37
Future Volume (veh/h)	28	1023	56	52	440	75	22	58	64	260	136	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.92	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	29	1077	59	55	463	79	23	61	67	274	143	39
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	44	1414	77	71	1291	218	37	123	136	325	452	123
Arrive On Green	0.02	0.41	0.41	0.04	0.42	0.42	0.02	0.16	0.16	0.18	0.32	0.32
Sat Flow, veh/h	1810	3462	190	1810	3048	516	1795	783	860	1810	1427	389
Grp Volume(v), veh/h	29	561	575	55	273	269	23	0	128	274	0	182
Grp Sat Flow(s),veh/h/ln	1810	1805	1847	1810	1805	1759	1795	0	1644	1810	0	1816
Q Serve(g_s), s	1.2	19.9	19.9	2.2	7.6	7.8	0.9	0.0	5.3	10.9	0.0	5.7
Cycle Q Clear(g_c), s	1.2	19.9	19.9	2.2	7.6	7.8	0.9	0.0	5.3	10.9	0.0	5.7
Prop In Lane	1.00		0.10	1.00		0.29	1.00		0.52	1.00		0.21
Lane Grp Cap(c), veh/h	44	737	754	71	764	745	37	0	259	325	0	575
V/C Ratio(X)	0.66	0.76	0.76	0.77	0.36	0.36	0.63	0.00	0.49	0.84	0.00	0.32
Avail Cap(c_a), veh/h	389	1116	1142	389	1116	1088	507	0	354	511	0	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.0	18.9	18.9	35.4	14.6	14.6	36.2	0.0	28.6	29.5	0.0	19.3
Incr Delay (d2), s/veh	15.7	1.7	1.7	16.1	0.3	0.3	16.5	0.0	1.5	7.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	8.0	8.2	1.3	3.0	2.9	0.6	0.0	2.1	5.3	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	20.6	20.6	51.5	14.8	14.9	52.6	0.0	30.1	36.8	0.0	19.6
LnGrp LOS	D	C	C	D	B	B	D	A	C	D	A	B
Approach Vol, veh/h		1165			597			151			456	
Approach Delay, s/veh		21.3			18.2			33.5			30.0	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	15.7	6.9	34.4	5.5	27.6	5.8	35.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	21.0	16.0	16.0	46.0	21.0	16.0	16.0	46.0
Max Q Clear Time (g_c+I1), s	12.9	7.3	4.2	21.9	2.9	7.7	3.2	9.8
Green Ext Time (p_c), s	0.5	0.4	0.1	8.5	0.0	0.6	0.0	3.7

Intersection Summary	
HCM 6th Ctrl Delay	23.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	1217	102	142	531	21	86	10	114	19	9	15
Future Volume (veh/h)	30	1217	102	142	531	21	86	10	114	19	9	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	31	1255	105	146	547	22	89	10	118	20	9	15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	46	1494	125	189	1008	826	92	6	415	82	23	429
Arrive On Green	0.03	0.44	0.44	0.10	0.53	0.53	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1810	3361	280	1810	1900	1557	0	21	1546	0	86	1599
Grp Volume(v), veh/h	31	672	688	146	547	22	99	0	118	29	0	15
Grp Sat Flow(s),veh/h/ln	1810	1805	1836	1810	1900	1557	21	0	1546	86	0	1599
Q Serve(g_s), s	1.3	24.6	24.8	5.9	14.1	0.5	0.0	0.0	4.5	0.0	0.0	0.5
Cycle Q Clear(g_c), s	1.3	24.6	24.8	5.9	14.1	0.5	20.0	0.0	4.5	20.0	0.0	0.5
Prop In Lane	1.00		0.15	1.00		1.00	0.90		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	46	803	817	189	1008	826	97	0	415	105	0	429
V/C Ratio(X)	0.67	0.84	0.84	0.77	0.54	0.03	1.02	0.00	0.28	0.28	0.00	0.03
Avail Cap(c_a), veh/h	631	1087	1106	619	1144	938	97	0	415	105	0	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.0	18.3	18.4	32.5	11.5	8.3	36.1	0.0	21.6	22.7	0.0	20.1
Incr Delay (d2), s/veh	15.8	3.3	3.4	6.5	0.2	0.0	95.8	0.0	0.1	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	10.0	10.3	2.9	5.5	0.2	4.3	0.0	1.6	0.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	21.6	21.8	39.0	11.7	8.3	131.9	0.0	21.7	23.2	0.0	20.2
LnGrp LOS	D	C	C	D	B	A	F	A	C	C	A	C
Approach Vol, veh/h		1391			715			217			44	
Approach Delay, s/veh		22.4			17.2			72.0			22.2	
Approach LOS		C			B			E			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.3	38.2		24.0	5.9	44.7		24.0
Change Period (Y+Rc), s	4.5	5.1		4.0	4.0	5.1		4.0
Max Green Setting (Gmax), s	25.5	44.9		20.0	26.0	44.9		20.0
Max Q Clear Time (g_c+I1), s	7.9	26.8		22.0	3.3	16.1		22.0
Green Ext Time (p_c), s	0.3	6.4		0.0	0.0	2.6		0.0

Intersection Summary	
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	309	108	129	196	31	62	292	100	61	398	28
Future Volume (veh/h)	43	309	108	129	196	31	62	292	100	61	398	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.95	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	45	322	112	134	204	32	65	304	104	64	415	29
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	0	0	0
Cap, veh/h	76	391	136	177	564	88	93	399	136	93	527	37
Arrive On Green	0.04	0.30	0.30	0.10	0.35	0.35	0.05	0.30	0.30	0.05	0.30	0.30
Sat Flow, veh/h	1795	1310	456	1810	1590	249	1795	1322	452	1810	1749	122
Grp Volume(v), veh/h	45	0	434	134	0	236	65	0	408	64	0	444
Grp Sat Flow(s),veh/h/ln	1795	0	1765	1810	0	1839	1795	0	1774	1810	0	1871
Q Serve(g_s), s	1.7	0.0	15.5	4.9	0.0	6.5	2.4	0.0	14.2	2.4	0.0	14.8
Cycle Q Clear(g_c), s	1.7	0.0	15.5	4.9	0.0	6.5	2.4	0.0	14.2	2.4	0.0	14.8
Prop In Lane	1.00		0.26	1.00		0.14	1.00		0.25	1.00		0.07
Lane Grp Cap(c), veh/h	76	0	527	177	0	652	93	0	535	93	0	563
V/C Ratio(X)	0.60	0.00	0.82	0.76	0.00	0.36	0.70	0.00	0.76	0.69	0.00	0.79
Avail Cap(c_a), veh/h	700	0	909	706	0	947	700	0	914	706	0	963
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	0.0	22.2	29.9	0.0	16.2	31.7	0.0	21.5	31.7	0.0	21.8
Incr Delay (d2), s/veh	7.3	0.0	3.3	6.5	0.0	0.3	9.0	0.0	3.2	8.6	0.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	6.6	2.4	0.0	2.6	1.2	0.0	5.9	1.2	0.0	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	0.0	25.4	36.3	0.0	16.6	40.6	0.0	24.8	40.2	0.0	25.3
LnGrp LOS	D	A	C	D	A	B	D	A	C	D	A	C
Approach Vol, veh/h		479			370			473			508	
Approach Delay, s/veh		26.7			23.7			26.9			27.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	25.3	7.0	25.5	6.4	29.1	7.0	25.5
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0
Max Green Setting (Gmax), s	26.5	35.0	26.5	35.0	26.5	35.0	26.5	35.0
Max Q Clear Time (g_c+I1), s	6.9	17.5	4.4	16.8	3.7	8.5	4.4	16.2
Green Ext Time (p_c), s	0.3	2.8	0.1	3.7	0.1	1.5	0.1	3.5

Intersection Summary	
HCM 6th Ctrl Delay	26.3
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	38.4
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	74	424	86	49	250	49	31	88	36	39	123	64
Future Vol, veh/h	74	424	86	49	250	49	31	88	36	39	123	64
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	80	456	92	53	269	53	33	95	39	42	132	69
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	63.6	20.6	14.8	17.1
HCM LOS	F	C	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	15%	0%	16%	0%	17%
Vol Thru, %	57%	85%	0%	84%	0%	54%
Vol Right, %	23%	0%	100%	0%	100%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	498	86	299	49	226
LT Vol	31	74	0	49	0	39
Through Vol	88	424	0	250	0	123
RT Vol	36	0	86	0	49	64
Lane Flow Rate	167	535	92	322	53	243
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.348	1.028	0.157	0.639	0.094	0.486
Departure Headway (Hd)	7.72	6.912	6.118	7.412	6.607	7.371
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	468	525	587	492	546	491
Service Time	5.72	4.639	3.845	5.112	4.307	5.371
HCM Lane V/C Ratio	0.357	1.019	0.157	0.654	0.097	0.495
HCM Control Delay	14.8	72.9	10	22.3	10	17.1
HCM Lane LOS	B	F	A	C	A	C
HCM 95th-tile Q	1.5	15.1	0.6	4.4	0.3	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	508	242	15	273	101	87	44	7	157	97	91
Future Volume (veh/h)	56	508	242	15	273	101	87	44	7	157	97	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.90	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	62	564	0	17	303	0	97	49	8	174	108	101
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	99	701		37	636		127	302	49	222	211	197
Arrive On Green	0.05	0.37	0.00	0.02	0.34	0.00	0.07	0.19	0.19	0.12	0.25	0.25
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1564	255	1795	855	800
Grp Volume(v), veh/h	62	564	0	17	303	0	97	0	57	174	0	209
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	0	1819	1795	0	1655
Q Serve(g_s), s	1.9	15.2	0.0	0.5	7.2	0.0	3.0	0.0	1.5	5.3	0.0	6.2
Cycle Q Clear(g_c), s	1.9	15.2	0.0	0.5	7.2	0.0	3.0	0.0	1.5	5.3	0.0	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.48
Lane Grp Cap(c), veh/h	99	701		37	636		127	0	352	222	0	408
V/C Ratio(X)	0.63	0.80		0.46	0.48		0.77	0.00	0.16	0.78	0.00	0.51
Avail Cap(c_a), veh/h	506	1180		506	1180		510	0	674	506	0	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.2	16.0	0.0	27.5	14.8	0.0	25.9	0.0	19.1	24.1	0.0	18.4
Incr Delay (d2), s/veh	4.8	2.2	0.0	6.4	0.6	0.0	3.6	0.0	0.2	2.3	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	6.3	0.0	0.3	2.8	0.0	1.4	0.0	0.6	2.3	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	18.2	0.0	33.8	15.4	0.0	29.5	0.0	19.2	26.5	0.0	19.2
LnGrp LOS	C	B		C	B		C	A	B	C	A	B
Approach Vol, veh/h		626	A		320	A		154			383	
Approach Delay, s/veh		19.5			16.4			25.7			22.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	25.6	8.0	18.0	7.1	23.6	11.0	15.0
Change Period (Y+Rc), s	4.0	4.5	4.0	4.0	4.0	4.5	4.0	4.0
Max Green Setting (Gmax), s	16.0	35.5	16.0	21.0	16.0	35.5	16.0	21.0
Max Q Clear Time (g_c+I1), s	2.5	17.2	5.0	8.2	3.9	9.2	7.3	3.5
Green Ext Time (p_c), s	0.0	3.8	0.1	0.8	0.1	1.8	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

APPENDIX C.
EXISTING PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	585	370	63	530	65	557	24	88	27	23	12
Future Volume (veh/h)	28	585	370	63	530	65	557	24	88	27	23	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	29	603	0	65	546	67	592	0	0	28	24	12
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	48	2088		84	1929	236	625	0		53	46	83
Arrive On Green	0.03	0.58	0.00	0.05	0.60	0.60	0.17	0.00	0.00	0.05	0.05	0.05
Sat Flow, veh/h	1795	3582	1598	1795	3199	391	3591	0	1598	996	854	1551
Grp Volume(v), veh/h	29	603	0	65	305	308	592	0	0	52	0	12
Grp Sat Flow(s),veh/h/ln	1795	1791	1598	1795	1791	1800	1795	0	1598	1850	0	1551
Q Serve(g_s), s	1.8	9.5	0.0	4.0	9.1	9.2	18.3	0.0	0.0	3.1	0.0	0.8
Cycle Q Clear(g_c), s	1.8	9.5	0.0	4.0	9.1	9.2	18.3	0.0	0.0	3.1	0.0	0.8
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	0.54		1.00
Lane Grp Cap(c), veh/h	48	2088		84	1080	1085	625	0		99	0	83
V/C Ratio(X)	0.61	0.29		0.78	0.28	0.28	0.95	0.00		0.53	0.00	0.14
Avail Cap(c_a), veh/h	88	2088		88	1080	1085	625	0		372	0	312
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.97	0.97	0.97	0.72	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.9	11.7	0.0	52.8	10.6	10.6	45.7	0.0	0.0	51.6	0.0	50.6
Incr Delay (d2), s/veh	4.6	0.3	0.0	29.2	0.6	0.6	18.7	0.0	0.0	1.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.8	0.0	2.5	3.7	3.8	9.6	0.0	0.0	1.5	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	12.1	0.0	82.0	11.3	11.3	64.4	0.0	0.0	53.2	0.0	50.9
LnGrp LOS	E	B		F	B	B	E	A		D	A	D
Approach Vol, veh/h		632	A		678			592	A		64	
Approach Delay, s/veh		14.2			18.1			64.4			52.8	
Approach LOS		B			B			E			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	69.3		10.0	7.0	71.5		23.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.5	48.5		22.5	5.5	48.5		19.5				
Max Q Clear Time (g_c+I1), s	6.0	11.5		5.1	3.8	11.2		20.3				
Green Ext Time (p_c), s	0.0	4.9		0.1	0.0	4.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			31.9									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	548	71	229	584	131	431
Future Volume (veh/h)	548	71	229	584	131	431
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.95	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	559	72	234	596	134	440
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	919	118	288	1888	559	497
Arrive On Green	0.29	0.29	0.16	0.53	0.31	0.31
Sat Flow, veh/h	3264	407	1795	3676	1795	1598
Grp Volume(v), veh/h	315	316	234	596	134	440
Grp Sat Flow(s),veh/h/ln	1791	1786	1795	1791	1795	1598
Q Serve(g_s), s	8.9	9.0	7.4	5.5	3.3	15.4
Cycle Q Clear(g_c), s	8.9	9.0	7.4	5.5	3.3	15.4
Prop In Lane		0.23	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	520	518	288	1888	559	497
V/C Ratio(X)	0.61	0.61	0.81	0.32	0.24	0.88
Avail Cap(c_a), veh/h	1006	1003	596	2012	871	775
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.0	18.0	23.8	7.9	15.1	19.2
Incr Delay (d2), s/veh	1.6	1.7	2.1	0.1	0.1	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	3.5	3.0	1.7	1.3	5.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.6	19.6	25.9	8.0	15.1	24.4
LnGrp LOS	B	B	C	A	B	C
Approach Vol, veh/h	631			830	574	
Approach Delay, s/veh	19.6			13.1	22.2	
Approach LOS	B			B	C	
Timer - Assigned Phs	**1**	**2**		**4**		**6**
Phs Duration (G+Y+Rc), s	13.9	22.0		22.8		36.0
Change Period (Y+Rc), s	4.5	5.0		4.5		5.0
Max Green Setting (Gmax), s	10.5	33.0		28.5		33.0
Max Q Clear Time (g_c+I1), s	9.4	11.0		17.4		7.5
Green Ext Time (p_c), s	0.2	5.4		0.9		5.7
Intersection Summary						
HCM 6th Ctrl Delay			17.7			
HCM 6th LOS			B			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	643	410	317	588	6	246	2	959	1	0	2
Future Volume (veh/h)	6	643	410	317	588	6	246	2	959	1	0	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1737	1870	1900	1900	1885	1885	1856	1870	1870	1870
Adj Flow Rate, veh/h	6	670	0	330	612	6	256	2	0	1	0	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	11	2	0	0	1	1	3	2	2	2
Cap, veh/h	11	1944		348	2666	26	277	2		9	0	17
Arrive On Green	0.01	0.54	0.00	0.39	1.00	1.00	0.16	0.16	0.00	0.02	0.00	0.02
Sat Flow, veh/h	1810	3610	1472	1781	3663	36	1782	14	1572	495	0	990
Grp Volume(v), veh/h	6	670	0	330	302	316	258	0	0	3	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1472	1781	1805	1894	1796	0	1572	1485	0	0
Q Serve(g_s), s	0.5	15.8	0.0	26.9	0.0	0.0	21.3	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	15.8	0.0	26.9	0.0	0.0	21.3	0.0	0.0	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.99		1.00	0.33		0.67
Lane Grp Cap(c), veh/h	11	1944		348	1314	1378	279	0		26	0	0
V/C Ratio(X)	0.56	0.34		0.95	0.23	0.23	0.93	0.00		0.11	0.00	0.00
Avail Cap(c_a), veh/h	48	1944		487	1314	1378	281	0		218	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.00	1.00	1.00	1.00	0.46	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	74.4	19.6	0.0	45.0	0.0	0.0	62.5	0.0	0.0	72.5	0.0	0.0
Incr Delay (d2), s/veh	12.3	0.4	0.0	20.6	0.4	0.4	19.7	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	6.7	0.0	12.0	0.1	0.1	11.3	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.6	20.0	0.0	65.5	0.4	0.4	82.2	0.0	0.0	74.0	0.0	0.0
LnGrp LOS	F	B		E	A	A	F	A		E	A	A
Approach Vol, veh/h		676	A		948			258	A		3	
Approach Delay, s/veh		20.6			23.1			82.2			74.0	
Approach LOS		C			C			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.3	84.8		6.1	3.9	113.2		26.8				
Change Period (Y+Rc), s	3.0	4.0		3.5	3.0	4.0		3.5				
Max Green Setting (Gmax), s	41.0	49.5		22.0	4.0	86.5		23.5				
Max Q Clear Time (g_c+I1), s	28.9	17.8		2.3	2.5	2.0		23.3				
Green Ext Time (p_c), s	0.4	7.0		0.0	0.0	6.3		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			30.3
HCM 6th LOS			C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	833	615	4	1079	27	391	84	35	65	82	51
Future Volume (veh/h)	155	833	615	4	1079	27	391	84	35	65	82	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1841	1900	1841	1841	1811	1870	1856	1870	1900	1900
Adj Flow Rate, veh/h	161	868	0	4	1124	28	470	0	0	68	85	53
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	3	4	0	4	4	6	2	3	2	0	0
Cap, veh/h	101	2198		9	1993	50	539	0		169	104	65
Arrive On Green	0.06	0.62	0.00	0.01	0.57	0.57	0.16	0.00	0.00	0.10	0.10	0.10
Sat Flow, veh/h	1781	3526	1560	1810	3483	87	3450	0	1572	1781	1090	680
Grp Volume(v), veh/h	161	868	0	4	564	588	470	0	0	68	0	138
Grp Sat Flow(s),veh/h/ln	1781	1763	1560	1810	1749	1821	1725	0	1572	1781	0	1770
Q Serve(g_s), s	8.5	18.4	0.0	0.3	30.6	30.6	20.0	0.0	0.0	5.4	0.0	11.5
Cycle Q Clear(g_c), s	8.5	18.4	0.0	0.3	30.6	30.6	20.0	0.0	0.0	5.4	0.0	11.5
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	101	2198		9	1000	1042	539	0		169	0	168
V/C Ratio(X)	1.60	0.39		0.43	0.56	0.56	0.87	0.00		0.40	0.00	0.82
Avail Cap(c_a), veh/h	101	2198		62	1000	1042	793	0		338	0	336
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	70.7	14.1	0.0	74.4	20.3	20.3	61.8	0.0	0.0	63.9	0.0	66.6
Incr Delay (d2), s/veh	309.2	0.5	0.0	28.7	2.3	2.2	7.3	0.0	0.0	1.5	0.0	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	7.5	0.0	0.2	12.9	13.4	9.4	0.0	0.0	2.5	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	379.9	14.6	0.0	103.1	22.6	22.5	69.1	0.0	0.0	65.4	0.0	76.0
LnGrp LOS	F	B		F	C	C	E	A		E	A	E
Approach Vol, veh/h		1029	A		1156			470	A		206	
Approach Delay, s/veh		71.8			22.8			69.1			72.5	
Approach LOS		E			C			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	98.0		27.9	13.0	90.3		18.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	63.9		34.5	8.5	60.5		28.5				
Max Q Clear Time (g_c+I1), s	2.3	20.4		22.0	10.5	32.6		13.5				
Green Ext Time (p_c), s	0.0	7.6		1.5	0.0	8.7		0.8				
Intersection Summary												
HCM 6th Ctrl Delay			51.6									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	364	289	604	167	393	588
Future Volume (veh/h)	364	289	604	167	393	588
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	375	298	623	172	405	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	823	821	795	347	524	
Arrive On Green	0.46	0.46	0.22	0.22	0.15	0.00
Sat Flow, veh/h	1795	1885	3647	1551	3483	1598
Grp Volume(v), veh/h	375	298	623	172	405	0
Grp Sat Flow(s),veh/h/ln	1795	1791	1777	1551	1742	1598
Q Serve(g_s), s	11.4	8.6	13.2	7.7	8.9	0.0
Cycle Q Clear(g_c), s	11.4	8.6	13.2	7.7	8.9	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	823	821	795	347	524	
V/C Ratio(X)	0.46	0.36	0.78	0.50	0.77	
Avail Cap(c_a), veh/h	823	821	795	347	906	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.29	0.29	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.8	14.1	29.2	27.1	32.7	0.0
Incr Delay (d2), s/veh	0.5	0.4	7.6	5.0	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	3.4	6.3	3.3	3.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.4	14.4	36.8	32.1	35.1	0.0
LnGrp LOS	B	B	D	C	D	
Approach Vol, veh/h		673	795		405	A
Approach Delay, s/veh		15.0	35.8		35.1	
Approach LOS		B	D		D	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		41.3		16.2		22.5
Change Period (Y+Rc), s		4.6		* 4.2		4.6
Max Green Setting (Gmax), s		27.9		* 21		17.9
Max Q Clear Time (g_c+I1), s		13.4		10.9		15.2
Green Ext Time (p_c), s		3.8		1.1		1.3

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.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	369	264	59	335	412	105
Future Volume (veh/h)	369	264	59	335	412	105
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	393	281	63	356	275	287
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	0	0	1	0
Cap, veh/h	656	540	79	946	492	441
Arrive On Green	0.35	0.35	0.04	0.50	0.27	0.27
Sat Flow, veh/h	1885	1550	1810	1900	1795	1610
Grp Volume(v), veh/h	393	281	63	356	275	287
Grp Sat Flow(s),veh/h/ln	1885	1550	1810	1900	1795	1610
Q Serve(g_s), s	5.6	4.7	1.1	3.8	4.3	5.2
Cycle Q Clear(g_c), s	5.6	4.7	1.1	3.8	4.3	5.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	656	540	79	946	492	441
V/C Ratio(X)	0.60	0.52	0.80	0.38	0.56	0.65
Avail Cap(c_a), veh/h	1719	1413	1650	1732	1637	1468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.8	8.5	15.6	5.1	10.2	10.6
Incr Delay (d2), s/veh	0.9	0.8	16.7	0.2	1.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.2	0.7	0.7	1.4	1.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.7	9.3	32.3	5.3	11.2	12.2
LnGrp LOS	A	A	C	A	B	B
Approach Vol, veh/h	674			419	562	
Approach Delay, s/veh	9.5			9.4	11.7	
Approach LOS	A			A	B	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	4.9	15.5		12.5		20.4
Change Period (Y+Rc), s	3.5	4.0		3.5		4.0
Max Green Setting (Gmax), s	30.0	30.0		30.0		30.0
Max Q Clear Time (g_c+I1), s	3.1	7.6		7.2		5.8
Green Ext Time (p_c), s	0.1	3.7		1.8		2.1
Intersection Summary						
HCM 6th Ctrl Delay			10.2			
HCM 6th LOS			B			

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	7.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	375	83	99	241	162	181
Future Vol, veh/h	375	83	99	241	162	181
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	170	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	391	86	103	251	169	189

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	478	0	849	392
Stage 1	-	-	-	-	392	-
Stage 2	-	-	-	-	457	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1095	-	334	661
Stage 1	-	-	-	-	687	-
Stage 2	-	-	-	-	642	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1094	-	302	660
Mov Cap-2 Maneuver	-	-	-	-	302	-
Stage 1	-	-	-	-	622	-
Stage 2	-	-	-	-	642	-

Approach	EB		WB		NB
HCM Control Delay, s	0		2.5		21.3
HCM LOS					C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	302	660	-	-	1094	-
HCM Lane V/C Ratio	0.559	0.286	-	-	0.094	-
HCM Control Delay (s)	31	12.6	-	-	8.6	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	3.2	1.2	-	-	0.3	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	239	311	149	315	88	42
Future Volume (veh/h)	239	311	149	315	88	42
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1737	1737
Adj Flow Rate, veh/h	266	346	166	350	98	47
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	2	2	11	11
Cap, veh/h	818	677	567	811	335	298
Arrive On Green	0.43	0.43	0.43	0.43	0.20	0.20
Sat Flow, veh/h	1885	1561	809	1870	1654	1472
Grp Volume(v), veh/h	266	346	166	350	98	47
Grp Sat Flow(s),veh/h/ln	1885	1561	809	1870	1654	1472
Q Serve(g_s), s	2.3	4.0	4.2	3.2	1.2	0.7
Cycle Q Clear(g_c), s	2.3	4.0	6.5	3.2	1.2	0.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	818	677	567	811	335	298
V/C Ratio(X)	0.33	0.51	0.29	0.43	0.29	0.16
Avail Cap(c_a), veh/h	1373	1137	805	1362	1204	1072
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	4.6	5.1	6.8	4.9	8.4	8.1
Incr Delay (d2), s/veh	0.2	0.6	0.3	0.4	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.4	0.3	0.4	0.3	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	4.8	5.7	7.0	5.2	8.8	8.4
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	612			516	145	
Approach Delay, s/veh	5.3			5.8	8.7	
Approach LOS	A			A	A	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	9.5	15.2	15.2
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	3.2	6.0	8.5
Green Ext Time (p_c), s	0.3	2.3	2.2

Intersection Summary	
HCM 6th Ctrl Delay	5.9
HCM 6th LOS	A

Intersection	
Intersection Delay, s/veh	14.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	92	0	5	26	467	0	1	7	283	0	5
Future Vol, veh/h	13	92	0	5	26	467	0	1	7	283	0	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	3	3	3	14	14	14	1	1	1
Mvmt Flow	14	96	0	5	27	486	0	1	7	295	0	5
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	9.9	16.6	8.9	13.7
HCM LOS	A	C	A	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	12%	16%	0%	98%
Vol Thru, %	12%	88%	84%	0%	0%
Vol Right, %	88%	0%	0%	100%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	105	31	467	288
LT Vol	0	13	5	0	283
Through Vol	1	92	26	0	0
RT Vol	7	0	0	467	5
Lane Flow Rate	8	109	32	486	300
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.013	0.173	0.052	0.669	0.473
Departure Headway (Hd)	5.773	5.695	5.742	4.953	5.676
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	618	630	627	735	636
Service Time	3.826	3.733	3.442	2.653	3.709
HCM Lane V/C Ratio	0.013	0.173	0.051	0.661	0.472
HCM Control Delay	8.9	9.9	8.8	17.1	13.7
HCM Lane LOS	A	A	A	C	B
HCM 95th-tile Q	0	0.6	0.2	5.2	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	339	376	148	543	5	609	5	90	0	9	3
Future Volume (veh/h)	1	339	376	148	543	5	609	5	90	0	9	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1687	1687	1634	1687	1687	1856	1900	1856	1900	1900	1900
Adj Flow Rate, veh/h	1	365	404	159	584	5	659	0	97	0	10	3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	5	1	1	3	0	3	0	0	0
Cap, veh/h	2	593	513	193	1605	14	869	0	378	0	22	6
Arrive On Green	0.00	0.37	0.37	0.12	0.49	0.49	0.25	0.00	0.25	0.00	0.02	0.02
Sat Flow, veh/h	1619	1602	1385	1556	3255	28	3534	0	1536	0	1369	411
Grp Volume(v), veh/h	1	365	404	159	287	302	659	0	97	0	0	13
Grp Sat Flow(s),veh/h/ln	1619	1602	1385	1556	1602	1681	1767	0	1536	0	0	1780
Q Serve(g_s), s	0.0	14.1	19.6	7.6	8.4	8.4	13.1	0.0	3.9	0.0	0.0	0.5
Cycle Q Clear(g_c), s	0.0	14.1	19.6	7.6	8.4	8.4	13.1	0.0	3.9	0.0	0.0	0.5
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.00		0.23
Lane Grp Cap(c), veh/h	2	593	513	193	790	829	869	0	378	0	0	28
V/C Ratio(X)	0.47	0.62	0.79	0.82	0.36	0.36	0.76	0.00	0.26	0.00	0.00	0.46
Avail Cap(c_a), veh/h	684	677	585	657	790	829	1866	0	811	0	0	470
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	37.8	19.5	21.2	32.4	11.9	11.9	26.5	0.0	23.0	0.0	0.0	37.0
Incr Delay (d2), s/veh	49.3	3.8	10.2	3.3	1.0	1.0	1.4	0.0	0.4	0.0	0.0	13.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.4	7.2	2.9	2.9	3.0	5.5	0.0	1.4	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.1	23.3	31.4	35.7	12.9	12.8	27.9	0.0	23.4	0.0	0.0	50.6
LnGrp LOS	F	C	C	D	B	B	C	A	C	A	A	D
Approach Vol, veh/h		770			748			756			13	
Approach Delay, s/veh		27.6			17.7			27.3			50.6	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.9	33.1		5.7	4.6	42.4		23.1
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	32.0	32.0		20.0	32.0	31.0		40.0
Max Q Clear Time (g_c+I1), s	9.6	21.6		2.5	2.0	10.4		15.1
Green Ext Time (p_c), s	0.2	6.4		0.0	0.0	7.8		3.0

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	662	5	428	0	547	374	0	593	166
Future Volume (veh/h)	0	0	0	662	5	428	0	547	374	0	593	166
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		0.97
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				1885	1900	1826	0	1870	1900	0	1870	1870
Adj Flow Rate, veh/h				731	0	470	0	601	0	0	652	182
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				1	0	5	0	2	0	0	2	2
Cap, veh/h				1143	0	492	0	1809		0	1386	386
Arrive On Green				0.32	0.00	0.32	0.00	0.51	0.00	0.00	0.51	0.51
Sat Flow, veh/h				3591	0	1547	0	3647	1610	0	2816	759
Grp Volume(v), veh/h				731	0	470	0	601	0	0	425	409
Grp Sat Flow(s),veh/h/ln				1795	0	1547	0	1777	1610	0	1777	1705
Q Serve(g_s), s				9.6	0.0	16.4	0.0	5.5	0.0	0.0	8.5	8.5
Cycle Q Clear(g_c), s				9.6	0.0	16.4	0.0	5.5	0.0	0.0	8.5	8.5
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.45
Lane Grp Cap(c), veh/h				1143	0	492	0	1809		0	905	868
V/C Ratio(X)				0.64	0.00	0.95	0.00	0.33		0.00	0.47	0.47
Avail Cap(c_a), veh/h				1143	0	492	0	1809		0	905	868
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.96	0.00	0.00	0.74	0.74
Uniform Delay (d), s/veh				16.1	0.0	18.4	0.0	8.0	0.0	0.0	8.7	8.7
Incr Delay (d2), s/veh				1.3	0.0	29.4	0.0	0.5	0.0	0.0	1.3	1.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.6	0.0	8.9	0.0	1.7	0.0	0.0	3.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				17.3	0.0	47.8	0.0	8.5	0.0	0.0	10.0	10.1
LnGrp LOS				B	A	D	A	A		A	B	B
Approach Vol, veh/h					1201			601	A		834	
Approach Delay, s/veh					29.3			8.5			10.0	
Approach LOS					C			A			B	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		33.3				33.3		21.7				
Change Period (Y+Rc), s		5.3				5.3		4.2				
Max Green Setting (Gmax), s		28.0				28.0		17.5				
Max Q Clear Time (g_c+I1), s		7.5				10.5		18.4				
Green Ext Time (p_c), s		4.6				6.3		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			18.4
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	218	0	516	0	0	0	0	696	574	0	996	240
Future Volume (vph)	218	0	516	0	0	0	0	696	574	0	996	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6					4.9	4.9		4.9	4.0
Lane Util. Factor		1.00	0.88					0.95	1.00		0.91	1.00
Frpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	0.97
Flpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	1.00
Frt		1.00	0.85					1.00	0.85		1.00	0.85
Flt Protected		0.95	1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)		1646	2694					3455	1546		4964	1501
Flt Permitted		0.95	1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)		1646	2694					3455	1546		4964	1501
Peak-hour factor, PHF	0.80	0.72	0.75	0.92	0.92	0.92	0.92	0.85	0.94	0.92	0.96	0.82
Adj. Flow (vph)	272	0	688	0	0	0	0	819	611	0	1038	293
RTOR Reduction (vph)	0	0	285	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	273	403	0	0	0	0	819	611	0	1038	293
Confl. Peds. (#/hr)	13					13	11		1	1		11
Confl. Bikes (#/hr)												9
Heavy Vehicles (%)	6%	0%	2%	0%	0%	0%	0%	1%	1%	0%	1%	1%
Turn Type	Split	NA	Perm					NA	Prot		NA	Free
Protected Phases	2	2						1 3 4	1 3 4		1 3 4	
Permitted Phases			2									Free
Actuated Green, G (s)		16.0	16.0					95.1	95.1		95.1	119.9
Effective Green, g (s)		16.0	16.0					90.9	90.9		90.9	119.9
Actuated g/C Ratio		0.13	0.13					0.76	0.76		0.76	1.00
Clearance Time (s)		4.6	4.6									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		219	359					2619	1172		3763	1501
v/s Ratio Prot		c0.17						0.24	c0.40		0.21	
v/s Ratio Perm			0.15									c0.20
v/c Ratio		1.25	1.12					0.31	0.52		0.28	0.20
Uniform Delay, d1		52.0	52.0					4.6	5.8		4.4	0.0
Progression Factor		1.00	1.00					0.02	0.66		1.00	1.00
Incremental Delay, d2		143.2	84.9					0.1	0.3		0.0	0.3
Delay (s)		195.1	136.8					0.1	4.2		4.5	0.3
Level of Service		F	F					A	A		A	A
Approach Delay (s)		153.4			0.0			1.9			3.6	
Approach LOS		F			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	41.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	272	16	101	14	7	26	136	975	21	91	1066	342
Future Volume (vph)	272	16	101	14	7	26	136	975	21	91	1066	342
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.97		1.00	1.00	1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.96	
Flt Protected	0.95	0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1625	1646	1509		1792	1561	1745	4939		1745	4675	
Flt Permitted	0.95	0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1625	1646	1509		1792	1561	1745	4939		1745	4675	
Peak-hour factor, PHF	0.86	0.61	0.80	0.85	0.44	0.79	0.66	0.86	0.61	0.67	0.94	0.85
Adj. Flow (vph)	316	26	126	16	16	33	206	1134	34	136	1134	402
RTOR Reduction (vph)	0	0	95	0	0	28	0	3	0	0	53	0
Lane Group Flow (vph)	171	171	31	0	32	5	206	1165	0	136	1483	0
Confl. Peds. (#/hr)			18	18			12		8	8		12
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	1		2	6	
Permitted Phases			4			3						
Actuated Green, G (s)	29.5	29.5	29.5		16.5	16.5	15.7	40.0		16.0	41.2	
Effective Green, g (s)	29.5	29.5	29.5		16.5	16.5	15.7	40.0		16.0	41.2	
Actuated g/C Ratio	0.25	0.25	0.25		0.14	0.14	0.13	0.33		0.13	0.34	
Clearance Time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.2	
Lane Grp Cap (vph)	399	404	371		246	214	228	1647		232	1606	
v/s Ratio Prot	c0.11	0.10			c0.02		c0.12	0.24		0.08	c0.32	
v/s Ratio Perm			0.02			0.00						
v/c Ratio	0.43	0.42	0.08		0.13	0.02	0.90	0.71		0.59	0.92	
Uniform Delay, d1	38.1	38.0	34.8		45.4	44.7	51.4	34.8		48.8	37.8	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.08	0.88	
Incremental Delay, d2	0.7	0.7	0.1		0.2	0.0	34.6	2.6		3.1	8.8	
Delay (s)	38.8	38.8	34.9		45.6	44.8	85.9	37.4		55.7	42.0	
Level of Service	D	D	C		D	D	F	D		E	D	
Approach Delay (s)		37.7			45.2			44.7			43.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	43.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	37	18	22	80	172	37	730	21	129	689	336
Future Volume (veh/h)	219	37	18	22	80	172	37	730	21	129	689	336
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	231	39	19	23	84	181	39	768	22	136	725	354
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	552	185	90	64	232	235	52	1910	55	180	2279	692
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.03	0.37	0.37	0.10	0.44	0.44
Sat Flow, veh/h	3483	1165	568	404	1476	1497	1795	5136	147	1795	5147	1563
Grp Volume(v), veh/h	231	0	58	107	0	181	39	512	278	136	725	354
Grp Sat Flow(s),veh/h/ln	1742	0	1733	1880	0	1497	1795	1716	1851	1795	1716	1563
Q Serve(g_s), s	4.7	0.0	2.3	4.0	0.0	9.1	1.7	8.6	8.7	5.8	7.1	12.8
Cycle Q Clear(g_c), s	4.7	0.0	2.3	4.0	0.0	9.1	1.7	8.6	8.7	5.8	7.1	12.8
Prop In Lane	1.00		0.33	0.21		1.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	552	0	275	296	0	235	52	1276	689	180	2279	692
V/C Ratio(X)	0.42	0.00	0.21	0.36	0.00	0.77	0.74	0.40	0.40	0.76	0.32	0.51
Avail Cap(c_a), veh/h	935	0	465	504	0	402	367	1990	1074	596	2985	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.7	0.0	28.7	29.5	0.0	31.6	37.7	18.1	18.2	34.3	14.1	15.7
Incr Delay (d2), s/veh	1.8	0.0	1.4	1.1	0.0	7.3	25.1	0.9	1.8	8.8	0.4	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	1.0	1.9	0.0	3.7	1.1	3.3	3.8	2.9	2.6	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.5	0.0	30.0	30.5	0.0	38.9	62.8	19.1	19.9	43.1	14.5	18.4
LnGrp LOS	C	A	C	C	A	D	E	B	B	D	B	B
Approach Vol, veh/h		289			288			829			1215	
Approach Delay, s/veh		31.2			35.8			21.4			18.8	
Approach LOS		C			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.3	39.3		16.3	11.8	33.7		16.4
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0
Max Green Setting (Gmax), s	16.0	45.4		21.0	26.0	45.4		21.0
Max Q Clear Time (g_c+I1), s	3.7	14.8		11.1	7.8	10.7		6.7
Green Ext Time (p_c), s	0.1	19.9		1.3	0.5	16.9		2.5

Intersection Summary	
HCM 6th Ctrl Delay	22.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	126	44	124	260	130	49	493	36	118	421	61
Future Volume (veh/h)	192	126	44	124	260	130	49	493	36	118	421	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	124	233	45	128	268	134	51	508	37	122	434	63
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	326	556	105	395	523	252	67	1362	98	264	1136	493
Arrive On Green	0.18	0.18	0.18	0.22	0.22	0.22	0.04	0.28	0.28	0.08	0.32	0.32
Sat Flow, veh/h	1795	3060	578	1810	2393	1153	1795	4887	352	3483	3582	1553
Grp Volume(v), veh/h	124	142	136	128	211	191	51	355	190	122	434	63
Grp Sat Flow(s),veh/h/ln	1795	1885	1753	1810	1900	1646	1795	1716	1807	1742	1791	1553
Q Serve(g_s), s	4.4	4.8	5.0	4.3	7.1	7.5	2.0	6.0	6.1	2.4	6.8	2.1
Cycle Q Clear(g_c), s	4.4	4.8	5.0	4.3	7.1	7.5	2.0	6.0	6.1	2.4	6.8	2.1
Prop In Lane	1.00		0.33	1.00		0.70	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	326	343	319	395	415	359	67	956	504	264	1136	493
V/C Ratio(X)	0.38	0.41	0.43	0.32	0.51	0.53	0.77	0.37	0.38	0.46	0.38	0.13
Avail Cap(c_a), veh/h	629	661	614	634	666	577	644	2149	1132	1249	2244	973
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	26.2	26.3	23.8	24.9	25.1	34.6	21.0	21.1	32.1	19.2	17.6
Incr Delay (d2), s/veh	1.0	1.1	1.3	0.7	1.4	1.7	22.5	0.9	1.7	1.8	0.8	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.2	2.2	1.9	3.3	3.0	1.3	2.4	2.7	1.0	2.7	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	27.4	27.6	24.5	26.3	26.8	57.1	21.9	22.8	33.9	20.0	18.0
LnGrp LOS	C	C	C	C	C	C	E	C	C	C	B	B
Approach Vol, veh/h		402			530			596			619	
Approach Delay, s/veh		27.4			26.0			25.2			22.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	24.8		20.4	6.7	27.6		17.8
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		4.6
Max Green Setting (Gmax), s	26.0	45.4		25.4	26.0	45.4		25.4
Max Q Clear Time (g_c+I1), s	4.4	8.1		9.5	4.0	8.8		7.0
Green Ext Time (p_c), s	0.5	9.4		3.7	0.1	8.3		2.8

Intersection Summary	
HCM 6th Ctrl Delay	25.0
HCM 6th LOS	C

Notes
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	74	41	46	59	93	21	407	27	67	319	82
Future Volume (veh/h)	113	74	41	46	59	93	21	407	27	67	319	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	119	78	43	48	62	98	22	428	28	71	336	86
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	1	1	1
Cap, veh/h	178	117	64	108	140	206	37	1030	67	93	935	235
Arrive On Green	0.20	0.20	0.20	0.13	0.13	0.13	0.02	0.30	0.30	0.05	0.33	0.33
Sat Flow, veh/h	886	581	320	811	1048	1544	1795	3401	222	1795	2804	705
Grp Volume(v), veh/h	240	0	0	110	0	98	22	225	231	71	212	210
Grp Sat Flow(s),veh/h/ln	1786	0	0	1859	0	1544	1795	1791	1832	1795	1791	1718
Q Serve(g_s), s	6.6	0.0	0.0	2.9	0.0	3.1	0.6	5.3	5.4	2.1	4.8	4.9
Cycle Q Clear(g_c), s	6.6	0.0	0.0	2.9	0.0	3.1	0.6	5.3	5.4	2.1	4.8	4.9
Prop In Lane	0.50		0.18	0.44		1.00	1.00		0.12	1.00		0.41
Lane Grp Cap(c), veh/h	359	0	0	249	0	206	37	542	555	93	597	573
V/C Ratio(X)	0.67	0.00	0.00	0.44	0.00	0.47	0.59	0.41	0.42	0.77	0.36	0.37
Avail Cap(c_a), veh/h	870	0	0	906	0	752	874	1523	1558	874	1523	1461
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	0.0	0.0	21.3	0.0	21.4	25.9	14.8	14.8	25.0	13.4	13.5
Incr Delay (d2), s/veh	2.2	0.0	0.0	1.2	0.0	1.7	13.8	1.8	1.8	12.4	1.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	1.3	0.0	1.2	0.4	2.2	2.3	1.1	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	0.0	0.0	22.5	0.0	23.1	39.7	16.7	16.7	37.4	14.8	14.9
LnGrp LOS	C	A	A	C	A	C	D	B	B	D	B	B
Approach Vol, veh/h		240			208			478			493	
Approach Delay, s/veh		21.8			22.8			17.7			18.1	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.8	20.8		11.1	5.1	22.4		14.7
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0
Max Green Setting (Gmax), s	26.0	45.4		26.0	26.0	45.4		26.0
Max Q Clear Time (g_c+I1), s	4.1	7.4		5.1	2.6	6.9		8.6
Green Ext Time (p_c), s	0.1	8.0		0.9	0.0	7.0		1.3

Intersection Summary		
HCM 6th Ctrl Delay		19.3
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	284	138	47	491	106	183	273	63	74	182	46
Future Volume (veh/h)	63	284	138	47	491	106	183	273	63	74	182	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	68	305	148	51	528	114	197	294	68	80	196	49
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	101	1056	453	86	834	179	252	560	464	110	291	73
Arrive On Green	0.06	0.29	0.29	0.05	0.29	0.29	0.14	0.30	0.30	0.06	0.20	0.20
Sat Flow, veh/h	1795	3582	1537	1795	2916	626	1795	1885	1560	1795	1447	362
Grp Volume(v), veh/h	68	305	148	51	323	319	197	294	68	80	0	245
Grp Sat Flow(s),veh/h/ln	1795	1791	1537	1795	1791	1751	1795	1885	1560	1795	0	1808
Q Serve(g_s), s	2.2	4.0	2.6	1.7	9.5	9.6	6.4	7.8	1.9	2.6	0.0	7.5
Cycle Q Clear(g_c), s	2.2	4.0	2.6	1.7	9.5	9.6	6.4	7.8	1.9	2.6	0.0	7.5
Prop In Lane	1.00		1.00	1.00		0.36	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	101	1056	453	86	512	501	252	560	464	110	0	364
V/C Ratio(X)	0.67	0.29	0.33	0.60	0.63	0.64	0.78	0.52	0.15	0.73	0.00	0.67
Avail Cap(c_a), veh/h	775	2677	1149	775	1339	1309	775	939	777	775	0	901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.9	16.4	5.3	28.1	18.7	18.8	25.0	17.6	15.5	27.8	0.0	22.2
Incr Delay (d2), s/veh	7.5	0.2	0.5	6.5	1.6	1.6	2.0	0.3	0.1	10.5	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.5	1.5	0.8	3.8	3.7	2.7	3.2	0.7	1.4	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	16.5	5.8	34.6	20.3	20.4	27.0	17.9	15.6	38.3	0.0	24.8
LnGrp LOS	D	B	A	C	C	C	C	B	B	D	A	C
Approach Vol, veh/h		521			693			559			325	
Approach Delay, s/veh		15.9			21.4			20.8			28.1	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	22.2	7.7	22.9	6.9	22.8	13.5	17.1
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	26.0	45.0	26.0	30.0	26.0	45.0	26.0	* 30
Max Q Clear Time (g_c+I1), s	4.2	11.6	4.6	9.8	3.7	6.0	8.4	9.5
Green Ext Time (p_c), s	0.1	5.5	0.2	0.7	0.1	3.2	0.1	1.7

Intersection Summary		
HCM 6th Ctrl Delay		20.9
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)	43	252	88	54	395	48	146	371	56	66	239	60
Future Volume (veh/h)	43	252	88	54	395	48	146	371	56	66	239	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	45	265	93	57	416	51	154	391	59	69	252	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	66	631	214	77	799	97	205	529	80	90	387	97
Arrive On Green	0.04	0.24	0.24	0.04	0.25	0.25	0.11	0.33	0.33	0.05	0.27	0.27
Sat Flow, veh/h	1810	2602	884	1810	3215	391	1810	1607	242	1810	1458	364
Grp Volume(v), veh/h	45	181	177	57	232	235	154	0	450	69	0	315
Grp Sat Flow(s),veh/h/ln	1810	1805	1680	1810	1805	1801	1810	0	1849	1810	0	1822
Q Serve(g_s), s	1.3	4.5	4.8	1.7	5.9	6.0	4.4	0.0	11.6	2.0	0.0	8.2
Cycle Q Clear(g_c), s	1.3	4.5	4.8	1.7	5.9	6.0	4.4	0.0	11.6	2.0	0.0	8.2
Prop In Lane	1.00		0.53	1.00		0.22	1.00		0.13	1.00		0.20
Lane Grp Cap(c), veh/h	66	438	407	77	449	448	205	0	609	90	0	484
V/C Ratio(X)	0.68	0.41	0.43	0.74	0.52	0.52	0.75	0.00	0.74	0.77	0.00	0.65
Avail Cap(c_a), veh/h	693	1197	1114	693	1197	1194	693	0	881	693	0	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.5	17.1	17.2	25.3	17.3	17.4	23.0	0.0	15.9	25.1	0.0	17.5
Incr Delay (d2), s/veh	8.8	0.2	0.3	9.7	1.1	1.2	5.5	0.0	1.5	12.9	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.7	1.7	0.9	2.4	2.4	2.0	0.0	4.5	1.1	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.3	17.3	17.4	35.0	18.5	18.5	28.5	0.0	17.4	38.0	0.0	19.2
LnGrp LOS	C	B	B	D	B	B	C	A	B	D	A	B
Approach Vol, veh/h		403			524			604			384	
Approach Delay, s/veh		19.3			20.3			20.2			22.6	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	17.5	7.2	22.1	6.5	17.8	10.6	18.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.5	35.5	20.5	25.5	20.5	35.5	20.5	25.5
Max Q Clear Time (g_c+I1), s	3.7	6.8	4.0	13.6	3.3	8.0	6.4	10.2
Green Ext Time (p_c), s	0.1	1.4	0.1	1.9	0.0	3.6	0.3	1.9

Intersection Summary	
HCM 6th Ctrl Delay	20.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	256	54	63	418	148	42	117	53	71	89	47
Future Volume (veh/h)	24	256	54	63	418	148	42	117	53	71	89	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.91	1.00		0.94	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	25	269	57	66	440	156	44	123	56	75	94	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	43	940	194	89	886	310	67	284	129	98	294	153
Arrive On Green	0.02	0.32	0.32	0.05	0.35	0.35	0.04	0.24	0.24	0.05	0.25	0.25
Sat Flow, veh/h	1810	2921	603	1810	2553	892	1795	1200	546	1810	1161	605
Grp Volume(v), veh/h	25	163	163	66	309	287	44	0	179	75	0	143
Grp Sat Flow(s),veh/h/ln	1810	1805	1719	1810	1805	1641	1795	0	1746	1810	0	1766
Q Serve(g_s), s	0.6	3.2	3.3	1.7	6.4	6.5	1.1	0.0	4.1	1.9	0.0	3.1
Cycle Q Clear(g_c), s	0.6	3.2	3.3	1.7	6.4	6.5	1.1	0.0	4.1	1.9	0.0	3.1
Prop In Lane	1.00		0.35	1.00		0.54	1.00		0.31	1.00		0.34
Lane Grp Cap(c), veh/h	43	581	553	89	627	570	67	0	413	98	0	447
V/C Ratio(X)	0.58	0.28	0.29	0.74	0.49	0.50	0.66	0.00	0.43	0.77	0.00	0.32
Avail Cap(c_a), veh/h	613	1759	1675	613	1759	1599	799	0	592	805	0	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.8	11.9	12.0	22.2	12.1	12.2	22.4	0.0	15.3	22.0	0.0	14.3
Incr Delay (d2), s/veh	11.9	0.3	0.3	11.5	0.6	0.7	10.6	0.0	0.7	11.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.1	1.1	0.9	2.2	2.1	0.6	0.0	1.5	1.1	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.8	12.2	12.3	33.7	12.7	12.9	33.0	0.0	16.1	33.9	0.0	14.7
LnGrp LOS	C	B	B	C	B	B	C	A	B	C	A	B
Approach Vol, veh/h		351			662			223			218	
Approach Delay, s/veh		13.8			14.9			19.4			21.3	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	15.2	6.3	19.2	5.8	16.0	5.1	20.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	21.0	16.0	16.0	46.0	21.0	16.0	16.0	46.0
Max Q Clear Time (g_c+I1), s	3.9	6.1	3.7	5.3	3.1	5.1	2.6	8.5
Green Ext Time (p_c), s	0.1	0.7	0.1	2.1	0.1	0.5	0.0	4.3

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	356	74	84	428	11	122	3	89	19	3	38
Future Volume (veh/h)	15	356	74	84	428	11	122	3	89	19	3	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	15	367	76	87	441	11	126	3	92	20	3	39
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	27	719	147	115	575	466	147	2	640	139	12	661
Arrive On Green	0.02	0.24	0.24	0.06	0.30	0.30	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	1810	2954	603	1810	1900	1541	0	4	1553	0	29	1603
Grp Volume(v), veh/h	15	222	221	87	441	11	129	0	92	23	0	39
Grp Sat Flow(s),veh/h/ln	1810	1805	1752	1810	1900	1541	4	0	1553	29	0	1603
Q Serve(g_s), s	0.4	5.2	5.3	2.3	10.2	0.2	0.0	0.0	1.8	0.0	0.0	0.7
Cycle Q Clear(g_c), s	0.4	5.2	5.3	2.3	10.2	0.2	20.0	0.0	1.8	20.0	0.0	0.7
Prop In Lane	1.00		0.34	1.00		1.00	0.98		1.00	0.87		1.00
Lane Grp Cap(c), veh/h	27	439	426	115	575	466	149	0	640	151	0	661
V/C Ratio(X)	0.55	0.51	0.52	0.75	0.77	0.02	0.87	0.00	0.14	0.15	0.00	0.06
Avail Cap(c_a), veh/h	970	1671	1622	951	1759	1427	149	0	640	151	0	661
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.7	15.8	15.9	22.3	15.4	11.9	24.0	0.0	8.9	14.1	0.0	8.6
Incr Delay (d2), s/veh	16.1	0.3	0.4	9.5	0.8	0.0	37.2	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.9	1.9	1.2	4.0	0.1	2.9	0.0	0.5	0.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.8	16.2	16.2	31.8	16.2	11.9	61.1	0.0	8.9	14.3	0.0	8.6
LnGrp LOS	D	B	B	C	B	B	E	A	A	B	A	A
Approach Vol, veh/h		458			539			221			62	
Approach Delay, s/veh		17.0			18.6			39.4			10.7	
Approach LOS		B			B			D			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.6	16.9		24.0	4.7	19.8		24.0
Change Period (Y+Rc), s	4.5	5.1		4.0	4.0	5.1		4.0
Max Green Setting (Gmax), s	25.5	44.9		20.0	26.0	44.9		20.0
Max Q Clear Time (g_c+I1), s	4.3	7.3		22.0	2.4	12.2		22.0
Green Ext Time (p_c), s	0.2	1.8		0.0	0.0	2.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	21.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	122	92	94	176	37	91	469	79	26	302	42
Future Volume (veh/h)	45	122	92	94	176	37	91	469	79	26	302	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.94	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	47	127	96	98	183	39	95	489	82	27	315	44
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	0	0	0
Cap, veh/h	81	212	161	131	373	80	127	611	103	55	569	79
Arrive On Green	0.05	0.22	0.22	0.07	0.25	0.25	0.07	0.39	0.39	0.03	0.35	0.35
Sat Flow, veh/h	1795	956	723	1810	1497	319	1795	1562	262	1810	1621	226
Grp Volume(v), veh/h	47	0	223	98	0	222	95	0	571	27	0	359
Grp Sat Flow(s),veh/h/ln	1795	0	1679	1810	0	1816	1795	0	1823	1810	0	1847
Q Serve(g_s), s	1.5	0.0	7.1	3.2	0.0	6.3	3.1	0.0	16.6	0.9	0.0	9.4
Cycle Q Clear(g_c), s	1.5	0.0	7.1	3.2	0.0	6.3	3.1	0.0	16.6	0.9	0.0	9.4
Prop In Lane	1.00		0.43	1.00		0.18	1.00		0.14	1.00		0.12
Lane Grp Cap(c), veh/h	81	0	373	131	0	453	127	0	714	55	0	648
V/C Ratio(X)	0.58	0.00	0.60	0.75	0.00	0.49	0.75	0.00	0.80	0.49	0.00	0.55
Avail Cap(c_a), veh/h	794	0	981	800	0	1061	794	0	1065	800	0	1079
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.0	0.0	20.9	27.2	0.0	19.2	27.3	0.0	16.2	28.6	0.0	15.7
Incr Delay (d2), s/veh	6.3	0.0	1.5	8.1	0.0	0.8	8.6	0.0	3.5	6.7	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	2.8	1.6	0.0	2.6	1.6	0.0	6.7	0.5	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.4	0.0	22.4	35.4	0.0	20.1	35.9	0.0	19.6	35.4	0.0	16.7
LnGrp LOS	C	A	C	D	A	C	D	A	B	D	A	B
Approach Vol, veh/h		270			320			666			386	
Approach Delay, s/veh		24.5			24.8			22.0			18.0	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	18.3	7.7	26.0	6.2	19.9	5.3	28.5
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0
Max Green Setting (Gmax), s	26.5	35.0	26.5	35.0	26.5	35.0	26.5	35.0
Max Q Clear Time (g_c+I1), s	5.2	9.1	5.1	11.4	3.5	8.3	2.9	18.6
Green Ext Time (p_c), s	0.2	1.5	0.2	3.2	0.1	1.4	0.0	4.8

Intersection Summary	
HCM 6th Ctrl Delay	22.0
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	178	35	29	175	41	49	157	37	30	76	47
Future Vol, veh/h	26	178	35	29	175	41	49	157	37	30	76	47
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	28	191	38	31	188	44	53	169	40	32	82	51
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	12.2	12.1	12.6	10.9
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	13%	0%	14%	0%	20%
Vol Thru, %	65%	87%	0%	86%	0%	50%
Vol Right, %	15%	0%	100%	0%	100%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	243	204	35	204	41	153
LT Vol	49	26	0	29	0	30
Through Vol	157	178	0	175	0	76
RT Vol	37	0	35	0	41	47
Lane Flow Rate	261	219	38	219	44	165
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.409	0.379	0.057	0.379	0.067	0.262
Departure Headway (Hd)	5.64	6.22	5.443	6.22	5.435	5.74
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	635	577	655	577	656	622
Service Time	3.7	3.979	3.201	3.977	3.192	3.808
HCM Lane V/C Ratio	0.411	0.38	0.058	0.38	0.067	0.265
HCM Control Delay	12.6	12.8	8.5	12.8	8.6	10.9
HCM Lane LOS	B	B	A	B	A	B
HCM 95th-tile Q	2	1.8	0.2	1.8	0.2	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	149	105	25	338	109	110	57	12	108	66	96
Future Volume (veh/h)	80	149	105	25	338	109	110	57	12	108	66	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.91	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	89	166	0	28	376	0	122	63	13	120	73	107
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	127	604		58	531		160	346	71	156	150	219
Arrive On Green	0.07	0.32	0.00	0.03	0.28	0.00	0.09	0.23	0.23	0.09	0.23	0.23
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1499	309	1795	651	954
Grp Volume(v), veh/h	89	166	0	28	376	0	122	0	76	120	0	180
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	0	1808	1795	0	1604
Q Serve(g_s), s	2.4	3.3	0.0	0.8	9.0	0.0	3.3	0.0	1.7	3.3	0.0	4.9
Cycle Q Clear(g_c), s	2.4	3.3	0.0	0.8	9.0	0.0	3.3	0.0	1.7	3.3	0.0	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.59
Lane Grp Cap(c), veh/h	127	604		58	531		160	0	418	156	0	369
V/C Ratio(X)	0.70	0.27		0.48	0.71		0.76	0.00	0.18	0.77	0.00	0.49
Avail Cap(c_a), veh/h	573	1335		573	1335		578	0	758	573	0	672
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.8	12.7	0.0	23.8	16.1	0.0	22.3	0.0	15.5	22.4	0.0	16.7
Incr Delay (d2), s/veh	5.1	0.2	0.0	4.6	1.7	0.0	2.9	0.0	0.2	3.0	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.3	0.0	0.4	3.6	0.0	1.4	0.0	0.7	1.4	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	12.9	0.0	28.4	17.9	0.0	25.2	0.0	15.6	25.3	0.0	17.5
LnGrp LOS	C	B		C	B		C	A	B	C	A	B
Approach Vol, veh/h		255	A		404	A		198			300	
Approach Delay, s/veh		18.1			18.6			21.5			20.6	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.6	20.6	8.4	15.5	7.6	18.6	8.4	15.6
Change Period (Y+Rc), s	4.0	4.5	4.0	4.0	4.0	4.5	4.0	4.0
Max Green Setting (Gmax), s	16.0	35.5	16.0	21.0	16.0	35.5	16.0	21.0
Max Q Clear Time (g_c+I1), s	2.8	5.3	5.3	6.9	4.4	11.0	5.3	3.7
Green Ext Time (p_c), s	0.0	1.0	0.1	0.7	0.1	2.3	0.1	0.2

Intersection Summary			
HCM 6th Ctrl Delay			19.5
HCM 6th LOS			B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	983	1104	72	453	35	530	19	31	53	31	25
Future Volume (veh/h)	12	983	1104	72	453	35	530	19	31	53	31	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	12	1013	0	74	467	36	560	0	0	55	32	26
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	25	2021		88	2015	155	616	0		84	49	113
Arrive On Green	0.01	0.56	0.00	0.05	0.60	0.60	0.17	0.00	0.00	0.07	0.07	0.07
Sat Flow, veh/h	1795	3582	1598	1795	3361	258	3591	0	1598	1164	677	1562
Grp Volume(v), veh/h	12	1013	0	74	248	255	560	0	0	87	0	26
Grp Sat Flow(s),veh/h/ln	1795	1791	1598	1795	1791	1829	1795	0	1598	1842	0	1562
Q Serve(g_s), s	0.7	19.2	0.0	4.6	7.2	7.3	17.1	0.0	0.0	5.2	0.0	1.8
Cycle Q Clear(g_c), s	0.7	19.2	0.0	4.6	7.2	7.3	17.1	0.0	0.0	5.2	0.0	1.8
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	0.63		1.00
Lane Grp Cap(c), veh/h	25	2021		88	1074	1096	616	0		133	0	113
V/C Ratio(X)	0.48	0.50		0.84	0.23	0.23	0.91	0.00		0.65	0.00	0.23
Avail Cap(c_a), veh/h	88	2021		88	1074	1096	625	0		370	0	314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.98	0.98	0.98	0.91	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.8	14.8	0.0	52.8	10.4	10.4	45.5	0.0	0.0	50.6	0.0	49.0
Incr Delay (d2), s/veh	5.2	0.9	0.0	45.3	0.5	0.5	15.6	0.0	0.0	2.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	7.9	0.0	3.2	3.0	3.1	8.8	0.0	0.0	2.5	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.0	15.7	0.0	98.1	10.9	10.9	61.1	0.0	0.0	52.6	0.0	49.4
LnGrp LOS	E	B		F	B	B	E	A		D	A	D
Approach Vol, veh/h		1025	A		577			560	A		113	
Approach Delay, s/veh		16.2			22.1			61.1			51.9	
Approach LOS		B			C			E			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	67.2		12.1	5.6	71.1		23.2
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.5	48.5		22.5	5.5	48.5		19.5
Max Q Clear Time (g_c+I1), s	6.6	21.2		7.2	2.7	9.3		19.1
Green Ext Time (p_c), s	0.0	8.8		0.3	0.0	3.6		0.1

Intersection Summary	
HCM 6th Ctrl Delay	30.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	903	71	297	570	94	243
Future Volume (veh/h)	903	71	297	570	94	243
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.96	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	921	72	303	582	96	248
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	1307	102	356	2362	340	303
Arrive On Green	0.39	0.39	0.20	0.66	0.19	0.19
Sat Flow, veh/h	3447	262	1795	3676	1795	1598
Grp Volume(v), veh/h	492	501	303	582	96	248
Grp Sat Flow(s),veh/h/ln	1791	1824	1795	1791	1795	1598
Q Serve(g_s), s	14.5	14.5	10.2	4.2	2.9	9.4
Cycle Q Clear(g_c), s	14.5	14.5	10.2	4.2	2.9	9.4
Prop In Lane		0.14	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	698	711	356	2362	340	303
V/C Ratio(X)	0.70	0.70	0.85	0.25	0.28	0.82
Avail Cap(c_a), veh/h	940	957	557	2362	814	724
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	16.1	24.3	4.4	21.8	24.5
Incr Delay (d2), s/veh	2.1	2.0	4.4	0.1	0.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	5.6	4.4	1.0	1.2	3.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.2	18.2	28.7	4.4	22.0	26.6
LnGrp LOS	B	B	C	A	C	C
Approach Vol, veh/h	993			885	344	
Approach Delay, s/veh	18.2			12.8	25.3	
Approach LOS	B			B	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	17.0	29.5		16.4		46.5
Change Period (Y+Rc), s	4.5	5.0		4.5		5.0
Max Green Setting (Gmax), s	19.5	33.0		28.5		33.0
Max Q Clear Time (g_c+I1), s	12.2	16.5		11.4		6.2
Green Ext Time (p_c), s	0.3	7.8		0.5		5.7

Intersection Summary		
HCM 6th Ctrl Delay		17.1
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	726	461	389	639	2	243	1	758	5	5	9
Future Volume (veh/h)	8	726	461	389	639	2	243	1	758	5	5	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.87
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1737	1870	1900	1900	1885	1885	1856	1870	1870	1870
Adj Flow Rate, veh/h	8	756	0	405	666	2	253	1	0	5	5	9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	11	2	0	0	1	1	3	2	2	2
Cap, veh/h	14	1767		420	2651	8	274	1		12	12	21
Arrive On Green	0.01	0.49	0.00	0.47	1.00	1.00	0.15	0.15	0.00	0.03	0.03	0.03
Sat Flow, veh/h	1810	3610	1472	1781	3692	11	1789	7	1572	416	416	750
Grp Volume(v), veh/h	8	756	0	405	326	342	254	0	0	19	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1472	1781	1805	1898	1796	0	1572	1582	0	0
Q Serve(g_s), s	0.7	20.3	0.0	33.0	0.0	0.0	20.9	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear(g_c), s	0.7	20.3	0.0	33.0	0.0	0.0	20.9	0.0	0.0	1.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.26		0.47
Lane Grp Cap(c), veh/h	14	1767		420	1296	1363	275	0		44	0	0
V/C Ratio(X)	0.58	0.43		0.96	0.25	0.25	0.92	0.00		0.43	0.00	0.00
Avail Cap(c_a), veh/h	48	1767		487	1296	1363	281	0		232	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.00	1.00	1.00	1.00	0.56	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	74.2	24.7	0.0	39.0	0.0	0.0	62.6	0.0	0.0	71.7	0.0	0.0
Incr Delay (d2), s/veh	9.1	0.5	0.0	28.5	0.5	0.4	22.0	0.0	0.0	4.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	8.8	0.0	15.1	0.2	0.2	11.3	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.3	25.2	0.0	67.5	0.5	0.4	84.7	0.0	0.0	76.6	0.0	0.0
LnGrp LOS	F	C		E	A	A	F	A		E	A	A
Approach Vol, veh/h		764	A		1073			254	A		19	
Approach Delay, s/veh		25.8			25.8			84.7			76.6	
Approach LOS		C			C			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	38.4	77.4		7.7	4.1	111.7		26.5				
Change Period (Y+Rc), s	3.0	4.0		3.5	3.0	4.0		3.5				
Max Green Setting (Gmax), s	41.0	49.5		22.0	4.0	86.5		23.5				
Max Q Clear Time (g_c+I1), s	35.0	22.3		3.8	2.7	2.0		22.9				
Green Ext Time (p_c), s	0.4	7.8		0.0	0.0	6.9		0.1				

Intersection Summary			
HCM 6th Ctrl Delay			33.3
HCM 6th LOS			C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	976	472	3	1043	13	483	14	48	114	145	92
Future Volume (veh/h)	49	976	472	3	1043	13	483	14	48	114	145	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1841	1900	1841	1841	1811	1870	1856	1870	1900	1900
Adj Flow Rate, veh/h	51	1017	0	3	1086	14	514	0	0	119	151	96
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	3	4	0	4	4	6	2	3	2	0	0
Cap, veh/h	65	1942		7	1831	24	583	0		278	169	108
Arrive On Green	0.05	0.73	0.00	0.00	0.52	0.52	0.17	0.00	0.00	0.16	0.16	0.16
Sat Flow, veh/h	1781	3526	1560	1810	3534	46	3450	0	1572	1781	1083	688
Grp Volume(v), veh/h	51	1017	0	3	537	563	514	0	0	119	0	247
Grp Sat Flow(s),veh/h/ln	1781	1763	1560	1810	1749	1830	1725	0	1572	1781	0	1771
Q Serve(g_s), s	4.2	18.8	0.0	0.2	32.1	32.1	21.8	0.0	0.0	9.1	0.0	20.5
Cycle Q Clear(g_c), s	4.2	18.8	0.0	0.2	32.1	32.1	21.8	0.0	0.0	9.1	0.0	20.5
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	65	1942		7	906	948	583	0		278	0	277
V/C Ratio(X)	0.78	0.52		0.42	0.59	0.59	0.88	0.00		0.43	0.00	0.89
Avail Cap(c_a), veh/h	101	1942		62	906	948	793	0		338	0	337
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	70.7	11.5	0.0	74.5	25.2	25.2	60.9	0.0	0.0	57.2	0.0	62.0
Incr Delay (d2), s/veh	18.4	1.0	0.0	35.4	2.9	2.7	8.8	0.0	0.0	1.0	0.0	21.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	6.3	0.0	0.2	13.9	14.5	10.4	0.0	0.0	4.2	0.0	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.1	12.5	0.0	110.0	28.0	27.9	69.7	0.0	0.0	58.3	0.0	83.8
LnGrp LOS	F	B		F	C	C	E	A		E	A	F
Approach Vol, veh/h		1068	A		1103			514	A		366	
Approach Delay, s/veh		16.2			28.2			69.7			75.5	
Approach LOS		B			C			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	87.1		29.8	10.0	82.2		27.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	63.9		34.5	8.5	60.5		28.5				
Max Q Clear Time (g_c+I1), s	2.2	20.8		23.8	6.2	34.1		22.5				
Green Ext Time (p_c), s	0.0	9.5		1.5	0.0	8.0		0.9				

Intersection Summary			
HCM 6th Ctrl Delay			36.6
HCM 6th LOS			D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	332	538	564	53	640	406
Future Volume (veh/h)	332	538	564	53	640	406
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	342	555	581	55	660	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	510	890	795	347	771	
Arrive On Green	0.39	0.39	0.22	0.22	0.22	0.00
Sat Flow, veh/h	1315	2390	3647	1551	3483	1598
Grp Volume(v), veh/h	473	424	581	55	660	0
Grp Sat Flow(s),veh/h/ln	1819	1791	1777	1551	1742	1598
Q Serve(g_s), s	17.2	15.2	12.1	2.3	14.6	0.0
Cycle Q Clear(g_c), s	17.2	15.2	12.1	2.3	14.6	0.0
Prop In Lane	0.72			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	705	694	795	347	771	
V/C Ratio(X)	0.67	0.61	0.73	0.16	0.86	
Avail Cap(c_a), veh/h	705	694	795	347	906	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.3	19.7	28.8	25.0	29.9	0.0
Incr Delay (d2), s/veh	0.5	0.4	5.9	1.0	7.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	6.1	5.7	0.9	6.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.7	20.0	34.7	26.0	37.1	0.0
LnGrp LOS	C	C	C	C	D	
Approach Vol, veh/h		897	636		660	A
Approach Delay, s/veh		20.4	33.9		37.1	
Approach LOS		C	C		D	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		35.6		21.9		22.5
Change Period (Y+Rc), s		4.6		* 4.2		4.6
Max Green Setting (Gmax), s		27.9		* 21		17.9
Max Q Clear Time (g_c+I1), s		19.2		16.6		14.1
Green Ext Time (p_c), s		3.9		1.1		1.5

Intersection Summary			
HCM 6th Ctrl Delay			29.4
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	659	465	114	340	267	51
Future Volume (veh/h)	659	465	114	340	267	51
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	701	495	121	362	334	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	0	0	1	0
Cap, veh/h	933	769	164	1266	573	257
Arrive On Green	0.49	0.49	0.09	0.67	0.16	0.00
Sat Flow, veh/h	1885	1555	1810	1900	3591	1610
Grp Volume(v), veh/h	701	495	121	362	334	0
Grp Sat Flow(s),veh/h/ln	1885	1555	1810	1900	1795	1610
Q Serve(g_s), s	12.9	10.2	2.8	3.4	3.7	0.0
Cycle Q Clear(g_c), s	12.9	10.2	2.8	3.4	3.7	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	933	769	164	1266	573	257
V/C Ratio(X)	0.75	0.64	0.74	0.29	0.58	0.00
Avail Cap(c_a), veh/h	1311	1081	1259	1322	2498	1120
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.8	8.1	19.1	3.0	16.8	0.0
Incr Delay (d2), s/veh	1.6	0.9	6.3	0.1	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	2.6	1.3	0.4	1.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.3	9.0	25.4	3.1	17.7	0.0
LnGrp LOS	B	A	C	A	B	A
Approach Vol, veh/h	1196			483	334	
Approach Delay, s/veh	9.8			8.7	17.7	
Approach LOS	A			A	B	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	7.4	25.3		10.4		32.7
Change Period (Y+Rc), s	3.5	4.0		3.5		4.0
Max Green Setting (Gmax), s	30.0	30.0		30.0		30.0
Max Q Clear Time (g_c+I1), s	14.8	14.9		5.7		5.4
Green Ext Time (p_c), s	0.3	6.4		1.2		2.1

Intersection Summary		
HCM 6th Ctrl Delay		10.8
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	510	204	156	379	72	76
Future Vol, veh/h	510	204	156	379	72	76
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	170	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	531	213	163	395	75	79

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	745	0	1253	532
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	721	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	872	-	192	551
Stage 1	-	-	-	-	593	-
Stage 2	-	-	-	-	485	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	871	-	156	551
Mov Cap-2 Maneuver	-	-	-	-	156	-
Stage 1	-	-	-	-	482	-
Stage 2	-	-	-	-	485	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	29.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	156	551	-	-	871	-
HCM Lane V/C Ratio	0.481	0.144	-	-	0.187	-
HCM Control Delay (s)	47.8	12.6	-	-	10.1	-
HCM Lane LOS	E	B	-	-	B	-
HCM 95th %tile Q(veh)	2.3	0.5	-	-	0.7	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	559	103	49	286	252	121
Future Volume (veh/h)	559	103	49	286	252	121
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1737	1737
Adj Flow Rate, veh/h	621	114	54	318	280	134
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	2	2	11	11
Cap, veh/h	871	721	372	864	416	370
Arrive On Green	0.46	0.46	0.46	0.46	0.25	0.25
Sat Flow, veh/h	1885	1561	722	1870	1654	1472
Grp Volume(v), veh/h	621	114	54	318	280	134
Grp Sat Flow(s),veh/h/ln	1885	1561	722	1870	1654	1472
Q Serve(g_s), s	8.3	1.3	2.0	3.5	4.8	2.4
Cycle Q Clear(g_c), s	8.3	1.3	10.3	3.5	4.8	2.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	871	721	372	864	416	370
V/C Ratio(X)	0.71	0.16	0.15	0.37	0.67	0.36
Avail Cap(c_a), veh/h	1653	1369	672	1640	976	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	4.9	10.9	5.5	10.6	9.7
Incr Delay (d2), s/veh	1.1	0.1	0.2	0.3	1.9	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.2	0.2	0.7	1.5	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.9	5.0	11.1	5.7	12.5	10.3
LnGrp LOS	A	A	B	A	B	B
Approach Vol, veh/h	735			372	414	
Approach Delay, s/veh	7.4			6.5	11.8	
Approach LOS	A			A	B	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	12.4	19.0	19.0
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.5	27.5	27.5
Max Q Clear Time (g_c+I1), s	6.8	10.3	12.3
Green Ext Time (p_c), s	1.1	4.2	1.9

Intersection Summary	
HCM 6th Ctrl Delay	8.4
HCM 6th LOS	A

Intersection	
Intersection Delay, s/veh	78.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	341	3	3	37	276	2	1	4	612	3	6
Future Vol, veh/h	5	341	3	3	37	276	2	1	4	612	3	6
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.58	0.58	0.58	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	3	3	3	14	14	14	1	1	1
Mvmt Flow	6	383	3	3	40	300	3	2	7	680	3	7
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	27.4	17.9	11.6	138.6
HCM LOS	D	C	B	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	29%	1%	7%	0%	99%
Vol Thru, %	14%	98%	93%	0%	0%
Vol Right, %	57%	1%	0%	100%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	349	40	276	621
LT Vol	2	5	3	0	612
Through Vol	1	341	37	0	3
RT Vol	4	3	0	276	6
Lane Flow Rate	12	392	43	300	690
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.026	0.726	0.089	0.554	1.226
Departure Headway (Hd)	8.38	7.326	8.104	7.341	6.395
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	430	498	445	495	573
Service Time	6.38	5.326	5.804	5.041	4.437
HCM Lane V/C Ratio	0.028	0.787	0.097	0.606	1.204
HCM Control Delay	11.6	27.4	11.6	18.8	138.6
HCM Lane LOS	B	D	B	C	F
HCM 95th-tile Q	0.1	5.9	0.3	3.3	25.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	740	505	85	234	5	370	18	164	3	17	5
Future Volume (veh/h)	4	740	505	85	234	5	370	18	164	3	17	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1687	1687	1634	1687	1687	1856	1900	1856	1900	1900	1900
Adj Flow Rate, veh/h	4	796	543	91	252	5	412	0	176	3	18	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	5	1	1	3	0	3	0	0	0
Cap, veh/h	7	817	546	113	1664	33	669	0	288	6	35	10
Arrive On Green	0.00	0.45	0.45	0.07	0.52	0.52	0.19	0.00	0.19	0.03	0.03	0.03
Sat Flow, veh/h	1619	1815	1215	1556	3211	64	3534	0	1525	207	1240	345
Grp Volume(v), veh/h	4	701	638	91	125	132	412	0	176	26	0	0
Grp Sat Flow(s),veh/h/ln	1619	1602	1428	1556	1602	1673	1767	0	1525	1792	0	0
Q Serve(g_s), s	0.2	30.4	31.6	4.1	2.9	2.9	7.6	0.0	7.5	1.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	30.4	31.6	4.1	2.9	2.9	7.6	0.0	7.5	1.0	0.0	0.0
Prop In Lane	1.00		0.85	1.00		0.04	1.00		1.00	0.12		0.19
Lane Grp Cap(c), veh/h	7	721	642	113	830	867	669	0	288	51	0	0
V/C Ratio(X)	0.58	0.97	0.99	0.80	0.15	0.15	0.62	0.00	0.61	0.51	0.00	0.00
Avail Cap(c_a), veh/h	728	721	642	700	830	867	1987	0	858	504	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.4	19.1	19.5	32.5	9.0	9.0	26.5	0.0	26.4	34.1	0.0	0.0
Incr Delay (d2), s/veh	25.2	27.2	34.0	5.0	0.3	0.3	0.9	0.0	2.1	9.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	15.1	15.0	1.6	0.9	1.0	3.2	0.0	2.8	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.6	46.3	53.5	37.4	9.3	9.3	27.4	0.0	28.5	43.5	0.0	0.0
LnGrp LOS	E	D	D	D	A	A	C	A	C	D	A	A
Approach Vol, veh/h		1343			348			588			26	
Approach Delay, s/veh		49.8			16.6			27.7			43.5	
Approach LOS		D			B			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	37.0		6.5	4.8	41.9		18.0				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	32.0	32.0		20.0	32.0	31.0		40.0				
Max Q Clear Time (g_c+I1), s	6.1	33.6		3.0	2.2	4.9		9.6				
Green Ext Time (p_c), s	0.1	0.0		0.1	0.0	3.4		2.3				

Intersection Summary	
HCM 6th Ctrl Delay	39.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	821	0	253	0	537	488	0	755	143
Future Volume (veh/h)	0	0	0	821	0	253	0	537	488	0	755	143
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		0.97
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				1885	1900	1826	0	1870	1900	0	1870	1870
Adj Flow Rate, veh/h				902	0	278	0	590	0	0	830	157
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				1	0	5	0	2	0	0	2	2
Cap, veh/h				1072	0	462	0	1879		0	1567	296
Arrive On Green				0.30	0.00	0.30	0.00	0.53	0.00	0.00	0.53	0.53
Sat Flow, veh/h				3591	0	1547	0	3647	1610	0	3058	561
Grp Volume(v), veh/h				902	0	278	0	590	0	0	497	490
Grp Sat Flow(s),veh/h/ln				1795	0	1547	0	1777	1610	0	1777	1748
Q Serve(g_s), s				12.9	0.0	8.4	0.0	5.2	0.0	0.0	10.1	10.1
Cycle Q Clear(g_c), s				12.9	0.0	8.4	0.0	5.2	0.0	0.0	10.1	10.1
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.32
Lane Grp Cap(c), veh/h				1072	0	462	0	1879		0	940	924
V/C Ratio(X)				0.84	0.00	0.60	0.00	0.31		0.00	0.53	0.53
Avail Cap(c_a), veh/h				1143	0	492	0	1879		0	940	924
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.89	0.00	0.00	0.92	0.92
Uniform Delay (d), s/veh				18.1	0.0	16.5	0.0	7.3	0.0	0.0	8.5	8.5
Incr Delay (d2), s/veh				5.7	0.0	2.1	0.0	0.4	0.0	0.0	2.0	2.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.4	0.0	2.8	0.0	1.6	0.0	0.0	3.6	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				23.8	0.0	18.6	0.0	7.7	0.0	0.0	10.4	10.5
LnGrp LOS				C	A	B	A	A		A	B	B
Approach Vol, veh/h					1180			590	A		987	
Approach Delay, s/veh					22.5			7.7			10.5	
Approach LOS					C			A			B	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		34.4				34.4		20.6				
Change Period (Y+Rc), s		5.3				5.3		4.2				
Max Green Setting (Gmax), s		28.0				28.0		17.5				
Max Q Clear Time (g_c+I1), s		7.2				12.1		14.9				
Green Ext Time (p_c), s		4.5				7.2		1.5				

Intersection Summary			
HCM 6th Ctrl Delay			15.0
HCM 6th LOS			B

Notes
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	46	60	0	0	0	0	1086	1075	0	1214	370
Future Volume (vph)	35	46	60	0	0	0	0	1086	1075	0	1214	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6					4.9	4.9		4.9	4.0
Lane Util. Factor		1.00	0.88					0.95	1.00		0.91	1.00
Frpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	0.97
Flpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	1.00
Frt		1.00	0.85					1.00	0.85		1.00	0.85
Flt Protected		0.98	1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)		1757	2694					3455	1546		4964	1501
Flt Permitted		0.98	1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)		1757	2694					3455	1546		4964	1501
Peak-hour factor, PHF	0.80	0.72	0.75	0.92	0.92	0.92	0.92	0.85	0.94	0.92	0.96	0.82
Adj. Flow (vph)	44	64	80	0	0	0	0	1278	1144	0	1265	451
RTOR Reduction (vph)	0	0	72	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	108	8	0	0	0	0	1278	1144	0	1265	451
Confl. Peds. (#/hr)	13					13	11		1	1		11
Confl. Bikes (#/hr)												9
Heavy Vehicles (%)	6%	0%	2%	0%	0%	0%	0%	1%	1%	0%	1%	1%
Turn Type	Split	NA	Perm					NA	Prot		NA	Free
Protected Phases	2	2						1 3 4	1 3 4		1 3 4	
Permitted Phases			2									Free
Actuated Green, G (s)		12.4	12.4					98.7	98.7		98.7	119.9
Effective Green, g (s)		12.4	12.4					94.5	94.5		94.5	119.9
Actuated g/C Ratio		0.10	0.10					0.79	0.79		0.79	1.00
Clearance Time (s)		4.6	4.6									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		181	278					2723	1218		3912	1501
v/s Ratio Prot		c0.06						0.37	c0.74		0.25	
v/s Ratio Perm			0.00									0.30
v/c Ratio		0.60	0.03					0.47	0.94		0.32	0.30
Uniform Delay, d1		51.4	48.3					4.3	10.4		3.6	0.0
Progression Factor		1.00	1.00					0.03	1.11		1.00	1.00
Incremental Delay, d2		5.2	0.0					0.0	6.1		0.0	0.5
Delay (s)		56.6	48.4					0.2	17.6		3.7	0.5
Level of Service		E	D					A	B		A	A
Approach Delay (s)		53.1			0.0			8.4			2.8	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	679	26	274	44	16	107	83	1405	17	46	1013	240
Future Volume (vph)	679	26	274	44	16	107	83	1405	17	46	1013	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.97		1.00	1.00	1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1625	1641	1509		1784	1561	1745	4949		1745	4735	
Flt Permitted	0.95	0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1625	1641	1509		1784	1561	1745	4949		1745	4735	
Peak-hour factor, PHF	0.86	0.61	0.80	0.85	0.44	0.79	0.66	0.86	0.61	0.67	0.94	0.85
Adj. Flow (vph)	790	43	342	52	36	135	126	1634	28	69	1078	282
RTOR Reduction (vph)	0	0	124	0	0	117	0	1	0	0	38	0
Lane Group Flow (vph)	419	414	219	0	88	18	126	1661	0	69	1322	0
Confl. Peds. (#/hr)			18	18			12		8	8		12
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	1		2	6	
Permitted Phases			4			3						
Actuated Green, G (s)	30.0	30.0	30.0		16.0	16.0	13.3	43.6		12.4	43.6	
Effective Green, g (s)	30.0	30.0	30.0		16.0	16.0	13.3	43.6		12.4	43.6	
Actuated g/C Ratio	0.25	0.25	0.25		0.13	0.13	0.11	0.36		0.10	0.36	
Clearance Time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.2	
Lane Grp Cap (vph)	406	410	377		238	208	193	1799		180	1721	
v/s Ratio Prot	c0.26	0.25			c0.05		c0.07	c0.34		0.04	0.28	
v/s Ratio Perm			0.14			0.01						
v/c Ratio	1.03	1.01	0.58		0.37	0.09	0.65	0.92		0.38	0.77	
Uniform Delay, d1	45.0	45.0	39.4		47.4	45.5	51.1	36.5		50.2	33.7	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.18	0.92	
Incremental Delay, d2	53.1	46.9	2.2		1.0	0.2	7.7	9.4		1.3	3.3	
Delay (s)	98.1	91.9	41.6		48.3	45.7	58.8	46.0		60.5	34.4	
Level of Service	F	F	D		D	D	E	D		E	C	
Approach Delay (s)		79.4			46.8			46.9			35.6	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	51.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	475	159	34	28	86	112	46	870	67	142	736	316
Future Volume (veh/h)	475	159	34	28	86	112	46	870	67	142	736	316
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.91	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	500	167	36	29	91	118	48	916	71	149	775	333
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	731	311	67	51	161	166	62	1866	144	191	2348	713
Arrive On Green	0.21	0.21	0.21	0.11	0.11	0.11	0.03	0.38	0.38	0.11	0.46	0.46
Sat Flow, veh/h	3483	1485	320	454	1424	1461	1795	4855	375	1795	5147	1563
Grp Volume(v), veh/h	500	0	203	120	0	118	48	646	341	149	775	333
Grp Sat Flow(s),veh/h/ln	1742	0	1805	1877	0	1461	1795	1716	1799	1795	1716	1563
Q Serve(g_s), s	11.8	0.0	8.9	5.4	0.0	7.0	2.4	12.8	12.8	7.2	8.6	13.1
Cycle Q Clear(g_c), s	11.8	0.0	8.9	5.4	0.0	7.0	2.4	12.8	12.8	7.2	8.6	13.1
Prop In Lane	1.00		0.18	0.24		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	731	0	379	213	0	166	62	1319	692	191	2348	713
V/C Ratio(X)	0.68	0.00	0.54	0.56	0.00	0.71	0.77	0.49	0.49	0.78	0.33	0.47
Avail Cap(c_a), veh/h	820	0	425	442	0	344	322	1745	915	523	2618	795
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	0.0	31.4	37.5	0.0	38.2	42.7	20.8	20.9	38.8	15.5	16.8
Incr Delay (d2), s/veh	4.3	0.0	4.2	3.3	0.0	7.8	24.2	1.3	2.5	9.3	0.4	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	4.3	2.7	0.0	2.8	1.4	5.1	5.6	3.6	3.2	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.9	0.0	35.6	40.8	0.0	46.0	66.9	22.1	23.4	48.2	15.9	19.0
LnGrp LOS	D	A	D	D	A	D	E	C	C	D	B	B
Approach Vol, veh/h		703			238			1035			1257	
Approach Delay, s/veh		36.5			43.4			24.6			20.5	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.1	45.3		14.1	13.5	38.9		22.7
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0
Max Green Setting (Gmax), s	16.0	45.4		21.0	26.0	45.4		21.0
Max Q Clear Time (g_c+I1), s	4.4	15.1		9.0	9.2	14.8		13.8
Green Ext Time (p_c), s	0.1	20.3		1.2	0.5	19.5		3.9

Intersection Summary	
HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	549	121	216	242	95	128	541	90	178	459	89
Future Volume (veh/h)	388	549	121	216	242	95	128	541	90	178	459	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	364	617	125	190	295	98	132	558	93	184	473	92
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	465	784	159	350	526	170	171	1207	197	284	926	400
Arrive On Green	0.26	0.26	0.26	0.19	0.19	0.19	0.10	0.27	0.27	0.08	0.26	0.26
Sat Flow, veh/h	1795	3028	612	1810	2721	880	1795	4432	724	3483	3582	1547
Grp Volume(v), veh/h	364	384	358	190	204	189	132	429	222	184	473	92
Grp Sat Flow(s),veh/h/ln	1795	1885	1754	1810	1900	1701	1795	1716	1725	1742	1791	1547
Q Serve(g_s), s	17.3	17.4	17.5	8.7	8.9	9.3	6.6	9.6	9.9	4.7	10.4	4.3
Cycle Q Clear(g_c), s	17.3	17.4	17.5	8.7	8.9	9.3	6.6	9.6	9.9	4.7	10.4	4.3
Prop In Lane	1.00		0.35	1.00		0.52	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	465	488	455	350	367	329	171	934	470	284	926	400
V/C Ratio(X)	0.78	0.79	0.79	0.54	0.55	0.58	0.77	0.46	0.47	0.65	0.51	0.23
Avail Cap(c_a), veh/h	496	521	485	500	525	470	508	1696	853	986	1770	765
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	31.7	31.7	33.4	33.5	33.6	40.6	27.8	27.9	40.9	29.1	26.8
Incr Delay (d2), s/veh	8.1	7.9	8.6	1.9	1.9	2.3	10.0	1.3	2.7	3.5	1.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	8.9	8.4	4.0	4.3	4.0	3.3	4.0	4.3	2.1	4.5	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	39.6	40.3	35.3	35.3	35.9	50.6	29.1	30.6	44.4	30.7	27.9
LnGrp LOS	D	D	D	D	D	D	D	C	C	D	C	C
Approach Vol, veh/h		1106			583			783			749	
Approach Delay, s/veh		39.9			35.5			33.1			33.7	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	29.6		22.4	12.8	28.3		28.4
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		4.6
Max Green Setting (Gmax), s	26.0	45.4		25.4	26.0	45.4		25.4
Max Q Clear Time (g_c+I1), s	6.7	11.9		11.3	8.6	12.4		19.5
Green Ext Time (p_c), s	0.8	11.2		3.7	0.5	9.2		3.7

Intersection Summary		
HCM 6th Ctrl Delay		36.0
HCM 6th LOS		D

Notes
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	186	67	53	84	81	68	519	88	66	482	97
Future Volume (veh/h)	140	186	67	53	84	81	68	519	88	66	482	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	147	196	71	56	88	85	72	546	93	69	507	102
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	1	1	1
Cap, veh/h	173	231	84	97	152	206	95	989	168	91	952	190
Arrive On Green	0.27	0.27	0.27	0.13	0.13	0.13	0.05	0.33	0.33	0.05	0.32	0.32
Sat Flow, veh/h	640	853	309	725	1139	1544	1795	3039	515	1795	2946	589
Grp Volume(v), veh/h	414	0	0	144	0	85	72	321	318	69	307	302
Grp Sat Flow(s),veh/h/ln	1803	0	0	1864	0	1544	1795	1791	1763	1795	1791	1744
Q Serve(g_s), s	16.4	0.0	0.0	5.5	0.0	3.8	3.0	11.1	11.2	2.9	10.5	10.7
Cycle Q Clear(g_c), s	16.4	0.0	0.0	5.5	0.0	3.8	3.0	11.1	11.2	2.9	10.5	10.7
Prop In Lane	0.36		0.17	0.39		1.00	1.00		0.29	1.00		0.34
Lane Grp Cap(c), veh/h	487	0	0	248	0	206	95	583	574	91	578	563
V/C Ratio(X)	0.85	0.00	0.00	0.58	0.00	0.41	0.76	0.55	0.55	0.76	0.53	0.54
Avail Cap(c_a), veh/h	623	0	0	644	0	534	620	1081	1064	620	1081	1053
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.0	0.0	0.0	30.6	0.0	29.9	35.1	20.9	20.9	35.3	20.8	20.9
Incr Delay (d2), s/veh	8.8	0.0	0.0	2.1	0.0	1.3	11.5	2.9	3.0	12.1	2.7	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.0	0.0	2.6	0.0	1.5	1.6	4.9	4.9	1.5	4.5	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.8	0.0	0.0	32.8	0.0	31.2	46.7	23.8	23.9	47.4	23.5	23.7
LnGrp LOS	C	A	A	C	A	C	D	C	C	D	C	C
Approach Vol, veh/h		414			229			711			678	
Approach Delay, s/veh		34.8			32.2			26.2			26.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.8	29.1		14.0	8.0	28.9		24.3
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0
Max Green Setting (Gmax), s	26.0	45.4		26.0	26.0	45.4		26.0
Max Q Clear Time (g_c+I1), s	4.9	13.2		7.5	5.0	12.7		18.4
Green Ext Time (p_c), s	0.1	11.3		1.0	0.1	10.2		1.6

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	894	310	56	390	54	142	162	59	106	253	62
Future Volume (veh/h)	28	894	310	56	390	54	142	162	59	106	253	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	30	961	333	60	419	58	153	174	63	114	272	67
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	54	1363	587	82	1247	171	195	507	419	151	337	83
Arrive On Green	0.03	0.38	0.38	0.05	0.40	0.40	0.11	0.27	0.27	0.08	0.23	0.23
Sat Flow, veh/h	1795	3582	1544	1795	3151	433	1795	1885	1558	1795	1452	358
Grp Volume(v), veh/h	30	961	333	60	237	240	153	174	63	114	0	339
Grp Sat Flow(s),veh/h/ln	1795	1791	1544	1795	1791	1794	1795	1885	1558	1795	0	1810
Q Serve(g_s), s	1.3	18.5	8.7	2.7	7.5	7.6	6.8	6.1	2.5	5.1	0.0	14.4
Cycle Q Clear(g_c), s	1.3	18.5	8.7	2.7	7.5	7.6	6.8	6.1	2.5	5.1	0.0	14.4
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	54	1363	587	82	709	710	195	507	419	151	0	420
V/C Ratio(X)	0.55	0.71	0.57	0.73	0.33	0.34	0.79	0.34	0.15	0.76	0.00	0.81
Avail Cap(c_a), veh/h	574	1981	854	574	990	992	574	695	574	574	0	667
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.9	21.3	7.8	38.3	17.1	17.1	35.4	24.0	22.7	36.5	0.0	29.5
Incr Delay (d2), s/veh	8.5	0.8	1.0	11.8	0.3	0.3	2.7	0.1	0.1	9.0	0.0	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	7.3	2.8	1.4	3.0	3.0	3.1	2.7	0.9	2.6	0.0	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	22.2	8.9	50.2	17.4	17.5	38.0	24.1	22.7	45.4	0.0	34.2
LnGrp LOS	D	C	A	D	B	B	D	C	C	D	A	C
Approach Vol, veh/h		1324			537			390			453	
Approach Delay, s/veh		19.4			21.1			29.3			37.0	
Approach LOS		B			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	37.2	10.8	26.9	7.7	36.0	13.8	23.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	26.0	45.0	26.0	30.0	26.0	45.0	26.0	* 30
Max Q Clear Time (g_c+I1), s	3.3	9.6	7.1	8.1	4.7	20.5	8.8	16.4
Green Ext Time (p_c), s	0.0	3.8	0.3	0.4	0.1	10.5	0.1	2.1

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	827	83	94	382	49	98	195	81	202	371	43
Future Volume (veh/h)	42	827	83	94	382	49	98	195	81	202	371	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	44	871	87	99	402	52	103	205	85	213	391	45
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	58	1058	106	130	1153	148	136	282	117	262	488	56
Arrive On Green	0.03	0.32	0.32	0.07	0.36	0.36	0.08	0.22	0.22	0.14	0.29	0.29
Sat Flow, veh/h	1810	3297	329	1810	3197	410	1810	1263	524	1810	1667	192
Grp Volume(v), veh/h	44	477	481	99	225	229	103	0	290	213	0	436
Grp Sat Flow(s),veh/h/ln	1810	1805	1822	1810	1805	1803	1810	0	1786	1810	0	1859
Q Serve(g_s), s	1.8	18.3	18.3	4.0	6.8	7.0	4.2	0.0	11.3	8.6	0.0	16.3
Cycle Q Clear(g_c), s	1.8	18.3	18.3	4.0	6.8	7.0	4.2	0.0	11.3	8.6	0.0	16.3
Prop In Lane	1.00		0.18	1.00		0.23	1.00		0.29	1.00		0.10
Lane Grp Cap(c), veh/h	58	579	585	130	651	650	136	0	398	262	0	544
V/C Ratio(X)	0.76	0.82	0.82	0.76	0.35	0.35	0.76	0.00	0.73	0.81	0.00	0.80
Avail Cap(c_a), veh/h	494	854	862	494	854	853	494	0	607	494	0	632
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.0	23.5	23.5	34.2	17.5	17.6	34.0	0.0	27.0	31.1	0.0	24.5
Incr Delay (d2), s/veh	14.0	2.6	2.6	6.7	0.4	0.4	8.3	0.0	1.9	6.1	0.0	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	7.7	7.8	2.0	2.8	2.8	2.1	0.0	4.8	4.0	0.0	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	26.1	26.1	40.9	17.9	18.0	42.4	0.0	29.0	37.2	0.0	31.3
LnGrp LOS	D	C	C	D	B	B	D	A	C	D	A	C
Approach Vol, veh/h		1002			553			393			649	
Approach Delay, s/veh		27.2			22.0			32.5			33.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	28.6	15.3	21.2	6.9	31.6	10.1	26.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.5	35.5	20.5	25.5	20.5	35.5	20.5	25.5
Max Q Clear Time (g_c+I1), s	6.0	20.3	10.6	13.3	3.8	9.0	6.2	18.3
Green Ext Time (p_c), s	0.1	3.8	0.4	1.1	0.0	3.4	0.2	1.8

Intersection Summary	
HCM 6th Ctrl Delay	28.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	1023	56	52	440	84	22	58	64	278	143	53
Future Volume (veh/h)	37	1023	56	52	440	84	22	58	64	278	143	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.92	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	39	1077	59	55	463	88	23	61	67	293	151	56
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	53	1405	77	71	1241	234	36	121	133	343	424	157
Arrive On Green	0.03	0.41	0.41	0.04	0.42	0.42	0.02	0.15	0.15	0.19	0.32	0.32
Sat Flow, veh/h	1810	3462	190	1810	2987	563	1795	783	860	1810	1310	486
Grp Volume(v), veh/h	39	561	575	55	278	273	23	0	128	293	0	207
Grp Sat Flow(s),veh/h/ln	1810	1805	1847	1810	1805	1745	1795	0	1643	1810	0	1795
Q Serve(g_s), s	1.6	20.4	20.4	2.3	8.1	8.2	1.0	0.0	5.4	11.9	0.0	6.7
Cycle Q Clear(g_c), s	1.6	20.4	20.4	2.3	8.1	8.2	1.0	0.0	5.4	11.9	0.0	6.7
Prop In Lane	1.00		0.10	1.00		0.32	1.00		0.52	1.00		0.27
Lane Grp Cap(c), veh/h	53	732	749	71	750	725	36	0	254	343	0	582
V/C Ratio(X)	0.73	0.77	0.77	0.77	0.37	0.38	0.63	0.00	0.50	0.85	0.00	0.36
Avail Cap(c_a), veh/h	381	1094	1119	381	1094	1057	497	0	346	500	0	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.5	19.5	19.5	36.1	15.3	15.4	36.9	0.0	29.4	29.8	0.0	19.6
Incr Delay (d2), s/veh	17.2	1.9	1.8	16.0	0.3	0.3	16.7	0.0	1.5	9.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	8.3	8.4	1.3	3.2	3.1	0.6	0.0	2.2	5.9	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.7	21.3	21.3	52.1	15.6	15.7	53.6	0.0	31.0	39.2	0.0	20.0
LnGrp LOS	D	C	C	D	B	B	D	A	C	D	A	B
Approach Vol, veh/h		1175			606			151			500	
Approach Delay, s/veh		22.4			19.0			34.4			31.2	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.4	15.7	7.0	34.8	5.5	28.6	6.2	35.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	21.0	16.0	16.0	46.0	21.0	16.0	16.0	46.0
Max Q Clear Time (g_c+I1), s	13.9	7.4	4.3	22.4	3.0	8.7	3.6	10.2
Green Ext Time (p_c), s	0.5	0.4	0.1	8.4	0.0	0.6	0.0	3.8

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	1228	106	142	538	21	87	10	114	19	9	16
Future Volume (veh/h)	34	1228	106	142	538	21	87	10	114	19	9	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	35	1266	109	146	555	22	90	10	118	20	9	16
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	50	1502	129	189	1010	828	91	6	412	81	23	426
Arrive On Green	0.03	0.45	0.45	0.10	0.53	0.53	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1810	3352	288	1810	1900	1557	0	21	1546	0	86	1599
Grp Volume(v), veh/h	35	680	695	146	555	22	100	0	118	29	0	16
Grp Sat Flow(s),veh/h/ln	1810	1805	1835	1810	1900	1557	21	0	1546	86	0	1599
Q Serve(g_s), s	1.4	25.0	25.3	5.9	14.5	0.5	0.0	0.0	4.6	0.0	0.0	0.6
Cycle Q Clear(g_c), s	1.4	25.0	25.3	5.9	14.5	0.5	20.0	0.0	4.6	20.0	0.0	0.6
Prop In Lane	1.00		0.16	1.00		1.00	0.90		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	50	809	822	189	1010	828	97	0	412	104	0	426
V/C Ratio(X)	0.70	0.84	0.85	0.77	0.55	0.03	1.04	0.00	0.29	0.28	0.00	0.04
Avail Cap(c_a), veh/h	626	1079	1097	614	1135	930	97	0	412	104	0	426
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.2	18.3	18.4	32.8	11.6	8.4	36.4	0.0	21.9	23.0	0.0	20.4
Incr Delay (d2), s/veh	16.3	3.6	3.7	6.5	0.2	0.0	101.4	0.0	0.1	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	10.2	10.5	2.9	5.6	0.2	4.5	0.0	1.6	0.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.5	21.9	22.1	39.3	11.8	8.4	137.8	0.0	22.0	23.5	0.0	20.4
LnGrp LOS	D	C	C	D	B	A	F	A	C	C	A	C
Approach Vol, veh/h		1410			723			218			45	
Approach Delay, s/veh		22.8			17.3			75.1			22.4	
Approach LOS		C			B			E			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.4	38.8		24.0	6.1	45.1		24.0				
Change Period (Y+Rc), s	4.5	5.1		4.0	4.0	5.1		4.0				
Max Green Setting (Gmax), s	25.5	44.9		20.0	26.0	44.9		20.0				
Max Q Clear Time (g_c+I1), s	7.9	27.3		22.0	3.4	16.5		22.0				
Green Ext Time (p_c), s	0.3	6.4		0.0	0.1	2.7		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			25.9									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	309	108	129	196	31	62	294	100	61	406	38
Future Volume (veh/h)	49	309	108	129	196	31	62	294	100	61	406	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.95	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	51	322	112	134	204	32	65	306	104	64	423	40
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	0	0	0
Cap, veh/h	81	389	135	177	556	87	92	412	140	92	529	50
Arrive On Green	0.04	0.30	0.30	0.10	0.35	0.35	0.05	0.31	0.31	0.05	0.31	0.31
Sat Flow, veh/h	1795	1310	455	1810	1590	249	1795	1325	450	1810	1701	161
Grp Volume(v), veh/h	51	0	434	134	0	236	65	0	410	64	0	463
Grp Sat Flow(s),veh/h/ln	1795	0	1765	1810	0	1839	1795	0	1775	1810	0	1862
Q Serve(g_s), s	2.0	0.0	16.0	5.0	0.0	6.7	2.5	0.0	14.5	2.4	0.0	15.9
Cycle Q Clear(g_c), s	2.0	0.0	16.0	5.0	0.0	6.7	2.5	0.0	14.5	2.4	0.0	15.9
Prop In Lane	1.00		0.26	1.00		0.14	1.00		0.25	1.00		0.09
Lane Grp Cap(c), veh/h	81	0	524	177	0	643	92	0	552	92	0	579
V/C Ratio(X)	0.63	0.00	0.83	0.76	0.00	0.37	0.71	0.00	0.74	0.69	0.00	0.80
Avail Cap(c_a), veh/h	681	0	884	686	0	921	681	0	889	686	0	932
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.8	0.0	22.9	30.7	0.0	17.0	32.6	0.0	21.6	32.6	0.0	22.1
Incr Delay (d2), s/veh	7.9	0.0	3.4	6.5	0.0	0.4	9.5	0.0	2.8	9.0	0.0	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	6.8	2.5	0.0	2.8	1.3	0.0	6.0	1.3	0.0	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.7	0.0	26.3	37.3	0.0	17.3	42.1	0.0	24.4	41.7	0.0	25.8
LnGrp LOS	D	A	C	D	A	B	D	A	C	D	A	C
Approach Vol, veh/h		485			370			475			527	
Approach Delay, s/veh		27.8			24.5			26.8			27.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	25.8	7.1	26.7	6.6	29.4	7.1	26.7
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0
Max Green Setting (Gmax), s	26.5	35.0	26.5	35.0	26.5	35.0	26.5	35.0
Max Q Clear Time (g_c+I1), s	7.0	18.0	4.5	17.9	4.0	8.7	4.4	16.5
Green Ext Time (p_c), s	0.3	2.7	0.1	3.8	0.1	1.5	0.1	3.5

Intersection Summary	
HCM 6th Ctrl Delay	26.9
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	39.1
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	74	424	86	49	250	49	31	89	36	39	127	64
Future Vol, veh/h	74	424	86	49	250	49	31	89	36	39	127	64
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	80	456	92	53	269	53	33	96	39	42	137	69
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	65	20.8	14.9	17.5
HCM LOS	F	C	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	15%	0%	16%	0%	17%
Vol Thru, %	57%	85%	0%	84%	0%	55%
Vol Right, %	23%	0%	100%	0%	100%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	156	498	86	299	49	230
LT Vol	31	74	0	49	0	39
Through Vol	89	424	0	250	0	127
RT Vol	36	0	86	0	49	64
Lane Flow Rate	168	535	92	322	53	247
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.352	1.033	0.158	0.642	0.095	0.496
Departure Headway (Hd)	7.758	6.946	6.152	7.452	6.647	7.396
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	466	525	584	489	542	490
Service Time	5.758	4.674	3.88	5.152	4.347	5.396
HCM Lane V/C Ratio	0.361	1.019	0.158	0.658	0.098	0.504
HCM Control Delay	14.9	74.5	10	22.6	10	17.5
HCM Lane LOS	B	F	A	C	A	C
HCM 95th-tile Q	1.6	15.2	0.6	4.5	0.3	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	508	242	15	273	102	87	44	7	161	97	95
Future Volume (veh/h)	57	508	242	15	273	102	87	44	7	161	97	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.90	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	63	564	0	17	303	0	97	49	8	179	108	106
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	99	699		37	634		127	301	49	227	208	204
Arrive On Green	0.06	0.37	0.00	0.02	0.34	0.00	0.07	0.19	0.19	0.13	0.25	0.25
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1564	255	1795	833	818
Grp Volume(v), veh/h	63	564	0	17	303	0	97	0	57	179	0	214
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	0	1819	1795	0	1650
Q Serve(g_s), s	2.0	15.3	0.0	0.5	7.3	0.0	3.0	0.0	1.5	5.5	0.0	6.4
Cycle Q Clear(g_c), s	2.0	15.3	0.0	0.5	7.3	0.0	3.0	0.0	1.5	5.5	0.0	6.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.50
Lane Grp Cap(c), veh/h	99	699		37	634		127	0	350	227	0	411
V/C Ratio(X)	0.63	0.81		0.46	0.48		0.77	0.00	0.16	0.79	0.00	0.52
Avail Cap(c_a), veh/h	503	1173		503	1173		507	0	670	503	0	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.4	16.1	0.0	27.6	15.0	0.0	26.1	0.0	19.2	24.2	0.0	18.5
Incr Delay (d2), s/veh	4.9	2.3	0.0	6.4	0.6	0.0	3.6	0.0	0.2	2.3	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	6.3	0.0	0.3	2.9	0.0	1.4	0.0	0.6	2.3	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.3	18.4	0.0	34.0	15.5	0.0	29.7	0.0	19.4	26.5	0.0	19.2
LnGrp LOS	C	B		C	B		C	A	B	C	A	B
Approach Vol, veh/h		627	A		320	A		154			393	
Approach Delay, s/veh		19.7			16.5			25.9			22.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	25.7	8.0	18.2	7.2	23.7	11.2	15.0
Change Period (Y+Rc), s	4.0	4.5	4.0	4.0	4.0	4.5	4.0	4.0
Max Green Setting (Gmax), s	16.0	35.5	16.0	21.0	16.0	35.5	16.0	21.0
Max Q Clear Time (g_c+I1), s	2.5	17.3	5.0	8.4	4.0	9.3	7.5	3.5
Green Ext Time (p_c), s	0.0	3.7	0.1	0.8	0.1	1.8	0.2	0.2

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

APPENDIX D.
NEAR TERM CONDITIONS
SYNCHRO OUTPUT SHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	543	404	121	517	65	582	24	108	27	23	12
Future Volume (veh/h)	29	543	404	121	517	65	582	24	108	27	23	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	30	560	0	125	533	67	618	0	0	28	24	12
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	49	2079		88	1922	241	625	0		53	46	83
Arrive On Green	0.03	0.58	0.00	0.05	0.60	0.60	0.17	0.00	0.00	0.05	0.05	0.05
Sat Flow, veh/h	1795	3582	1598	1795	3189	399	3591	0	1598	996	854	1551
Grp Volume(v), veh/h	30	560	0	125	298	302	618	0	0	52	0	12
Grp Sat Flow(s),veh/h/ln	1795	1791	1598	1795	1791	1798	1795	0	1598	1850	0	1551
Q Serve(g_s), s	1.9	8.7	0.0	5.5	8.9	9.0	19.2	0.0	0.0	3.1	0.0	0.8
Cycle Q Clear(g_c), s	1.9	8.7	0.0	5.5	8.9	9.0	19.2	0.0	0.0	3.1	0.0	0.8
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	0.54		1.00
Lane Grp Cap(c), veh/h	49	2079		88	1079	1083	625	0		99	0	83
V/C Ratio(X)	0.62	0.27		1.42	0.28	0.28	0.99	0.00		0.53	0.00	0.14
Avail Cap(c_a), veh/h	88	2079		88	1079	1083	625	0		372	0	312
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.96	0.96	0.96	0.75	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.9	11.7	0.0	53.3	10.6	10.6	46.1	0.0	0.0	51.6	0.0	50.6
Incr Delay (d2), s/veh	4.6	0.3	0.0	240.1	0.6	0.6	28.2	0.0	0.0	1.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.5	0.0	8.4	3.7	3.7	10.9	0.0	0.0	1.5	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.6	12.0	0.0	293.3	11.2	11.2	74.3	0.0	0.0	53.2	0.0	50.9
LnGrp LOS	E	B		F	B	B	E	A		D	A	D
Approach Vol, veh/h		590	A		725			618	A		64	
Approach Delay, s/veh		14.4			59.9			74.3			52.8	
Approach LOS		B			E			E			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	69.0		10.0	7.0	71.5		23.5
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.5	48.5		22.5	5.5	48.5		19.5
Max Q Clear Time (g_c+I1), s	7.5	10.7		5.1	3.9	11.0		21.2
Green Ext Time (p_c), s	0.0	4.5		0.1	0.0	4.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	50.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	564	79	261	627	132	472
Future Volume (veh/h)	564	79	261	627	132	472
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.95	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	576	81	266	640	135	482
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	887	124	315	1886	595	529
Arrive On Green	0.28	0.28	0.18	0.53	0.33	0.33
Sat Flow, veh/h	3224	439	1795	3676	1795	1598
Grp Volume(v), veh/h	329	328	266	640	135	482
Grp Sat Flow(s),veh/h/ln	1791	1777	1795	1791	1795	1598
Q Serve(g_s), s	10.8	10.8	9.6	6.9	3.6	19.3
Cycle Q Clear(g_c), s	10.8	10.8	9.6	6.9	3.6	19.3
Prop In Lane		0.25	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	508	504	315	1886	595	529
V/C Ratio(X)	0.65	0.65	0.84	0.34	0.23	0.91
Avail Cap(c_a), veh/h	885	878	524	1886	766	681
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	21.0	26.6	9.1	16.2	21.4
Incr Delay (d2), s/veh	2.0	2.0	2.8	0.2	0.1	12.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	4.4	4.0	2.3	1.4	8.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.0	23.1	29.4	9.3	16.2	33.6
LnGrp LOS	C	C	C	A	B	C
Approach Vol, veh/h	657			906	617	
Approach Delay, s/veh	23.0			15.2	29.8	
Approach LOS	C			B	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	16.2	23.9		26.6		40.2
Change Period (Y+Rc), s	4.5	5.0		4.5		5.0
Max Green Setting (Gmax), s	19.5	33.0		28.5		33.0
Max Q Clear Time (g_c+I1), s	11.6	12.8		21.3		8.9
Green Ext Time (p_c), s	0.2	5.5		0.8		6.1

Intersection Summary				
HCM 6th Ctrl Delay			21.7	
HCM 6th LOS			C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	678	370	324	621	6	232	2	936	1	0	2
Future Volume (veh/h)	6	678	370	324	621	6	232	2	936	1	0	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1737	1870	1900	1900	1885	1885	1856	1870	1870	1870
Adj Flow Rate, veh/h	6	706	0	338	647	6	242	2	0	1	0	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	11	2	0	0	1	1	3	2	2	2
Cap, veh/h	11	1954		356	2694	25	264	2		9	0	17
Arrive On Green	0.01	0.54	0.00	0.40	1.00	1.00	0.15	0.15	0.00	0.02	0.00	0.02
Sat Flow, veh/h	1810	3610	1472	1781	3665	34	1781	15	1572	495	0	990
Grp Volume(v), veh/h	6	706	0	338	319	334	244	0	0	3	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1472	1781	1805	1894	1796	0	1572	1485	0	0
Q Serve(g_s), s	0.5	16.7	0.0	27.6	0.0	0.0	20.1	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	16.7	0.0	27.6	0.0	0.0	20.1	0.0	0.0	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.99		1.00	0.33		0.67
Lane Grp Cap(c), veh/h	11	1954		356	1327	1392	266	0		26	0	0
V/C Ratio(X)	0.56	0.36		0.95	0.24	0.24	0.92	0.00		0.11	0.00	0.00
Avail Cap(c_a), veh/h	48	1954		487	1327	1392	281	0		218	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	0.00	1.00	1.00	1.00	0.54	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	74.4	19.6	0.0	44.3	0.0	0.0	63.0	0.0	0.0	72.5	0.0	0.0
Incr Delay (d2), s/veh	11.8	0.4	0.0	21.6	0.4	0.4	19.9	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	7.1	0.0	12.4	0.2	0.2	10.7	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.2	20.0	0.0	65.9	0.4	0.4	82.8	0.0	0.0	74.0	0.0	0.0
LnGrp LOS	F	B		E	A	A	F	A		E	A	A
Approach Vol, veh/h		712	A		991			244	A		3	
Approach Delay, s/veh		20.6			22.7			82.8			74.0	
Approach LOS		C			C			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	33.0	85.2		6.1	3.9	114.2		25.7				
Change Period (Y+Rc), s	3.0	4.0		3.5	3.0	4.0		3.5				
Max Green Setting (Gmax), s	41.0	49.5		22.0	4.0	86.5		23.5				
Max Q Clear Time (g_c+I1), s	29.6	18.7		2.3	2.5	2.0		22.1				
Green Ext Time (p_c), s	0.4	7.4		0.0	0.0	6.7		0.1				

Intersection Summary			
HCM 6th Ctrl Delay			29.5
HCM 6th LOS			C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	167	850	593	4	1081	27	424	92	36	68	83	56
Future Volume (veh/h)	167	850	593	4	1081	27	424	92	36	68	83	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1841	1900	1841	1841	1811	1870	1856	1870	1900	1900
Adj Flow Rate, veh/h	174	885	0	4	1126	28	511	0	0	71	86	58
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	3	4	0	4	4	6	2	3	2	0	0
Cap, veh/h	101	2143		9	1938	48	580	0		176	104	70
Arrive On Green	0.06	0.61	0.00	0.01	0.56	0.56	0.17	0.00	0.00	0.10	0.10	0.10
Sat Flow, veh/h	1781	3526	1560	1810	3483	87	3450	0	1572	1781	1054	711
Grp Volume(v), veh/h	174	885	0	4	565	589	511	0	0	71	0	144
Grp Sat Flow(s),veh/h/ln	1781	1763	1560	1810	1749	1821	1725	0	1572	1781	0	1764
Q Serve(g_s), s	8.5	19.7	0.0	0.3	31.8	31.8	21.7	0.0	0.0	5.6	0.0	12.0
Cycle Q Clear(g_c), s	8.5	19.7	0.0	0.3	31.8	31.8	21.7	0.0	0.0	5.6	0.0	12.0
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	101	2143		9	973	1013	580	0		176	0	174
V/C Ratio(X)	1.72	0.41		0.43	0.58	0.58	0.88	0.00		0.40	0.00	0.83
Avail Cap(c_a), veh/h	101	2143		62	973	1013	793	0		338	0	335
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	70.7	15.4	0.0	74.4	21.8	21.8	60.9	0.0	0.0	63.4	0.0	66.3
Incr Delay (d2), s/veh	363.7	0.6	0.0	28.7	2.5	2.4	8.7	0.0	0.0	1.5	0.0	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.1	8.1	0.0	0.2	13.5	14.1	10.3	0.0	0.0	2.6	0.0	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	434.5	16.0	0.0	103.1	24.3	24.2	69.7	0.0	0.0	64.9	0.0	75.8
LnGrp LOS	F	B		F	C	C	E	A		E	A	E
Approach Vol, veh/h		1059	A		1158			511	A		215	
Approach Delay, s/veh		84.7			24.6			69.7			72.2	
Approach LOS		F			C			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	95.7		29.7	13.0	88.0		19.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	63.9		34.5	8.5	60.5		28.5				
Max Q Clear Time (g_c+I1), s	2.3	21.7		23.7	10.5	33.8		14.0				
Green Ext Time (p_c), s	0.0	7.8		1.5	0.0	8.6		0.8				

Intersection Summary	
HCM 6th Ctrl Delay	57.5
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	374	240	565	167	308	589
Future Volume (veh/h)	374	240	565	167	308	589
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	386	247	582	172	318	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	870	868	795	347	432	
Arrive On Green	0.48	0.48	0.22	0.22	0.12	0.00
Sat Flow, veh/h	1795	1885	3647	1551	3483	1598
Grp Volume(v), veh/h	386	247	582	172	318	0
Grp Sat Flow(s),veh/h/ln	1795	1791	1777	1551	1742	1598
Q Serve(g_s), s	11.3	6.6	12.2	7.7	7.0	0.0
Cycle Q Clear(g_c), s	11.3	6.6	12.2	7.7	7.0	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	870	868	795	347	432	
V/C Ratio(X)	0.44	0.28	0.73	0.50	0.74	
Avail Cap(c_a), veh/h	870	868	795	347	906	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.41	0.41	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.5	12.3	28.8	27.1	33.8	0.0
Incr Delay (d2), s/veh	0.7	0.3	5.9	5.0	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	2.6	5.7	3.3	3.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.2	12.7	34.7	32.1	36.2	0.0
LnGrp LOS	B	B	C	C	D	
Approach Vol, veh/h		633	754		318	A
Approach Delay, s/veh		13.6	34.1		36.2	
Approach LOS		B	C		D	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		43.4		14.1		22.5
Change Period (Y+Rc), s		4.6		* 4.2		4.6
Max Green Setting (Gmax), s		27.9		* 21		17.9
Max Q Clear Time (g_c+I1), s		13.3		9.0		14.2
Green Ext Time (p_c), s		3.6		0.9		1.6

Intersection Summary		
HCM 6th Ctrl Delay		26.9
HCM 6th LOS		C

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	224	279	43	296	428	36
Future Volume (veh/h)	224	279	43	296	428	36
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	238	297	46	315	490	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	0	0	1	0
Cap, veh/h	619	508	58	919	905	406
Arrive On Green	0.33	0.33	0.03	0.48	0.25	0.00
Sat Flow, veh/h	1885	1549	1810	1900	3591	1610
Grp Volume(v), veh/h	238	297	46	315	490	0
Grp Sat Flow(s),veh/h/ln	1885	1549	1810	1900	1795	1610
Q Serve(g_s), s	2.8	4.5	0.7	2.9	3.4	0.0
Cycle Q Clear(g_c), s	2.8	4.5	0.7	2.9	3.4	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	619	508	58	919	905	406
V/C Ratio(X)	0.38	0.58	0.79	0.34	0.54	0.00
Avail Cap(c_a), veh/h	1993	1638	1913	2009	3797	1702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.3	7.9	13.6	4.5	9.2	0.0
Incr Delay (d2), s/veh	0.4	1.1	20.7	0.2	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.1	0.5	0.4	0.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.7	9.0	34.3	4.8	9.7	0.0
LnGrp LOS	A	A	C	A	A	A
Approach Vol, veh/h	535			361	490	
Approach Delay, s/veh	8.4			8.5	9.7	
Approach LOS	A			A	A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	4.4	13.3		10.7		17.7
Change Period (Y+Rc), s	3.5	4.0		3.5		4.0
Max Green Setting (Gmax), s	30.0	30.0		30.0		30.0
Max Q Clear Time (g_c+I1), s	2.7	6.5		5.4		4.9
Green Ext Time (p_c), s	0.1	2.6		1.8		1.8

Intersection Summary			
HCM 6th Ctrl Delay			8.9
HCM 6th LOS			A

Notes
User approved volume balancing among the lanes for turning movement.

Kaiser Santa Cruz | Near Term
7: Chanticleer Ave & Soquel Ave | Timing Plan: AM Peak

Intersection						
Int Delay, s/veh	5.4					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	159	83	75	185	162	96
Future Vol, veh/h	159	83	75	185	162	96
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	170	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	166	86	78	193	169	100

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	253	0	516	167
Stage 1	-	-	-	-	167	-
Stage 2	-	-	-	-	349	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1324	-	523	882
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	719	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1323	-	492	881
Mov Cap-2 Maneuver	-	-	-	-	492	-
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	719	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.3	13.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	492	881	-	-	1323	-
HCM Lane V/C Ratio	0.343	0.114	-	-	0.059	-
HCM Control Delay (s)	16.1	9.6	-	-	7.9	-
HCM Lane LOS	C	A	-	-	A	-
HCM 95th %tile Q(veh)	1.5	0.4	-	-	0.2	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	239	8	9	315	9	7
Future Vol, veh/h	239	8	9	315	9	7
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	1	2	2	11	11
Mvmt Flow	266	9	10	350	10	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	276	0	642	272
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	370	-
Critical Hdwy	-	-	4.12	-	6.51	6.31
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.218	-	3.599	3.399
Pot Cap-1 Maneuver	-	-	1287	-	424	746
Stage 1	-	-	-	-	753	-
Stage 2	-	-	-	-	679	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1286	-	419	745
Mov Cap-2 Maneuver	-	-	-	-	512	-
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	679	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	593	-	-	1286	-
HCM Lane V/C Ratio	0.03	-	-	0.008	-
HCM Control Delay (s)	11.3	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	92	0	5	26	332	0	1	7	247	0	4
Future Vol, veh/h	6	92	0	5	26	332	0	1	7	247	0	4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	3	3	3	14	14	14	1	1	1
Mvmt Flow	6	96	0	5	27	346	0	1	7	257	0	4
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	9.2	11	8.3	11.5
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	6%	16%	0%	98%
Vol Thru, %	12%	94%	84%	0%	0%
Vol Right, %	88%	0%	0%	100%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	98	31	332	251
LT Vol	0	6	5	0	247
Through Vol	1	92	26	0	0
RT Vol	7	0	0	332	4
Lane Flow Rate	8	102	32	346	261
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.012	0.148	0.049	0.449	0.378
Departure Headway (Hd)	5.219	5.212	5.464	4.677	5.21
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	690	682	653	764	685
Service Time	3.219	3.291	3.22	2.433	3.282
HCM Lane V/C Ratio	0.012	0.15	0.049	0.453	0.381
HCM Control Delay	8.3	9.2	8.5	11.2	11.5
HCM Lane LOS	A	A	A	B	B
HCM 95th-tile Q	0	0.5	0.2	2.3	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	355	372	140	543	5	608	5	101	0	9	3
Future Volume (veh/h)	1	355	372	140	543	5	608	5	101	0	9	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1687	1687	1634	1687	1687	1856	1900	1856	1900	1900	1900
Adj Flow Rate, veh/h	1	382	400	151	584	5	658	0	109	0	10	3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	5	1	1	3	0	3	0	0	0
Cap, veh/h	2	596	515	184	1593	14	873	0	379	0	22	7
Arrive On Green	0.00	0.37	0.37	0.12	0.49	0.49	0.25	0.00	0.25	0.00	0.02	0.02
Sat Flow, veh/h	1619	1602	1385	1556	3255	28	3534	0	1536	0	1370	411
Grp Volume(v), veh/h	1	382	400	151	287	302	658	0	109	0	0	13
Grp Sat Flow(s),veh/h/ln	1619	1602	1385	1556	1602	1681	1767	0	1536	0	0	1781
Q Serve(g_s), s	0.0	14.7	19.1	7.1	8.4	8.4	12.9	0.0	4.3	0.0	0.0	0.5
Cycle Q Clear(g_c), s	0.0	14.7	19.1	7.1	8.4	8.4	12.9	0.0	4.3	0.0	0.0	0.5
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.00		0.23
Lane Grp Cap(c), veh/h	2	596	515	184	784	822	873	0	379	0	0	28
V/C Ratio(X)	0.46	0.64	0.78	0.82	0.37	0.37	0.75	0.00	0.29	0.00	0.00	0.46
Avail Cap(c_a), veh/h	691	684	592	664	784	822	1887	0	820	0	0	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	37.4	19.4	20.8	32.2	11.9	11.9	26.1	0.0	22.9	0.0	0.0	36.6
Incr Delay (d2), s/veh	48.0	4.3	9.6	3.4	1.0	1.0	1.3	0.0	0.4	0.0	0.0	13.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.7	7.0	2.7	2.9	3.0	5.4	0.0	1.6	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.4	23.7	30.3	35.6	13.0	12.9	27.5	0.0	23.3	0.0	0.0	50.1
LnGrp LOS	F	C	C	D	B	B	C	A	C	A	A	D
Approach Vol, veh/h		783			740			767			13	
Approach Delay, s/veh		27.2			17.6			26.9			50.1	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.4	32.9		5.7	4.6	41.7		23.0				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	32.0	32.0		20.0	32.0	31.0		40.0				
Max Q Clear Time (g_c+I1), s	19.1	21.1		2.5	2.0	10.4		14.9				
Green Ext Time (p_c), s	0.2	6.8		0.0	0.0	7.8		3.0				

Intersection Summary		
HCM 6th Ctrl Delay		24.1
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	647	9	428	0	613	374	0	576	194
Future Volume (veh/h)	0	0	0	647	9	428	0	613	374	0	576	194
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		0.97
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				1885	1900	1826	0	1870	1900	0	1870	1870
Adj Flow Rate, veh/h				718	0	470	0	674	0	0	633	213
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				1	0	5	0	2	0	0	2	2
Cap, veh/h				1143	0	492	0	1809		0	1317	443
Arrive On Green				0.32	0.00	0.32	0.00	0.51	0.00	0.00	0.51	0.51
Sat Flow, veh/h				3591	0	1547	0	3647	1610	0	2681	870
Grp Volume(v), veh/h				718	0	470	0	674	0	0	434	412
Grp Sat Flow(s),veh/h/ln				1795	0	1547	0	1777	1610	0	1777	1681
Q Serve(g_s), s				9.4	0.0	16.4	0.0	6.3	0.0	0.0	8.7	8.8
Cycle Q Clear(g_c), s				9.4	0.0	16.4	0.0	6.3	0.0	0.0	8.7	8.8
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.52
Lane Grp Cap(c), veh/h				1143	0	492	0	1809		0	905	856
V/C Ratio(X)				0.63	0.00	0.95	0.00	0.37		0.00	0.48	0.48
Avail Cap(c_a), veh/h				1143	0	492	0	1809		0	905	856
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.96	0.00	0.00	0.76	0.76
Uniform Delay (d), s/veh				16.0	0.0	18.4	0.0	8.2	0.0	0.0	8.8	8.8
Incr Delay (d2), s/veh				1.2	0.0	29.4	0.0	0.6	0.0	0.0	1.4	1.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.5	0.0	8.9	0.0	2.0	0.0	0.0	3.1	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				17.2	0.0	47.8	0.0	8.7	0.0	0.0	10.2	10.2
LnGrp LOS				B	A	D	A	A		A	B	B
Approach Vol, veh/h					1188			674	A		846	
Approach Delay, s/veh					29.3			8.7			10.2	
Approach LOS					C			A			B	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		33.3				33.3		21.7				
Change Period (Y+Rc), s		5.3				5.3		4.2				
Max Green Setting (Gmax), s		28.0				28.0		17.5				
Max Q Clear Time (g_c+I1), s		8.3				10.8		18.4				
Green Ext Time (p_c), s		5.2				6.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			18.2
HCM 6th LOS			B

Notes
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	247	0	550	0	0	0	0	735	589	0	960	240
Future Volume (vph)	247	0	550	0	0	0	0	735	589	0	960	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6					4.9	4.9		4.9	4.0
Lane Util. Factor		1.00	0.88					0.95	1.00		0.91	1.00
Frpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	0.97
Flpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	1.00
Frt		1.00	0.85					1.00	0.85		1.00	0.85
Flt Protected		0.95	1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)		1646	2694					3455	1546		4964	1501
Flt Permitted		0.95	1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)		1646	2694					3455	1546		4964	1501
Peak-hour factor, PHF	0.80	0.72	0.75	0.92	0.92	0.92	0.92	0.85	0.94	0.92	0.96	0.82
Adj. Flow (vph)	309	0	733	0	0	0	0	865	627	0	1000	293
RTOR Reduction (vph)	0	0	304	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	309	429	0	0	0	0	865	627	0	1000	293
Confl. Peds. (#/hr)	13					13	11		1	1		11
Confl. Bikes (#/hr)												9
Heavy Vehicles (%)	6%	0%	2%	0%	0%	0%	0%	1%	1%	0%	1%	1%
Turn Type	Split	NA	Perm					NA	Prot		NA	Free
Protected Phases	2	2						1 3 4	1 3 4		1 3 4	
Permitted Phases			2									Free
Actuated Green, G (s)		16.0	16.0					95.1	95.1		95.1	119.9
Effective Green, g (s)		16.0	16.0					90.9	90.9		90.9	119.9
Actuated g/C Ratio		0.13	0.13					0.76	0.76		0.76	1.00
Clearance Time (s)		4.6	4.6									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		219	359					2619	1172		3763	1501
v/s Ratio Prot		c0.19						0.25	c0.41		0.20	
v/s Ratio Perm			0.16									0.20
v/c Ratio		1.41	1.19					0.33	0.53		0.27	0.20
Uniform Delay, d1		52.0	52.0					4.7	5.9		4.4	0.0
Progression Factor		1.00	1.00					0.02	0.70		1.00	1.00
Incremental Delay, d2		209.8	111.7					0.1	0.3		0.0	0.3
Delay (s)		261.8	163.6					0.1	4.4		4.4	0.3
Level of Service		F	F					A	A		A	A
Approach Delay (s)		192.7			0.0			1.9			3.5	
Approach LOS		F			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	54.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	16	89	15	7	26	64	1051	23	91	1118	280
Future Volume (vph)	255	16	89	15	7	26	64	1051	23	91	1118	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.97		1.00	1.00	1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1625	1647	1509		1789	1561	1745	4938		1745	4725	
Flt Permitted	0.95	0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1625	1647	1509		1789	1561	1745	4938		1745	4725	
Peak-hour factor, PHF	0.86	0.61	0.80	0.85	0.44	0.79	0.66	0.86	0.61	0.67	0.94	0.85
Adj. Flow (vph)	297	26	111	18	16	33	97	1222	38	136	1189	329
RTOR Reduction (vph)	0	0	84	0	0	28	0	3	0	0	39	0
Lane Group Flow (vph)	160	163	27	0	34	5	97	1257	0	136	1479	0
Confl. Peds. (#/hr)			18	18			12		8	8		12
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	1		2	6	
Permitted Phases			4			3						
Actuated Green, G (s)	29.6	29.6	29.6		16.4	16.4	11.8	40.0		16.0	45.1	
Effective Green, g (s)	29.6	29.6	29.6		16.4	16.4	11.8	40.0		16.0	45.1	
Actuated g/C Ratio	0.25	0.25	0.25		0.14	0.14	0.10	0.33		0.13	0.38	
Clearance Time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.2	
Lane Grp Cap (vph)	401	406	372		244	213	171	1647		232	1777	
v/s Ratio Prot	0.10	c0.10			c0.02		0.06	0.25		c0.08	c0.31	
v/s Ratio Perm			0.02			0.00						
v/c Ratio	0.40	0.40	0.07		0.14	0.02	0.57	0.76		0.59	0.83	
Uniform Delay, d1	37.7	37.7	34.6		45.5	44.8	51.6	35.7		48.8	34.0	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.07	0.86	
Incremental Delay, d2	0.7	0.7	0.1		0.3	0.0	4.3	3.4		3.0	3.8	
Delay (s)	38.4	38.4	34.7		45.8	44.8	55.9	39.1		55.4	33.1	
Level of Service	D	D	C		D	D	E	D		E	C	
Approach Delay (s)		37.4			45.3			40.3			35.0	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	37.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	37	18	22	80	171	39	725	21	131	704	359
Future Volume (veh/h)	223	37	18	22	80	171	39	725	21	131	704	359
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	235	39	19	23	84	180	41	763	22	138	741	378
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	550	184	90	63	230	233	54	1940	56	182	2312	702
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.03	0.38	0.38	0.10	0.45	0.45
Sat Flow, veh/h	3483	1165	568	404	1476	1496	1795	5135	148	1795	5147	1563
Grp Volume(v), veh/h	235	0	58	107	0	180	41	509	276	138	741	378
Grp Sat Flow(s),veh/h/ln	1742	0	1733	1880	0	1496	1795	1716	1851	1795	1716	1563
Q Serve(g_s), s	4.9	0.0	2.3	4.1	0.0	9.2	1.8	8.7	8.7	6.0	7.4	14.1
Cycle Q Clear(g_c), s	4.9	0.0	2.3	4.1	0.0	9.2	1.8	8.7	8.7	6.0	7.4	14.1
Prop In Lane	1.00		0.33	0.21		1.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	550	0	273	293	0	233	54	1296	700	182	2312	702
V/C Ratio(X)	0.43	0.00	0.21	0.37	0.00	0.77	0.76	0.39	0.39	0.76	0.32	0.54
Avail Cap(c_a), veh/h	914	0	455	493	0	393	359	1947	1050	583	2920	887
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.4	0.0	29.4	30.2	0.0	32.4	38.5	18.2	18.2	35.0	14.2	16.0
Incr Delay (d2), s/veh	1.9	0.0	1.4	1.1	0.0	7.5	26.7	0.9	1.7	8.9	0.4	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	1.1	1.9	0.0	3.8	1.2	3.4	3.8	3.0	2.7	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.3	0.0	30.8	31.3	0.0	39.9	65.2	19.1	19.9	43.9	14.5	19.0
LnGrp LOS	C	A	C	C	A	D	E	B	B	D	B	B
Approach Vol, veh/h		293			287			826			1257	
Approach Delay, s/veh		32.0			36.7			21.6			19.1	
Approach LOS		C			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	40.5		16.5	12.1	34.8		16.6				
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0				
Max Green Setting (Gmax), s	16.0	45.4		21.0	26.0	45.4		21.0				
Max Q Clear Time (g_c+I1), s	3.8	16.1		11.2	8.0	10.7		6.9				
Green Ext Time (p_c), s	0.1	19.9		1.2	0.5	16.7		2.5				

Intersection Summary			
HCM 6th Ctrl Delay			23.2
HCM 6th LOS			C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	123	44	124	246	116	52	487	36	115	424	69
Future Volume (veh/h)	211	123	44	124	246	116	52	487	36	115	424	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	130	250	45	128	254	120	54	502	37	119	437	71
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	336	580	102	383	517	235	71	1359	99	264	1126	488
Arrive On Green	0.19	0.19	0.19	0.21	0.21	0.21	0.04	0.28	0.28	0.08	0.31	0.31
Sat Flow, veh/h	1795	3099	547	1810	2444	1110	1795	4882	356	3483	3582	1552
Grp Volume(v), veh/h	130	150	145	128	195	179	54	351	188	119	437	71
Grp Sat Flow(s),veh/h/ln	1795	1885	1761	1810	1900	1654	1795	1716	1807	1742	1791	1552
Q Serve(g_s), s	4.6	5.1	5.2	4.3	6.5	6.9	2.1	5.9	6.0	2.4	6.9	2.4
Cycle Q Clear(g_c), s	4.6	5.1	5.2	4.3	6.5	6.9	2.1	5.9	6.0	2.4	6.9	2.4
Prop In Lane	1.00		0.31	1.00		0.67	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	336	353	330	383	402	350	71	955	503	264	1126	488
V/C Ratio(X)	0.39	0.43	0.44	0.33	0.49	0.51	0.76	0.37	0.37	0.45	0.39	0.15
Avail Cap(c_a), veh/h	634	666	622	639	671	584	649	2166	1140	1259	2261	980
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	25.8	25.9	24.1	24.9	25.1	34.2	20.9	20.9	31.8	19.2	17.7
Incr Delay (d2), s/veh	1.0	1.2	1.3	0.7	1.3	1.6	21.0	0.9	1.7	1.7	0.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	2.3	2.3	1.9	3.0	2.8	1.3	2.3	2.6	1.0	2.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.7	27.0	27.2	24.8	26.2	26.7	55.2	21.7	22.6	33.5	20.0	18.2
LnGrp LOS	C	C	C	C	C	C	E	C	C	C	C	B
Approach Vol, veh/h		425			502			593			627	
Approach Delay, s/veh		27.0			26.0			25.0			22.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.4	24.6		19.8	6.8	27.2		18.1
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		4.6
Max Green Setting (Gmax), s	26.0	45.4		25.4	26.0	45.4		25.4
Max Q Clear Time (g_c+I1), s	4.4	8.0		8.9	4.1	8.9		7.2
Green Ext Time (p_c), s	0.5	9.3		3.5	0.2	8.5		2.9

Intersection Summary		
HCM 6th Ctrl Delay		24.9
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	75	41	46	59	77	21	422	29	66	323	83
Future Volume (veh/h)	111	75	41	46	59	77	21	422	29	66	323	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	117	79	43	48	62	81	22	444	31	69	340	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	1	1	1
Cap, veh/h	175	118	64	104	134	197	37	1053	73	90	954	240
Arrive On Green	0.20	0.20	0.20	0.13	0.13	0.13	0.02	0.31	0.31	0.05	0.34	0.34
Sat Flow, veh/h	875	591	321	811	1048	1542	1795	3385	235	1795	2804	705
Grp Volume(v), veh/h	239	0	0	110	0	81	22	234	241	69	215	212
Grp Sat Flow(s),veh/h/ln	1787	0	0	1859	0	1542	1795	1791	1829	1795	1791	1718
Q Serve(g_s), s	6.6	0.0	0.0	2.9	0.0	2.6	0.6	5.5	5.6	2.0	4.8	5.0
Cycle Q Clear(g_c), s	6.6	0.0	0.0	2.9	0.0	2.6	0.6	5.5	5.6	2.0	4.8	5.0
Prop In Lane	0.49		0.18	0.44		1.00	1.00		0.13	1.00		0.41
Lane Grp Cap(c), veh/h	358	0	0	238	0	197	37	557	569	90	609	585
V/C Ratio(X)	0.67	0.00	0.00	0.46	0.00	0.41	0.59	0.42	0.42	0.77	0.35	0.36
Avail Cap(c_a), veh/h	869	0	0	905	0	750	874	1522	1554	874	1522	1460
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	0.0	0.0	21.6	0.0	21.4	25.9	14.6	14.6	25.1	13.2	13.3
Incr Delay (d2), s/veh	2.2	0.0	0.0	1.4	0.0	1.4	13.8	1.8	1.8	12.9	1.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	1.3	0.0	1.0	0.4	2.3	2.4	1.1	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.9	0.0	0.0	23.0	0.0	22.8	39.7	16.4	16.4	37.9	14.5	14.6
LnGrp LOS	C	A	A	C	A	C	D	B	B	D	B	B
Approach Vol, veh/h		239			191			497			496	
Approach Delay, s/veh		21.9			22.9			17.4			17.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.7	21.2		10.8	5.1	22.8		14.7
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0
Max Green Setting (Gmax), s	26.0	45.4		26.0	26.0	45.4		26.0
Max Q Clear Time (g_c+I1), s	4.0	7.6		4.9	2.6	7.0		8.6
Green Ext Time (p_c), s	0.1	8.4		0.8	0.0	7.1		1.3

Intersection Summary	
HCM 6th Ctrl Delay	19.0
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	389	164	40	551	127	202	282	48	92	207	32
Future Volume (veh/h)	8	389	164	40	551	127	202	282	48	92	207	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	9	418	176	43	592	137	217	303	52	99	223	34
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	21	1025	440	76	911	210	271	564	467	134	328	50
Arrive On Green	0.01	0.29	0.29	0.04	0.32	0.32	0.15	0.30	0.30	0.07	0.21	0.21
Sat Flow, veh/h	1795	3582	1536	1795	2872	663	1795	1885	1560	1795	1591	243
Grp Volume(v), veh/h	9	418	176	43	368	361	217	303	52	99	0	257
Grp Sat Flow(s),veh/h/ln	1795	1791	1536	1795	1791	1744	1795	1885	1560	1795	0	1834
Q Serve(g_s), s	0.3	5.7	3.1	1.4	10.7	10.8	7.1	8.1	1.5	3.3	0.0	7.8
Cycle Q Clear(g_c), s	0.3	5.7	3.1	1.4	10.7	10.8	7.1	8.1	1.5	3.3	0.0	7.8
Prop In Lane	1.00		1.00	1.00		0.38	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	21	1025	440	76	568	553	271	564	467	134	0	378
V/C Ratio(X)	0.43	0.41	0.40	0.56	0.65	0.65	0.80	0.54	0.11	0.74	0.00	0.68
Avail Cap(c_a), veh/h	771	2663	1142	771	1332	1297	771	934	773	771	0	909
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.7	17.5	5.4	28.4	17.8	17.8	24.8	17.7	15.4	27.4	0.0	22.2
Incr Delay (d2), s/veh	13.5	0.3	0.7	6.4	1.5	1.6	2.1	0.3	0.0	9.3	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.1	1.8	0.7	4.2	4.1	3.0	3.3	0.5	1.7	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	17.8	6.1	34.8	19.3	19.4	26.9	18.0	15.4	36.7	0.0	24.8
LnGrp LOS	D	B	A	C	B	B	C	B	B	D	A	C
Approach Vol, veh/h		603			772			572			356	
Approach Delay, s/veh		14.7			20.2			21.1			28.1	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.7	24.2	8.5	23.1	6.6	22.3	14.2	17.5
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	26.0	45.0	26.0	30.0	26.0	45.0	26.0	* 30
Max Q Clear Time (g_c+I1), s	2.3	12.8	5.3	10.1	3.4	7.7	9.1	9.8
Green Ext Time (p_c), s	0.0	6.4	0.3	0.7	0.1	4.4	0.1	1.8

Intersection Summary	
HCM 6th Ctrl Delay	20.2
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)	41	294	133	55	452	49	203	360	49	66	238	72
Future Volume (veh/h)	41	294	133	55	452	49	203	360	49	66	238	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	43	309	140	58	476	52	214	379	52	69	251	76
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	62	588	258	75	825	90	272	591	81	90	364	110
Arrive On Green	0.03	0.25	0.25	0.04	0.25	0.25	0.15	0.36	0.36	0.05	0.26	0.26
Sat Flow, veh/h	1810	2393	1052	1810	3261	354	1810	1630	224	1810	1389	421
Grp Volume(v), veh/h	43	231	218	58	262	266	214	0	431	69	0	327
Grp Sat Flow(s),veh/h/ln	1810	1805	1639	1810	1805	1811	1810	0	1853	1810	0	1810
Q Serve(g_s), s	1.4	6.6	6.9	1.9	7.6	7.7	6.8	0.0	11.6	2.3	0.0	9.8
Cycle Q Clear(g_c), s	1.4	6.6	6.9	1.9	7.6	7.7	6.8	0.0	11.6	2.3	0.0	9.8
Prop In Lane	1.00		0.64	1.00		0.20	1.00		0.12	1.00		0.23
Lane Grp Cap(c), veh/h	62	443	403	75	456	458	272	0	672	90	0	474
V/C Ratio(X)	0.70	0.52	0.54	0.78	0.57	0.58	0.79	0.00	0.64	0.77	0.00	0.69
Avail Cap(c_a), veh/h	619	1069	971	619	1069	1073	619	0	789	619	0	770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.6	19.5	19.7	28.4	19.6	19.6	24.5	0.0	15.9	28.1	0.0	19.9
Incr Delay (d2), s/veh	10.0	0.4	0.4	11.9	1.4	1.4	5.0	0.0	1.1	12.5	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.6	2.5	1.0	3.1	3.2	3.1	0.0	4.5	1.2	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	19.9	20.1	40.4	20.9	21.0	29.5	0.0	17.0	40.7	0.0	22.1
LnGrp LOS	D	B	C	D	C	C	C	A	B	D	A	C
Approach Vol, veh/h		492			586			645			396	
Approach Delay, s/veh		21.6			22.9			21.1			25.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	19.2	7.5	26.2	6.5	19.7	13.5	20.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.5	35.5	20.5	25.5	20.5	35.5	20.5	25.5
Max Q Clear Time (g_c+I1), s	3.9	8.9	4.3	13.6	3.4	9.7	8.8	11.8
Green Ext Time (p_c), s	0.1	1.9	0.1	1.8	0.0	4.0	0.5	1.9

Intersection Summary	
HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	293	55	64	477	120	42	117	54	66	87	47
Future Volume (veh/h)	21	293	55	64	477	120	42	117	54	66	87	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.92	1.00		0.94	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	22	308	58	67	502	126	44	123	57	69	92	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	38	968	179	90	988	246	67	282	131	91	288	153
Arrive On Green	0.02	0.32	0.32	0.05	0.35	0.35	0.04	0.24	0.24	0.05	0.25	0.25
Sat Flow, veh/h	1810	2988	551	1810	2805	698	1795	1192	552	1810	1151	613
Grp Volume(v), veh/h	22	183	183	67	321	307	44	0	180	69	0	141
Grp Sat Flow(s),veh/h/ln	1810	1805	1734	1810	1805	1698	1795	0	1745	1810	0	1764
Q Serve(g_s), s	0.6	3.6	3.7	1.7	6.6	6.7	1.1	0.0	4.1	1.8	0.0	3.1
Cycle Q Clear(g_c), s	0.6	3.6	3.7	1.7	6.6	6.7	1.1	0.0	4.1	1.8	0.0	3.1
Prop In Lane	1.00		0.32	1.00		0.41	1.00		0.32	1.00		0.35
Lane Grp Cap(c), veh/h	38	585	562	90	636	598	67	0	413	91	0	441
V/C Ratio(X)	0.57	0.31	0.32	0.75	0.51	0.51	0.66	0.00	0.44	0.76	0.00	0.32
Avail Cap(c_a), veh/h	614	1761	1692	614	1761	1657	800	0	592	806	0	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.9	12.0	12.0	22.1	12.0	12.1	22.4	0.0	15.3	22.1	0.0	14.4
Incr Delay (d2), s/veh	12.7	0.3	0.3	11.6	0.6	0.7	10.6	0.0	0.7	11.9	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.3	1.3	1.0	2.3	2.2	0.6	0.0	1.6	1.0	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.6	12.3	12.4	33.7	12.7	12.7	33.0	0.0	16.0	34.0	0.0	14.8
LnGrp LOS	D	B	B	C	B	B	C	A	B	C	A	B
Approach Vol, veh/h		388			695			224			210	
Approach Delay, s/veh		13.7			14.7			19.4			21.1	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	15.2	6.3	19.3	5.8	15.8	5.0	20.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	21.0	16.0	16.0	46.0	21.0	16.0	16.0	46.0
Max Q Clear Time (g_c+I1), s	3.8	6.1	3.7	5.7	3.1	5.1	2.6	8.7
Green Ext Time (p_c), s	0.1	0.7	0.1	2.4	0.1	0.5	0.0	4.5

Intersection Summary	
HCM 6th Ctrl Delay	16.0
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	395	73	85	462	11	120	3	93	19	3	36
Future Volume (veh/h)	14	395	73	85	462	11	120	3	93	19	3	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	14	407	75	88	476	11	124	3	96	20	3	37
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	26	777	142	117	604	490	144	2	627	136	12	647
Arrive On Green	0.01	0.26	0.26	0.06	0.32	0.32	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1810	3020	551	1810	1900	1543	0	5	1553	0	29	1603
Grp Volume(v), veh/h	14	241	241	88	476	11	127	0	96	23	0	37
Grp Sat Flow(s),veh/h/ln	1810	1805	1766	1810	1900	1543	5	0	1553	29	0	1603
Q Serve(g_s), s	0.4	5.7	5.8	2.4	11.3	0.2	0.0	0.0	1.9	0.0	0.0	0.7
Cycle Q Clear(g_c), s	0.4	5.7	5.8	2.4	11.3	0.2	20.0	0.0	1.9	20.0	0.0	0.7
Prop In Lane	1.00		0.31	1.00		1.00	0.98		1.00	0.87		1.00
Lane Grp Cap(c), veh/h	26	464	454	117	604	490	145	0	627	147	0	647
V/C Ratio(X)	0.55	0.52	0.53	0.75	0.79	0.02	0.87	0.00	0.15	0.16	0.00	0.06
Avail Cap(c_a), veh/h	950	1636	1600	931	1722	1398	145	0	627	147	0	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.3	15.8	15.8	22.8	15.4	11.6	24.5	0.0	9.4	14.8	0.0	9.0
Incr Delay (d2), s/veh	16.9	0.3	0.4	9.3	0.9	0.0	38.9	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.1	2.1	1.2	4.4	0.1	3.0	0.0	0.6	0.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.2	16.1	16.2	32.1	16.3	11.6	63.3	0.0	9.4	15.0	0.0	9.0
LnGrp LOS	D	B	B	C	B	B	E	A	A	B	A	A
Approach Vol, veh/h		496			575			223			60	
Approach Delay, s/veh		16.9			18.6			40.1			11.3	
Approach LOS		B			B			D			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	17.8		24.0	4.7	20.8		24.0				
Change Period (Y+Rc), s	4.5	5.1		4.0	4.0	5.1		4.0				
Max Green Setting (Gmax), s	25.5	44.9		20.0	26.0	44.9		20.0				
Max Q Clear Time (g_c+I1), s	4.4	7.8		22.0	2.4	13.3		22.0				
Green Ext Time (p_c), s	0.2	2.0		0.0	0.0	2.2		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	21.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	157	109	111	221	43	105	510	93	30	341	43
Future Volume (veh/h)	34	157	109	111	221	43	105	510	93	30	341	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.94	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	35	164	114	116	230	45	109	531	97	31	355	45
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	0	0	0
Cap, veh/h	63	232	161	154	431	84	145	623	114	59	586	74
Arrive On Green	0.04	0.23	0.23	0.09	0.28	0.28	0.08	0.40	0.40	0.03	0.36	0.36
Sat Flow, veh/h	1795	997	693	1810	1525	298	1795	1538	281	1810	1643	208
Grp Volume(v), veh/h	35	0	278	116	0	275	109	0	628	31	0	400
Grp Sat Flow(s),veh/h/ln	1795	0	1690	1810	0	1824	1795	0	1819	1810	0	1851
Q Serve(g_s), s	1.3	0.0	10.5	4.4	0.0	8.8	4.1	0.0	21.8	1.2	0.0	12.3
Cycle Q Clear(g_c), s	1.3	0.0	10.5	4.4	0.0	8.8	4.1	0.0	21.8	1.2	0.0	12.3
Prop In Lane	1.00		0.41	1.00		0.16	1.00		0.15	1.00		0.11
Lane Grp Cap(c), veh/h	63	0	393	154	0	515	145	0	737	59	0	660
V/C Ratio(X)	0.55	0.00	0.71	0.75	0.00	0.53	0.75	0.00	0.85	0.53	0.00	0.61
Avail Cap(c_a), veh/h	685	0	852	691	0	919	685	0	917	691	0	933
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.0	0.0	24.5	31.0	0.0	21.0	31.2	0.0	18.8	33.1	0.0	18.3
Incr Delay (d2), s/veh	7.3	0.0	2.3	7.2	0.0	0.9	7.7	0.0	7.2	7.2	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	4.3	2.2	0.0	3.7	2.0	0.0	9.7	0.6	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	0.0	26.8	38.3	0.0	21.9	38.9	0.0	26.0	40.3	0.0	19.6
LnGrp LOS	D	A	C	D	A	C	D	A	C	D	A	B
Approach Vol, veh/h		313			391			737			431	
Approach Delay, s/veh		28.3			26.8			27.9			21.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	21.2	9.1	29.8	6.0	24.6	5.8	33.1
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0
Max Green Setting (Gmax), s	26.5	35.0	26.5	35.0	26.5	35.0	26.5	35.0
Max Q Clear Time (g_c+I1), s	6.4	12.5	6.1	14.3	3.3	10.8	3.2	23.8
Green Ext Time (p_c), s	0.3	1.8	0.2	3.4	0.1	1.7	0.0	4.3

Intersection Summary		
HCM 6th Ctrl Delay		26.2
HCM 6th LOS		C

Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	228	36	29	236	42	50	157	37	30	75	48
Future Vol, veh/h	28	228	36	29	236	42	50	157	37	30	75	48
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	30	245	39	31	254	45	54	169	40	32	81	52
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	14.8	15	14.2	11.9
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	11%	0%	11%	0%	20%
Vol Thru, %	64%	89%	0%	89%	0%	49%
Vol Right, %	15%	0%	100%	0%	100%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	244	256	36	265	42	153
LT Vol	50	28	0	29	0	30
Through Vol	157	228	0	236	0	75
RT Vol	37	0	36	0	42	48
Lane Flow Rate	262	275	39	285	45	165
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.45	0.5	0.062	0.515	0.072	0.289
Departure Headway (Hd)	6.172	6.533	5.762	6.509	5.738	6.315
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	585	553	622	556	625	569
Service Time	4.202	4.26	3.489	4.236	3.465	4.359
HCM Lane V/C Ratio	0.448	0.497	0.063	0.513	0.072	0.29
HCM Control Delay	14.2	15.6	8.9	16	8.9	11.9
HCM Lane LOS	B	C	A	C	A	B
HCM 95th-tile Q	2.3	2.8	0.2	2.9	0.2	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	164	106	25	371	137	110	57	12	120	66	109
Future Volume (veh/h)	90	164	106	25	371	137	110	57	12	120	66	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.91	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	100	182	0	28	412	0	122	63	13	133	73	121
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	131	636		57	559		159	334	69	173	138	230
Arrive On Green	0.07	0.34	0.00	0.03	0.30	0.00	0.09	0.22	0.22	0.10	0.23	0.23
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1498	309	1795	599	994
Grp Volume(v), veh/h	100	182	0	28	412	0	122	0	76	133	0	194
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	0	1807	1795	0	1593
Q Serve(g_s), s	2.9	3.8	0.0	0.8	10.4	0.0	3.5	0.0	1.8	3.8	0.0	5.6
Cycle Q Clear(g_c), s	2.9	3.8	0.0	0.8	10.4	0.0	3.5	0.0	1.8	3.8	0.0	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.62
Lane Grp Cap(c), veh/h	131	636		57	559		159	0	403	173	0	368
V/C Ratio(X)	0.76	0.29		0.49	0.74		0.77	0.00	0.19	0.77	0.00	0.53
Avail Cap(c_a), veh/h	542	1263		542	1263		547	0	716	542	0	632
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.1	12.9	0.0	25.2	16.8	0.0	23.6	0.0	16.7	23.4	0.0	17.8
Incr Delay (d2), s/veh	6.7	0.2	0.0	4.7	1.9	0.0	2.9	0.0	0.2	2.7	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.5	0.0	0.4	4.2	0.0	1.5	0.0	0.7	1.6	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.8	13.1	0.0	30.0	18.7	0.0	26.5	0.0	16.9	26.1	0.0	18.7
LnGrp LOS	C	B		C	B		C	A	B	C	A	B
Approach Vol, veh/h		282	A		440	A		198			327	
Approach Delay, s/veh		19.4			19.4			22.8			21.7	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	22.4	8.7	16.2	7.9	20.2	9.1	15.8
Change Period (Y+Rc), s	4.0	4.5	4.0	4.0	4.0	4.5	4.0	4.0
Max Green Setting (Gmax), s	16.0	35.5	16.0	21.0	16.0	35.5	16.0	21.0
Max Q Clear Time (g_c+I1), s	2.8	5.8	5.5	7.6	4.9	12.4	5.8	3.8
Green Ext Time (p_c), s	0.0	1.1	0.1	0.8	0.1	2.6	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	20.5
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	1008	1122	104	409	35	536	19	57	56	31	25
Future Volume (veh/h)	12	1008	1122	104	409	35	536	19	57	56	31	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	12	1039	0	107	422	36	567	0	0	58	32	26
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	25	2009		88	1986	169	622	0		88	48	115
Arrive On Green	0.01	0.56	0.00	0.05	0.60	0.60	0.17	0.00	0.00	0.07	0.07	0.07
Sat Flow, veh/h	1795	3582	1598	1795	3331	283	3591	0	1598	1186	654	1562
Grp Volume(v), veh/h	12	1039	0	107	226	232	567	0	0	90	0	26
Grp Sat Flow(s),veh/h/ln	1795	1791	1598	1795	1791	1823	1795	0	1598	1841	0	1562
Q Serve(g_s), s	0.7	20.1	0.0	5.5	6.5	6.6	17.4	0.0	0.0	5.3	0.0	1.8
Cycle Q Clear(g_c), s	0.7	20.1	0.0	5.5	6.5	6.6	17.4	0.0	0.0	5.3	0.0	1.8
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	0.64		1.00
Lane Grp Cap(c), veh/h	25	2009		88	1068	1087	622	0		136	0	115
V/C Ratio(X)	0.48	0.52		1.21	0.21	0.21	0.91	0.00		0.66	0.00	0.23
Avail Cap(c_a), veh/h	88	2009		88	1068	1087	625	0		370	0	314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.98	0.98	0.98	0.89	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.8	15.2	0.0	53.3	10.4	10.5	45.5	0.0	0.0	50.5	0.0	48.8
Incr Delay (d2), s/veh	5.2	1.0	0.0	163.1	0.4	0.4	15.8	0.0	0.0	2.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	8.3	0.0	6.5	2.7	2.8	9.0	0.0	0.0	2.6	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.0	16.2	0.0	216.4	10.9	10.9	61.3	0.0	0.0	52.5	0.0	49.2
LnGrp LOS	E	B		F	B	B	E	A		D	A	D
Approach Vol, veh/h		1051	A		565			567	A		116	
Approach Delay, s/veh		16.7			49.8			61.3			51.8	
Approach LOS		B			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	66.8		12.3	5.6	70.8		23.4
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.5	48.5		22.5	5.5	48.5		19.5
Max Q Clear Time (g_c+I1), s	7.5	22.1		7.3	2.7	8.6		19.4
Green Ext Time (p_c), s	0.0	9.0		0.3	0.0	3.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	37.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	924	72	333	581	97	288
Future Volume (veh/h)	924	72	333	581	97	288
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.96	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	943	73	340	593	99	294
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	1254	97	386	2335	384	342
Arrive On Green	0.37	0.37	0.21	0.65	0.21	0.21
Sat Flow, veh/h	3449	260	1795	3676	1795	1598
Grp Volume(v), veh/h	503	513	340	593	99	294
Grp Sat Flow(s),veh/h/ln	1791	1824	1795	1791	1795	1598
Q Serve(g_s), s	17.4	17.4	13.0	4.9	3.3	12.6
Cycle Q Clear(g_c), s	17.4	17.4	13.0	4.9	3.3	12.6
Prop In Lane		0.14	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	669	682	386	2335	384	342
V/C Ratio(X)	0.75	0.75	0.88	0.25	0.26	0.86
Avail Cap(c_a), veh/h	834	849	494	2335	722	642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.3	19.3	27.0	5.1	23.2	26.8
Incr Delay (d2), s/veh	3.6	3.5	12.1	0.1	0.1	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	7.3	6.5	1.4	1.4	4.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.9	22.9	39.1	5.2	23.3	29.3
LnGrp LOS	C	C	D	A	C	C
Approach Vol, veh/h	1016			933	393	
Approach Delay, s/veh	22.9			17.6	27.8	
Approach LOS	C			B	C	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	19.7	31.5		19.7		51.2
Change Period (Y+Rc), s	4.5	5.0		4.5		5.0
Max Green Setting (Gmax), s	19.5	33.0		28.5		33.0
Max Q Clear Time (g_c+I1), s	15.0	19.4		14.6		6.9
Green Ext Time (p_c), s	0.2	7.1		0.6		5.8
Intersection Summary						
HCM 6th Ctrl Delay			21.6			
HCM 6th LOS			C			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	738	462	404	692	2	207	1	675	5	5	9
Future Volume (veh/h)	8	738	462	404	692	2	207	1	675	5	5	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.87
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1737	1870	1900	1900	1885	1885	1856	1870	1870	1870
Adj Flow Rate, veh/h	8	769	0	421	721	2	216	1	0	5	5	9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	11	2	0	0	1	1	3	2	2	2
Cap, veh/h	14	1805		436	2722	8	240	1		12	12	21
Arrive On Green	0.01	0.50	0.00	0.49	1.00	1.00	0.13	0.13	0.00	0.03	0.03	0.03
Sat Flow, veh/h	1810	3610	1472	1781	3693	10	1788	8	1572	416	416	750
Grp Volume(v), veh/h	8	769	0	421	352	371	217	0	0	19	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1472	1781	1805	1898	1796	0	1572	1582	0	0
Q Serve(g_s), s	0.7	20.3	0.0	34.3	0.0	0.0	17.9	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear(g_c), s	0.7	20.3	0.0	34.3	0.0	0.0	17.9	0.0	0.0	1.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.26		0.47
Lane Grp Cap(c), veh/h	14	1805		436	1330	1399	241	0		44	0	0
V/C Ratio(X)	0.58	0.43		0.97	0.26	0.26	0.90	0.00		0.43	0.00	0.00
Avail Cap(c_a), veh/h	48	1805		487	1330	1399	281	0		232	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.00	1.00	1.00	1.00	0.67	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	74.2	23.8	0.0	37.7	0.0	0.0	64.0	0.0	0.0	71.7	0.0	0.0
Incr Delay (d2), s/veh	8.7	0.5	0.0	30.0	0.5	0.5	18.6	0.0	0.0	4.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	8.8	0.0	15.7	0.2	0.2	9.5	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.9	24.3	0.0	67.7	0.5	0.5	82.5	0.0	0.0	76.6	0.0	0.0
LnGrp LOS	F	C		E	A	A	F	A		E	A	A
Approach Vol, veh/h		777	A		1144			217	A		19	
Approach Delay, s/veh		24.9			25.2			82.5			76.6	
Approach LOS		C			C			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	39.7	79.0		7.7	4.1	114.6		23.6				
Change Period (Y+Rc), s	3.0	4.0		3.5	3.0	4.0		3.5				
Max Green Setting (Gmax), s	41.0	49.5		22.0	4.0	86.5		23.5				
Max Q Clear Time (g_c+I1), s	36.3	22.3		3.8	2.7	2.0		19.9				
Green Ext Time (p_c), s	0.3	7.9		0.0	0.0	7.7		0.3				

Intersection Summary			
HCM 6th Ctrl Delay			31.3
HCM 6th LOS			C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	972	401	3	1080	13	518	15	50	117	148	97
Future Volume (veh/h)	49	972	401	3	1080	13	518	15	50	117	148	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1841	1900	1841	1841	1811	1870	1856	1870	1900	1900
Adj Flow Rate, veh/h	51	1012	0	3	1125	14	551	0	0	122	154	101
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	3	4	0	4	4	6	2	3	2	0	0
Cap, veh/h	65	1890		7	1779	22	619	0		286	172	113
Arrive On Green	0.05	0.71	0.00	0.00	0.50	0.50	0.18	0.00	0.00	0.16	0.16	0.16
Sat Flow, veh/h	1781	3526	1560	1810	3535	44	3450	0	1572	1781	1068	701
Grp Volume(v), veh/h	51	1012	0	3	556	583	551	0	0	122	0	255
Grp Sat Flow(s),veh/h/ln	1781	1763	1560	1810	1749	1831	1725	0	1572	1781	0	1769
Q Serve(g_s), s	4.2	20.0	0.0	0.2	34.8	34.8	23.4	0.0	0.0	9.3	0.0	21.2
Cycle Q Clear(g_c), s	4.2	20.0	0.0	0.2	34.8	34.8	23.4	0.0	0.0	9.3	0.0	21.2
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	65	1890		7	880	921	619	0		286	0	284
V/C Ratio(X)	0.78	0.54		0.42	0.63	0.63	0.89	0.00		0.43	0.00	0.90
Avail Cap(c_a), veh/h	101	1890		62	880	921	793	0		338	0	336
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	70.7	12.9	0.0	74.5	27.1	27.1	60.1	0.0	0.0	56.7	0.0	61.7
Incr Delay (d2), s/veh	18.4	1.1	0.0	35.4	3.4	3.3	10.2	0.0	0.0	1.0	0.0	23.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	6.9	0.0	0.2	15.2	15.9	11.2	0.0	0.0	4.3	0.0	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.1	13.9	0.0	110.0	30.6	30.4	70.3	0.0	0.0	57.7	0.0	84.8
LnGrp LOS	F	B		F	C	C	E	A		E	A	F
Approach Vol, veh/h		1063	A		1142			551	A		377	
Approach Delay, s/veh		17.6			30.7			70.3			76.0	
Approach LOS		B			C			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	84.9		31.4	10.0	80.0		28.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.1	63.9		34.5	8.5	60.5		28.5
Max Q Clear Time (g_c+I1), s	2.2	22.0		25.4	6.2	36.8		23.2
Green Ext Time (p_c), s	0.0	9.3		1.5	0.0	8.0		0.9

Intersection Summary			
HCM 6th Ctrl Delay			38.7
HCM 6th LOS			D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	340	544	447	51	602	416
Future Volume (veh/h)	340	544	447	51	602	416
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	351	561	461	53	621	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	528	907	795	347	736	
Arrive On Green	0.40	0.40	0.22	0.22	0.21	0.00
Sat Flow, veh/h	1327	2377	3647	1551	3483	1598
Grp Volume(v), veh/h	481	431	461	53	621	0
Grp Sat Flow(s),veh/h/ln	1819	1791	1777	1551	1742	1598
Q Serve(g_s), s	17.3	15.3	9.3	2.2	13.7	0.0
Cycle Q Clear(g_c), s	17.3	15.3	9.3	2.2	13.7	0.0
Prop In Lane	0.73			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	723	712	795	347	736	
V/C Ratio(X)	0.67	0.61	0.58	0.15	0.84	
Avail Cap(c_a), veh/h	723	712	795	347	906	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.7	19.1	27.7	25.0	30.3	0.0
Incr Delay (d2), s/veh	0.4	0.3	3.1	0.9	6.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	6.2	4.2	0.9	6.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.2	19.5	30.8	25.9	36.5	0.0
LnGrp LOS	C	B	C	C	D	
Approach Vol, veh/h		912	514		621	A
Approach Delay, s/veh		19.8	30.3		36.5	
Approach LOS		B	C		D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	36.4	21.1	22.5
Change Period (Y+Rc), s	4.6	* 4.2	4.6
Max Green Setting (Gmax), s	27.9	* 21	17.9
Max Q Clear Time (g_c+I1), s	19.3	15.7	11.3
Green Ext Time (p_c), s	3.9	1.2	1.8

Intersection Summary	
HCM 6th Ctrl Delay	27.5
HCM 6th LOS	C

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	611	470	60	221	318	28
Future Volume (veh/h)	611	470	60	221	318	28
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	650	500	64	235	366	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	0	0	1	0
Cap, veh/h	924	762	81	1190	642	288
Arrive On Green	0.49	0.49	0.04	0.63	0.18	0.00
Sat Flow, veh/h	1885	1554	1810	1900	3591	1610
Grp Volume(v), veh/h	650	500	64	235	366	0
Grp Sat Flow(s),veh/h/ln	1885	1554	1810	1900	1795	1610
Q Serve(g_s), s	10.3	9.3	1.3	2.0	3.6	0.0
Cycle Q Clear(g_c), s	10.3	9.3	1.3	2.0	3.6	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	924	762	81	1190	642	288
V/C Ratio(X)	0.70	0.66	0.79	0.20	0.57	0.00
Avail Cap(c_a), veh/h	1471	1213	1412	1482	2802	1256
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.6	7.4	18.2	3.1	14.4	0.0
Incr Delay (d2), s/veh	1.0	1.0	15.4	0.1	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	2.2	0.8	0.3	1.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.6	8.3	33.6	3.1	15.2	0.0
LnGrp LOS	A	A	C	A	B	A
Approach Vol, veh/h	1150			299	366	
Approach Delay, s/veh	8.5			9.7	15.2	
Approach LOS	A			A	B	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	5.2	22.9	10.4	28.1
Change Period (Y+Rc), s	3.5	4.0	3.5	4.0
Max Green Setting (Gmax), s	30.0	30.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	3.3	12.3	5.6	4.0
Green Ext Time (p_c), s	0.1	6.5	1.3	1.3

Intersection Summary	
HCM 6th Ctrl Delay	10.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	439	204	81	207	72	49
Future Vol, veh/h	439	204	81	207	72	49
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	170	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	457	213	84	216	75	51

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	671	0	842	458
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	384	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	929	-	337	607
Stage 1	-	-	-	-	641	-
Stage 2	-	-	-	-	693	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	928	-	306	606
Mov Cap-2 Maneuver	-	-	-	-	306	-
Stage 1	-	-	-	-	582	-
Stage 2	-	-	-	-	693	-

Approach	EB		WB		NB
HCM Control Delay, s	0		2.6		16.9
HCM LOS					C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	306	606	-	-	928	-
HCM Lane V/C Ratio	0.245	0.084	-	-	0.091	-
HCM Control Delay (s)	20.5	11.5	-	-	9.3	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.9	0.3	-	-	0.3	-

Intersection						
Int Delay, s/veh	0.2					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	559	6	2	286	7	2
Future Vol, veh/h	559	6	2	286	7	2
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	1	2	2	11	11
Mvmt Flow	621	7	2	318	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	629	0	948	626
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	322	-
Critical Hdwy	-	-	4.12	-	6.51	6.31
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.218	-	3.599	3.399
Pot Cap-1 Maneuver	-	-	953	-	279	468
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	715	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	952	-	278	468
Mov Cap-2 Maneuver	-	-	-	-	394	-
Stage 1	-	-	-	-	514	-
Stage 2	-	-	-	-	715	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	14
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	408	-	-	952	-
HCM Lane V/C Ratio	0.025	-	-	0.002	-
HCM Control Delay (s)	14	-	-	8.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	37.1
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	341	3	3	37	232	2	1	4	500	3	2
Future Vol, veh/h	3	341	3	3	37	232	2	1	4	500	3	2
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.58	0.58	0.58	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	3	3	3	14	14	14	1	1	1
Mvmt Flow	3	383	3	3	40	252	3	2	7	556	3	2
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	24.7	14.5	10.9	58.2
HCM LOS	C	B	B	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	29%	1%	7%	0%	99%
Vol Thru, %	14%	98%	93%	0%	1%
Vol Right, %	57%	1%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	347	40	232	505
LT Vol	2	3	3	0	500
Through Vol	1	341	37	0	3
RT Vol	4	3	0	232	2
Lane Flow Rate	12	390	43	252	561
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.025	0.716	0.089	0.466	0.982
Departure Headway (Hd)	7.604	6.612	7.41	6.652	6.303
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	468	546	482	540	578
Service Time	5.7	4.671	5.18	4.421	4.303
HCM Lane V/C Ratio	0.026	0.714	0.089	0.467	0.971
HCM Control Delay	10.9	24.7	10.9	15.1	58.2
HCM Lane LOS	B	C	B	C	F
HCM 95th-tile Q	0.1	5.8	0.3	2.5	13.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	747	506	95	241	5	360	18	167	3	17	5
Future Volume (veh/h)	4	747	506	95	241	5	360	18	167	3	17	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1687	1687	1634	1687	1687	1856	1900	1856	1900	1900	1900
Adj Flow Rate, veh/h	4	803	544	102	259	5	401	0	180	3	18	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	5	1	1	3	0	3	0	0	0
Cap, veh/h	7	809	537	127	1676	32	668	0	288	6	35	10
Arrive On Green	0.00	0.44	0.44	0.08	0.52	0.52	0.19	0.00	0.19	0.03	0.03	0.03
Sat Flow, veh/h	1619	1821	1209	1556	3213	62	3534	0	1525	207	1240	344
Grp Volume(v), veh/h	4	704	643	102	129	135	401	0	180	26	0	0
Grp Sat Flow(s),veh/h/ln	1619	1602	1428	1556	1602	1673	1767	0	1525	1791	0	0
Q Serve(g_s), s	0.2	31.4	32.0	4.6	3.0	3.0	7.5	0.0	7.8	1.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	31.4	32.0	4.6	3.0	3.0	7.5	0.0	7.8	1.0	0.0	0.0
Prop In Lane	1.00		0.85	1.00		0.04	1.00		1.00	0.12		0.19
Lane Grp Cap(c), veh/h	7	712	635	127	836	873	668	0	288	50	0	0
V/C Ratio(X)	0.58	0.99	1.01	0.80	0.15	0.15	0.60	0.00	0.62	0.52	0.00	0.00
Avail Cap(c_a), veh/h	719	712	635	691	836	873	1963	0	847	497	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.8	19.8	20.0	32.5	9.0	9.0	26.7	0.0	26.9	34.5	0.0	0.0
Incr Delay (d2), s/veh	25.3	31.2	38.9	4.4	0.3	0.3	0.9	0.0	2.2	9.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	16.3	16.0	1.8	1.0	1.0	3.1	0.0	2.9	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.1	51.1	58.9	36.9	9.3	9.3	27.6	0.0	29.1	44.0	0.0	0.0
LnGrp LOS	E	D	F	D	A	A	C	A	C	D	A	A
Approach Vol, veh/h		1351			366			581			26	
Approach Delay, s/veh		54.8			17.0			28.0			44.0	
Approach LOS		D			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.4	37.0		6.5	4.8	42.6		18.1				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	32.0	32.0		20.0	32.0	31.0		40.0				
Max Q Clear Time (g_c+I1), s	6.6	34.0		3.0	2.2	5.0		9.8				
Green Ext Time (p_c), s	0.1	0.0		0.1	0.0	3.5		2.2				

Intersection Summary	
HCM 6th Ctrl Delay	42.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	854	0	219	0	572	488	0	761	176
Future Volume (veh/h)	0	0	0	854	0	219	0	572	488	0	761	176
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		0.97
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				1885	1900	1826	0	1870	1900	0	1870	1870
Adj Flow Rate, veh/h				938	0	241	0	629	0	0	836	193
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				1	0	5	0	2	0	0	2	2
Cap, veh/h				1091	0	470	0	1861		0	1491	344
Arrive On Green				0.30	0.00	0.30	0.00	0.52	0.00	0.00	0.52	0.52
Sat Flow, veh/h				3591	0	1547	0	3647	1610	0	2940	657
Grp Volume(v), veh/h				938	0	241	0	629	0	0	522	507
Grp Sat Flow(s),veh/h/ln				1795	0	1547	0	1777	1610	0	1777	1727
Q Serve(g_s), s				13.5	0.0	7.1	0.0	5.6	0.0	0.0	10.9	10.9
Cycle Q Clear(g_c), s				13.5	0.0	7.1	0.0	5.6	0.0	0.0	10.9	10.9
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.38
Lane Grp Cap(c), veh/h				1091	0	470	0	1861		0	930	904
V/C Ratio(X)				0.86	0.00	0.51	0.00	0.34		0.00	0.56	0.56
Avail Cap(c_a), veh/h				1143	0	492	0	1861		0	930	904
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.88	0.00	0.00	0.90	0.90
Uniform Delay (d), s/veh				18.0	0.0	15.8	0.0	7.6	0.0	0.0	8.8	8.8
Incr Delay (d2), s/veh				6.7	0.0	1.0	0.0	0.4	0.0	0.0	2.2	2.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.8	0.0	2.3	0.0	1.7	0.0	0.0	4.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				24.8	0.0	16.8	0.0	8.0	0.0	0.0	11.0	11.1
LnGrp LOS				C	A	B	A	A		A	B	B
Approach Vol, veh/h					1179			629	A		1029	
Approach Delay, s/veh					23.2			8.0			11.1	
Approach LOS					C			A			B	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		34.1				34.1		20.9				
Change Period (Y+Rc), s		5.3				5.3		4.2				
Max Green Setting (Gmax), s		28.0				28.0		17.5				
Max Q Clear Time (g_c+I1), s		7.6				12.9		15.5				
Green Ext Time (p_c), s		4.8				7.3		1.2				

Intersection Summary		
HCM 6th Ctrl Delay		15.4
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	57	102	0	0	0	0	1112	1047	0	1237	379
Future Volume (vph)	47	57	102	0	0	0	0	1112	1047	0	1237	379
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6					4.9	4.9		4.9	4.0
Lane Util. Factor		1.00	0.88					0.95	1.00		0.91	1.00
Frpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	0.97
Flpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	1.00
Frt		1.00	0.85					1.00	0.85		1.00	0.85
Flt Protected		0.98	1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)		1753	2694					3455	1546		4964	1501
Flt Permitted		0.98	1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)		1753	2694					3455	1546		4964	1501
Peak-hour factor, PHF	0.80	0.72	0.75	0.92	0.92	0.92	0.92	0.85	0.94	0.92	0.96	0.82
Adj. Flow (vph)	59	79	136	0	0	0	0	1308	1114	0	1289	462
RTOR Reduction (vph)	0	0	121	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	138	15	0	0	0	0	1308	1114	0	1289	462
Confl. Peds. (#/hr)	13					13	11		1	1		11
Confl. Bikes (#/hr)												9
Heavy Vehicles (%)	6%	0%	2%	0%	0%	0%	0%	1%	1%	0%	1%	1%
Turn Type	Split	NA	Perm					NA	Prot		NA	Free
Protected Phases	2	2						1 3 4	1 3 4		1 3 4	
Permitted Phases			2									Free
Actuated Green, G (s)		13.6	13.6					97.5	97.5		97.5	119.9
Effective Green, g (s)		13.6	13.6					93.3	93.3		93.3	119.9
Actuated g/C Ratio		0.11	0.11					0.78	0.78		0.78	1.00
Clearance Time (s)		4.6	4.6									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		198	305					2688	1203		3862	1501
v/s Ratio Prot		c0.08						0.38	c0.72		0.26	
v/s Ratio Perm			0.01									c0.31
v/c Ratio		0.70	0.05					0.49	0.93		0.33	0.31
Uniform Delay, d1		51.2	47.4					4.7	10.6		4.0	0.0
Progression Factor		1.00	1.00					0.03	1.13		1.00	1.00
Incremental Delay, d2		10.2	0.1					0.0	4.7		0.1	0.5
Delay (s)		61.4	47.5					0.2	16.7		4.0	0.5
Level of Service		E	D					A	B		A	A
Approach Delay (s)		54.5			0.0			7.8			3.1	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	620	26	228	47	16	108	61	1467	18	46	1081	218
Future Volume (vph)	620	26	228	47	16	108	61	1467	18	46	1081	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.97		1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1625	1642	1509		1783	1561	1745	4949		1745	4763	
Flt Permitted	0.95	0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1625	1642	1509		1783	1561	1745	4949		1745	4763	
Peak-hour factor, PHF	0.86	0.61	0.80	0.85	0.44	0.79	0.66	0.86	0.61	0.67	0.94	0.85
Adj. Flow (vph)	721	43	285	55	36	137	92	1706	30	69	1150	256
RTOR Reduction (vph)	0	0	112	0	0	119	0	1	0	0	28	0
Lane Group Flow (vph)	382	382	173	0	91	18	92	1735	0	69	1378	0
Confl. Peds. (#/hr)			18	18			12		8	8		12
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	1		2	6	
Permitted Phases			4			3						
Actuated Green, G (s)	30.0	30.0	30.0		16.0	16.0	11.6	42.4		13.6	45.3	
Effective Green, g (s)	30.0	30.0	30.0		16.0	16.0	11.6	42.4		13.6	45.3	
Actuated g/C Ratio	0.25	0.25	0.25		0.13	0.13	0.10	0.35		0.11	0.38	
Clearance Time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.2	
Lane Grp Cap (vph)	406	410	377		237	208	168	1750		197	1799	
v/s Ratio Prot	c0.24	0.23			c0.05		c0.05	c0.35		0.04	c0.29	
v/s Ratio Perm			0.11			0.01						
v/c Ratio	0.94	0.93	0.46		0.38	0.09	0.55	0.99		0.35	0.77	
Uniform Delay, d1	44.1	43.9	38.1		47.4	45.6	51.6	38.6		49.1	32.7	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.18	0.91	
Incremental Delay, d2	30.0	27.9	0.9		1.0	0.2	3.6	19.5		1.0	3.1	
Delay (s)	74.1	71.8	39.0		48.5	45.7	55.3	58.1		58.8	32.9	
Level of Service	E	E	D		D	D	E	E		E	C	
Approach Delay (s)		63.7			46.8			58.0			34.1	
Approach LOS		E			D			E			C	

Intersection Summary			
HCM 2000 Control Delay	51.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	481	159	35	29	86	113	47	890	68	143	745	331
Future Volume (veh/h)	481	159	35	29	86	113	47	890	68	143	745	331
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.91	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	506	167	37	31	91	119	49	937	72	151	784	348
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	727	308	68	54	159	166	64	1878	144	193	2360	717
Arrive On Green	0.21	0.21	0.21	0.11	0.11	0.11	0.04	0.39	0.39	0.11	0.46	0.46
Sat Flow, veh/h	3483	1476	327	477	1399	1462	1795	4859	372	1795	5147	1563
Grp Volume(v), veh/h	506	0	204	122	0	119	49	661	348	151	784	348
Grp Sat Flow(s),veh/h/ln	1742	0	1803	1876	0	1462	1795	1716	1800	1795	1716	1563
Q Serve(g_s), s	12.2	0.0	9.1	5.6	0.0	7.1	2.4	13.2	13.3	7.4	8.8	14.0
Cycle Q Clear(g_c), s	12.2	0.0	9.1	5.6	0.0	7.1	2.4	13.2	13.3	7.4	8.8	14.0
Prop In Lane	1.00		0.18	0.25		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	727	0	376	213	0	166	64	1326	696	193	2360	717
V/C Ratio(X)	0.70	0.00	0.54	0.57	0.00	0.72	0.77	0.50	0.50	0.78	0.33	0.49
Avail Cap(c_a), veh/h	809	0	419	436	0	339	318	1722	904	516	2584	785
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	0.0	31.9	38.0	0.0	38.7	43.2	21.1	21.1	39.3	15.6	17.1
Incr Delay (d2), s/veh	4.6	0.0	4.4	3.4	0.0	7.9	23.6	1.3	2.6	9.4	0.4	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	0.0	4.4	2.8	0.0	2.9	1.5	5.3	5.8	3.7	3.3	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	0.0	36.3	41.4	0.0	46.6	66.8	22.4	23.7	48.7	16.0	19.4
LnGrp LOS	D	A	D	D	A	D	E	C	C	D	B	B
Approach Vol, veh/h		710			241			1058			1283	
Approach Delay, s/veh		37.3			44.0			24.9			20.8	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.2	46.1		14.3	13.7	39.6		22.9
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0
Max Green Setting (Gmax), s	16.0	45.4		21.0	26.0	45.4		21.0
Max Q Clear Time (g_c+I1), s	4.4	16.0		9.1	9.4	15.3		14.2
Green Ext Time (p_c), s	0.1	20.2		1.2	0.5	19.6		3.8

Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	413	532	120	212	241	92	129	541	87	165	470	102
Future Volume (veh/h)	413	532	120	212	241	92	129	541	87	165	470	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	366	632	124	187	292	95	133	558	90	170	485	105
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	466	790	155	346	523	166	172	1253	198	266	937	405
Arrive On Green	0.26	0.26	0.26	0.19	0.19	0.19	0.10	0.28	0.28	0.08	0.26	0.26
Sat Flow, veh/h	1795	3046	596	1810	2737	867	1795	4456	705	3483	3582	1547
Grp Volume(v), veh/h	366	391	365	187	200	187	133	427	221	170	485	105
Grp Sat Flow(s),veh/h/ln	1795	1885	1758	1810	1900	1704	1795	1716	1730	1742	1791	1547
Q Serve(g_s), s	17.6	17.9	18.0	8.6	8.8	9.2	6.7	9.5	9.7	4.4	10.7	5.0
Cycle Q Clear(g_c), s	17.6	17.9	18.0	8.6	8.8	9.2	6.7	9.5	9.7	4.4	10.7	5.0
Prop In Lane	1.00		0.34	1.00		0.51	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	466	489	456	346	363	326	172	964	486	266	937	405
V/C Ratio(X)	0.79	0.80	0.80	0.54	0.55	0.57	0.77	0.44	0.45	0.64	0.52	0.26
Avail Cap(c_a), veh/h	492	517	482	496	521	467	504	1682	848	978	1756	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	32.0	32.1	33.8	33.9	34.0	40.9	27.3	27.4	41.5	29.2	27.1
Incr Delay (d2), s/veh	8.4	8.8	9.6	1.9	1.9	2.3	10.0	1.2	2.4	3.6	1.6	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	9.3	8.8	4.0	4.3	4.0	3.4	3.9	4.2	2.0	4.7	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.3	40.9	41.7	35.7	35.7	36.3	50.9	28.5	29.8	45.1	30.8	28.3
LnGrp LOS	D	D	D	D	D	D	D	C	C	D	C	C
Approach Vol, veh/h		1122			574			781			760	
Approach Delay, s/veh		41.0			35.9			32.7			33.7	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.1	30.6		22.3	12.9	28.8		28.6
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		4.6
Max Green Setting (Gmax), s	26.0	45.4		25.4	26.0	45.4		25.4
Max Q Clear Time (g_c+I1), s	6.4	11.7		11.2	8.7	12.7		20.0
Green Ext Time (p_c), s	0.8	11.1		3.6	0.5	9.6		3.5

Intersection Summary			
HCM 6th Ctrl Delay			36.4
HCM 6th LOS			D

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	187	67	54	85	78	67	518	88	51	505	96
Future Volume (veh/h)	141	187	67	54	85	78	67	518	88	51	505	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	148	197	71	57	89	82	71	545	93	54	532	101
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	1	1	1
Cap, veh/h	174	232	84	98	153	208	94	1007	171	70	948	179
Arrive On Green	0.27	0.27	0.27	0.13	0.13	0.13	0.05	0.33	0.33	0.04	0.32	0.32
Sat Flow, veh/h	641	854	308	728	1136	1544	1795	3038	516	1795	2979	563
Grp Volume(v), veh/h	416	0	0	146	0	82	71	320	318	54	319	314
Grp Sat Flow(s),veh/h/ln	1803	0	0	1864	0	1544	1795	1791	1763	1795	1791	1750
Q Serve(g_s), s	16.3	0.0	0.0	5.5	0.0	3.6	2.9	10.8	10.9	2.2	11.0	11.1
Cycle Q Clear(g_c), s	16.3	0.0	0.0	5.5	0.0	3.6	2.9	10.8	10.9	2.2	11.0	11.1
Prop In Lane	0.36		0.17	0.39		1.00	1.00		0.29	1.00		0.32
Lane Grp Cap(c), veh/h	490	0	0	251	0	208	94	594	584	70	570	557
V/C Ratio(X)	0.85	0.00	0.00	0.58	0.00	0.39	0.76	0.54	0.54	0.77	0.56	0.56
Avail Cap(c_a), veh/h	630	0	0	651	0	540	627	1092	1075	627	1092	1068
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	0.0	0.0	30.2	0.0	29.4	34.8	20.3	20.3	35.4	21.0	21.1
Incr Delay (d2), s/veh	8.5	0.0	0.0	2.1	0.0	1.2	11.7	2.8	2.8	16.2	3.1	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	0.0	0.0	2.6	0.0	1.4	1.6	4.8	4.8	1.2	4.7	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.2	0.0	0.0	32.4	0.0	30.6	46.5	23.0	23.1	51.6	24.1	24.3
LnGrp LOS	C	A	A	C	A	C	D	C	C	D	C	C
Approach Vol, veh/h		416			228			709			687	
Approach Delay, s/veh		34.2			31.8			25.4			26.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.9	29.3		14.0	7.9	28.3		24.2				
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0				
Max Green Setting (Gmax), s	26.0	45.4		26.0	26.0	45.4		26.0				
Max Q Clear Time (g_c+I1), s	4.2	12.9		7.5	4.9	13.1		18.3				
Green Ext Time (p_c), s	0.1	11.3		1.0	0.1	10.6		1.7				

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	924	326	37	456	79	156	178	54	123	264	17
Future Volume (veh/h)	20	924	326	37	456	79	156	178	54	123	264	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	22	994	351	40	490	85	168	191	58	132	284	18
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	43	1417	611	66	1242	214	210	460	379	173	369	23
Arrive On Green	0.02	0.40	0.40	0.04	0.41	0.41	0.12	0.24	0.24	0.10	0.21	0.21
Sat Flow, veh/h	1795	3582	1544	1795	3041	524	1795	1885	1556	1795	1751	111
Grp Volume(v), veh/h	22	994	351	40	287	288	168	191	58	132	0	302
Grp Sat Flow(s),veh/h/ln	1795	1791	1544	1795	1791	1774	1795	1885	1556	1795	0	1862
Q Serve(g_s), s	1.0	18.4	8.4	1.7	9.0	9.1	7.2	6.8	2.3	5.7	0.0	12.1
Cycle Q Clear(g_c), s	1.0	18.4	8.4	1.7	9.0	9.1	7.2	6.8	2.3	5.7	0.0	12.1
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	43	1417	611	66	731	725	210	460	379	173	0	392
V/C Ratio(X)	0.51	0.70	0.57	0.60	0.39	0.40	0.80	0.42	0.15	0.76	0.00	0.77
Avail Cap(c_a), veh/h	589	2033	877	589	1017	1007	589	713	589	589	0	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.2	20.0	6.7	37.6	16.5	16.6	34.1	25.2	23.5	34.9	0.0	29.5
Incr Delay (d2), s/veh	8.8	0.8	1.0	8.5	0.4	0.4	2.6	0.2	0.1	8.1	0.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	7.2	2.6	0.9	3.5	3.6	3.3	3.0	0.8	2.8	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.0	20.8	7.7	46.1	16.9	17.0	36.7	25.4	23.6	43.0	0.0	33.4
LnGrp LOS	D	C	A	D	B	B	D	C	C	D	A	C
Approach Vol, veh/h		1367			615			417			434	
Approach Delay, s/veh		17.9			18.9			29.7			36.3	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	37.4	11.6	24.3	6.9	36.4	14.3	21.7
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	26.0	45.0	26.0	30.0	26.0	45.0	26.0	* 30
Max Q Clear Time (g_c+I1), s	3.0	11.1	7.7	8.8	3.7	20.4	9.2	14.1
Green Ext Time (p_c), s	0.0	4.8	0.4	0.4	0.1	11.0	0.1	1.9

Intersection Summary	
HCM 6th Ctrl Delay	22.7
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)	42	864	124	92	398	49	151	193	82	200	361	38
Future Volume (veh/h)	42	864	124	92	398	49	151	193	82	200	361	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	44	909	131	97	419	52	159	203	86	211	380	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	56	1061	153	127	1209	149	200	296	125	255	449	47
Arrive On Green	0.03	0.34	0.34	0.07	0.38	0.38	0.11	0.24	0.24	0.14	0.27	0.27
Sat Flow, veh/h	1810	3145	453	1810	3215	396	1810	1254	531	1810	1685	177
Grp Volume(v), veh/h	44	522	518	97	234	237	159	0	289	211	0	420
Grp Sat Flow(s),veh/h/ln	1810	1805	1793	1810	1805	1807	1810	0	1785	1810	0	1862
Q Serve(g_s), s	2.0	22.5	22.5	4.4	7.7	7.9	7.1	0.0	12.3	9.5	0.0	17.8
Cycle Q Clear(g_c), s	2.0	22.5	22.5	4.4	7.7	7.9	7.1	0.0	12.3	9.5	0.0	17.8
Prop In Lane	1.00		0.25	1.00		0.22	1.00		0.30	1.00		0.10
Lane Grp Cap(c), veh/h	56	609	605	127	679	679	200	0	422	255	0	496
V/C Ratio(X)	0.78	0.86	0.86	0.77	0.34	0.35	0.80	0.00	0.69	0.83	0.00	0.85
Avail Cap(c_a), veh/h	445	768	763	445	768	769	445	0	546	445	0	569
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.1	25.8	25.8	38.1	18.7	18.7	36.2	0.0	29.0	34.8	0.0	29.0
Incr Delay (d2), s/veh	15.8	6.6	6.6	7.0	0.4	0.4	7.0	0.0	1.9	6.7	0.0	10.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	10.3	10.2	2.2	3.2	3.2	3.5	0.0	5.3	4.5	0.0	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.9	32.3	32.4	45.1	19.0	19.1	43.2	0.0	31.0	41.6	0.0	39.5
LnGrp LOS	E	C	C	D	B	B	D	A	C	D	A	D
Approach Vol, veh/h		1084			568			448			631	
Approach Delay, s/veh		33.3			23.5			35.3			40.2	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	32.6	16.3	24.2	7.1	35.9	13.7	26.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.5	35.5	20.5	25.5	20.5	35.5	20.5	25.5
Max Q Clear Time (g_c+I1), s	6.4	24.5	11.5	14.3	4.0	9.9	9.1	19.8
Green Ext Time (p_c), s	0.1	3.6	0.4	1.1	0.0	3.5	0.3	1.4

Intersection Summary	
HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	1059	56	53	468	76	22	58	65	260	136	39
Future Volume (veh/h)	36	1059	56	53	468	76	22	58	65	260	136	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.92	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	38	1115	59	56	493	80	23	61	68	274	143	41
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	52	1446	76	73	1315	212	36	120	133	324	441	126
Arrive On Green	0.03	0.42	0.42	0.04	0.43	0.43	0.02	0.15	0.15	0.18	0.31	0.31
Sat Flow, veh/h	1810	3471	184	1810	3074	495	1795	776	865	1810	1409	404
Grp Volume(v), veh/h	38	580	594	56	288	285	23	0	129	274	0	184
Grp Sat Flow(s),veh/h/ln	1810	1805	1849	1810	1805	1765	1795	0	1641	1810	0	1813
Q Serve(g_s), s	1.6	21.0	21.1	2.3	8.3	8.4	1.0	0.0	5.5	11.2	0.0	5.9
Cycle Q Clear(g_c), s	1.6	21.0	21.1	2.3	8.3	8.4	1.0	0.0	5.5	11.2	0.0	5.9
Prop In Lane	1.00		0.10	1.00		0.28	1.00		0.53	1.00		0.22
Lane Grp Cap(c), veh/h	52	752	770	73	772	755	36	0	253	324	0	567
V/C Ratio(X)	0.72	0.77	0.77	0.77	0.37	0.38	0.63	0.00	0.51	0.85	0.00	0.32
Avail Cap(c_a), veh/h	380	1090	1116	380	1090	1065	495	0	345	499	0	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.7	19.1	19.1	36.2	14.8	14.9	37.0	0.0	29.6	30.3	0.0	20.0
Incr Delay (d2), s/veh	17.1	2.1	2.1	15.7	0.3	0.3	16.8	0.0	1.6	8.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	8.5	8.7	1.3	3.2	3.2	0.6	0.0	2.2	5.5	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.8	21.2	21.2	51.9	15.1	15.2	53.8	0.0	31.2	38.3	0.0	20.3
LnGrp LOS	D	C	C	D	B	B	D	A	C	D	A	C
Approach Vol, veh/h		1212			629			152			458	
Approach Delay, s/veh		22.2			18.4			34.6			31.1	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.6	15.8	7.1	35.7	5.5	27.8	6.2	36.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	21.0	16.0	16.0	46.0	21.0	16.0	16.0	46.0
Max Q Clear Time (g_c+I1), s	13.2	7.5	4.3	23.1	3.0	7.9	3.6	10.4
Green Ext Time (p_c), s	0.5	0.4	0.1	8.7	0.0	0.6	0.0	3.9

Intersection Summary	
HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	1252	103	147	562	21	87	10	115	19	9	15
Future Volume (veh/h)	30	1252	103	147	562	21	87	10	115	19	9	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	31	1291	106	152	579	22	90	10	119	20	9	15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	46	1522	125	196	1029	843	90	5	404	80	22	418
Arrive On Green	0.03	0.45	0.45	0.11	0.54	0.54	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1810	3367	276	1810	1900	1557	0	21	1545	0	86	1599
Grp Volume(v), veh/h	31	690	707	152	579	22	100	0	119	29	0	15
Grp Sat Flow(s),veh/h/ln	1810	1805	1838	1810	1900	1557	21	0	1545	86	0	1599
Q Serve(g_s), s	1.3	25.9	26.2	6.2	15.4	0.5	0.0	0.0	4.7	0.0	0.0	0.5
Cycle Q Clear(g_c), s	1.3	25.9	26.2	6.2	15.4	0.5	20.0	0.0	4.7	20.0	0.0	0.5
Prop In Lane	1.00		0.15	1.00		1.00	0.90		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	46	816	831	196	1029	843	95	0	404	102	0	418
V/C Ratio(X)	0.68	0.85	0.85	0.78	0.56	0.03	1.05	0.00	0.29	0.28	0.00	0.04
Avail Cap(c_a), veh/h	616	1061	1080	604	1116	915	95	0	404	102	0	418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.9	18.6	18.6	33.2	11.5	8.1	37.1	0.0	22.6	23.5	0.0	21.0
Incr Delay (d2), s/veh	16.2	4.1	4.2	6.5	0.3	0.0	107.4	0.0	0.1	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	10.7	11.0	3.1	6.0	0.2	4.6	0.0	1.7	0.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.1	22.6	22.9	39.7	11.8	8.1	144.4	0.0	22.7	24.1	0.0	21.0
LnGrp LOS	D	C	C	D	B	A	F	A	C	C	A	C
Approach Vol, veh/h		1428			753			219			44	
Approach Delay, s/veh		23.4			17.3			78.3			23.1	
Approach LOS		C			B			E			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.8	39.7		24.0	5.9	46.5		24.0
Change Period (Y+Rc), s	4.5	5.1		4.0	4.0	5.1		4.0
Max Green Setting (Gmax), s	25.5	44.9		20.0	26.0	44.9		20.0
Max Q Clear Time (g_c+I1), s	8.2	28.2		22.0	3.3	17.4		22.0
Green Ext Time (p_c), s	0.4	6.4		0.0	0.0	2.8		0.0

Intersection Summary		
HCM 6th Ctrl Delay		26.5
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	337	126	145	225	34	77	346	115	64	435	31
Future Volume (veh/h)	47	337	126	145	225	34	77	346	115	64	435	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	49	351	131	151	234	35	80	360	120	67	453	32
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	0	0	0
Cap, veh/h	74	404	151	193	610	91	106	426	142	89	541	38
Arrive On Green	0.04	0.32	0.32	0.11	0.38	0.38	0.06	0.32	0.32	0.05	0.31	0.31
Sat Flow, veh/h	1795	1282	479	1810	1602	240	1795	1333	444	1810	1747	123
Grp Volume(v), veh/h	49	0	482	151	0	269	80	0	480	67	0	485
Grp Sat Flow(s),veh/h/ln	1795	0	1761	1810	0	1842	1795	0	1777	1810	0	1871
Q Serve(g_s), s	2.2	0.0	20.9	6.6	0.0	8.6	3.6	0.0	20.4	3.0	0.0	19.6
Cycle Q Clear(g_c), s	2.2	0.0	20.9	6.6	0.0	8.6	3.6	0.0	20.4	3.0	0.0	19.6
Prop In Lane	1.00		0.27	1.00		0.13	1.00		0.25	1.00		0.07
Lane Grp Cap(c), veh/h	74	0	555	193	0	702	106	0	568	89	0	579
V/C Ratio(X)	0.66	0.00	0.87	0.78	0.00	0.38	0.76	0.00	0.85	0.76	0.00	0.84
Avail Cap(c_a), veh/h	586	0	759	591	0	794	586	0	766	591	0	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.4	0.0	26.2	35.3	0.0	18.2	37.6	0.0	25.7	38.1	0.0	26.1
Incr Delay (d2), s/veh	9.7	0.0	8.0	6.7	0.0	0.3	10.4	0.0	7.5	12.2	0.0	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	9.7	3.2	0.0	3.6	1.8	0.0	9.4	1.6	0.0	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	0.0	34.2	42.1	0.0	18.6	48.0	0.0	33.3	50.4	0.0	32.7
LnGrp LOS	D	A	C	D	A	B	D	A	C	D	A	C
Approach Vol, veh/h		531			420			560			552	
Approach Delay, s/veh		35.5			27.0			35.4			34.9	
Approach LOS		D			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.2	30.6	8.3	30.1	6.8	35.9	7.5	30.9				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green Setting (Gmax), s	26.5	35.0	26.5	35.0	26.5	35.0	26.5	35.0				
Max Q Clear Time (g_c+I1), s	8.6	22.9	5.6	21.6	4.2	10.6	5.0	22.4				
Green Ext Time (p_c), s	0.4	2.6	0.2	3.5	0.1	1.7	0.1	3.4				
Intersection Summary												
HCM 6th Ctrl Delay			33.6									
HCM 6th LOS			C									

Intersection	
Intersection Delay, s/veh	55.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	465	87	49	296	49	31	88	36	39	125	67
Future Vol, veh/h	75	465	87	49	296	49	31	88	36	39	125	67
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	81	500	94	53	318	53	33	95	39	42	134	72
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	97	27.5	15.7	18.5
HCM LOS	F	D	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	14%	0%	14%	0%	17%
Vol Thru, %	57%	86%	0%	86%	0%	54%
Vol Right, %	23%	0%	100%	0%	100%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	540	87	345	49	231
LT Vol	31	75	0	49	0	39
Through Vol	88	465	0	296	0	125
RT Vol	36	0	87	0	49	67
Lane Flow Rate	167	581	94	371	53	248
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.359	1.144	0.164	0.752	0.095	0.508
Departure Headway (Hd)	8.173	7.093	6.303	7.611	6.815	7.755
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	443	511	569	479	529	467
Service Time	6.173	4.837	4.046	5.311	4.515	5.755
HCM Lane V/C Ratio	0.377	1.137	0.165	0.775	0.1	0.531
HCM Control Delay	15.7	111	10.3	29.9	10.2	18.5
HCM Lane LOS	C	F	B	D	B	C
HCM 95th-tile Q	1.6	19.9	0.6	6.3	0.3	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	522	242	15	304	130	87	44	7	171	97	106
Future Volume (veh/h)	70	522	242	15	304	130	87	44	7	171	97	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.90	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	78	580	0	17	338	0	97	49	8	190	108	118
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	110	709		37	632		127	296	48	239	198	216
Arrive On Green	0.06	0.38	0.00	0.02	0.34	0.00	0.07	0.19	0.19	0.13	0.25	0.25
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1563	255	1795	784	856
Grp Volume(v), veh/h	78	580	0	17	338	0	97	0	57	190	0	226
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	0	1819	1795	0	1640
Q Serve(g_s), s	2.5	16.3	0.0	0.5	8.5	0.0	3.1	0.0	1.5	6.0	0.0	7.0
Cycle Q Clear(g_c), s	2.5	16.3	0.0	0.5	8.5	0.0	3.1	0.0	1.5	6.0	0.0	7.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.52
Lane Grp Cap(c), veh/h	110	709		37	632		127	0	344	239	0	414
V/C Ratio(X)	0.71	0.82		0.46	0.53		0.77	0.00	0.17	0.79	0.00	0.55
Avail Cap(c_a), veh/h	489	1140		489	1140		493	0	651	489	0	587
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.0	16.5	0.0	28.4	15.8	0.0	26.8	0.0	19.9	24.7	0.0	19.0
Incr Delay (d2), s/veh	6.1	2.5	0.0	6.4	0.7	0.0	3.6	0.0	0.2	2.3	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	6.8	0.0	0.3	3.4	0.0	1.4	0.0	0.6	2.5	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	19.0	0.0	34.9	16.5	0.0	30.4	0.0	20.1	27.0	0.0	19.9
LnGrp LOS	C	B		C	B		C	A	C	C	A	B
Approach Vol, veh/h		658	A		355	A		154			416	
Approach Delay, s/veh		20.7			17.4			26.6			23.1	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	26.6	8.1	18.8	7.6	24.2	11.8	15.1
Change Period (Y+Rc), s	4.0	4.5	4.0	4.0	4.0	4.5	4.0	4.0
Max Green Setting (Gmax), s	16.0	35.5	16.0	21.0	16.0	35.5	16.0	21.0
Max Q Clear Time (g_c+I1), s	2.5	18.3	5.1	9.0	4.5	10.5	8.0	3.5
Green Ext Time (p_c), s	0.0	3.8	0.1	0.9	0.1	2.1	0.2	0.2

Intersection Summary	
HCM 6th Ctrl Delay	21.2
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

APPENDIX E.
NEAR TERM PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	599	460	121	533	65	598	24	108	27	23	12
Future Volume (veh/h)	29	599	460	121	533	65	598	24	108	27	23	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	30	618	0	125	549	67	634	0	0	28	24	12
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	49	2079		88	1929	235	625	0		53	46	83
Arrive On Green	0.03	0.58	0.00	0.05	0.60	0.60	0.17	0.00	0.00	0.05	0.05	0.05
Sat Flow, veh/h	1795	3582	1598	1795	3201	389	3591	0	1598	996	854	1551
Grp Volume(v), veh/h	30	618	0	125	306	310	634	0	0	52	0	12
Grp Sat Flow(s),veh/h/ln	1795	1791	1598	1795	1791	1800	1795	0	1598	1850	0	1551
Q Serve(g_s), s	1.9	9.8	0.0	5.5	9.2	9.3	19.5	0.0	0.0	3.1	0.0	0.8
Cycle Q Clear(g_c), s	1.9	9.8	0.0	5.5	9.2	9.3	19.5	0.0	0.0	3.1	0.0	0.8
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	0.54		1.00
Lane Grp Cap(c), veh/h	49	2079		88	1079	1085	625	0		99	0	83
V/C Ratio(X)	0.62	0.30		1.42	0.28	0.29	1.01	0.00		0.53	0.00	0.14
Avail Cap(c_a), veh/h	88	2079		88	1079	1085	625	0		372	0	312
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.96	0.96	0.96	0.66	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.9	11.9	0.0	53.3	10.7	10.7	46.3	0.0	0.0	51.6	0.0	50.6
Incr Delay (d2), s/veh	4.6	0.4	0.0	240.1	0.6	0.6	32.8	0.0	0.0	1.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	4.0	0.0	8.4	3.8	3.8	11.4	0.0	0.0	1.5	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.6	12.3	0.0	293.3	11.3	11.3	79.0	0.0	0.0	53.2	0.0	50.9
LnGrp LOS	E	B		F	B	B	F	A		D	A	D
Approach Vol, veh/h		648	A		741			634	A		64	
Approach Delay, s/veh		14.4			58.9			79.0			52.8	
Approach LOS		B			E			E			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	69.0		10.0	7.0	71.5		23.5
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.5	48.5		22.5	5.5	48.5		19.5
Max Q Clear Time (g_c+I1), s	7.5	11.8		5.1	3.9	11.3		21.5
Green Ext Time (p_c), s	0.0	5.1		0.1	0.0	4.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	51.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	620	79	261	643	132	472
Future Volume (veh/h)	620	79	261	643	132	472
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.95	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	633	81	266	656	135	482
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	937	120	313	1914	592	526
Arrive On Green	0.30	0.30	0.17	0.53	0.33	0.33
Sat Flow, veh/h	3266	405	1795	3676	1795	1598
Grp Volume(v), veh/h	357	357	266	656	135	482
Grp Sat Flow(s),veh/h/ln	1791	1786	1795	1791	1795	1598
Q Serve(g_s), s	12.2	12.3	10.0	7.3	3.8	20.2
Cycle Q Clear(g_c), s	12.2	12.3	10.0	7.3	3.8	20.2
Prop In Lane		0.23	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	529	528	313	1914	592	526
V/C Ratio(X)	0.67	0.68	0.85	0.34	0.23	0.92
Avail Cap(c_a), veh/h	847	844	501	1914	733	652
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	21.7	27.9	9.3	17.0	22.5
Incr Delay (d2), s/veh	2.1	2.2	4.1	0.2	0.1	14.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	5.0	4.4	2.4	1.5	9.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.8	23.8	32.0	9.4	17.0	36.5
LnGrp LOS	C	C	C	A	B	D
Approach Vol, veh/h	714			922	617	
Approach Delay, s/veh	23.8			15.9	32.3	
Approach LOS	C			B	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	16.7	25.6		27.5		42.3
Change Period (Y+Rc), s	4.5	5.0		4.5		5.0
Max Green Setting (Gmax), s	19.5	33.0		28.5		33.0
Max Q Clear Time (g_c+I1), s	12.0	14.3		22.2		9.3
Green Ext Time (p_c), s	0.2	5.8		0.8		6.3

Intersection Summary			
HCM 6th Ctrl Delay			22.9
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	678	426	328	621	6	248	2	959	1	0	2
Future Volume (veh/h)	6	678	426	328	621	6	248	2	959	1	0	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1737	1870	1900	1900	1885	1885	1856	1870	1870	1870
Adj Flow Rate, veh/h	6	706	0	342	647	6	258	2	0	1	0	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	11	2	0	0	1	1	3	2	2	2
Cap, veh/h	11	1917		360	2664	25	278	2		9	0	17
Arrive On Green	0.01	0.53	0.00	0.40	1.00	1.00	0.16	0.16	0.00	0.02	0.00	0.02
Sat Flow, veh/h	1810	3610	1472	1781	3665	34	1782	14	1572	495	0	990
Grp Volume(v), veh/h	6	706	0	342	319	334	260	0	0	3	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1472	1781	1805	1894	1796	0	1572	1485	0	0
Q Serve(g_s), s	0.5	17.1	0.0	27.9	0.0	0.0	21.4	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	17.1	0.0	27.9	0.0	0.0	21.4	0.0	0.0	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.99		1.00	0.33		0.67
Lane Grp Cap(c), veh/h	11	1917		360	1312	1377	281	0		26	0	0
V/C Ratio(X)	0.56	0.37		0.95	0.24	0.24	0.93	0.00		0.11	0.00	0.00
Avail Cap(c_a), veh/h	48	1917		487	1312	1377	281	0		218	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.00	1.00	1.00	1.00	0.46	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	74.4	20.5	0.0	44.0	0.0	0.0	62.4	0.0	0.0	72.5	0.0	0.0
Incr Delay (d2), s/veh	11.5	0.4	0.0	22.0	0.4	0.4	20.0	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	7.3	0.0	12.5	0.2	0.2	11.4	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.9	20.9	0.0	66.0	0.4	0.4	82.4	0.0	0.0	74.0	0.0	0.0
LnGrp LOS	F	C		E	A	A	F	A		E	A	A
Approach Vol, veh/h		712	A		995			260	A		3	
Approach Delay, s/veh		21.4			23.0			82.4			74.0	
Approach LOS		C			C			F			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	33.3	83.6		6.1	3.9	113.0		26.9
Change Period (Y+Rc), s	3.0	4.0		3.5	3.0	4.0		3.5
Max Green Setting (Gmax), s	41.0	49.5		22.0	4.0	86.5		23.5
Max Q Clear Time (g_c+I1), s	29.9	19.1		2.3	2.5	2.0		23.4
Green Ext Time (p_c), s	0.4	7.4		0.0	0.0	6.7		0.0

Intersection Summary	
HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	167	851	615	4	1085	27	424	92	36	68	83	56
Future Volume (veh/h)	167	851	615	4	1085	27	424	92	36	68	83	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1841	1900	1841	1841	1811	1870	1856	1870	1900	1900
Adj Flow Rate, veh/h	174	886	0	4	1130	28	511	0	0	71	86	58
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	3	4	0	4	4	6	2	3	2	0	0
Cap, veh/h	101	2143		9	1938	48	580	0		176	104	70
Arrive On Green	0.06	0.61	0.00	0.01	0.56	0.56	0.17	0.00	0.00	0.10	0.10	0.10
Sat Flow, veh/h	1781	3526	1560	1810	3484	86	3450	0	1572	1781	1054	711
Grp Volume(v), veh/h	174	886	0	4	567	591	511	0	0	71	0	144
Grp Sat Flow(s),veh/h/ln	1781	1763	1560	1810	1749	1821	1725	0	1572	1781	0	1764
Q Serve(g_s), s	8.5	19.7	0.0	0.3	31.9	32.0	21.7	0.0	0.0	5.6	0.0	12.0
Cycle Q Clear(g_c), s	8.5	19.7	0.0	0.3	31.9	32.0	21.7	0.0	0.0	5.6	0.0	12.0
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	101	2143		9	973	1013	580	0		176	0	174
V/C Ratio(X)	1.72	0.41		0.43	0.58	0.58	0.88	0.00		0.40	0.00	0.83
Avail Cap(c_a), veh/h	101	2143		62	973	1013	793	0		338	0	335
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	70.7	15.4	0.0	74.4	21.8	21.8	60.9	0.0	0.0	63.4	0.0	66.3
Incr Delay (d2), s/veh	363.7	0.6	0.0	28.7	2.6	2.5	8.7	0.0	0.0	1.5	0.0	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.1	8.1	0.0	0.2	13.6	14.1	10.3	0.0	0.0	2.6	0.0	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	434.5	16.0	0.0	103.1	24.4	24.3	69.7	0.0	0.0	64.9	0.0	75.8
LnGrp LOS	F	B		F	C	C	E	A		E	A	E
Approach Vol, veh/h		1060	A		1162			511	A		215	
Approach Delay, s/veh		84.7			24.6			69.7			72.2	
Approach LOS		F			C			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	95.7		29.7	13.0	88.0		19.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	63.9		34.5	8.5	60.5		28.5				
Max Q Clear Time (g_c+I1), s	2.3	21.7		23.7	10.5	34.0		14.0				
Green Ext Time (p_c), s	0.0	7.8		1.5	0.0	8.6		0.8				
Intersection Summary												
HCM 6th Ctrl Delay			57.5									
HCM 6th LOS			E									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	374	300	604	167	393	589
Future Volume (veh/h)	374	300	604	167	393	589
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	386	309	623	172	405	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	823	821	795	347	524	
Arrive On Green	0.46	0.46	0.22	0.22	0.15	0.00
Sat Flow, veh/h	1795	1885	3647	1551	3483	1598
Grp Volume(v), veh/h	386	309	623	172	405	0
Grp Sat Flow(s),veh/h/ln	1795	1791	1777	1551	1742	1598
Q Serve(g_s), s	11.9	9.0	13.2	7.7	8.9	0.0
Cycle Q Clear(g_c), s	11.9	9.0	13.2	7.7	8.9	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	823	821	795	347	524	
V/C Ratio(X)	0.47	0.38	0.78	0.50	0.77	
Avail Cap(c_a), veh/h	823	821	795	347	906	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.21	0.21	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.9	14.2	29.2	27.1	32.7	0.0
Incr Delay (d2), s/veh	0.4	0.3	7.6	5.0	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	3.6	6.3	3.3	3.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.4	14.5	36.8	32.1	35.1	0.0
LnGrp LOS	B	B	D	C	D	
Approach Vol, veh/h		695	795		405	A
Approach Delay, s/veh		15.0	35.8		35.1	
Approach LOS		B	D		D	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		41.3		16.2		22.5
Change Period (Y+Rc), s		4.6		* 4.2		4.6
Max Green Setting (Gmax), s		27.9		* 21		17.9
Max Q Clear Time (g_c+I1), s		13.9		10.9		15.2
Green Ext Time (p_c), s		3.9		1.1		1.3

Intersection Summary			
HCM 6th Ctrl Delay			28.0
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	369	279	60	335	428	107
Future Volume (veh/h)	369	279	60	335	428	107
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	393	297	64	356	284	297
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	0	0	1	0
Cap, veh/h	655	538	80	943	502	450
Arrive On Green	0.35	0.35	0.04	0.50	0.28	0.28
Sat Flow, veh/h	1885	1550	1810	1900	1795	1610
Grp Volume(v), veh/h	393	297	64	356	284	297
Grp Sat Flow(s),veh/h/ln	1885	1550	1810	1900	1795	1610
Q Serve(g_s), s	5.8	5.2	1.2	3.9	4.5	5.5
Cycle Q Clear(g_c), s	5.8	5.2	1.2	3.9	4.5	5.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	655	538	80	943	502	450
V/C Ratio(X)	0.60	0.55	0.80	0.38	0.57	0.66
Avail Cap(c_a), veh/h	1690	1389	1622	1703	1610	1444
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.0	8.8	15.8	5.2	10.3	10.6
Incr Delay (d2), s/veh	0.9	0.9	16.2	0.2	1.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	1.4	0.7	0.8	1.4	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.9	9.7	32.1	5.5	11.3	12.3
LnGrp LOS	A	A	C	A	B	B
Approach Vol, veh/h	690			420	581	
Approach Delay, s/veh	9.8			9.5	11.8	
Approach LOS	A			A	B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.0	15.6		12.9		20.6
Change Period (Y+Rc), s	3.5	4.0		3.5		4.0
Max Green Setting (Gmax), s	30.0	30.0		30.0		30.0
Max Q Clear Time (g_c+I1), s	3.2	7.8		7.5		5.9
Green Ext Time (p_c), s	0.1	3.7		1.9		2.1

Intersection Summary			
HCM 6th Ctrl Delay			10.4
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	7.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	375	83	99	241	162	181
Future Vol, veh/h	375	83	99	241	162	181
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	170	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	391	86	103	251	169	189

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	478	0	849	392
Stage 1	-	-	-	-	392	-
Stage 2	-	-	-	-	457	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1095	-	334	661
Stage 1	-	-	-	-	687	-
Stage 2	-	-	-	-	642	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1094	-	302	660
Mov Cap-2 Maneuver	-	-	-	-	302	-
Stage 1	-	-	-	-	622	-
Stage 2	-	-	-	-	642	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	21.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	302	660	-	-	1094	-
HCM Lane V/C Ratio	0.559	0.286	-	-	0.094	-
HCM Control Delay (s)	31	12.6	-	-	8.6	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	3.2	1.2	-	-	0.3	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	239	311	149	315	88	42
Future Volume (veh/h)	239	311	149	315	88	42
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1737	1737
Adj Flow Rate, veh/h	266	346	166	350	98	47
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	2	2	11	11
Cap, veh/h	818	677	567	811	335	298
Arrive On Green	0.43	0.43	0.43	0.43	0.20	0.20
Sat Flow, veh/h	1885	1561	809	1870	1654	1472
Grp Volume(v), veh/h	266	346	166	350	98	47
Grp Sat Flow(s),veh/h/ln	1885	1561	809	1870	1654	1472
Q Serve(g_s), s	2.3	4.0	4.2	3.2	1.2	0.7
Cycle Q Clear(g_c), s	2.3	4.0	6.5	3.2	1.2	0.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	818	677	567	811	335	298
V/C Ratio(X)	0.33	0.51	0.29	0.43	0.29	0.16
Avail Cap(c_a), veh/h	1373	1137	805	1362	1204	1072
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	4.6	5.1	6.8	4.9	8.4	8.1
Incr Delay (d2), s/veh	0.2	0.6	0.3	0.4	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.4	0.3	0.4	0.3	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	4.8	5.7	7.0	5.2	8.8	8.4
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	612			516	145	
Approach Delay, s/veh	5.3			5.8	8.7	
Approach LOS	A			A	A	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	9.5	15.2	15.2
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	3.2	6.0	8.5
Green Ext Time (p_c), s	0.3	2.3	2.2

Intersection Summary	
HCM 6th Ctrl Delay	5.9
HCM 6th LOS	A

Intersection	
Intersection Delay, s/veh	14.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	92	0	5	26	467	0	1	7	283	0	5
Future Vol, veh/h	13	92	0	5	26	467	0	1	7	283	0	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	3	3	3	14	14	14	1	1	1
Mvmt Flow	14	96	0	5	27	486	0	1	7	295	0	5
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	9.9	16.6	8.9	13.7
HCM LOS	A	C	A	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	12%	16%	0%	98%
Vol Thru, %	12%	88%	84%	0%	0%
Vol Right, %	88%	0%	0%	100%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	105	31	467	288
LT Vol	0	13	5	0	283
Through Vol	1	92	26	0	0
RT Vol	7	0	0	467	5
Lane Flow Rate	8	109	32	486	300
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.013	0.173	0.052	0.669	0.473
Departure Headway (Hd)	5.773	5.695	5.742	4.953	5.676
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	618	630	627	735	636
Service Time	3.826	3.733	3.442	2.653	3.709
HCM Lane V/C Ratio	0.013	0.173	0.051	0.661	0.472
HCM Control Delay	8.9	9.9	8.8	17.1	13.7
HCM Lane LOS	A	A	A	C	B
HCM 95th-tile Q	0	0.6	0.2	5.2	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	355	376	153	543	5	609	5	105	0	9	3
Future Volume (veh/h)	1	355	376	153	543	5	609	5	105	0	9	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1687	1687	1634	1687	1687	1856	1900	1856	1900	1900	1900
Adj Flow Rate, veh/h	1	382	404	165	584	5	659	0	113	0	10	3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	5	1	1	3	0	3	0	0	0
Cap, veh/h	2	591	511	200	1615	14	867	0	377	0	22	6
Arrive On Green	0.00	0.37	0.37	0.13	0.50	0.50	0.25	0.00	0.25	0.00	0.02	0.02
Sat Flow, veh/h	1619	1602	1385	1556	3255	28	3534	0	1536	0	1369	411
Grp Volume(v), veh/h	1	382	404	165	287	302	659	0	113	0	0	13
Grp Sat Flow(s),veh/h/ln	1619	1602	1385	1556	1602	1681	1767	0	1536	0	0	1780
Q Serve(g_s), s	0.0	15.1	19.9	7.9	8.4	8.4	13.3	0.0	4.6	0.0	0.0	0.6
Cycle Q Clear(g_c), s	0.0	15.1	19.9	7.9	8.4	8.4	13.3	0.0	4.6	0.0	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.00		0.23
Lane Grp Cap(c), veh/h	2	591	511	200	795	834	867	0	377	0	0	28
V/C Ratio(X)	0.47	0.65	0.79	0.83	0.36	0.36	0.76	0.00	0.30	0.00	0.00	0.46
Avail Cap(c_a), veh/h	676	669	579	650	795	834	1845	0	802	0	0	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	38.2	20.0	21.5	32.6	11.8	11.8	26.8	0.0	23.5	0.0	0.0	37.4
Incr Delay (d2), s/veh	50.6	4.4	10.4	3.3	1.0	1.0	1.4	0.0	0.4	0.0	0.0	13.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.9	7.4	3.0	2.9	3.0	5.6	0.0	1.7	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.9	24.4	31.9	35.9	12.9	12.8	28.2	0.0	24.0	0.0	0.0	51.0
LnGrp LOS	F	C	C	D	B	B	C	A	C	A	A	D
Approach Vol, veh/h		787			754			772			13	
Approach Delay, s/veh		28.4			17.9			27.6			51.0	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.3	33.3		5.7	4.6	43.0		23.3
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	32.0	32.0		20.0	32.0	31.0		40.0
Max Q Clear Time (g_c+I1), s	9.9	21.9		2.6	2.0	10.4		15.3
Green Ext Time (p_c), s	0.2	6.4		0.0	0.0	7.7		3.1

Intersection Summary			
HCM 6th Ctrl Delay			24.8
HCM 6th LOS			C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	692	9	428	0	618	374	0	593	194
Future Volume (veh/h)	0	0	0	692	9	428	0	618	374	0	593	194
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		0.97
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				1885	1900	1826	0	1870	1900	0	1870	1870
Adj Flow Rate, veh/h				767	0	470	0	679	0	0	652	213
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				1	0	5	0	2	0	0	2	2
Cap, veh/h				1143	0	492	0	1809		0	1329	434
Arrive On Green				0.32	0.00	0.32	0.00	0.51	0.00	0.00	0.51	0.51
Sat Flow, veh/h				3591	0	1547	0	3647	1610	0	2703	852
Grp Volume(v), veh/h				767	0	470	0	679	0	0	444	421
Grp Sat Flow(s),veh/h/ln				1795	0	1547	0	1777	1610	0	1777	1685
Q Serve(g_s), s				10.2	0.0	16.4	0.0	6.4	0.0	0.0	9.0	9.0
Cycle Q Clear(g_c), s				10.2	0.0	16.4	0.0	6.4	0.0	0.0	9.0	9.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.51
Lane Grp Cap(c), veh/h				1143	0	492	0	1809		0	905	858
V/C Ratio(X)				0.67	0.00	0.95	0.00	0.38		0.00	0.49	0.49
Avail Cap(c_a), veh/h				1143	0	492	0	1809		0	905	858
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.96	0.00	0.00	0.73	0.73
Uniform Delay (d), s/veh				16.3	0.0	18.4	0.0	8.2	0.0	0.0	8.8	8.8
Incr Delay (d2), s/veh				1.6	0.0	29.4	0.0	0.6	0.0	0.0	1.4	1.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.8	0.0	8.9	0.0	2.0	0.0	0.0	3.2	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				17.9	0.0	47.8	0.0	8.8	0.0	0.0	10.2	10.3
LnGrp LOS				B	A	D	A	A		A	B	B
Approach Vol, veh/h					1237			679	A		865	
Approach Delay, s/veh					29.2			8.8			10.3	
Approach LOS					C			A			B	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		33.3				33.3		21.7				
Change Period (Y+Rc), s		5.3				5.3		4.2				
Max Green Setting (Gmax), s		28.0				28.0		17.5				
Max Q Clear Time (g_c+I1), s		8.4				11.0		18.4				
Green Ext Time (p_c), s		5.2				6.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			18.3									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	247	0	550	0	0	0	0	740	601	0	1022	240
Future Volume (vph)	247	0	550	0	0	0	0	740	601	0	1022	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6					4.9	4.9		4.9	4.0
Lane Util. Factor		1.00	0.88					0.95	1.00		0.91	1.00
Frpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	0.97
Flpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	1.00
Frt		1.00	0.85					1.00	0.85		1.00	0.85
Flt Protected		0.95	1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)		1646	2694					3455	1546		4964	1501
Flt Permitted		0.95	1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)		1646	2694					3455	1546		4964	1501
Peak-hour factor, PHF	0.80	0.72	0.75	0.92	0.92	0.92	0.92	0.85	0.94	0.92	0.96	0.82
Adj. Flow (vph)	309	0	733	0	0	0	0	871	639	0	1065	293
RTOR Reduction (vph)	0	0	272	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	309	461	0	0	0	0	871	639	0	1065	293
Confl. Peds. (#/hr)	13					13	11		1	1		11
Confl. Bikes (#/hr)												9
Heavy Vehicles (%)	6%	0%	2%	0%	0%	0%	0%	1%	1%	0%	1%	1%
Turn Type	Split	NA	Perm					NA	Prot		NA	Free
Protected Phases	2	2						1 3 4	1 3 4		1 3 4	
Permitted Phases			2									Free
Actuated Green, G (s)		16.0	16.0					95.1	95.1		95.1	119.9
Effective Green, g (s)		16.0	16.0					90.9	90.9		90.9	119.9
Actuated g/C Ratio		0.13	0.13					0.76	0.76		0.76	1.00
Clearance Time (s)		4.6	4.6									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		219	359					2619	1172		3763	1501
v/s Ratio Prot		c0.19						0.25	c0.41		0.21	
v/s Ratio Perm			0.17									c0.20
v/c Ratio		1.41	1.28					0.33	0.55		0.28	0.20
Uniform Delay, d1		52.0	52.0					4.7	6.0		4.5	0.0
Progression Factor		1.00	1.00					0.02	0.70		1.00	1.00
Incremental Delay, d2		209.8	147.4					0.1	0.4		0.0	0.3
Delay (s)		261.8	199.3					0.1	4.6		4.5	0.3
Level of Service		F	F					A	A		A	A
Approach Delay (s)		217.8			0.0			2.0			3.6	
Approach LOS		F			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	60.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	272	16	108	15	7	26	137	1051	23	91	1118	342
Future Volume (vph)	272	16	108	15	7	26	137	1051	23	91	1118	342
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.97		1.00	1.00	1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.96	
Flt Protected	0.95	0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1625	1646	1509		1789	1561	1745	4938		1745	4685	
Flt Permitted	0.95	0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1625	1646	1509		1789	1561	1745	4938		1745	4685	
Peak-hour factor, PHF	0.86	0.61	0.80	0.85	0.44	0.79	0.66	0.86	0.61	0.67	0.94	0.85
Adj. Flow (vph)	316	26	135	18	16	33	208	1222	38	136	1189	402
RTOR Reduction (vph)	0	0	101	0	0	29	0	3	0	0	51	0
Lane Group Flow (vph)	171	171	34	0	34	4	208	1257	0	136	1540	0
Confl. Peds. (#/hr)			18	18			12		8	8		12
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	1		2	6	
Permitted Phases			4			3						
Actuated Green, G (s)	30.0	30.0	30.0		16.0	16.0	15.8	40.0		16.0	41.1	
Effective Green, g (s)	30.0	30.0	30.0		16.0	16.0	15.8	40.0		16.0	41.1	
Actuated g/C Ratio	0.25	0.25	0.25		0.13	0.13	0.13	0.33		0.13	0.34	
Clearance Time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.2	
Lane Grp Cap (vph)	406	411	377		238	208	229	1647		232	1605	
v/s Ratio Prot	c0.11	0.10			c0.02		c0.12	0.25		0.08	c0.33	
v/s Ratio Perm			0.02			0.00						
v/c Ratio	0.42	0.42	0.09		0.14	0.02	0.91	0.76		0.59	0.96	
Uniform Delay, d1	37.7	37.6	34.5		45.9	45.1	51.3	35.7		48.8	38.6	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.08	0.87	
Incremental Delay, d2	0.7	0.7	0.1		0.3	0.0	35.3	3.4		2.9	12.3	
Delay (s)	38.4	38.3	34.6		46.2	45.2	86.6	39.1		55.5	46.0	
Level of Service	D	D	C		D	D	F	D		E	D	
Approach Delay (s)		37.3			45.7			45.9			46.8	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	45.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	37	18	22	80	175	39	792	21	132	721	360
Future Volume (veh/h)	225	37	18	22	80	175	39	792	21	132	721	360
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	237	39	19	23	84	184	41	834	22	139	759	379
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	549	184	89	64	233	236	53	1944	51	183	2313	703
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.03	0.38	0.38	0.10	0.45	0.45
Sat Flow, veh/h	3483	1165	568	404	1476	1498	1795	5150	136	1795	5147	1563
Grp Volume(v), veh/h	237	0	58	107	0	184	41	555	301	139	759	379
Grp Sat Flow(s),veh/h/ln	1742	0	1733	1880	0	1498	1795	1716	1854	1795	1716	1563
Q Serve(g_s), s	5.0	0.0	2.4	4.1	0.0	9.5	1.8	9.7	9.7	6.1	7.7	14.2
Cycle Q Clear(g_c), s	5.0	0.0	2.4	4.1	0.0	9.5	1.8	9.7	9.7	6.1	7.7	14.2
Prop In Lane	1.00		0.33	0.21		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	549	0	273	297	0	236	53	1295	700	183	2313	703
V/C Ratio(X)	0.43	0.00	0.21	0.36	0.00	0.78	0.77	0.43	0.43	0.76	0.33	0.54
Avail Cap(c_a), veh/h	905	0	450	489	0	389	355	1928	1042	578	2891	878
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	0.0	29.7	30.4	0.0	32.7	38.9	18.7	18.7	35.3	14.4	16.2
Incr Delay (d2), s/veh	1.9	0.0	1.4	1.1	0.0	7.7	27.1	1.0	1.9	8.9	0.4	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	1.1	1.9	0.0	3.9	1.2	3.8	4.3	3.0	2.8	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	0.0	31.1	31.4	0.0	40.3	66.0	19.7	20.6	44.3	14.7	19.1
LnGrp LOS	C	A	C	C	A	D	E	B	C	D	B	B
Approach Vol, veh/h		295			291			897			1277	
Approach Delay, s/veh		32.4			37.1			22.1			19.3	
Approach LOS		C			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	40.9		16.8	12.2	35.1		16.7				
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0				
Max Green Setting (Gmax), s	16.0	45.4		21.0	26.0	45.4		21.0				
Max Q Clear Time (g_c+I1), s	3.8	16.2		11.5	8.1	11.7		7.0				
Green Ext Time (p_c), s	0.1	20.1		1.2	0.5	18.0		2.5				

Intersection Summary			
HCM 6th Ctrl Delay			23.5
HCM 6th LOS			C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	126	44	124	266	136	52	532	36	123	432	70
Future Volume (veh/h)	212	126	44	124	266	136	52	532	36	123	432	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	131	253	45	128	274	140	54	548	37	127	445	72
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	332	573	100	395	518	255	71	1397	93	260	1144	496
Arrive On Green	0.18	0.18	0.18	0.22	0.22	0.22	0.04	0.28	0.28	0.07	0.32	0.32
Sat Flow, veh/h	1795	3105	542	1810	2373	1169	1795	4915	329	3483	3582	1553
Grp Volume(v), veh/h	131	152	146	128	217	197	54	381	204	127	445	72
Grp Sat Flow(s),veh/h/ln	1795	1885	1762	1810	1900	1642	1795	1716	1813	1742	1791	1553
Q Serve(g_s), s	4.8	5.3	5.5	4.4	7.5	7.9	2.2	6.7	6.8	2.6	7.2	2.5
Cycle Q Clear(g_c), s	4.8	5.3	5.5	4.4	7.5	7.9	2.2	6.7	6.8	2.6	7.2	2.5
Prop In Lane	1.00		0.31	1.00		0.71	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	332	348	325	395	415	359	71	975	515	260	1144	496
V/C Ratio(X)	0.40	0.44	0.45	0.32	0.52	0.55	0.76	0.39	0.40	0.49	0.39	0.15
Avail Cap(c_a), veh/h	610	641	599	615	646	558	625	2084	1101	1212	2176	943
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	27.0	27.1	24.6	25.8	25.9	35.5	21.5	21.6	33.2	19.8	18.2
Incr Delay (d2), s/veh	1.1	1.2	1.4	0.7	1.5	1.9	20.8	0.9	1.8	2.0	0.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.5	2.4	1.9	3.5	3.2	1.3	2.6	3.0	1.1	2.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	28.2	28.5	25.2	27.2	27.8	56.3	22.5	23.4	35.2	20.6	18.6
LnGrp LOS	C	C	C	C	C	C	E	C	C	D	C	B
Approach Vol, veh/h		429			542			639			644	
Approach Delay, s/veh		28.2			27.0			25.6			23.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	9.6	25.8	20.9	7.0	28.5	18.4
Change Period (Y+Rc), s	4.0	4.6	4.6	4.0	4.6	4.6
Max Green Setting (Gmax), s	26.0	45.4	25.4	26.0	45.4	25.4
Max Q Clear Time (g_c+I1), s	4.6	8.8	9.9	4.2	9.2	7.5
Green Ext Time (p_c), s	0.6	10.1	3.7	0.2	8.6	2.9

Intersection Summary	
HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

Notes
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	75	41	46	59	99	21	440	29	72	324	84
Future Volume (veh/h)	116	75	41	46	59	99	21	440	29	72	324	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	122	79	43	48	62	104	22	463	31	76	341	88
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	1	1	1
Cap, veh/h	180	116	63	110	142	210	37	1054	70	100	966	245
Arrive On Green	0.20	0.20	0.20	0.14	0.14	0.14	0.02	0.31	0.31	0.06	0.35	0.35
Sat Flow, veh/h	894	579	315	811	1048	1545	1795	3395	227	1795	2799	709
Grp Volume(v), veh/h	244	0	0	110	0	104	22	243	251	76	216	213
Grp Sat Flow(s),veh/h/ln	1787	0	0	1859	0	1545	1795	1791	1831	1795	1791	1717
Q Serve(g_s), s	7.1	0.0	0.0	3.0	0.0	3.5	0.7	6.1	6.1	2.3	5.0	5.2
Cycle Q Clear(g_c), s	7.1	0.0	0.0	3.0	0.0	3.5	0.7	6.1	6.1	2.3	5.0	5.2
Prop In Lane	0.50		0.18	0.44		1.00	1.00		0.12	1.00		0.41
Lane Grp Cap(c), veh/h	359	0	0	252	0	210	37	556	568	100	618	593
V/C Ratio(X)	0.68	0.00	0.00	0.44	0.00	0.50	0.59	0.44	0.44	0.76	0.35	0.36
Avail Cap(c_a), veh/h	832	0	0	866	0	719	836	1456	1489	836	1456	1396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.6	0.0	0.0	22.2	0.0	22.4	27.1	15.4	15.4	26.0	13.6	13.7
Incr Delay (d2), s/veh	2.3	0.0	0.0	1.2	0.0	1.8	14.1	2.0	1.9	11.2	1.2	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.0	1.3	0.0	1.3	0.4	2.6	2.6	1.2	1.9	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	0.0	0.0	23.4	0.0	24.2	41.2	17.3	17.3	37.2	14.8	15.0
LnGrp LOS	C	A	A	C	A	C	D	B	B	D	B	B
Approach Vol, veh/h		244			214			516			505	
Approach Delay, s/veh		22.9			23.8			18.3			18.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	21.9		11.6	5.2	23.9		15.2				
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0				
Max Green Setting (Gmax), s	26.0	45.4		26.0	26.0	45.4		26.0				
Max Q Clear Time (g_c+I1), s	4.3	8.1		5.5	2.7	7.2		9.1				
Green Ext Time (p_c), s	0.2	8.7		0.9	0.0	7.1		1.3				

Intersection Summary		
HCM 6th Ctrl Delay		19.9
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	389	164	47	551	127	202	299	63	92	210	48
Future Volume (veh/h)	64	389	164	47	551	127	202	299	63	92	210	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	69	418	176	51	592	137	217	322	68	99	226	52
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	97	1120	481	82	874	202	266	567	469	133	312	72
Arrive On Green	0.05	0.31	0.31	0.05	0.30	0.30	0.15	0.30	0.30	0.07	0.21	0.21
Sat Flow, veh/h	1795	3582	1539	1795	2872	663	1795	1885	1560	1795	1474	339
Grp Volume(v), veh/h	69	418	176	51	369	360	217	322	68	99	0	278
Grp Sat Flow(s),veh/h/ln	1795	1791	1539	1795	1791	1744	1795	1885	1560	1795	0	1813
Q Serve(g_s), s	2.6	6.1	3.4	1.9	12.2	12.2	7.9	9.7	2.1	3.6	0.0	9.6
Cycle Q Clear(g_c), s	2.6	6.1	3.4	1.9	12.2	12.2	7.9	9.7	2.1	3.6	0.0	9.6
Prop In Lane	1.00		1.00	1.00		0.38	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	97	1120	481	82	545	531	266	567	469	133	0	384
V/C Ratio(X)	0.71	0.37	0.37	0.62	0.68	0.68	0.82	0.57	0.14	0.74	0.00	0.72
Avail Cap(c_a), veh/h	692	2390	1027	692	1195	1163	692	839	694	692	0	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.4	18.0	5.8	31.6	20.5	20.6	27.8	19.9	17.2	30.6	0.0	24.7
Incr Delay (d2), s/veh	9.4	0.2	0.6	7.5	1.8	1.8	2.3	0.3	0.1	9.4	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	2.3	2.0	1.0	5.0	4.9	3.5	4.1	0.7	1.9	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.8	18.3	6.4	39.1	22.3	22.4	30.2	20.2	17.3	40.0	0.0	27.8
LnGrp LOS	D	B	A	D	C	C	C	C	B	D	A	C
Approach Vol, veh/h		663			780			607			377	
Approach Delay, s/veh		17.5			23.5			23.5			31.0	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	25.5	9.0	25.3	7.1	26.1	15.0	19.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	26.0	45.0	26.0	30.0	26.0	45.0	26.0	* 30
Max Q Clear Time (g_c+I1), s	4.6	14.2	5.6	11.7	3.9	8.1	9.9	11.6
Green Ext Time (p_c), s	0.1	6.3	0.3	0.7	0.1	4.4	0.1	1.9

Intersection Summary	
HCM 6th Ctrl Delay	23.0
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)	53	296	133	57	455	49	203	376	58	66	241	75
Future Volume (veh/h)	53	296	133	57	455	49	203	376	58	66	241	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	56	312	140	60	479	52	214	396	61	69	254	79
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	73	598	260	77	821	89	271	582	90	90	363	113
Arrive On Green	0.04	0.25	0.25	0.04	0.25	0.25	0.15	0.36	0.36	0.05	0.26	0.26
Sat Flow, veh/h	1810	2401	1046	1810	3264	352	1810	1602	247	1810	1379	429
Grp Volume(v), veh/h	56	232	220	60	264	267	214	0	457	69	0	333
Grp Sat Flow(s),veh/h/ln	1810	1805	1642	1810	1805	1811	1810	0	1849	1810	0	1808
Q Serve(g_s), s	1.9	6.8	7.1	2.0	7.8	7.9	7.0	0.0	12.8	2.3	0.0	10.2
Cycle Q Clear(g_c), s	1.9	6.8	7.1	2.0	7.8	7.9	7.0	0.0	12.8	2.3	0.0	10.2
Prop In Lane	1.00		0.64	1.00		0.19	1.00		0.13	1.00		0.24
Lane Grp Cap(c), veh/h	73	450	409	77	454	455	271	0	672	90	0	476
V/C Ratio(X)	0.77	0.52	0.54	0.78	0.58	0.59	0.79	0.00	0.68	0.76	0.00	0.70
Avail Cap(c_a), veh/h	608	1050	955	608	1050	1053	608	0	772	608	0	755
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.0	19.8	19.9	28.9	20.0	20.1	25.0	0.0	16.4	28.6	0.0	20.3
Incr Delay (d2), s/veh	11.9	0.3	0.4	11.7	1.4	1.5	5.1	0.0	1.8	12.5	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.7	2.5	1.1	3.2	3.3	3.2	0.0	5.1	1.3	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.9	20.1	20.3	40.7	21.4	21.5	30.1	0.0	18.2	41.1	0.0	22.6
LnGrp LOS	D	C	C	D	C	C	C	A	B	D	A	C
Approach Vol, veh/h		508			591			671			402	
Approach Delay, s/veh		22.5			23.4			22.0			25.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	19.7	7.5	26.7	7.0	19.9	13.7	20.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.5	35.5	20.5	25.5	20.5	35.5	20.5	25.5
Max Q Clear Time (g_c+I1), s	4.0	9.1	4.3	14.8	3.9	9.9	9.0	12.2
Green Ext Time (p_c), s	0.1	1.9	0.1	1.8	0.1	4.1	0.4	2.0

Intersection Summary	
HCM 6th Ctrl Delay	23.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	293	55	64	477	149	42	117	54	71	89	52
Future Volume (veh/h)	32	293	55	64	477	149	42	117	54	71	89	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.92	1.00		0.94	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	34	308	58	67	502	157	44	123	57	75	94	55
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	55	1006	186	89	940	291	66	275	127	98	274	161
Arrive On Green	0.03	0.34	0.34	0.05	0.36	0.36	0.04	0.23	0.23	0.05	0.25	0.25
Sat Flow, veh/h	1810	2990	552	1810	2648	821	1795	1192	552	1810	1108	648
Grp Volume(v), veh/h	34	183	183	67	341	318	44	0	180	75	0	149
Grp Sat Flow(s),veh/h/ln	1810	1805	1736	1810	1805	1663	1795	0	1744	1810	0	1756
Q Serve(g_s), s	0.9	3.6	3.8	1.8	7.3	7.4	1.2	0.0	4.3	2.0	0.0	3.4
Cycle Q Clear(g_c), s	0.9	3.6	3.8	1.8	7.3	7.4	1.2	0.0	4.3	2.0	0.0	3.4
Prop In Lane	1.00		0.32	1.00		0.49	1.00		0.32	1.00		0.37
Lane Grp Cap(c), veh/h	55	607	584	89	641	591	66	0	402	98	0	435
V/C Ratio(X)	0.62	0.30	0.31	0.76	0.53	0.54	0.66	0.00	0.45	0.77	0.00	0.34
Avail Cap(c_a), veh/h	597	1712	1647	597	1712	1577	777	0	575	783	0	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.2	11.9	11.9	22.8	12.4	12.5	23.1	0.0	16.0	22.6	0.0	15.0
Incr Delay (d2), s/veh	10.9	0.3	0.3	12.2	0.7	0.8	10.9	0.0	0.8	11.8	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.3	1.3	1.0	2.6	2.4	0.7	0.0	1.6	1.1	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	12.2	12.2	35.0	13.1	13.2	33.9	0.0	16.8	34.4	0.0	15.5
LnGrp LOS	C	B	B	C	B	B	C	A	B	C	A	B
Approach Vol, veh/h		400			726			224			224	
Approach Delay, s/veh		14.1			15.2			20.2			21.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	15.2	6.4	20.3	5.8	16.0	5.5	21.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	21.0	16.0	16.0	46.0	21.0	16.0	16.0	46.0
Max Q Clear Time (g_c+I1), s	4.0	6.3	3.8	5.8	3.2	5.4	2.9	9.4
Green Ext Time (p_c), s	0.1	0.7	0.1	2.4	0.1	0.5	0.0	4.8

Intersection Summary	
HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	398	74	85	485	11	124	3	93	19	3	38
Future Volume (veh/h)	15	398	74	85	485	11	124	3	93	19	3	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	15	410	76	88	500	11	128	3	96	20	3	39
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	27	810	149	117	623	506	141	2	616	134	11	636
Arrive On Green	0.02	0.27	0.27	0.06	0.33	0.33	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1810	3018	553	1810	1900	1544	0	4	1552	0	29	1603
Grp Volume(v), veh/h	15	243	243	88	500	11	131	0	96	23	0	39
Grp Sat Flow(s),veh/h/ln	1810	1805	1766	1810	1900	1544	4	0	1552	29	0	1603
Q Serve(g_s), s	0.4	5.7	5.9	2.4	12.1	0.2	0.0	0.0	2.0	0.0	0.0	0.8
Cycle Q Clear(g_c), s	0.4	5.7	5.9	2.4	12.1	0.2	20.0	0.0	2.0	20.0	0.0	0.8
Prop In Lane	1.00		0.31	1.00		1.00	0.98		1.00	0.87		1.00
Lane Grp Cap(c), veh/h	27	485	474	117	623	506	143	0	616	145	0	636
V/C Ratio(X)	0.55	0.50	0.51	0.75	0.80	0.02	0.92	0.00	0.16	0.16	0.00	0.06
Avail Cap(c_a), veh/h	934	1608	1574	916	1693	1376	143	0	616	145	0	636
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.6	15.6	15.6	23.2	15.4	11.5	24.9	0.0	9.8	15.4	0.0	9.4
Incr Delay (d2), s/veh	16.3	0.3	0.3	9.3	0.9	0.0	50.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.1	2.1	1.3	4.7	0.1	3.5	0.0	0.6	0.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.9	15.9	15.9	32.5	16.4	11.5	74.9	0.0	9.8	15.6	0.0	9.4
LnGrp LOS	D	B	B	C	B	B	E	A	A	B	A	A
Approach Vol, veh/h		501			599			227			62	
Approach Delay, s/veh		16.7			18.6			47.4			11.7	
Approach LOS		B			B			D			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.8	18.6		24.0	4.8	21.6		24.0
Change Period (Y+Rc), s	4.5	5.1		4.0	4.0	5.1		4.0
Max Green Setting (Gmax), s	25.5	44.9		20.0	26.0	44.9		20.0
Max Q Clear Time (g_c+I1), s	4.4	7.9		22.0	2.4	14.1		22.0
Green Ext Time (p_c), s	0.2	2.0		0.0	0.0	2.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	22.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	157	109	111	221	43	105	518	93	30	343	46
Future Volume (veh/h)	51	157	109	111	221	43	105	518	93	30	343	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.94	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	53	164	114	116	230	45	109	540	97	31	357	48
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	0	0	0
Cap, veh/h	82	231	161	154	413	81	145	630	113	59	586	79
Arrive On Green	0.05	0.23	0.23	0.09	0.27	0.27	0.08	0.41	0.41	0.03	0.36	0.36
Sat Flow, veh/h	1795	997	693	1810	1525	298	1795	1543	277	1810	1630	219
Grp Volume(v), veh/h	53	0	278	116	0	275	109	0	637	31	0	405
Grp Sat Flow(s),veh/h/ln	1795	0	1690	1810	0	1823	1795	0	1820	1810	0	1849
Q Serve(g_s), s	2.0	0.0	10.6	4.4	0.0	9.1	4.2	0.0	22.3	1.2	0.0	12.6
Cycle Q Clear(g_c), s	2.0	0.0	10.6	4.4	0.0	9.1	4.2	0.0	22.3	1.2	0.0	12.6
Prop In Lane	1.00		0.41	1.00		0.16	1.00		0.15	1.00		0.12
Lane Grp Cap(c), veh/h	82	0	392	154	0	494	145	0	743	59	0	665
V/C Ratio(X)	0.64	0.00	0.71	0.75	0.00	0.56	0.75	0.00	0.86	0.53	0.00	0.61
Avail Cap(c_a), veh/h	679	0	844	685	0	911	679	0	909	685	0	924
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.9	0.0	24.7	31.3	0.0	21.9	31.5	0.0	18.9	33.4	0.0	18.4
Incr Delay (d2), s/veh	8.1	0.0	2.4	7.2	0.0	1.0	7.7	0.0	7.6	7.2	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	4.4	2.2	0.0	3.9	2.1	0.0	10.0	0.6	0.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.9	0.0	27.1	38.6	0.0	22.9	39.2	0.0	26.5	40.6	0.0	19.7
LnGrp LOS	D	A	C	D	A	C	D	A	C	D	A	B
Approach Vol, veh/h		331			391			746			436	
Approach Delay, s/veh		29.3			27.5			28.4			21.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	21.2	9.1	30.2	6.7	24.0	5.8	33.6
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0
Max Green Setting (Gmax), s	26.5	35.0	26.5	35.0	26.5	35.0	26.5	35.0
Max Q Clear Time (g_c+I1), s	6.4	12.6	6.2	14.6	4.0	11.1	3.2	24.3
Green Ext Time (p_c), s	0.3	1.8	0.2	3.5	0.1	1.7	0.0	4.3

Intersection Summary	
HCM 6th Ctrl Delay	26.7
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	228	36	29	236	42	50	161	37	30	76	48
Future Vol, veh/h	28	228	36	29	236	42	50	161	37	30	76	48
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	30	245	39	31	254	45	54	173	40	32	82	52
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	14.9	15.1	14.4	12
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	11%	0%	11%	0%	19%
Vol Thru, %	65%	89%	0%	89%	0%	49%
Vol Right, %	15%	0%	100%	0%	100%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	248	256	36	265	42	154
LT Vol	50	28	0	29	0	30
Through Vol	161	228	0	236	0	76
RT Vol	37	0	36	0	42	48
Lane Flow Rate	267	275	39	285	45	166
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.458	0.501	0.062	0.517	0.072	0.291
Departure Headway (Hd)	6.181	6.557	5.786	6.531	5.761	6.334
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	584	551	620	553	623	566
Service Time	4.211	4.284	3.513	4.258	3.487	4.379
HCM Lane V/C Ratio	0.457	0.499	0.063	0.515	0.072	0.293
HCM Control Delay	14.4	15.7	8.9	16.1	8.9	12
HCM Lane LOS	B	C	A	C	A	B
HCM 95th-tile Q	2.4	2.8	0.2	2.9	0.2	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	164	106	25	371	141	110	57	12	121	66	110
Future Volume (veh/h)	94	164	106	25	371	141	110	57	12	121	66	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.91	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	104	182	0	28	412	0	122	63	13	134	73	122
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	136	641		57	558		159	332	69	174	138	230
Arrive On Green	0.08	0.34	0.00	0.03	0.30	0.00	0.09	0.22	0.22	0.10	0.23	0.23
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1498	309	1795	596	996
Grp Volume(v), veh/h	104	182	0	28	412	0	122	0	76	134	0	195
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	0	1807	1795	0	1592
Q Serve(g_s), s	3.0	3.8	0.0	0.8	10.5	0.0	3.5	0.0	1.8	3.9	0.0	5.7
Cycle Q Clear(g_c), s	3.0	3.8	0.0	0.8	10.5	0.0	3.5	0.0	1.8	3.9	0.0	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.63
Lane Grp Cap(c), veh/h	136	641		57	558		159	0	401	174	0	367
V/C Ratio(X)	0.76	0.28		0.49	0.74		0.77	0.00	0.19	0.77	0.00	0.53
Avail Cap(c_a), veh/h	539	1255		539	1255		543	0	711	539	0	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.2	12.9	0.0	25.4	16.9	0.0	23.8	0.0	16.9	23.5	0.0	18.0
Incr Delay (d2), s/veh	6.4	0.2	0.0	4.8	1.9	0.0	2.9	0.0	0.2	2.7	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.5	0.0	0.4	4.3	0.0	1.5	0.0	0.7	1.6	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	13.1	0.0	30.1	18.9	0.0	26.7	0.0	17.0	26.2	0.0	18.9
LnGrp LOS	C	B		C	B		C	A	B	C	A	B
Approach Vol, veh/h		286	A		440	A		198			329	
Approach Delay, s/veh		19.5			19.6			23.0			21.9	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	22.6	8.7	16.3	8.1	20.3	9.2	15.8
Change Period (Y+Rc), s	4.0	4.5	4.0	4.0	4.0	4.5	4.0	4.0
Max Green Setting (Gmax), s	16.0	35.5	16.0	21.0	16.0	35.5	16.0	21.0
Max Q Clear Time (g_c+I1), s	2.8	5.8	5.5	7.7	5.0	12.5	5.9	3.8
Green Ext Time (p_c), s	0.0	1.1	0.1	0.8	0.1	2.6	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	1027	1141	104	454	35	581	19	57	56	31	25
Future Volume (veh/h)	12	1027	1141	104	454	35	581	19	57	56	31	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	12	1059	0	107	468	36	613	0	0	58	32	26
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	25	2006		88	2001	153	625	0		88	48	115
Arrive On Green	0.01	0.56	0.00	0.05	0.60	0.60	0.17	0.00	0.00	0.07	0.07	0.07
Sat Flow, veh/h	1795	3582	1598	1795	3362	258	3591	0	1598	1186	654	1562
Grp Volume(v), veh/h	12	1059	0	107	248	256	613	0	0	90	0	26
Grp Sat Flow(s),veh/h/ln	1795	1791	1598	1795	1791	1829	1795	0	1598	1841	0	1562
Q Serve(g_s), s	0.7	20.7	0.0	5.5	7.3	7.4	19.0	0.0	0.0	5.3	0.0	1.8
Cycle Q Clear(g_c), s	0.7	20.7	0.0	5.5	7.3	7.4	19.0	0.0	0.0	5.3	0.0	1.8
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	0.64		1.00
Lane Grp Cap(c), veh/h	25	2006		88	1066	1089	625	0		136	0	115
V/C Ratio(X)	0.48	0.53		1.21	0.23	0.23	0.98	0.00		0.66	0.00	0.23
Avail Cap(c_a), veh/h	88	2006		88	1066	1089	625	0		370	0	314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.97	0.97	0.97	0.87	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.8	15.4	0.0	53.3	10.7	10.7	46.1	0.0	0.0	50.5	0.0	48.8
Incr Delay (d2), s/veh	5.2	1.0	0.0	162.6	0.5	0.5	28.6	0.0	0.0	2.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	8.6	0.0	6.5	3.0	3.1	10.8	0.0	0.0	2.6	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.0	16.4	0.0	215.9	11.1	11.2	74.6	0.0	0.0	52.5	0.0	49.2
LnGrp LOS	E	B		F	B	B	E	A		D	A	D
Approach Vol, veh/h		1071	A		611			613	A		116	
Approach Delay, s/veh		16.9			47.0			74.6			51.8	
Approach LOS		B			D			E			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	66.7		12.3	5.6	70.7		23.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.5	48.5		22.5	5.5	48.5		19.5				
Max Q Clear Time (g_c+I1), s	7.5	22.7		7.3	2.7	9.4		21.0				
Green Ext Time (p_c), s	0.0	9.1		0.3	0.0	3.6		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			40.9
HCM 6th LOS			D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	943	72	333	626	97	288
Future Volume (veh/h)	943	72	333	626	97	288
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.96	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	962	73	340	639	99	294
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	1264	96	385	2341	384	342
Arrive On Green	0.38	0.38	0.21	0.65	0.21	0.21
Sat Flow, veh/h	3455	255	1795	3676	1795	1598
Grp Volume(v), veh/h	513	522	340	639	99	294
Grp Sat Flow(s),veh/h/ln	1791	1825	1795	1791	1795	1598
Q Serve(g_s), s	17.9	17.9	13.1	5.4	3.3	12.7
Cycle Q Clear(g_c), s	17.9	17.9	13.1	5.4	3.3	12.7
Prop In Lane		0.14	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	674	687	385	2341	384	342
V/C Ratio(X)	0.76	0.76	0.88	0.27	0.26	0.86
Avail Cap(c_a), veh/h	825	841	489	2341	715	636
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	19.5	27.3	5.2	23.4	27.1
Incr Delay (d2), s/veh	3.9	3.8	12.5	0.1	0.1	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	7.5	6.6	1.5	1.4	4.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.4	23.3	39.8	5.3	23.6	29.6
LnGrp LOS	C	C	D	A	C	C
Approach Vol, veh/h	1035			979	393	
Approach Delay, s/veh	23.4			17.3	28.1	
Approach LOS	C			B	C	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	19.9	31.9		19.8		51.8
Change Period (Y+Rc), s	4.5	5.0		4.5		5.0
Max Green Setting (Gmax), s	19.5	33.0		28.5		33.0
Max Q Clear Time (g_c+I1), s	15.1	19.9		14.7		7.4
Green Ext Time (p_c), s	0.2	7.0		0.6		6.2

Intersection Summary						
HCM 6th Ctrl Delay			21.7			
HCM 6th LOS			C			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	738	481	405	692	2	252	1	749	5	5	9
Future Volume (veh/h)	8	738	481	405	692	2	252	1	749	5	5	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.87
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1737	1870	1900	1900	1885	1885	1856	1870	1870	1870
Adj Flow Rate, veh/h	8	769	0	422	721	2	262	1	0	5	5	9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	11	2	0	0	1	1	3	2	2	2
Cap, veh/h	14	1722		437	2639	7	280	1		12	12	21
Arrive On Green	0.01	0.48	0.00	0.49	1.00	1.00	0.16	0.16	0.00	0.03	0.03	0.03
Sat Flow, veh/h	1810	3610	1472	1781	3693	10	1789	7	1572	416	416	750
Grp Volume(v), veh/h	8	769	0	422	352	371	263	0	0	19	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1472	1781	1805	1898	1796	0	1572	1582	0	0
Q Serve(g_s), s	0.7	21.2	0.0	34.4	0.0	0.0	21.7	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear(g_c), s	0.7	21.2	0.0	34.4	0.0	0.0	21.7	0.0	0.0	1.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.26		0.47
Lane Grp Cap(c), veh/h	14	1722		437	1290	1356	281	0		44	0	0
V/C Ratio(X)	0.58	0.45		0.97	0.27	0.27	0.93	0.00		0.43	0.00	0.00
Avail Cap(c_a), veh/h	48	1722		487	1290	1356	281	0		232	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.60	0.60	0.00	1.00	1.00	1.00	0.55	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	74.2	26.1	0.0	37.6	0.0	0.0	62.5	0.0	0.0	71.7	0.0	0.0
Incr Delay (d2), s/veh	8.5	0.5	0.0	30.0	0.5	0.5	24.3	0.0	0.0	4.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	9.3	0.0	15.7	0.2	0.2	11.9	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.7	26.6	0.0	67.7	0.5	0.5	86.8	0.0	0.0	76.6	0.0	0.0
LnGrp LOS	F	C		E	A	A	F	A		E	A	A
Approach Vol, veh/h		777	A		1145			263	A		19	
Approach Delay, s/veh		27.1			25.3			86.8			76.6	
Approach LOS		C			C			F			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	39.8	75.6		7.7	4.1	111.2		27.0				
Change Period (Y+Rc), s	3.0	4.0		3.5	3.0	4.0		3.5				
Max Green Setting (Gmax), s	41.0	49.5		22.0	4.0	86.5		23.5				
Max Q Clear Time (g_c+I1), s	36.4	23.2		3.8	2.7	2.0		23.7				
Green Ext Time (p_c), s	0.3	7.8		0.0	0.0	7.7		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			33.7									
HCM 6th LOS			C									

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	976	471	3	1081	13	518	15	50	117	148	97
Future Volume (veh/h)	49	976	471	3	1081	13	518	15	50	117	148	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1841	1900	1841	1841	1811	1870	1856	1870	1900	1900
Adj Flow Rate, veh/h	51	1017	0	3	1126	14	551	0	0	122	154	101
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	3	4	0	4	4	6	2	3	2	0	0
Cap, veh/h	65	1890		7	1779	22	619	0		286	172	113
Arrive On Green	0.05	0.71	0.00	0.00	0.50	0.50	0.18	0.00	0.00	0.16	0.16	0.16
Sat Flow, veh/h	1781	3526	1560	1810	3536	44	3450	0	1572	1781	1068	701
Grp Volume(v), veh/h	51	1017	0	3	557	583	551	0	0	122	0	255
Grp Sat Flow(s),veh/h/ln	1781	1763	1560	1810	1749	1831	1725	0	1572	1781	0	1769
Q Serve(g_s), s	4.2	20.2	0.0	0.2	34.8	34.8	23.4	0.0	0.0	9.3	0.0	21.2
Cycle Q Clear(g_c), s	4.2	20.2	0.0	0.2	34.8	34.8	23.4	0.0	0.0	9.3	0.0	21.2
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	65	1890		7	880	921	619	0		286	0	284
V/C Ratio(X)	0.78	0.54		0.42	0.63	0.63	0.89	0.00		0.43	0.00	0.90
Avail Cap(c_a), veh/h	101	1890		62	880	921	793	0		338	0	336
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	70.7	12.9	0.0	74.5	27.2	27.2	60.1	0.0	0.0	56.7	0.0	61.7
Incr Delay (d2), s/veh	18.4	1.1	0.0	35.4	3.5	3.3	10.2	0.0	0.0	1.0	0.0	23.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	7.0	0.0	0.2	15.2	15.9	11.2	0.0	0.0	4.3	0.0	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.1	14.0	0.0	110.0	30.6	30.5	70.3	0.0	0.0	57.7	0.0	84.8
LnGrp LOS	F	B		F	C	C	E	A		E	A	F
Approach Vol, veh/h		1068	A		1143			551	A		377	
Approach Delay, s/veh		17.6			30.7			70.3			76.0	
Approach LOS		B			C			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	84.9		31.4	10.0	80.0		28.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	63.9		34.5	8.5	60.5		28.5				
Max Q Clear Time (g_c+I1), s	2.2	22.2		25.4	6.2	36.8		23.2				
Green Ext Time (p_c), s	0.0	9.4		1.5	0.0	8.1		0.9				

Intersection Summary	
HCM 6th Ctrl Delay	38.6
HCM 6th LOS	D

Notes
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	340	564	566	51	630	416
Future Volume (veh/h)	340	564	566	51	630	416
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	351	581	584	53	649	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	507	902	795	347	761	
Arrive On Green	0.39	0.39	0.22	0.22	0.22	0.00
Sat Flow, veh/h	1299	2406	3647	1551	3483	1598
Grp Volume(v), veh/h	492	440	584	53	649	0
Grp Sat Flow(s),veh/h/ln	1820	1791	1777	1551	1742	1598
Q Serve(g_s), s	18.1	15.9	12.2	2.2	14.3	0.0
Cycle Q Clear(g_c), s	18.1	15.9	12.2	2.2	14.3	0.0
Prop In Lane	0.71			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	710	699	795	347	761	
V/C Ratio(X)	0.69	0.63	0.73	0.15	0.85	
Avail Cap(c_a), veh/h	710	699	795	347	906	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.4	19.7	28.8	25.0	30.0	0.0
Incr Delay (d2), s/veh	0.5	0.4	6.0	0.9	6.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	6.4	5.8	0.9	6.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.9	20.1	34.8	25.9	36.9	0.0
LnGrp LOS	C	C	C	C	D	
Approach Vol, veh/h		932	637		649	A
Approach Delay, s/veh		20.5	34.1		36.9	
Approach LOS		C	C		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		35.8		21.7		22.5
Change Period (Y+Rc), s		4.6		* 4.2		4.6
Max Green Setting (Gmax), s		27.9		* 21		17.9
Max Q Clear Time (g_c+I1), s		20.1		16.3		14.2
Green Ext Time (p_c), s		3.7		1.2		1.4
Intersection Summary						
HCM 6th Ctrl Delay			29.2			
HCM 6th LOS			C			

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	659	470	114	340	318	51
Future Volume (veh/h)	659	470	114	340	318	51
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	701	500	121	362	388	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	0	0	1	0
Cap, veh/h	921	759	164	1249	629	282
Arrive On Green	0.49	0.49	0.09	0.66	0.18	0.00
Sat Flow, veh/h	1885	1554	1810	1900	3591	1610
Grp Volume(v), veh/h	701	500	121	362	388	0
Grp Sat Flow(s),veh/h/ln	1885	1554	1810	1900	1795	1610
Q Serve(g_s), s	13.6	10.9	2.9	3.6	4.5	0.0
Cycle Q Clear(g_c), s	13.6	10.9	2.9	3.6	4.5	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	921	759	164	1249	629	282
V/C Ratio(X)	0.76	0.66	0.74	0.29	0.62	0.00
Avail Cap(c_a), veh/h	1264	1042	1213	1274	2407	1079
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.3	8.6	19.8	3.2	17.1	0.0
Incr Delay (d2), s/veh	1.9	1.0	6.3	0.1	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	2.9	1.4	0.6	1.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.2	9.6	26.2	3.4	18.1	0.0
LnGrp LOS	B	A	C	A	B	A
Approach Vol, veh/h	1201			483	388	
Approach Delay, s/veh	10.5			9.1	18.1	
Approach LOS	B			A	B	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	7.6	25.9		11.3		33.4
Change Period (Y+Rc), s	3.5	4.0		3.5		4.0
Max Green Setting (Gmax), s	30.0	30.0		30.0		30.0
Max Q Clear Time (g_c+I1), s	4.9	15.6		6.5		5.6
Green Ext Time (p_c), s	0.3	6.3		1.4		2.1
Intersection Summary						
HCM 6th Ctrl Delay			11.6			
HCM 6th LOS			B			
Notes						

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	510	204	156	379	72	76
Future Vol, veh/h	510	204	156	379	72	76
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	170	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	531	213	163	395	75	79

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	745	0	1253	532
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	721	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	872	-	192	551
Stage 1	-	-	-	-	593	-
Stage 2	-	-	-	-	485	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	871	-	156	551
Mov Cap-2 Maneuver	-	-	-	-	156	-
Stage 1	-	-	-	-	482	-
Stage 2	-	-	-	-	485	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	29.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	156	551	-	-	871	-
HCM Lane V/C Ratio	0.481	0.144	-	-	0.187	-
HCM Control Delay (s)	47.8	12.6	-	-	10.1	-
HCM Lane LOS	E	B	-	-	B	-
HCM 95th %tile Q(veh)	2.3	0.5	-	-	0.7	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	559	103	49	286	252	121
Future Volume (veh/h)	559	103	49	286	252	121
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1737	1737
Adj Flow Rate, veh/h	621	114	54	318	280	134
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	2	2	11	11
Cap, veh/h	871	721	372	864	416	370
Arrive On Green	0.46	0.46	0.46	0.46	0.25	0.25
Sat Flow, veh/h	1885	1561	722	1870	1654	1472
Grp Volume(v), veh/h	621	114	54	318	280	134
Grp Sat Flow(s),veh/h/ln	1885	1561	722	1870	1654	1472
Q Serve(g_s), s	8.3	1.3	2.0	3.5	4.8	2.4
Cycle Q Clear(g_c), s	8.3	1.3	10.3	3.5	4.8	2.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	871	721	372	864	416	370
V/C Ratio(X)	0.71	0.16	0.15	0.37	0.67	0.36
Avail Cap(c_a), veh/h	1653	1369	672	1640	976	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	4.9	10.9	5.5	10.6	9.7
Incr Delay (d2), s/veh	1.1	0.1	0.2	0.3	1.9	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.2	0.2	0.7	1.5	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.9	5.0	11.1	5.7	12.5	10.3
LnGrp LOS	A	A	B	A	B	B
Approach Vol, veh/h	735			372	414	
Approach Delay, s/veh	7.4			6.5	11.8	
Approach LOS	A			A	B	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	12.4	19.0	19.0
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.5	27.5	27.5
Max Q Clear Time (g_c+I1), s	6.8	10.3	12.3
Green Ext Time (p_c), s	1.1	4.2	1.9

Intersection Summary	
HCM 6th Ctrl Delay	8.4
HCM 6th LOS	A

Intersection	
Intersection Delay, s/veh	78.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	341	3	3	37	277	2	1	4	612	3	6
Future Vol, veh/h	5	341	3	3	37	277	2	1	4	612	3	6
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.58	0.58	0.58	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	3	3	3	14	14	14	1	1	1
Mvmt Flow	6	383	3	3	40	301	3	2	7	680	3	7
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	27.5	17.9	11.6	138.6
HCM LOS	D	C	B	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	29%	1%	7%	0%	99%
Vol Thru, %	14%	98%	93%	0%	0%
Vol Right, %	57%	1%	0%	100%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	349	40	277	621
LT Vol	2	5	3	0	612
Through Vol	1	341	37	0	3
RT Vol	4	3	0	277	6
Lane Flow Rate	12	392	43	301	690
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.026	0.727	0.089	0.556	1.226
Departure Headway (Hd)	8.388	7.329	8.105	7.342	6.398
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	429	498	445	494	573
Service Time	6.388	5.329	5.805	5.042	4.441
HCM Lane V/C Ratio	0.028	0.787	0.097	0.609	1.204
HCM Control Delay	11.6	27.5	11.6	18.8	138.6
HCM Lane LOS	B	D	B	C	F
HCM 95th-tile Q	0.1	5.9	0.3	3.3	25.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	747	507	99	241	5	364	18	178	3	17	5
Future Volume (veh/h)	4	747	507	99	241	5	364	18	178	3	17	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1687	1687	1634	1687	1687	1856	1900	1856	1900	1900	1900
Adj Flow Rate, veh/h	4	803	545	106	259	5	405	0	191	3	18	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	5	1	1	3	0	3	0	0	0
Cap, veh/h	7	799	531	132	1670	32	687	0	297	6	35	10
Arrive On Green	0.00	0.44	0.44	0.08	0.52	0.52	0.19	0.00	0.19	0.03	0.03	0.03
Sat Flow, veh/h	1619	1820	1210	1556	3213	62	3534	0	1526	207	1240	344
Grp Volume(v), veh/h	4	705	643	106	129	135	405	0	191	26	0	0
Grp Sat Flow(s),veh/h/ln	1619	1602	1428	1556	1602	1673	1767	0	1526	1791	0	0
Q Serve(g_s), s	0.2	32.0	32.0	4.9	3.1	3.1	7.6	0.0	8.4	1.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	32.0	32.0	4.9	3.1	3.1	7.6	0.0	8.4	1.0	0.0	0.0
Prop In Lane	1.00		0.85	1.00		0.04	1.00		1.00	0.12		0.19
Lane Grp Cap(c), veh/h	7	703	627	132	833	869	687	0	297	50	0	0
V/C Ratio(X)	0.58	1.00	1.03	0.80	0.15	0.16	0.59	0.00	0.64	0.52	0.00	0.00
Avail Cap(c_a), veh/h	711	703	627	683	833	869	1939	0	838	491	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.2	20.4	20.4	32.8	9.1	9.2	26.7	0.0	27.0	34.9	0.0	0.0
Incr Delay (d2), s/veh	25.3	34.5	42.6	4.3	0.3	0.3	0.8	0.0	2.3	9.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	17.1	16.6	1.9	1.0	1.0	3.2	0.0	3.2	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.5	54.9	63.1	37.0	9.5	9.5	27.5	0.0	29.4	44.5	0.0	0.0
LnGrp LOS	E	F	F	D	A	A	C	A	C	D	A	A
Approach Vol, veh/h		1352			370			596			26	
Approach Delay, s/veh		58.8			17.4			28.1			44.5	
Approach LOS		E			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	37.0		6.5	4.8	42.9		18.7				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	32.0	32.0		20.0	32.0	31.0		40.0				
Max Q Clear Time (g_c+I1), s	6.9	34.0		3.0	2.2	5.1		10.4				
Green Ext Time (p_c), s	0.1	0.0		0.1	0.0	3.5		2.3				

Intersection Summary		
HCM 6th Ctrl Delay		44.3
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	869	0	219	0	587	488	0	766	176
Future Volume (veh/h)	0	0	0	869	0	219	0	587	488	0	766	176
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		0.97
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				1885	1900	1826	0	1870	1900	0	1870	1870
Adj Flow Rate, veh/h				955	0	241	0	645	0	0	842	193
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				1	0	5	0	2	0	0	2	2
Cap, veh/h				1100	0	474	0	1852		0	1486	340
Arrive On Green				0.31	0.00	0.31	0.00	0.52	0.00	0.00	0.52	0.52
Sat Flow, veh/h				3591	0	1547	0	3647	1610	0	2945	653
Grp Volume(v), veh/h				955	0	241	0	645	0	0	525	510
Grp Sat Flow(s),veh/h/ln				1795	0	1547	0	1777	1610	0	1777	1728
Q Serve(g_s), s				13.8	0.0	7.0	0.0	5.8	0.0	0.0	11.0	11.0
Cycle Q Clear(g_c), s				13.8	0.0	7.0	0.0	5.8	0.0	0.0	11.0	11.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.38
Lane Grp Cap(c), veh/h				1100	0	474	0	1852		0	926	900
V/C Ratio(X)				0.87	0.00	0.51	0.00	0.35		0.00	0.57	0.57
Avail Cap(c_a), veh/h				1143	0	492	0	1852		0	926	900
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.88	0.00	0.00	0.90	0.90
Uniform Delay (d), s/veh				18.0	0.0	15.7	0.0	7.7	0.0	0.0	9.0	9.0
Incr Delay (d2), s/veh				7.3	0.0	1.0	0.0	0.5	0.0	0.0	2.3	2.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.0	0.0	2.3	0.0	1.8	0.0	0.0	4.1	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				25.3	0.0	16.7	0.0	8.2	0.0	0.0	11.2	11.3
LnGrp LOS				C	A	B	A	A		A	B	B
Approach Vol, veh/h					1196			645	A		1035	
Approach Delay, s/veh					23.6			8.2			11.2	
Approach LOS					C			A			B	

Timer - Assigned Phs	2			6		8
Phs Duration (G+Y+Rc), s	34.0			34.0		21.0
Change Period (Y+Rc), s	5.3			5.3		4.2
Max Green Setting (Gmax), s	28.0			28.0		17.5
Max Q Clear Time (g_c+I1), s	7.8			13.0		15.8
Green Ext Time (p_c), s	5.0			7.3		1.0

Intersection Summary	
HCM 6th Ctrl Delay	15.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	57	102	0	0	0	0	1127	1084	0	1257	379
Future Volume (vph)	47	57	102	0	0	0	0	1127	1084	0	1257	379
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6					4.9	4.9		4.9	4.0
Lane Util. Factor		1.00	0.88					0.95	1.00		0.91	1.00
Frpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	0.97
Flpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	1.00
Frt		1.00	0.85					1.00	0.85		1.00	0.85
Flt Protected		0.98	1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)		1753	2694					3455	1546		4964	1501
Flt Permitted		0.98	1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)		1753	2694					3455	1546		4964	1501
Peak-hour factor, PHF	0.80	0.72	0.75	0.92	0.92	0.92	0.92	0.85	0.94	0.92	0.96	0.82
Adj. Flow (vph)	59	79	136	0	0	0	0	1326	1153	0	1309	462
RTOR Reduction (vph)	0	0	121	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	138	15	0	0	0	0	1326	1153	0	1309	462
Confl. Peds. (#/hr)	13					13	11		1	1		11
Confl. Bikes (#/hr)												9
Heavy Vehicles (%)	6%	0%	2%	0%	0%	0%	0%	1%	1%	0%	1%	1%
Turn Type	Split	NA	Perm					NA	Prot		NA	Free
Protected Phases	2	2						1 3 4	1 3 4		1 3 4	
Permitted Phases			2									Free
Actuated Green, G (s)		13.6	13.6					97.5	97.5		97.5	119.9
Effective Green, g (s)		13.6	13.6					93.3	93.3		93.3	119.9
Actuated g/C Ratio		0.11	0.11					0.78	0.78		0.78	1.00
Clearance Time (s)		4.6	4.6									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		198	305					2688	1203		3862	1501
v/s Ratio Prot		c0.08						0.38	c0.75		0.26	
v/s Ratio Perm			0.01									c0.31
v/c Ratio		0.70	0.05					0.49	0.96		0.34	0.31
Uniform Delay, d1		51.2	47.4					4.8	11.6		4.0	0.0
Progression Factor		1.00	1.00					0.03	1.10		1.00	1.00
Incremental Delay, d2		10.2	0.1					0.0	6.7		0.1	0.5
Delay (s)		61.4	47.5					0.2	19.5		4.1	0.5
Level of Service		E	D					A	B		A	A
Approach Delay (s)		54.5			0.0			9.1			3.1	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	672	26	288	47	16	108	86	1467	18	46	1081	238
Future Volume (vph)	672	26	288	47	16	108	86	1467	18	46	1081	238
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.97		1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1625	1641	1509		1783	1561	1745	4949		1745	4748	
Flt Permitted	0.95	0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1625	1641	1509		1783	1561	1745	4949		1745	4748	
Peak-hour factor, PHF	0.86	0.61	0.80	0.85	0.44	0.79	0.66	0.86	0.61	0.67	0.94	0.85
Adj. Flow (vph)	781	43	360	55	36	137	130	1706	30	69	1150	280
RTOR Reduction (vph)	0	0	132	0	0	119	0	1	0	0	33	0
Lane Group Flow (vph)	414	410	228	0	91	18	130	1735	0	69	1397	0
Confl. Peds. (#/hr)			18	18			12		8	8		12
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	1		2	6	
Permitted Phases			4			3						
Actuated Green, G (s)	30.0	30.0	30.0		16.0	16.0	13.4	42.4		13.6	43.5	
Effective Green, g (s)	30.0	30.0	30.0		16.0	16.0	13.4	42.4		13.6	43.5	
Actuated g/C Ratio	0.25	0.25	0.25		0.13	0.13	0.11	0.35		0.11	0.36	
Clearance Time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.2	
Lane Grp Cap (vph)	406	410	377		237	208	195	1750		197	1722	
v/s Ratio Prot	c0.25	0.25			c0.05		c0.07	c0.35		0.04	0.29	
v/s Ratio Perm			0.15			0.01						
v/c Ratio	1.02	1.00	0.60		0.38	0.09	0.67	0.99		0.35	0.81	
Uniform Delay, d1	45.0	45.0	39.7		47.4	45.6	51.1	38.6		49.1	34.5	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.18	0.92	
Incremental Delay, d2	49.8	44.4	2.7		1.0	0.2	8.3	19.5		1.0	4.1	
Delay (s)	94.7	89.4	42.4		48.5	45.7	59.4	58.1		58.8	35.7	
Level of Service	F	F	D		D	D	E	E		E	D	
Approach Delay (s)		77.0			46.8			58.2			36.8	
Approach LOS		E			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	55.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	481	159	35	29	86	114	47	913	68	147	798	334
Future Volume (veh/h)	481	159	35	29	86	114	47	913	68	147	798	334
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.91	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	506	167	37	31	91	120	49	961	72	155	840	352
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	720	305	68	54	159	166	64	1892	141	197	2382	724
Arrive On Green	0.21	0.21	0.21	0.11	0.11	0.11	0.04	0.39	0.39	0.11	0.46	0.46
Sat Flow, veh/h	3483	1476	327	477	1399	1462	1795	4869	364	1795	5147	1563
Grp Volume(v), veh/h	506	0	204	122	0	120	49	676	357	155	840	352
Grp Sat Flow(s),veh/h/ln	1742	0	1803	1876	0	1462	1795	1716	1802	1795	1716	1563
Q Serve(g_s), s	12.4	0.0	9.3	5.7	0.0	7.3	2.5	13.8	13.8	7.7	9.6	14.3
Cycle Q Clear(g_c), s	12.4	0.0	9.3	5.7	0.0	7.3	2.5	13.8	13.8	7.7	9.6	14.3
Prop In Lane	1.00		0.18	0.25		1.00	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	720	0	373	214	0	166	64	1333	700	197	2382	724
V/C Ratio(X)	0.70	0.00	0.55	0.57	0.00	0.72	0.77	0.51	0.51	0.79	0.35	0.49
Avail Cap(c_a), veh/h	798	0	413	430	0	335	313	1699	892	509	2548	774
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.8	0.0	32.5	38.5	0.0	39.2	43.8	21.4	21.4	39.8	15.8	17.1
Incr Delay (d2), s/veh	4.8	0.0	4.5	3.4	0.0	8.1	23.5	1.4	2.6	9.4	0.4	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	4.5	2.8	0.0	3.0	1.5	5.5	6.1	3.8	3.6	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	0.0	37.0	41.9	0.0	47.3	67.4	22.7	24.0	49.2	16.2	19.4
LnGrp LOS	D	A	D	D	A	D	E	C	C	D	B	B
Approach Vol, veh/h		710			242			1082			1347	
Approach Delay, s/veh		38.1			44.6			25.2			20.8	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	47.0		14.4	14.1	40.2		23.0				
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0				
Max Green Setting (Gmax), s	16.0	45.4		21.0	26.0	45.4		21.0				
Max Q Clear Time (g_c+I1), s	4.5	16.3		9.3	9.7	15.8		14.4				
Green Ext Time (p_c), s	0.1	20.9		1.2	0.6	19.8		3.7				
Intersection Summary												
HCM 6th Ctrl Delay			27.6									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	413	540	120	212	248	99	129	557	87	190	497	104
Future Volume (veh/h)	413	540	120	212	248	99	129	557	87	190	497	104
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	369	637	124	192	293	102	133	574	90	196	512	107
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	461	784	152	347	515	174	172	1240	191	296	955	412
Arrive On Green	0.26	0.26	0.26	0.19	0.19	0.19	0.10	0.28	0.28	0.08	0.27	0.27
Sat Flow, veh/h	1795	3051	593	1810	2685	909	1795	4475	689	3483	3582	1548
Grp Volume(v), veh/h	369	393	368	192	205	190	133	438	226	196	512	107
Grp Sat Flow(s),veh/h/ln	1795	1885	1758	1810	1900	1694	1795	1716	1733	1742	1791	1548
Q Serve(g_s), s	18.1	18.4	18.5	9.0	9.2	9.6	6.8	9.9	10.2	5.1	11.5	5.1
Cycle Q Clear(g_c), s	18.1	18.4	18.5	9.0	9.2	9.6	6.8	9.9	10.2	5.1	11.5	5.1
Prop In Lane	1.00		0.34	1.00		0.54	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	461	485	452	347	364	325	172	951	480	296	955	412
V/C Ratio(X)	0.80	0.81	0.81	0.55	0.56	0.58	0.78	0.46	0.47	0.66	0.54	0.26
Avail Cap(c_a), veh/h	485	509	475	488	513	457	496	1655	836	962	1728	747
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	32.8	32.8	34.4	34.5	34.6	41.6	28.2	28.3	41.7	29.5	27.2
Incr Delay (d2), s/veh	9.4	9.8	10.6	2.0	1.9	2.4	10.1	1.3	2.6	3.6	1.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	9.7	9.1	4.2	4.4	4.2	3.4	4.1	4.5	2.3	5.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.1	42.6	43.5	36.3	36.4	37.0	51.7	29.4	30.9	45.3	31.2	28.4
LnGrp LOS	D	D	D	D	D	D	D	C	C	D	C	C
Approach Vol, veh/h		1130			587			797			815	
Approach Delay, s/veh		42.7			36.6			33.6			34.3	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	30.7		22.6	13.0	29.7		28.8				
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		4.6				
Max Green Setting (Gmax), s	26.0	45.4		25.4	26.0	45.4		25.4				
Max Q Clear Time (g_c+I1), s	7.1	12.2		11.6	8.8	13.5		20.5				
Green Ext Time (p_c), s	0.9	11.4		3.7	0.5	10.0		3.2				
Intersection Summary												
HCM 6th Ctrl Delay			37.4									
HCM 6th LOS			D									

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	187	67	54	85	85	67	526	88	69	509	101
Future Volume (veh/h)	142	187	67	54	85	85	67	526	88	69	509	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	149	197	71	57	89	89	71	554	93	73	536	106
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	1	1	1
Cap, veh/h	174	230	83	97	152	207	94	992	166	96	967	190
Arrive On Green	0.27	0.27	0.27	0.13	0.13	0.13	0.05	0.33	0.33	0.05	0.33	0.33
Sat Flow, veh/h	644	852	307	728	1136	1544	1795	3046	509	1795	2956	582
Grp Volume(v), veh/h	417	0	0	146	0	89	71	325	322	73	324	318
Grp Sat Flow(s),veh/h/ln	1803	0	0	1864	0	1544	1795	1791	1764	1795	1791	1746
Q Serve(g_s), s	16.8	0.0	0.0	5.6	0.0	4.1	3.0	11.4	11.5	3.1	11.4	11.5
Cycle Q Clear(g_c), s	16.8	0.0	0.0	5.6	0.0	4.1	3.0	11.4	11.5	3.1	11.4	11.5
Prop In Lane	0.36		0.17	0.39		1.00	1.00		0.29	1.00		0.33
Lane Grp Cap(c), veh/h	487	0	0	249	0	207	94	583	575	96	586	571
V/C Ratio(X)	0.86	0.00	0.00	0.59	0.00	0.43	0.76	0.56	0.56	0.76	0.55	0.56
Avail Cap(c_a), veh/h	612	0	0	633	0	524	610	1062	1046	610	1062	1035
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	0.0	0.0	31.2	0.0	30.5	35.8	21.3	21.3	35.7	21.2	21.2
Incr Delay (d2), s/veh	9.6	0.0	0.0	2.2	0.0	1.4	11.7	3.0	3.1	11.4	2.9	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	0.0	0.0	2.6	0.0	1.6	1.6	5.1	5.1	1.6	4.9	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	0.0	0.0	33.4	0.0	31.9	47.5	24.3	24.4	47.1	24.1	24.3
LnGrp LOS	D	A	A	C	A	C	D	C	C	D	C	C
Approach Vol, veh/h		417			235			718			715	
Approach Delay, s/veh		36.1			32.8			26.6			26.5	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	29.5		14.2	8.0	29.7		24.7				
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0				
Max Green Setting (Gmax), s	26.0	45.4		26.0	26.0	45.4		26.0				
Max Q Clear Time (g_c+I1), s	5.1	13.5		7.6	5.0	13.5		18.8				
Green Ext Time (p_c), s	0.1	11.4		1.0	0.1	10.7		1.6				

Intersection Summary			
HCM 6th Ctrl Delay			29.2
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	934	326	57	456	79	156	184	59	123	274	62
Future Volume (veh/h)	29	934	326	57	456	79	156	184	59	123	274	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	31	1004	351	61	490	85	168	198	63	132	295	67
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	54	1374	592	80	1210	209	207	508	420	171	352	80
Arrive On Green	0.03	0.38	0.38	0.04	0.40	0.40	0.12	0.27	0.27	0.10	0.24	0.24
Sat Flow, veh/h	1795	3582	1544	1795	3041	524	1795	1885	1558	1795	1479	336
Grp Volume(v), veh/h	31	1004	351	61	287	288	168	198	63	132	0	362
Grp Sat Flow(s),veh/h/ln	1795	1791	1544	1795	1791	1774	1795	1885	1558	1795	0	1815
Q Serve(g_s), s	1.5	20.9	9.9	2.9	10.0	10.1	8.0	7.5	2.7	6.2	0.0	16.5
Cycle Q Clear(g_c), s	1.5	20.9	9.9	2.9	10.0	10.1	8.0	7.5	2.7	6.2	0.0	16.5
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	54	1374	592	80	713	706	207	508	420	171	0	433
V/C Ratio(X)	0.57	0.73	0.59	0.76	0.40	0.41	0.81	0.39	0.15	0.77	0.00	0.84
Avail Cap(c_a), veh/h	536	1852	798	536	926	917	536	650	537	536	0	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.6	23.0	8.4	41.1	18.8	18.8	37.6	25.9	24.2	38.5	0.0	31.5
Incr Delay (d2), s/veh	9.1	1.1	1.1	13.7	0.4	0.5	2.9	0.2	0.1	8.6	0.0	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	8.4	3.2	1.6	4.1	4.1	3.6	3.3	1.0	3.1	0.0	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	24.1	9.6	54.8	19.2	19.3	40.5	26.1	24.3	47.0	0.0	38.9
LnGrp LOS	D	C	A	D	B	B	D	C	C	D	A	D
Approach Vol, veh/h		1386			636			429			494	
Approach Delay, s/veh		21.0			22.7			31.5			41.1	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	39.6	12.3	28.5	7.9	38.4	15.0	25.7
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	26.0	45.0	26.0	30.0	26.0	45.0	26.0	* 30
Max Q Clear Time (g_c+I1), s	3.5	12.1	8.2	9.5	4.9	22.9	10.0	18.5
Green Ext Time (p_c), s	0.0	4.7	0.4	0.4	0.1	10.5	0.1	2.1

Intersection Summary	
HCM 6th Ctrl Delay	26.3
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)	51	870	124	98	408	49	151	198	85	200	373	48
Future Volume (veh/h)	51	870	124	98	408	49	151	198	85	200	373	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	54	916	131	103	429	52	159	208	89	211	393	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	70	1058	151	134	1196	144	199	302	129	254	447	58
Arrive On Green	0.04	0.34	0.34	0.07	0.37	0.37	0.11	0.24	0.24	0.14	0.27	0.27
Sat Flow, veh/h	1810	3149	450	1810	3225	388	1810	1250	535	1810	1641	213
Grp Volume(v), veh/h	54	525	522	103	239	242	159	0	297	211	0	444
Grp Sat Flow(s),veh/h/ln	1810	1805	1794	1810	1805	1808	1810	0	1785	1810	0	1854
Q Serve(g_s), s	2.6	23.5	23.5	4.8	8.3	8.4	7.4	0.0	13.1	9.8	0.0	19.8
Cycle Q Clear(g_c), s	2.6	23.5	23.5	4.8	8.3	8.4	7.4	0.0	13.1	9.8	0.0	19.8
Prop In Lane	1.00		0.25	1.00		0.21	1.00		0.30	1.00		0.11
Lane Grp Cap(c), veh/h	70	606	603	134	670	671	199	0	432	254	0	505
V/C Ratio(X)	0.77	0.87	0.87	0.77	0.36	0.36	0.80	0.00	0.69	0.83	0.00	0.88
Avail Cap(c_a), veh/h	429	742	737	429	742	743	429	0	527	429	0	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.1	26.9	26.9	39.3	19.7	19.7	37.5	0.0	29.8	36.2	0.0	30.1
Incr Delay (d2), s/veh	12.3	7.8	7.9	6.8	0.4	0.4	7.2	0.0	2.4	7.0	0.0	14.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	11.0	10.9	2.4	3.4	3.5	3.6	0.0	5.8	4.7	0.0	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.4	34.7	34.8	46.1	20.1	20.1	44.8	0.0	32.2	43.1	0.0	44.9
LnGrp LOS	D	C	C	D	C	C	D	A	C	D	A	D
Approach Vol, veh/h		1101			584			456			655	
Approach Delay, s/veh		35.7			24.7			36.6			44.3	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	33.5	16.6	25.4	7.9	36.6	14.0	28.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.5	35.5	20.5	25.5	20.5	35.5	20.5	25.5
Max Q Clear Time (g_c+I1), s	6.8	25.5	11.8	15.1	4.6	10.4	9.4	21.8
Green Ext Time (p_c), s	0.1	3.5	0.4	1.1	0.1	3.6	0.3	1.1

Intersection Summary	
HCM 6th Ctrl Delay	35.6
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1059	56	53	468	85	22	58	65	278	143	55
Future Volume (veh/h)	45	1059	56	53	468	85	22	58	65	278	143	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.92	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	47	1115	59	56	493	89	23	61	68	293	151	58
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	60	1437	76	73	1269	227	36	117	131	341	415	159
Arrive On Green	0.03	0.41	0.41	0.04	0.42	0.42	0.02	0.15	0.15	0.19	0.32	0.32
Sat Flow, veh/h	1810	3470	184	1810	3016	540	1795	775	864	1810	1295	497
Grp Volume(v), veh/h	47	580	594	56	294	288	23	0	129	293	0	209
Grp Sat Flow(s),veh/h/ln	1810	1805	1849	1810	1805	1752	1795	0	1640	1810	0	1793
Q Serve(g_s), s	2.0	21.6	21.6	2.4	8.7	8.9	1.0	0.0	5.6	12.2	0.0	7.0
Cycle Q Clear(g_c), s	2.0	21.6	21.6	2.4	8.7	8.9	1.0	0.0	5.6	12.2	0.0	7.0
Prop In Lane	1.00		0.10	1.00		0.31	1.00		0.53	1.00		0.28
Lane Grp Cap(c), veh/h	60	747	765	73	760	737	36	0	248	341	0	574
V/C Ratio(X)	0.78	0.78	0.78	0.77	0.39	0.39	0.64	0.00	0.52	0.86	0.00	0.36
Avail Cap(c_a), veh/h	372	1067	1093	372	1067	1036	485	0	337	489	0	574
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.3	19.7	19.7	37.0	15.6	15.6	37.8	0.0	30.4	30.5	0.0	20.4
Incr Delay (d2), s/veh	19.2	2.3	2.3	15.6	0.3	0.3	17.0	0.0	1.7	10.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	8.8	9.0	1.3	3.4	3.4	0.6	0.0	2.3	6.2	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.5	22.0	22.0	52.6	15.9	16.0	54.9	0.0	32.1	40.8	0.0	20.7
LnGrp LOS	E	C	C	D	B	B	D	A	C	D	A	C
Approach Vol, veh/h		1221			638			152			502	
Approach Delay, s/veh		23.3			19.1			35.5			32.4	
Approach LOS		C			B			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.7	15.8	7.1	36.2	5.6	28.9	6.6	36.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	21.0	16.0	16.0	46.0	21.0	16.0	16.0	46.0
Max Q Clear Time (g_c+I1), s	14.2	7.6	4.4	23.6	3.0	9.0	4.0	10.9
Green Ext Time (p_c), s	0.5	0.4	0.1	8.6	0.0	0.6	0.1	4.0

Intersection Summary	
HCM 6th Ctrl Delay	24.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	1263	107	147	569	21	88	10	115	19	9	16
Future Volume (veh/h)	34	1263	107	147	569	21	88	10	115	19	9	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	35	1302	110	152	587	22	91	10	119	20	9	16
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	50	1530	129	196	1031	845	89	5	401	79	22	415
Arrive On Green	0.03	0.46	0.46	0.11	0.54	0.54	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1810	3358	283	1810	1900	1557	0	21	1545	0	86	1599
Grp Volume(v), veh/h	35	698	714	152	587	22	101	0	119	29	0	16
Grp Sat Flow(s),veh/h/ln	1810	1805	1836	1810	1900	1557	21	0	1545	86	0	1599
Q Serve(g_s), s	1.5	26.4	26.7	6.3	15.7	0.5	0.0	0.0	4.8	0.0	0.0	0.6
Cycle Q Clear(g_c), s	1.5	26.4	26.7	6.3	15.7	0.5	20.0	0.0	4.8	20.0	0.0	0.6
Prop In Lane	1.00		0.15	1.00		1.00	0.90		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	50	822	836	196	1031	845	94	0	401	101	0	415
V/C Ratio(X)	0.71	0.85	0.85	0.78	0.57	0.03	1.07	0.00	0.30	0.29	0.00	0.04
Avail Cap(c_a), veh/h	611	1052	1071	599	1108	908	94	0	401	101	0	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	18.6	18.7	33.4	11.6	8.2	37.4	0.0	22.9	23.8	0.0	21.3
Incr Delay (d2), s/veh	16.8	4.4	4.6	6.5	0.3	0.0	113.4	0.0	0.2	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	11.0	11.3	3.1	6.1	0.2	4.7	0.0	1.7	0.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.9	23.0	23.3	40.0	12.0	8.2	150.8	0.0	23.0	24.4	0.0	21.3
LnGrp LOS	D	C	C	D	B	A	F	A	C	C	A	C
Approach Vol, veh/h		1447			761			220			45	
Approach Delay, s/veh		23.9			17.4			81.7			23.3	
Approach LOS		C			B			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.8	40.2		24.0	6.1	46.9		24.0
Change Period (Y+Rc), s	4.5	5.1		4.0	4.0	5.1		4.0
Max Green Setting (Gmax), s	25.5	44.9		20.0	26.0	44.9		20.0
Max Q Clear Time (g_c+I1), s	8.3	28.7		22.0	3.5	17.7		22.0
Green Ext Time (p_c), s	0.4	6.4		0.0	0.1	2.9		0.0

Intersection Summary		
HCM 6th Ctrl Delay		27.0
HCM 6th LOS		C

Notes
User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	337	126	145	225	34	77	348	115	64	443	41
Future Volume (veh/h)	53	337	126	145	225	34	77	348	115	64	443	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	55	351	131	151	234	35	80	362	120	67	461	43
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	0	0	0
Cap, veh/h	77	402	150	192	603	90	106	438	145	89	542	51
Arrive On Green	0.04	0.31	0.31	0.11	0.38	0.38	0.06	0.33	0.33	0.05	0.32	0.32
Sat Flow, veh/h	1795	1282	478	1810	1602	240	1795	1335	443	1810	1703	159
Grp Volume(v), veh/h	55	0	482	151	0	269	80	0	482	67	0	504
Grp Sat Flow(s),veh/h/ln	1795	0	1761	1810	0	1842	1795	0	1778	1810	0	1862
Q Serve(g_s), s	2.5	0.0	21.6	6.8	0.0	8.9	3.7	0.0	20.9	3.1	0.0	21.2
Cycle Q Clear(g_c), s	2.5	0.0	21.6	6.8	0.0	8.9	3.7	0.0	20.9	3.1	0.0	21.2
Prop In Lane	1.00		0.27	1.00		0.13	1.00		0.25	1.00		0.09
Lane Grp Cap(c), veh/h	77	0	552	192	0	694	106	0	583	89	0	592
V/C Ratio(X)	0.71	0.00	0.87	0.78	0.00	0.39	0.76	0.00	0.83	0.76	0.00	0.85
Avail Cap(c_a), veh/h	569	0	737	574	0	771	569	0	745	574	0	780
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.5	0.0	27.1	36.4	0.0	19.0	38.7	0.0	25.9	39.2	0.0	26.6
Incr Delay (d2), s/veh	11.3	0.0	8.9	6.9	0.0	0.4	10.4	0.0	6.9	12.2	0.0	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	10.2	3.3	0.0	3.8	1.9	0.0	9.5	1.6	0.0	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	0.0	36.0	43.3	0.0	19.4	49.2	0.0	32.8	51.5	0.0	34.6
LnGrp LOS	D	A	D	D	A	B	D	A	C	D	A	C
Approach Vol, veh/h		537			420			562			571	
Approach Delay, s/veh		37.6			28.0			35.1			36.6	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	31.2	8.4	31.6	7.1	36.5	7.6	32.4
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0
Max Green Setting (Gmax), s	26.5	35.0	26.5	35.0	26.5	35.0	26.5	35.0
Max Q Clear Time (g_c+I1), s	8.8	23.6	5.7	23.2	4.5	10.9	5.1	22.9
Green Ext Time (p_c), s	0.4	2.6	0.2	3.4	0.1	1.7	0.1	3.4

Intersection Summary		
HCM 6th Ctrl Delay		34.7
HCM 6th LOS		C

Intersection	
Intersection Delay, s/veh	56.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	465	87	49	296	49	31	89	36	39	129	67
Future Vol, veh/h	75	465	87	49	296	49	31	89	36	39	129	67
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	81	500	94	53	318	53	33	96	39	42	139	72
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	98.7	27.8	15.8	18.8
HCM LOS	F	D	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	14%	0%	14%	0%	17%
Vol Thru, %	57%	86%	0%	86%	0%	55%
Vol Right, %	23%	0%	100%	0%	100%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	156	540	87	345	49	235
LT Vol	31	75	0	49	0	39
Through Vol	89	465	0	296	0	129
RT Vol	36	0	87	0	49	67
Lane Flow Rate	168	581	94	371	53	253
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.362	1.149	0.165	0.755	0.096	0.518
Departure Headway (Hd)	8.213	7.126	6.336	7.65	6.853	7.778
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	441	511	566	475	526	467
Service Time	6.213	4.871	4.08	5.35	4.553	5.778
HCM Lane V/C Ratio	0.381	1.137	0.166	0.781	0.101	0.542
HCM Control Delay	15.8	112.9	10.3	30.3	10.3	18.8
HCM Lane LOS	C	F	B	D	B	C
HCM 95th-tile Q	1.6	20.1	0.6	6.4	0.3	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	522	242	15	304	131	87	44	7	175	97	110
Future Volume (veh/h)	71	522	242	15	304	131	87	44	7	175	97	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.89	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	79	580	0	17	338	0	97	49	8	194	108	122
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	110	708		37	631		127	295	48	243	195	221
Arrive On Green	0.06	0.38	0.00	0.02	0.33	0.00	0.07	0.19	0.19	0.14	0.25	0.25
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1563	255	1795	769	868
Grp Volume(v), veh/h	79	580	0	17	338	0	97	0	57	194	0	230
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	0	1819	1795	0	1637
Q Serve(g_s), s	2.5	16.4	0.0	0.6	8.6	0.0	3.1	0.0	1.5	6.2	0.0	7.2
Cycle Q Clear(g_c), s	2.5	16.4	0.0	0.6	8.6	0.0	3.1	0.0	1.5	6.2	0.0	7.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.53
Lane Grp Cap(c), veh/h	110	708		37	631		127	0	343	243	0	416
V/C Ratio(X)	0.72	0.82		0.46	0.54		0.77	0.00	0.17	0.80	0.00	0.55
Avail Cap(c_a), veh/h	487	1134		487	1134		491	0	647	487	0	583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.2	16.6	0.0	28.6	15.9	0.0	27.0	0.0	20.1	24.7	0.0	19.1
Incr Delay (d2), s/veh	6.3	2.6	0.0	6.5	0.7	0.0	3.6	0.0	0.2	2.3	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	6.9	0.0	0.3	3.4	0.0	1.4	0.0	0.6	2.6	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.4	19.2	0.0	35.0	16.6	0.0	30.6	0.0	20.2	27.0	0.0	19.9
LnGrp LOS	C	B		D	B		C	A	C	C	A	B
Approach Vol, veh/h		659	A		355	A		154			424	
Approach Delay, s/veh		20.9			17.5			26.7			23.2	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	26.7	8.1	19.0	7.6	24.2	12.0	15.1
Change Period (Y+Rc), s	4.0	4.5	4.0	4.0	4.0	4.5	4.0	4.0
Max Green Setting (Gmax), s	16.0	35.5	16.0	21.0	16.0	35.5	16.0	21.0
Max Q Clear Time (g_c+I1), s	2.6	18.4	5.1	9.2	4.5	10.6	8.2	3.5
Green Ext Time (p_c), s	0.0	3.8	0.1	0.9	0.1	2.1	0.2	0.2

Intersection Summary	
HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

APPENDIX F. CUMULATIVE CONDITIONS SYNCHRO OUTPUT SHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	551	318	80	514	66	623	28	133	28	23	12
Future Volume (veh/h)	28	551	318	80	514	66	623	28	133	28	23	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	29	568	0	82	530	68	663	0	0	29	24	12
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	52	1715		105	1616	207	748	0		67	55	103
Arrive On Green	0.03	0.48	0.00	0.06	0.51	0.51	0.21	0.00	0.00	0.07	0.07	0.07
Sat Flow, veh/h	1795	3582	1598	1795	3180	406	3591	0	1598	1012	837	1559
Grp Volume(v), veh/h	29	568	0	82	298	300	663	0	0	53	0	12
Grp Sat Flow(s),veh/h/ln	1795	1791	1598	1795	1791	1795	1795	0	1598	1849	0	1559
Q Serve(g_s), s	1.4	8.4	0.0	3.8	8.3	8.4	15.2	0.0	0.0	2.3	0.0	0.6
Cycle Q Clear(g_c), s	1.4	8.4	0.0	3.8	8.3	8.4	15.2	0.0	0.0	2.3	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	0.55		1.00
Lane Grp Cap(c), veh/h	52	1715		105	910	912	748	0		122	0	103
V/C Ratio(X)	0.55	0.33		0.78	0.33	0.33	0.89	0.00		0.43	0.00	0.12
Avail Cap(c_a), veh/h	118	1715		137	910	912	824	0		490	0	413
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.97	0.97	0.97	0.71	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.7	13.7	0.0	39.5	12.3	12.3	32.7	0.0	0.0	38.2	0.0	37.4
Incr Delay (d2), s/veh	3.4	0.5	0.0	13.3	0.9	0.9	7.4	0.0	0.0	0.9	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.4	0.0	2.1	3.4	3.5	7.1	0.0	0.0	1.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.1	14.2	0.0	52.7	13.3	13.3	40.1	0.0	0.0	39.1	0.0	37.6
LnGrp LOS	D	B		D	B	B	D	A		D	A	D
Approach Vol, veh/h		597	A		680			663	A		65	
Approach Delay, s/veh		15.7			18.0			40.1			38.8	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	44.7		9.6	6.5	47.2		21.7
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.5	20.5		22.5	5.6	21.4		19.5
Max Q Clear Time (g_c+I1), s	5.8	10.4		4.3	3.4	10.4		17.2
Green Ext Time (p_c), s	0.0	2.8		0.1	0.0	2.9		0.4

Intersection Summary	
HCM 6th Ctrl Delay	25.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	592	81	299	603	131	438
Future Volume (veh/h)	592	81	299	603	131	438
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.95	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	604	83	305	615	134	447
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	910	125	353	1977	555	494
Arrive On Green	0.29	0.29	0.20	0.55	0.31	0.31
Sat Flow, veh/h	3235	430	1795	3676	1795	1598
Grp Volume(v), veh/h	344	343	305	615	134	447
Grp Sat Flow(s),veh/h/ln	1791	1780	1795	1791	1795	1598
Q Serve(g_s), s	11.6	11.6	11.3	6.4	3.8	18.4
Cycle Q Clear(g_c), s	11.6	11.6	11.3	6.4	3.8	18.4
Prop In Lane		0.24	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	519	515	353	1977	555	494
V/C Ratio(X)	0.66	0.67	0.86	0.31	0.24	0.90
Avail Cap(c_a), veh/h	862	857	511	1977	746	664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	21.4	26.6	8.3	17.7	22.7
Incr Delay (d2), s/veh	2.1	2.1	7.4	0.1	0.1	10.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	4.7	5.2	2.1	1.5	8.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.5	23.5	34.1	8.4	17.7	33.6
LnGrp LOS	C	C	C	A	B	C
Approach Vol, veh/h	687			920	581	
Approach Delay, s/veh	23.5			16.9	30.0	
Approach LOS	C			B	C	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	18.0	24.9		25.7		42.8
Change Period (Y+Rc), s	4.5	5.0		4.5		5.0
Max Green Setting (Gmax), s	19.5	33.0		28.5		33.0
Max Q Clear Time (g_c+I1), s	13.3	13.6		20.4		8.4
Green Ext Time (p_c), s	0.3	5.6		0.8		5.9
Intersection Summary						
HCM 6th Ctrl Delay			22.5			
HCM 6th LOS			C			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	705	366	313	604	6	240	2	951	1	0	2
Future Volume (veh/h)	6	705	366	313	604	6	240	2	951	1	0	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1737	1870	1900	1900	1885	1885	1856	1870	1870	1870
Adj Flow Rate, veh/h	6	734	0	326	629	6	250	2	0	1	0	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	11	2	0	0	1	1	3	2	2	2
Cap, veh/h	11	1963		344	2678	26	271	2		9	0	17
Arrive On Green	0.01	0.54	0.00	0.39	1.00	1.00	0.15	0.15	0.00	0.02	0.00	0.02
Sat Flow, veh/h	1810	3610	1472	1781	3664	35	1782	14	1572	495	0	990
Grp Volume(v), veh/h	6	734	0	326	310	325	252	0	0	3	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1472	1781	1805	1894	1796	0	1572	1485	0	0
Q Serve(g_s), s	0.5	17.5	0.0	26.6	0.0	0.0	20.8	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	17.5	0.0	26.6	0.0	0.0	20.8	0.0	0.0	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.99		1.00	0.33		0.67
Lane Grp Cap(c), veh/h	11	1963		344	1319	1384	273	0		26	0	0
V/C Ratio(X)	0.56	0.37		0.95	0.23	0.23	0.92	0.00		0.11	0.00	0.00
Avail Cap(c_a), veh/h	48	1963		487	1319	1384	281	0		218	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.00	1.00	1.00	1.00	0.53	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	74.4	19.6	0.0	45.3	0.0	0.0	62.7	0.0	0.0	72.5	0.0	0.0
Incr Delay (d2), s/veh	11.6	0.4	0.0	20.1	0.4	0.4	20.8	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	7.4	0.0	11.9	0.2	0.2	11.2	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.0	20.0	0.0	65.4	0.4	0.4	83.5	0.0	0.0	74.0	0.0	0.0
LnGrp LOS	F	B		E	A	A	F	A		E	A	A
Approach Vol, veh/h		740	A		961			252	A		3	
Approach Delay, s/veh		20.5			22.4			83.5			74.0	
Approach LOS		C			C			F			E	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	32.0	85.6	6.1	3.9	113.6	26.3
Change Period (Y+Rc), s	3.0	4.0	3.5	3.0	4.0	3.5
Max Green Setting (Gmax), s	41.0	49.5	22.0	4.0	86.5	23.5
Max Q Clear Time (g_c+I1), s	28.6	19.5	2.3	2.5	2.0	22.8
Green Ext Time (p_c), s	0.4	7.7	0.0	0.0	6.5	0.1

Intersection Summary	
HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	909	593	7	1075	39	419	133	80	80	91	51
Future Volume (veh/h)	155	909	593	7	1075	39	419	133	80	80	91	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1841	1900	1841	1841	1811	1870	1856	1870	1900	1900
Adj Flow Rate, veh/h	161	947	0	7	1120	41	288	347	0	83	95	53
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	3	4	0	4	4	6	2	3	2	0	0
Cap, veh/h	101	1996		15	1779	65	353	383		179	115	64
Arrive On Green	0.08	0.75	0.00	0.01	0.52	0.52	0.20	0.20	0.00	0.10	0.10	0.10
Sat Flow, veh/h	1781	3526	1560	1810	3435	126	1725	1870	1572	1781	1142	637
Grp Volume(v), veh/h	161	947	0	7	570	591	288	347	0	83	0	148
Grp Sat Flow(s),veh/h/ln	1781	1763	1560	1810	1749	1812	1725	1870	1572	1781	0	1779
Q Serve(g_s), s	8.5	15.5	0.0	0.6	35.0	35.0	23.9	27.2	0.0	6.6	0.0	12.2
Cycle Q Clear(g_c), s	8.5	15.5	0.0	0.6	35.0	35.0	23.9	27.2	0.0	6.6	0.0	12.2
Prop In Lane	1.00		1.00	1.00		0.07	1.00		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	101	1996		15	906	939	353	383		179	0	179
V/C Ratio(X)	1.60	0.47		0.46	0.63	0.63	0.82	0.91		0.46	0.00	0.83
Avail Cap(c_a), veh/h	101	1996		62	906	939	397	430		338	0	338
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.3	10.0	0.0	74.0	25.9	25.9	56.9	58.2	0.0	63.6	0.0	66.2
Incr Delay (d2), s/veh	309.2	0.8	0.0	20.0	3.3	3.2	11.3	21.1	0.0	1.9	0.0	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	5.1	0.0	0.4	15.2	15.7	11.6	15.2	0.0	3.1	0.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	378.5	10.8	0.0	94.0	29.2	29.1	68.3	79.3	0.0	65.5	0.0	75.4
LnGrp LOS	F	B		F	C	C	E	E		E	A	E
Approach Vol, veh/h		1108	A		1168			635	A		231	
Approach Delay, s/veh		64.2			29.5			74.3			71.8	
Approach LOS		E			C			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.8	89.4		35.2	13.0	82.2		19.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.1	63.9		34.5	8.5	60.5		28.5
Max Q Clear Time (g_c+I1), s	12.6	17.5		29.2	10.5	37.0		14.2
Green Ext Time (p_c), s	0.0	8.6		1.5	0.0	8.3		0.9

Intersection Summary	
HCM 6th Ctrl Delay	53.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	364	230	573	167	310	601
Future Volume (veh/h)	364	230	573	167	310	601
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	375	237	591	172	320	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	869	867	795	347	434	
Arrive On Green	0.48	0.48	0.22	0.22	0.12	0.00
Sat Flow, veh/h	1795	1885	3647	1551	3483	1598
Grp Volume(v), veh/h	375	237	591	172	320	0
Grp Sat Flow(s),veh/h/ln	1795	1791	1777	1551	1742	1598
Q Serve(g_s), s	10.9	6.3	12.4	7.7	7.1	0.0
Cycle Q Clear(g_c), s	10.9	6.3	12.4	7.7	7.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	869	867	795	347	434	
V/C Ratio(X)	0.43	0.27	0.74	0.50	0.74	
Avail Cap(c_a), veh/h	869	867	795	347	906	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.5	12.3	28.9	27.1	33.8	0.0
Incr Delay (d2), s/veh	1.2	0.6	6.2	5.0	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	2.5	5.8	3.3	3.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.7	12.9	35.1	32.1	36.2	0.0
LnGrp LOS	B	B	D	C	D	
Approach Vol, veh/h		612	763		320	A
Approach Delay, s/veh		14.0	34.4		36.2	
Approach LOS		B	C		D	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		43.3		14.2		22.5
Change Period (Y+Rc), s		4.6		* 4.2		4.6
Max Green Setting (Gmax), s		27.9		* 21		17.9
Max Q Clear Time (g_c+I1), s		12.9		9.1		14.4
Green Ext Time (p_c), s		3.5		0.9		1.6

Intersection Summary		
HCM 6th Ctrl Delay		27.4
HCM 6th LOS		C

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	241	264	50	308	412	42
Future Volume (veh/h)	241	264	50	308	412	42
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	256	281	53	328	480	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	0	0	1	0
Cap, veh/h	609	500	65	919	896	402
Arrive On Green	0.32	0.32	0.04	0.48	0.25	0.00
Sat Flow, veh/h	1885	1549	1810	1900	3591	1610
Grp Volume(v), veh/h	256	281	53	328	480	0
Grp Sat Flow(s),veh/h/ln	1885	1549	1810	1900	1795	1610
Q Serve(g_s), s	3.0	4.2	0.8	3.0	3.3	0.0
Cycle Q Clear(g_c), s	3.0	4.2	0.8	3.0	3.3	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	609	500	65	919	896	402
V/C Ratio(X)	0.42	0.56	0.81	0.36	0.54	0.00
Avail Cap(c_a), veh/h	2012	1653	1931	2028	3833	1719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.5	7.9	13.4	4.5	9.1	0.0
Incr Delay (d2), s/veh	0.5	1.0	20.4	0.2	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.0	0.6	0.4	0.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.9	8.9	33.9	4.8	9.6	0.0
LnGrp LOS	A	A	C	A	A	A
Approach Vol, veh/h	537			381	480	
Approach Delay, s/veh	8.4			8.8	9.6	
Approach LOS	A			A	A	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	4.5	13.1		10.5		17.6
Change Period (Y+Rc), s	3.5	4.0		3.5		4.0
Max Green Setting (Gmax), s	30.0	30.0		30.0		30.0
Max Q Clear Time (g_c+I1), s	2.8	6.2		5.3		5.0
Green Ext Time (p_c), s	0.1	2.7		1.8		1.9

Intersection Summary	
HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	5.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	217	97	75	211	162	96
Future Vol, veh/h	217	97	75	211	162	96
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	170	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	226	101	78	220	169	100

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	328	0	603	227
Stage 1	-	-	-	-	227	-
Stage 2	-	-	-	-	376	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1243	-	465	817
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	699	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1242	-	435	816
Mov Cap-2 Maneuver	-	-	-	-	435	-
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	655	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	15.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	435	816	-	-	1242	-
HCM Lane V/C Ratio	0.388	0.123	-	-	0.063	-
HCM Control Delay (s)	18.4	10	-	-	8.1	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.8	0.4	-	-	0.2	-

Intersection						
Int Delay, s/veh	0.4					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	300	8	9	305	9	7
Future Vol, veh/h	300	8	9	305	9	7
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	1	2	2	11	11
Mvmt Flow	333	9	10	339	10	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	343	0	698	339
Stage 1	-	-	-	-	339	-
Stage 2	-	-	-	-	359	-
Critical Hdwy	-	-	4.12	-	6.51	6.31
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.218	-	3.599	3.399
Pot Cap-1 Maneuver	-	-	1216	-	393	683
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	687	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1215	-	389	682
Mov Cap-2 Maneuver	-	-	-	-	493	-
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	680	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	561	-	-	1215	-
HCM Lane V/C Ratio	0.032	-	-	0.008	-
HCM Control Delay (s)	11.6	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	92	0	6	26	393	0	2	9	269	0	5
Future Vol, veh/h	10	92	0	6	26	393	0	2	9	269	0	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	3	3	3	14	14	14	1	1	1
Mvmt Flow	10	96	0	6	27	409	0	2	9	280	0	5
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	9.6	12.9	8.6	12.6
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	10%	19%	0%	98%
Vol Thru, %	18%	90%	81%	0%	0%
Vol Right, %	82%	0%	0%	100%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	102	32	393	274
LT Vol	0	10	6	0	269
Through Vol	2	92	26	0	0
RT Vol	9	0	0	393	5
Lane Flow Rate	11	106	33	409	285
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.018	0.163	0.052	0.543	0.434
Departure Headway (Hd)	5.522	5.507	5.579	4.778	5.48
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	650	653	635	745	662
Service Time	3.539	3.527	3.374	2.572	3.48
HCM Lane V/C Ratio	0.017	0.162	0.052	0.549	0.431
HCM Control Delay	8.6	9.6	8.7	13.2	12.6
HCM Lane LOS	A	A	A	B	B
HCM 95th-tile Q	0.1	0.6	0.2	3.3	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	388	394	164	543	5	632	5	123	0	9	3
Future Volume (veh/h)	1	388	394	164	543	5	632	5	123	0	9	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1687	1687	1634	1687	1687	1856	1900	1856	1900	1900	1900
Adj Flow Rate, veh/h	1	417	424	176	584	5	684	0	132	0	10	3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	5	1	1	3	0	3	0	0	0
Cap, veh/h	2	1176	508	211	1631	14	882	0	383	0	21	6
Arrive On Green	0.00	0.37	0.37	0.14	0.50	0.50	0.25	0.00	0.25	0.00	0.02	0.02
Sat Flow, veh/h	1619	3205	1385	1556	3255	28	3534	0	1537	0	1368	410
Grp Volume(v), veh/h	1	417	424	176	287	302	684	0	132	0	0	13
Grp Sat Flow(s),veh/h/ln	1619	1602	1385	1556	1602	1681	1767	0	1537	0	0	1778
Q Serve(g_s), s	0.0	7.5	22.2	8.8	8.7	8.7	14.3	0.0	5.6	0.0	0.0	0.6
Cycle Q Clear(g_c), s	0.0	7.5	22.2	8.8	8.7	8.7	14.3	0.0	5.6	0.0	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.00		0.23
Lane Grp Cap(c), veh/h	2	1176	508	211	803	842	882	0	383	0	0	28
V/C Ratio(X)	0.49	0.35	0.83	0.84	0.36	0.36	0.78	0.00	0.34	0.00	0.00	0.47
Avail Cap(c_a), veh/h	652	1290	557	626	803	842	1778	0	773	0	0	447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	39.7	18.3	23.0	33.5	12.1	12.1	27.8	0.0	24.5	0.0	0.0	38.8
Incr Delay (d2), s/veh	55.2	0.7	13.6	3.3	1.0	0.9	1.5	0.0	0.5	0.0	0.0	13.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.7	8.6	3.4	3.0	3.1	6.1	0.0	2.1	0.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.9	19.0	36.5	36.9	13.0	13.0	29.3	0.0	25.0	0.0	0.0	52.7
LnGrp LOS	F	B	D	D	B	B	C	A	C	A	A	D
Approach Vol, veh/h		842			765			816			13	
Approach Delay, s/veh		27.9			18.5			28.6			52.7	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.3	34.2		5.7	4.6	44.9		24.3
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	32.0	32.0		20.0	32.0	31.0		40.0
Max Q Clear Time (g_c+I1), s	10.8	24.2		2.6	2.0	10.7		16.3
Green Ext Time (p_c), s	0.2	5.0		0.0	0.0	7.7		3.2

Intersection Summary	
HCM 6th Ctrl Delay	25.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	631	5	428	0	630	493	0	660	166
Future Volume (veh/h)	0	0	0	631	5	428	0	630	493	0	660	166
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		0.97
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				1885	1900	1826	0	1870	1900	0	1870	1870
Adj Flow Rate, veh/h				697	0	470	0	692	0	0	725	182
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				1	0	5	0	2	0	0	2	2
Cap, veh/h				1143	0	492	0	1809		0	1422	357
Arrive On Green				0.32	0.00	0.32	0.00	0.51	0.00	0.00	0.51	0.51
Sat Flow, veh/h				3591	0	1547	0	3647	1610	0	2887	701
Grp Volume(v), veh/h				697	0	470	0	692	0	0	461	446
Grp Sat Flow(s),veh/h/ln				1795	0	1547	0	1777	1610	0	1777	1717
Q Serve(g_s), s				9.0	0.0	16.4	0.0	6.5	0.0	0.0	9.5	9.5
Cycle Q Clear(g_c), s				9.0	0.0	16.4	0.0	6.5	0.0	0.0	9.5	9.5
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.41
Lane Grp Cap(c), veh/h				1143	0	492	0	1809		0	905	874
V/C Ratio(X)				0.61	0.00	0.95	0.00	0.38		0.00	0.51	0.51
Avail Cap(c_a), veh/h				1143	0	492	0	1809		0	905	874
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.93	0.00	0.00	0.75	0.75
Uniform Delay (d), s/veh				15.9	0.0	18.4	0.0	8.2	0.0	0.0	8.9	9.0
Incr Delay (d2), s/veh				1.0	0.0	29.4	0.0	0.6	0.0	0.0	1.5	1.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.3	0.0	8.9	0.0	2.0	0.0	0.0	3.4	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				16.9	0.0	47.8	0.0	8.8	0.0	0.0	10.5	10.5
LnGrp LOS				B	A	D	A	A		A	B	B
Approach Vol, veh/h					1167			692	A		907	
Approach Delay, s/veh					29.3			8.8			10.5	
Approach LOS					C			A			B	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	33.3	33.3	21.7
Change Period (Y+Rc), s	5.3	5.3	4.2
Max Green Setting (Gmax), s	28.0	28.0	17.5
Max Q Clear Time (g_c+I1), s	8.5	11.5	18.4
Green Ext Time (p_c), s	5.3	6.8	0.0

Intersection Summary	
HCM 6th Ctrl Delay	18.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	229	37	18	22	80	178	47	999	26	128	707	337
Future Volume (veh/h)	229	37	18	22	80	178	47	999	26	128	707	337
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	241	39	19	23	84	187	49	1052	27	135	744	355
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	527	176	86	63	230	233	64	2102	54	175	2419	735
Arrive On Green	0.15	0.15	0.15	0.16	0.16	0.16	0.04	0.41	0.41	0.10	0.47	0.47
Sat Flow, veh/h	3483	1164	567	404	1476	1497	1795	5154	132	1795	5147	1564
Grp Volume(v), veh/h	241	0	58	107	0	187	49	700	379	135	744	355
Grp Sat Flow(s),veh/h/ln	1742	0	1731	1880	0	1497	1795	1716	1855	1795	1716	1564
Q Serve(g_s), s	5.6	0.0	2.6	4.5	0.0	10.7	2.4	13.5	13.5	6.5	7.9	13.8
Cycle Q Clear(g_c), s	5.6	0.0	2.6	4.5	0.0	10.7	2.4	13.5	13.5	6.5	7.9	13.8
Prop In Lane	1.00		0.33	0.21		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	527	0	262	293	0	233	64	1399	756	175	2419	735
V/C Ratio(X)	0.46	0.00	0.22	0.37	0.00	0.80	0.77	0.50	0.50	0.77	0.31	0.48
Avail Cap(c_a), veh/h	825	0	410	445	0	355	324	1757	950	527	2636	801
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	0.0	33.0	33.5	0.0	36.1	42.4	19.5	19.5	39.0	14.5	16.1
Incr Delay (d2), s/veh	2.2	0.0	1.5	1.1	0.0	9.7	23.7	1.3	2.4	9.6	0.3	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	1.2	2.1	0.0	4.5	1.5	5.3	6.0	3.3	3.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	0.0	34.6	34.6	0.0	45.8	66.0	20.8	21.9	48.6	14.9	18.4
LnGrp LOS	D	A	C	C	A	D	E	C	C	D	B	B
Approach Vol, veh/h		299			294			1128			1234	
Approach Delay, s/veh		36.2			41.7			23.1			19.6	
Approach LOS		D			D			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	46.3		17.8	12.7	40.7		17.4				
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0				
Max Green Setting (Gmax), s	16.0	45.4		21.0	26.0	45.4		21.0				
Max Q Clear Time (g_c+I1), s	4.4	15.8		12.7	8.5	15.5		7.6				
Green Ext Time (p_c), s	0.1	19.7		1.1	0.5	20.7		2.5				

Intersection Summary	
HCM 6th Ctrl Delay	24.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	178	69	124	246	132	49	497	36	110	432	84
Future Volume (veh/h)	471	178	69	124	246	132	49	497	36	110	432	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	486	184	71	128	254	136	51	512	37	113	445	87
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	840	300	116	374	483	248	67	1294	92	242	1064	461
Arrive On Green	0.23	0.23	0.23	0.21	0.21	0.21	0.04	0.26	0.26	0.07	0.30	0.30
Sat Flow, veh/h	3591	1283	495	1810	2335	1199	1795	4889	349	3483	3582	1551
Grp Volume(v), veh/h	486	0	255	128	205	185	51	358	191	113	445	87
Grp Sat Flow(s),veh/h/ln	1795	0	1778	1810	1900	1633	1795	1716	1807	1742	1791	1551
Q Serve(g_s), s	9.5	0.0	10.1	4.8	7.6	8.0	2.2	6.8	6.9	2.5	7.9	3.3
Cycle Q Clear(g_c), s	9.5	0.0	10.1	4.8	7.6	8.0	2.2	6.8	6.9	2.5	7.9	3.3
Prop In Lane	1.00		0.28	1.00		0.73	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	840	0	416	374	393	338	67	908	478	242	1064	461
V/C Ratio(X)	0.58	0.00	0.61	0.34	0.52	0.55	0.76	0.39	0.40	0.47	0.42	0.19
Avail Cap(c_a), veh/h	1153	0	571	581	610	525	590	1970	1038	1145	2057	890
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	0.0	27.1	26.8	27.9	28.1	37.7	23.9	23.9	35.4	22.3	20.7
Incr Delay (d2), s/veh	0.9	0.0	2.1	0.8	1.5	2.0	22.1	1.0	2.0	2.0	1.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	4.5	2.1	3.6	3.3	1.4	2.7	3.1	1.1	3.3	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.7	0.0	29.2	27.5	29.4	30.0	59.8	24.9	25.9	37.4	23.3	21.4
LnGrp LOS	C	A	C	C	C	C	E	C	C	D	C	C
Approach Vol, veh/h		741			518			600			645	
Approach Delay, s/veh		28.2			29.2			28.2			25.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	25.5		21.0	6.9	28.1		23.1
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		4.6
Max Green Setting (Gmax), s	26.0	45.4		25.4	26.0	45.4		25.4
Max Q Clear Time (g_c+I1), s	11.5	8.9		10.0	4.2	9.9		12.1
Green Ext Time (p_c), s	0.5	9.4		3.5	0.1	8.8		4.2

Intersection Summary		
HCM 6th Ctrl Delay		27.7
HCM 6th LOS		C

Notes
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	81	41	46	59	79	21	415	31	73	320	81
Future Volume (veh/h)	108	81	41	46	59	79	21	415	31	73	320	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	114	85	43	48	62	83	22	437	33	77	337	85
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	1	1	1
Cap, veh/h	170	127	64	104	134	197	37	1033	78	101	964	239
Arrive On Green	0.20	0.20	0.20	0.13	0.13	0.13	0.02	0.31	0.31	0.06	0.34	0.34
Sat Flow, veh/h	843	628	318	811	1048	1542	1795	3363	253	1795	2814	697
Grp Volume(v), veh/h	242	0	0	110	0	83	22	232	238	77	212	210
Grp Sat Flow(s),veh/h/ln	1789	0	0	1859	0	1542	1795	1791	1825	1795	1791	1720
Q Serve(g_s), s	6.7	0.0	0.0	3.0	0.0	2.7	0.7	5.6	5.6	2.3	4.8	4.9
Cycle Q Clear(g_c), s	6.7	0.0	0.0	3.0	0.0	2.7	0.7	5.6	5.6	2.3	4.8	4.9
Prop In Lane	0.47		0.18	0.44		1.00	1.00		0.14	1.00		0.41
Lane Grp Cap(c), veh/h	360	0	0	238	0	197	37	550	560	101	613	589
V/C Ratio(X)	0.67	0.00	0.00	0.46	0.00	0.42	0.59	0.42	0.43	0.76	0.35	0.36
Avail Cap(c_a), veh/h	861	0	0	895	0	743	865	1506	1534	865	1506	1446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	0.0	0.0	21.8	0.0	21.7	26.2	14.9	14.9	25.1	13.2	13.3
Incr Delay (d2), s/veh	2.2	0.0	0.0	1.4	0.0	1.4	13.8	1.9	1.9	11.1	1.2	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	1.3	0.0	1.0	0.4	2.3	2.4	1.2	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.1	0.0	0.0	23.2	0.0	23.1	40.1	16.8	16.8	36.2	14.5	14.6
LnGrp LOS	C	A	A	C	A	C	D	B	B	D	B	B
Approach Vol, veh/h		242			193			492			499	
Approach Delay, s/veh		22.1			23.2			17.8			17.9	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	21.2		10.9	5.1	23.1		14.9				
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0				
Max Green Setting (Gmax), s	26.0	45.4		26.0	26.0	45.4		26.0				
Max Q Clear Time (g_c+I1), s	4.3	7.6		5.0	2.7	6.9		8.7				
Green Ext Time (p_c), s	0.2	8.3		0.8	0.0	7.0		1.3				

Intersection Summary			
HCM 6th Ctrl Delay			19.3
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	304	144	43	623	124	198	256	48	77	184	36
Future Volume (veh/h)	7	304	144	43	623	124	198	256	48	77	184	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	8	327	155	46	670	133	213	275	52	83	198	39
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	19	1098	472	79	1009	200	266	559	463	111	295	58
Arrive On Green	0.01	0.31	0.31	0.04	0.34	0.34	0.15	0.30	0.30	0.06	0.19	0.19
Sat Flow, veh/h	1795	3582	1538	1795	2964	588	1795	1885	1560	1795	1522	300
Grp Volume(v), veh/h	8	327	155	46	405	398	213	275	52	83	0	237
Grp Sat Flow(s),veh/h/ln	1795	1791	1538	1795	1791	1760	1795	1885	1560	1795	0	1821
Q Serve(g_s), s	0.3	4.3	2.7	1.6	11.9	12.0	7.1	7.4	1.5	2.8	0.0	7.5
Cycle Q Clear(g_c), s	0.3	4.3	2.7	1.6	11.9	12.0	7.1	7.4	1.5	2.8	0.0	7.5
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	19	1098	472	79	610	599	266	559	463	111	0	353
V/C Ratio(X)	0.43	0.30	0.33	0.58	0.66	0.67	0.80	0.49	0.11	0.75	0.00	0.67
Avail Cap(c_a), veh/h	754	2603	1118	754	1302	1279	754	913	756	754	0	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.5	16.4	5.1	29.0	17.4	17.4	25.5	17.9	15.8	28.6	0.0	23.1
Incr Delay (d2), s/veh	14.8	0.2	0.5	6.6	1.5	1.5	2.1	0.2	0.0	11.3	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.6	1.6	0.8	4.7	4.6	3.1	3.1	0.5	1.5	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	16.6	5.6	35.6	18.9	19.0	27.6	18.2	15.9	39.8	0.0	25.8
LnGrp LOS	D	B	A	D	B	B	C	B	B	D	A	C
Approach Vol, veh/h		490			849			540			320	
Approach Delay, s/veh		13.5			19.8			21.7			29.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	26.1	7.8	23.4	6.7	24.0	14.2	17.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	26.0	45.0	26.0	30.0	26.0	45.0	26.0	* 30
Max Q Clear Time (g_c+I1), s	2.3	14.0	4.8	9.4	3.6	6.3	9.1	9.5
Green Ext Time (p_c), s	0.0	7.1	0.2	0.6	0.1	3.4	0.1	1.6

Intersection Summary	
HCM 6th Ctrl Delay	20.3
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)	32	303	106	69	489	54	159	355	55	67	238	57
Future Volume (veh/h)	32	303	106	69	489	54	159	355	55	67	238	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	34	319	112	73	515	57	167	374	58	71	251	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	53	649	222	95	889	98	220	525	81	93	380	91
Arrive On Green	0.03	0.25	0.25	0.05	0.27	0.27	0.12	0.33	0.33	0.05	0.26	0.26
Sat Flow, veh/h	1810	2597	889	1810	3257	359	1810	1600	248	1810	1472	352
Grp Volume(v), veh/h	34	219	212	73	284	288	167	0	432	71	0	311
Grp Sat Flow(s),veh/h/ln	1810	1805	1680	1810	1805	1811	1810	0	1848	1810	0	1824
Q Serve(g_s), s	1.1	5.9	6.1	2.3	7.7	7.8	5.1	0.0	11.6	2.2	0.0	8.6
Cycle Q Clear(g_c), s	1.1	5.9	6.1	2.3	7.7	7.8	5.1	0.0	11.6	2.2	0.0	8.6
Prop In Lane	1.00		0.53	1.00		0.20	1.00		0.13	1.00		0.19
Lane Grp Cap(c), veh/h	53	451	420	95	493	494	220	0	607	93	0	471
V/C Ratio(X)	0.64	0.49	0.50	0.77	0.58	0.58	0.76	0.00	0.71	0.77	0.00	0.66
Avail Cap(c_a), veh/h	656	1132	1054	656	1132	1136	656	0	833	656	0	822
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.2	18.1	18.2	26.5	17.8	17.8	24.1	0.0	16.7	26.5	0.0	18.8
Incr Delay (d2), s/veh	9.2	0.3	0.3	9.3	1.3	1.3	5.3	0.0	1.4	12.3	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.3	2.2	1.2	3.1	3.1	2.3	0.0	4.6	1.2	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.4	18.4	18.6	35.8	19.0	19.1	29.4	0.0	18.0	38.8	0.0	20.7
LnGrp LOS	D	B	B	D	B	B	C	A	B	D	A	C
Approach Vol, veh/h		465			645			599			382	
Approach Delay, s/veh		19.8			21.0			21.2			24.0	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	18.6	7.4	23.1	6.2	19.9	11.4	19.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.5	35.5	20.5	25.5	20.5	35.5	20.5	25.5
Max Q Clear Time (g_c+I1), s	4.3	8.1	4.2	13.6	3.1	9.8	7.1	10.6
Green Ext Time (p_c), s	0.1	1.8	0.1	1.8	0.0	4.4	0.4	1.9

Intersection Summary	
HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	288	67	101	489	125	45	117	70	66	96	42
Future Volume (veh/h)	13	288	67	101	489	125	45	117	70	66	96	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.92	1.00		0.94	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	14	303	71	106	515	132	47	123	74	69	101	44
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	26	881	201	140	1039	264	70	249	150	91	301	131
Arrive On Green	0.01	0.31	0.31	0.08	0.37	0.37	0.04	0.23	0.23	0.05	0.24	0.24
Sat Flow, veh/h	1810	2854	652	1810	2793	710	1795	1074	646	1810	1240	540
Grp Volume(v), veh/h	14	189	185	106	331	316	47	0	197	69	0	145
Grp Sat Flow(s),veh/h/ln	1810	1805	1701	1810	1805	1698	1795	0	1720	1810	0	1780
Q Serve(g_s), s	0.4	3.9	4.1	2.8	6.8	6.9	1.2	0.0	4.8	1.8	0.0	3.2
Cycle Q Clear(g_c), s	0.4	3.9	4.1	2.8	6.8	6.9	1.2	0.0	4.8	1.8	0.0	3.2
Prop In Lane	1.00		0.38	1.00		0.42	1.00		0.38	1.00		0.30
Lane Grp Cap(c), veh/h	26	557	525	140	672	632	70	0	399	91	0	433
V/C Ratio(X)	0.55	0.34	0.35	0.75	0.49	0.50	0.68	0.00	0.49	0.76	0.00	0.34
Avail Cap(c_a), veh/h	600	1722	1623	600	1722	1620	782	0	571	788	0	591
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.6	12.9	12.9	21.8	11.6	11.7	22.9	0.0	16.1	22.6	0.0	15.0
Incr Delay (d2), s/veh	16.8	0.4	0.4	7.9	0.6	0.6	10.8	0.0	0.9	12.3	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.4	1.4	1.4	2.3	2.2	0.7	0.0	1.8	1.0	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	13.2	13.3	29.7	12.2	12.3	33.7	0.0	17.0	35.0	0.0	15.5
LnGrp LOS	D	B	B	C	B	B	C	A	B	C	A	B
Approach Vol, veh/h		388			753			244			214	
Approach Delay, s/veh		14.3			14.7			20.2			21.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	15.2	7.7	18.9	5.9	15.7	4.7	21.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	21.0	16.0	16.0	46.0	21.0	16.0	16.0	46.0
Max Q Clear Time (g_c+I1), s	3.8	6.8	4.8	6.1	3.2	5.2	2.4	8.9
Green Ext Time (p_c), s	0.1	0.7	0.2	2.5	0.1	0.5	0.0	4.6

Intersection Summary	
HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	403	73	88	513	11	125	3	90	19	3	36
Future Volume (veh/h)	14	403	73	88	513	11	125	3	90	19	3	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	14	415	75	91	529	11	129	3	93	20	3	37
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	26	846	151	121	650	528	138	2	604	131	11	624
Arrive On Green	0.01	0.28	0.28	0.07	0.34	0.34	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1810	3032	542	1810	1900	1545	0	4	1552	0	29	1603
Grp Volume(v), veh/h	14	245	245	91	529	11	132	0	93	23	0	37
Grp Sat Flow(s),veh/h/ln	1810	1805	1769	1810	1900	1545	4	0	1552	29	0	1603
Q Serve(g_s), s	0.4	5.8	5.9	2.5	13.1	0.2	0.0	0.0	2.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s	0.4	5.8	5.9	2.5	13.1	0.2	20.0	0.0	2.0	20.0	0.0	0.7
Prop In Lane	1.00		0.31	1.00		1.00	0.98		1.00	0.87		1.00
Lane Grp Cap(c), veh/h	26	504	494	121	650	528	140	0	604	142	0	624
V/C Ratio(X)	0.55	0.49	0.50	0.75	0.81	0.02	0.94	0.00	0.15	0.16	0.00	0.06
Avail Cap(c_a), veh/h	915	1577	1546	898	1660	1350	140	0	604	142	0	624
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.2	15.5	15.5	23.6	15.4	11.2	25.4	0.0	10.2	16.1	0.0	9.8
Incr Delay (d2), s/veh	17.1	0.3	0.3	8.9	1.0	0.0	57.7	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.1	2.1	1.3	5.1	0.1	3.8	0.0	0.6	0.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.3	15.7	15.8	32.4	16.4	11.2	83.2	0.0	10.2	16.3	0.0	9.8
LnGrp LOS	D	B	B	C	B	B	F	A	B	B	A	A
Approach Vol, veh/h		504			631			225			60	
Approach Delay, s/veh		16.5			18.6			53.0			12.3	
Approach LOS		B			B			D			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.9	19.4		24.0	4.7	22.7		24.0
Change Period (Y+Rc), s	4.5	5.1		4.0	4.0	5.1		4.0
Max Green Setting (Gmax), s	25.5	44.9		20.0	26.0	44.9		20.0
Max Q Clear Time (g_c+I1), s	4.5	7.9		22.0	2.4	15.1		22.0
Green Ext Time (p_c), s	0.2	2.0		0.0	0.0	2.5		0.0

Intersection Summary		
HCM 6th Ctrl Delay		23.0
HCM 6th LOS		C

Notes
User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	127	96	96	176	37	91	469	80	27	318	40
Future Volume (veh/h)	29	127	96	96	176	37	91	469	80	27	318	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.94	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	30	132	100	100	183	39	95	489	83	28	331	42
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	0	0	0
Cap, veh/h	59	215	163	134	399	85	127	608	103	56	576	73
Arrive On Green	0.03	0.22	0.22	0.07	0.27	0.27	0.07	0.39	0.39	0.03	0.35	0.35
Sat Flow, veh/h	1795	956	724	1810	1498	319	1795	1558	264	1810	1643	208
Grp Volume(v), veh/h	30	0	232	100	0	222	95	0	572	28	0	373
Grp Sat Flow(s),veh/h/ln	1795	0	1680	1810	0	1818	1795	0	1823	1810	0	1851
Q Serve(g_s), s	1.0	0.0	7.6	3.3	0.0	6.2	3.2	0.0	17.0	0.9	0.0	10.0
Cycle Q Clear(g_c), s	1.0	0.0	7.6	3.3	0.0	6.2	3.2	0.0	17.0	0.9	0.0	10.0
Prop In Lane	1.00		0.43	1.00		0.18	1.00		0.15	1.00		0.11
Lane Grp Cap(c), veh/h	59	0	378	134	0	484	127	0	712	56	0	650
V/C Ratio(X)	0.51	0.00	0.61	0.75	0.00	0.46	0.75	0.00	0.80	0.50	0.00	0.57
Avail Cap(c_a), veh/h	782	0	967	788	0	1046	782	0	1049	788	0	1065
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.9	0.0	21.2	27.6	0.0	18.6	27.7	0.0	16.5	29.0	0.0	16.0
Incr Delay (d2), s/veh	6.7	0.0	1.6	8.0	0.0	0.7	8.6	0.0	3.7	6.7	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	3.0	1.7	0.0	2.6	1.6	0.0	6.9	0.5	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.7	0.0	22.8	35.6	0.0	19.3	36.3	0.0	20.2	35.7	0.0	17.2
LnGrp LOS	D	A	C	D	A	B	D	A	C	D	A	B
Approach Vol, veh/h		262			322			667			401	
Approach Delay, s/veh		24.3			24.4			22.5			18.5	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	18.7	7.8	26.3	5.5	21.2	5.4	28.7
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0
Max Green Setting (Gmax), s	26.5	35.0	26.5	35.0	26.5	35.0	26.5	35.0
Max Q Clear Time (g_c+I1), s	5.3	9.6	5.2	12.0	3.0	8.2	2.9	19.0
Green Ext Time (p_c), s	0.2	1.5	0.2	3.3	0.0	1.4	0.0	4.8

Intersection Summary	
HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	12.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	186	36	29	176	41	50	159	38	31	76	48
Future Vol, veh/h	27	186	36	29	176	41	50	159	38	31	76	48
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	29	200	39	31	189	44	54	171	41	33	82	52
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	12.4	12.2	12.9	11
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	13%	0%	14%	0%	20%
Vol Thru, %	64%	87%	0%	86%	0%	49%
Vol Right, %	15%	0%	100%	0%	100%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	247	213	36	205	41	155
LT Vol	50	27	0	29	0	31
Through Vol	159	186	0	176	0	76
RT Vol	38	0	36	0	41	48
Lane Flow Rate	266	229	39	220	44	167
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.42	0.398	0.059	0.384	0.067	0.268
Departure Headway (Hd)	5.69	6.256	5.479	6.271	5.486	5.797
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	629	573	650	571	649	615
Service Time	3.753	4.019	3.241	4.034	3.249	3.871
HCM Lane V/C Ratio	0.423	0.4	0.06	0.385	0.068	0.272
HCM Control Delay	12.9	13.1	8.6	12.9	8.6	11
HCM Lane LOS	B	B	A	B	A	B
HCM 95th-tile Q	2.1	1.9	0.2	1.8	0.2	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	175	109	25	346	105	110	57	12	113	66	95
Future Volume (veh/h)	80	175	109	25	346	105	110	57	12	113	66	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.91	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	89	194	0	28	384	0	122	63	13	126	73	106
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	127	611		58	538		160	338	70	164	150	217
Arrive On Green	0.07	0.32	0.00	0.03	0.29	0.00	0.09	0.23	0.23	0.09	0.23	0.23
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1498	309	1795	654	950
Grp Volume(v), veh/h	89	194	0	28	384	0	122	0	76	126	0	179
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	0	1808	1795	0	1605
Q Serve(g_s), s	2.4	3.9	0.0	0.8	9.2	0.0	3.3	0.0	1.7	3.5	0.0	4.9
Cycle Q Clear(g_c), s	2.4	3.9	0.0	0.8	9.2	0.0	3.3	0.0	1.7	3.5	0.0	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.59
Lane Grp Cap(c), veh/h	127	611		58	538		160	0	408	164	0	367
V/C Ratio(X)	0.70	0.32		0.48	0.71		0.76	0.00	0.19	0.77	0.00	0.49
Avail Cap(c_a), veh/h	569	1325		569	1325		573	0	752	569	0	667
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.9	12.9	0.0	24.0	16.2	0.0	22.5	0.0	15.8	22.4	0.0	16.9
Incr Delay (d2), s/veh	5.2	0.3	0.0	4.6	1.8	0.0	2.9	0.0	0.2	2.8	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.5	0.0	0.4	3.7	0.0	1.5	0.0	0.7	1.5	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.1	13.2	0.0	28.6	17.9	0.0	25.4	0.0	16.0	25.2	0.0	17.6
LnGrp LOS	C	B		C	B		C	A	B	C	A	B
Approach Vol, veh/h		283	A		412	A		198			305	
Approach Delay, s/veh		17.9			18.7			21.8			20.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.6	20.9	8.5	15.6	7.6	18.9	8.6	15.4
Change Period (Y+Rc), s	4.0	4.5	4.0	4.0	4.0	4.5	4.0	4.0
Max Green Setting (Gmax), s	16.0	35.5	16.0	21.0	16.0	35.5	16.0	21.0
Max Q Clear Time (g_c+I1), s	2.8	5.9	5.3	6.9	4.4	11.2	5.5	3.7
Green Ext Time (p_c), s	0.0	1.2	0.1	0.7	0.1	2.4	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	6	0	9	0	485	3	10	470	0
Future Vol, veh/h	0	0	0	6	0	9	0	485	3	10	470	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	2	2	2
Mvmt Flow	0	0	0	7	0	11	0	584	4	12	566	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1182	1178	566	1176	1176	586	-	0	0	588	0	0
Stage 1	590	590	-	586	586	-	-	-	-	-	-	-
Stage 2	592	588	-	590	590	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	168	192	528	170	193	514	0	-	-	987	-	-
Stage 1	497	498	-	500	500	-	0	-	-	-	-	-
Stage 2	496	499	-	497	498	-	0	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	162	189	528	168	190	514	-	-	-	987	-	-
Mov Cap-2 Maneuver	295	309	-	302	312	-	-	-	-	-	-	-
Stage 1	497	489	-	500	500	-	-	-	-	-	-	-
Stage 2	486	499	-	488	489	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	14.4	0	0.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	-	401	987	-	-
HCM Lane V/C Ratio	-	-	-	0.045	0.012	-	-
HCM Control Delay (s)	-	-	0	14.4	8.7	-	-
HCM Lane LOS	-	-	A	B	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	5	20	14	4	107	21	300	23	104	314	58
Future Volume (veh/h)	81	5	20	14	4	107	21	300	23	104	314	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.86	1.00		0.87	1.00		0.89	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	98	6	24	17	5	129	25	361	28	125	378	70
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	1	1	1	2	2	2
Cap, veh/h	218	13	53	259	76	256	52	467	36	162	506	94
Arrive On Green	0.17	0.17	0.17	0.19	0.19	0.19	0.03	0.27	0.27	0.09	0.34	0.34
Sat Flow, veh/h	1292	79	316	1392	409	1380	1795	1710	133	1781	1508	279
Grp Volume(v), veh/h	128	0	0	22	0	129	25	0	389	125	0	448
Grp Sat Flow(s),veh/h/ln	1687	0	0	1801	0	1380	1795	0	1842	1781	0	1788
Q Serve(g_s), s	3.6	0.0	0.0	0.5	0.0	4.5	0.7	0.0	10.4	3.7	0.0	11.9
Cycle Q Clear(g_c), s	3.6	0.0	0.0	0.5	0.0	4.5	0.7	0.0	10.4	3.7	0.0	11.9
Prop In Lane	0.77		0.19	0.77		1.00	1.00		0.07	1.00		0.16
Lane Grp Cap(c), veh/h	284	0	0	335	0	256	52	0	503	162	0	599
V/C Ratio(X)	0.45	0.00	0.00	0.07	0.00	0.50	0.48	0.00	0.77	0.77	0.00	0.75
Avail Cap(c_a), veh/h	1155	0	0	1553	0	1191	556	0	1244	551	0	1207
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.9	0.0	0.0	17.9	0.0	19.5	25.5	0.0	17.9	23.7	0.0	15.7
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.1	0.0	1.5	2.5	0.0	1.0	2.9	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.2	0.0	1.4	0.3	0.0	4.0	1.6	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.4	0.0	0.0	18.0	0.0	21.0	28.0	0.0	18.8	26.6	0.0	16.4
LnGrp LOS	C	A	A	B	A	C	C	A	B	C	A	B
Approach Vol, veh/h		128			151			414			573	
Approach Delay, s/veh		20.4			20.6			19.4			18.6	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	18.6		12.5	5.0	21.9		13.9				
Change Period (Y+Rc), s	3.5	4.0		3.5	3.5	4.0		4.0				
Max Green Setting (Gmax), s	16.5	36.0		36.5	16.5	36.0		46.0				
Max Q Clear Time (g_c+I1), s	5.7	12.4		5.6	2.7	13.9		6.5				
Green Ext Time (p_c), s	0.1	0.8		0.3	0.0	1.0		0.7				
Intersection Summary												
HCM 6th Ctrl Delay			19.3									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	131	0	0	123	2	0	6	0	2	0	2
Future Vol, veh/h	1	131	0	0	123	2	0	6	0	2	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	0	0	0
Mvmt Flow	1	158	0	0	148	2	0	7	0	2	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	150	0	0	158	0	0	310	310	158	313	309	149
Stage 1	-	-	-	-	-	-	160	160	-	149	149	-
Stage 2	-	-	-	-	-	-	150	150	-	164	160	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1431	-	-	1422	-	-	646	608	893	643	609	903
Stage 1	-	-	-	-	-	-	847	769	-	858	778	-
Stage 2	-	-	-	-	-	-	857	777	-	843	769	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1431	-	-	1422	-	-	644	607	893	637	608	903
Mov Cap-2 Maneuver	-	-	-	-	-	-	644	607	-	637	608	-
Stage 1	-	-	-	-	-	-	846	768	-	857	778	-
Stage 2	-	-	-	-	-	-	855	777	-	834	768	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	11	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	607	1431	-	-	1422	-	-	747
HCM Lane V/C Ratio	0.012	0.001	-	-	-	-	-	0.006
HCM Control Delay (s)	11	7.5	0	-	0	-	-	9.9
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	226	0	538	0	0	0	0	897	727	0	1013	278
Future Volume (vph)	226	0	538	0	0	0	0	897	727	0	1013	278
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6					4.9	4.9		4.9	4.0
Lane Util. Factor		1.00	0.88					0.95	1.00		0.91	1.00
Frpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	0.97
Flpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	1.00
Frt		1.00	0.85					1.00	0.85		1.00	0.85
Flt Protected		0.95	1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)		1646	2694					3455	1546		4964	1501
Flt Permitted		0.95	1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)		1646	2694					3455	1546		4964	1501
Peak-hour factor, PHF	0.80	0.72	0.75	0.92	0.92	0.92	0.92	0.85	0.94	0.92	0.96	0.82
Adj. Flow (vph)	282	0	717	0	0	0	0	1055	773	0	1055	339
RTOR Reduction (vph)	0	0	276	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	283	441	0	0	0	0	1055	773	0	1055	339
Confl. Peds. (#/hr)	13					13	11		1	1		11
Confl. Bikes (#/hr)												9
Heavy Vehicles (%)	6%	0%	2%	0%	0%	0%	0%	1%	1%	0%	1%	1%
Turn Type	Split	NA	Perm					NA	Prot		NA	Free
Protected Phases	2	2						1 3 4	1 3 4		1 3 4	
Permitted Phases			2									Free
Actuated Green, G (s)		16.0	16.0					95.1	95.1		95.1	119.9
Effective Green, g (s)		16.0	16.0					90.9	90.9		90.9	119.9
Actuated g/C Ratio		0.13	0.13					0.76	0.76		0.76	1.00
Clearance Time (s)		4.6	4.6									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		219	359					2619	1172		3763	1501
v/s Ratio Prot		c0.17						0.31	c0.50		0.21	
v/s Ratio Perm			0.16									c0.23
v/c Ratio		1.29	1.23					0.40	0.66		0.28	0.23
Uniform Delay, d1		52.0	52.0					5.0	7.0		4.5	0.0
Progression Factor		1.00	1.00					0.01	1.07		1.00	1.00
Incremental Delay, d2		161.2	124.5					0.1	0.7		0.0	0.3
Delay (s)		213.1	176.4					0.1	8.2		4.5	0.3
Level of Service		F	F					A	A		A	A
Approach Delay (s)		186.8			0.0			3.5			3.5	
Approach LOS		F			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	46.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	279	16	82	14	7	27	81	1318	23	91	1140	320
Future Volume (vph)	279	16	82	14	7	27	81	1318	23	91	1140	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.97		1.00	1.00	1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.96	
Flt Protected	0.95	0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1625	1646	1509		1792	1561	1745	4943		1745	4703	
Flt Permitted	0.95	0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1625	1646	1509		1792	1561	1745	4943		1745	4703	
Peak-hour factor, PHF	0.86	0.61	0.80	0.85	0.44	0.79	0.66	0.86	0.61	0.67	0.94	0.85
Adj. Flow (vph)	324	26	102	16	16	34	123	1533	38	136	1213	376
RTOR Reduction (vph)	0	0	77	0	0	29	0	2	0	0	45	0
Lane Group Flow (vph)	175	175	26	0	32	5	123	1569	0	136	1544	0
Confl. Peds. (#/hr)			18	18			12		8	8		12
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	1		2	6	
Permitted Phases			4			3						
Actuated Green, G (s)	30.0	30.0	30.0		16.0	16.0	13.1	40.0		16.0	43.8	
Effective Green, g (s)	30.0	30.0	30.0		16.0	16.0	13.1	40.0		16.0	43.8	
Actuated g/C Ratio	0.25	0.25	0.25		0.13	0.13	0.11	0.33		0.13	0.37	
Clearance Time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.2	
Lane Grp Cap (vph)	406	411	377		239	208	190	1649		232	1718	
v/s Ratio Prot	c0.11	0.11			c0.02		c0.07	0.32		0.08	c0.33	
v/s Ratio Perm			0.02			0.00						
v/c Ratio	0.43	0.43	0.07		0.13	0.02	0.65	0.95		0.59	0.90	
Uniform Delay, d1	37.8	37.7	34.3		45.8	45.1	51.2	39.0		48.8	36.0	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.08	0.87	
Incremental Delay, d2	0.7	0.7	0.1		0.3	0.0	7.4	13.3		3.0	6.4	
Delay (s)	38.5	38.4	34.4		46.1	45.2	58.6	52.3		55.6	37.6	
Level of Service	D	D	C		D	D	E	D		E	D	
Approach Delay (s)		37.5			45.6			52.8			39.0	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	44.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	1108	1224	132	591	39	613	19	50	56	32	25
Future Volume (veh/h)	12	1108	1224	132	591	39	613	19	50	56	32	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	12	1142	0	136	609	40	646	0	0	58	33	26
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	24	2000		136	2114	139	669	0		81	46	108
Arrive On Green	0.01	0.56	0.00	0.08	0.62	0.62	0.19	0.00	0.00	0.07	0.07	0.07
Sat Flow, veh/h	1795	3582	1598	1795	3404	223	3591	0	1598	1174	668	1560
Grp Volume(v), veh/h	12	1142	0	136	320	329	646	0	0	91	0	26
Grp Sat Flow(s),veh/h/ln	1795	1791	1598	1795	1791	1836	1795	0	1598	1841	0	1560
Q Serve(g_s), s	1.0	30.0	0.0	11.0	12.0	12.0	25.9	0.0	0.0	7.0	0.0	2.3
Cycle Q Clear(g_c), s	1.0	30.0	0.0	11.0	12.0	12.0	25.9	0.0	0.0	7.0	0.0	2.3
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	0.64		1.00
Lane Grp Cap(c), veh/h	24	2000		136	1112	1140	669	0		128	0	108
V/C Ratio(X)	0.51	0.57		1.00	0.29	0.29	0.97	0.00		0.71	0.00	0.24
Avail Cap(c_a), veh/h	68	2000		136	1112	1140	669	0		292	0	247
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.96	0.96	0.96	0.86	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	71.1	20.8	0.0	67.0	12.7	12.7	58.5	0.0	0.0	66.1	0.0	63.9
Incr Delay (d2), s/veh	6.0	1.2	0.0	75.1	0.6	0.6	24.0	0.0	0.0	2.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	13.0	0.0	7.9	5.1	5.2	13.9	0.0	0.0	3.4	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.1	22.0	0.0	142.1	13.3	13.3	82.6	0.0	0.0	68.8	0.0	64.3
LnGrp LOS	E	C		F	B	B	F	A		E	A	E
Approach Vol, veh/h		1154	A		785			646	A		117	
Approach Delay, s/veh		22.5			35.6			82.6			67.8	
Approach LOS		C			D			F			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	85.0		14.0	5.9	94.0		31.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	11.0	68.0		23.0	5.5	73.5		27.0				
Max Q Clear Time (g_c+I1), s	13.0	32.0		9.0	3.0	14.0		27.9				
Green Ext Time (p_c), s	0.0	11.3		0.3	0.0	4.9		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		42.6
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1090	71	298	716	124	342
Future Volume (veh/h)	1090	71	298	716	124	342
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.96	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	1112	72	304	731	127	349
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	1316	85	345	2276	440	391
Arrive On Green	0.39	0.39	0.19	0.64	0.24	0.24
Sat Flow, veh/h	3498	220	1795	3676	1795	1598
Grp Volume(v), veh/h	585	599	304	731	127	349
Grp Sat Flow(s),veh/h/ln	1791	1834	1795	1791	1795	1598
Q Serve(g_s), s	23.6	23.7	13.1	7.4	4.6	16.8
Cycle Q Clear(g_c), s	23.6	23.7	13.1	7.4	4.6	16.8
Prop In Lane		0.12	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	693	709	345	2276	440	391
V/C Ratio(X)	0.84	0.85	0.88	0.32	0.29	0.89
Avail Cap(c_a), veh/h	744	762	441	2276	644	573
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	22.2	31.2	6.6	24.4	29.0
Incr Delay (d2), s/veh	8.8	8.7	13.3	0.1	0.1	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	11.0	6.7	2.3	1.9	7.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.0	30.9	44.5	6.7	24.5	38.0
LnGrp LOS	C	C	D	A	C	D
Approach Vol, veh/h	1184			1035	476	
Approach Delay, s/veh	30.9			17.8	34.4	
Approach LOS	C			B	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	19.8	35.7		23.9		55.5
Change Period (Y+Rc), s	4.5	5.0		4.5		5.0
Max Green Setting (Gmax), s	19.5	33.0		28.5		33.0
Max Q Clear Time (g_c+I1), s	15.1	25.7		18.8		9.4
Green Ext Time (p_c), s	0.2	5.1		0.7		7.1

Intersection Summary			
HCM 6th Ctrl Delay			26.5
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	950	514	388	774	2	257	1	760	5	5	10
Future Volume (veh/h)	8	950	514	388	774	2	257	1	760	5	5	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.87
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1737	1870	1900	1900	1885	1885	1856	1870	1870	1870
Adj Flow Rate, veh/h	8	990	0	404	806	2	268	1	0	5	5	10
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	11	2	0	0	1	1	3	2	2	2
Cap, veh/h	14	1755		419	2638	7	280	1		11	11	22
Arrive On Green	0.01	0.49	0.00	0.47	1.00	1.00	0.16	0.16	0.00	0.03	0.03	0.03
Sat Flow, veh/h	1810	3610	1472	1781	3694	9	1789	7	1572	393	393	786
Grp Volume(v), veh/h	8	990	0	404	394	414	269	0	0	20	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1472	1781	1805	1898	1796	0	1572	1573	0	0
Q Serve(g_s), s	0.7	29.1	0.0	32.9	0.0	0.0	22.3	0.0	0.0	1.9	0.0	0.0
Cycle Q Clear(g_c), s	0.7	29.1	0.0	32.9	0.0	0.0	22.3	0.0	0.0	1.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.25		0.50
Lane Grp Cap(c), veh/h	14	1755		419	1289	1356	281	0		45	0	0
V/C Ratio(X)	0.58	0.56		0.96	0.31	0.31	0.96	0.00		0.45	0.00	0.00
Avail Cap(c_a), veh/h	48	1755		487	1289	1356	281	0		231	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.55	0.55	0.00	1.00	1.00	1.00	0.55	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	74.2	27.3	0.0	39.1	0.0	0.0	62.7	0.0	0.0	71.7	0.0	0.0
Incr Delay (d2), s/veh	7.9	0.7	0.0	28.4	0.6	0.6	28.7	0.0	0.0	5.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	12.7	0.0	15.0	0.2	0.2	12.5	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.1	28.0	0.0	67.5	0.6	0.6	91.5	0.0	0.0	76.9	0.0	0.0
LnGrp LOS	F	C		E	A	A	F	A		E	A	A
Approach Vol, veh/h		998	A		1212			269	A		20	
Approach Delay, s/veh		28.4			22.9			91.5			76.9	
Approach LOS		C			C			F			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	38.3	76.9		7.8	4.1	111.1		27.0
Change Period (Y+Rc), s	3.0	4.0		3.5	3.0	4.0		3.5
Max Green Setting (Gmax), s	41.0	49.5		22.0	4.0	86.5		23.5
Max Q Clear Time (g_c+I1), s	34.9	31.1		3.9	2.7	2.0		24.3
Green Ext Time (p_c), s	0.4	8.8		0.0	0.0	9.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	32.9
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	1215	437	3	1253	13	502	14	48	114	145	119
Future Volume (veh/h)	63	1215	437	3	1253	13	502	14	48	114	145	119
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1841	1900	1841	1841	1811	1870	1856	1870	1900	1900
Adj Flow Rate, veh/h	66	1266	0	3	1305	14	534	0	0	119	151	124
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	3	4	0	4	4	6	2	3	2	0	0
Cap, veh/h	83	1867		7	1724	18	603	0		306	165	136
Arrive On Green	0.06	0.70	0.00	0.00	0.49	0.49	0.17	0.00	0.00	0.17	0.17	0.17
Sat Flow, veh/h	1781	3526	1560	1810	3543	38	3450	0	1572	1781	962	790
Grp Volume(v), veh/h	66	1266	0	3	644	675	534	0	0	119	0	275
Grp Sat Flow(s),veh/h/ln	1781	1763	1560	1810	1749	1832	1725	0	1572	1781	0	1753
Q Serve(g_s), s	5.5	30.5	0.0	0.2	44.9	44.9	22.7	0.0	0.0	8.9	0.0	23.1
Cycle Q Clear(g_c), s	5.5	30.5	0.0	0.2	44.9	44.9	22.7	0.0	0.0	8.9	0.0	23.1
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	83	1867		7	851	892	603	0		306	0	301
V/C Ratio(X)	0.79	0.68		0.42	0.76	0.76	0.89	0.00		0.39	0.00	0.91
Avail Cap(c_a), veh/h	101	1867		62	851	892	793	0		338	0	333
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.6	14.9	0.0	74.5	31.3	31.3	60.4	0.0	0.0	55.1	0.0	61.0
Incr Delay (d2), s/veh	28.8	2.0	0.0	35.4	6.2	6.0	9.6	0.0	0.0	0.8	0.0	27.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	10.8	0.0	0.2	20.1	21.0	10.8	0.0	0.0	4.1	0.0	12.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.5	16.9	0.0	110.0	37.5	37.3	70.0	0.0	0.0	55.9	0.0	88.0
LnGrp LOS	F	B		F	D	D	E	A		E	A	F
Approach Vol, veh/h		1332	A		1322			534	A		394	
Approach Delay, s/veh		21.0			37.5			70.0			78.3	
Approach LOS		C			D			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	83.9		30.7	11.5	77.5		30.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	63.9		34.5	8.5	60.5		28.5				
Max Q Clear Time (g_c+I1), s	2.2	32.5		24.7	7.5	46.9		25.1				
Green Ext Time (p_c), s	0.0	11.9		1.5	0.0	7.2		0.7				

Intersection Summary	
HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	332	572	529	57	675	450
Future Volume (veh/h)	332	572	529	57	675	450
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	342	590	545	59	696	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	480	889	795	347	801	
Arrive On Green	0.38	0.38	0.22	0.22	0.23	0.00
Sat Flow, veh/h	1267	2440	3647	1551	3483	1598
Grp Volume(v), veh/h	492	440	545	59	696	0
Grp Sat Flow(s),veh/h/ln	1822	1791	1777	1551	1742	1598
Q Serve(g_s), s	18.4	16.2	11.2	2.5	15.4	0.0
Cycle Q Clear(g_c), s	18.4	16.2	11.2	2.5	15.4	0.0
Prop In Lane	0.70			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	690	678	795	347	801	
V/C Ratio(X)	0.71	0.65	0.69	0.17	0.87	
Avail Cap(c_a), veh/h	690	678	795	347	906	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.44	0.44	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.1	20.5	28.5	25.1	29.6	0.0
Incr Delay (d2), s/veh	2.8	2.1	4.8	1.1	8.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	6.9	5.2	1.0	7.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.9	22.6	33.2	26.1	37.9	0.0
LnGrp LOS	C	C	C	C	D	
Approach Vol, veh/h		932	604		696	A
Approach Delay, s/veh		23.3	32.5		37.9	
Approach LOS		C	C		D	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		34.9		22.6		22.5
Change Period (Y+Rc), s		4.6		* 4.2		4.6
Max Green Setting (Gmax), s		27.9		* 21		17.9
Max Q Clear Time (g_c+I1), s		20.4		17.4		13.2
Green Ext Time (p_c), s		3.6		1.0		1.7

Intersection Summary						
HCM 6th Ctrl Delay			30.4			
HCM 6th LOS			C			

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	672	465	74	320	271	28
Future Volume (veh/h)	672	465	74	320	271	28
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	715	495	79	340	316	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	0	0	1	0
Cap, veh/h	968	798	103	1248	567	254
Arrive On Green	0.51	0.51	0.06	0.66	0.16	0.00
Sat Flow, veh/h	1885	1555	1810	1900	3591	1610
Grp Volume(v), veh/h	715	495	79	340	316	0
Grp Sat Flow(s),veh/h/ln	1885	1555	1810	1900	1795	1610
Q Serve(g_s), s	12.0	9.2	1.7	3.0	3.3	0.0
Cycle Q Clear(g_c), s	12.0	9.2	1.7	3.0	3.3	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	968	798	103	1248	567	254
V/C Ratio(X)	0.74	0.62	0.77	0.27	0.56	0.00
Avail Cap(c_a), veh/h	1397	1152	1341	1408	2661	1193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.7	7.0	18.8	2.9	15.7	0.0
Incr Delay (d2), s/veh	1.2	0.8	11.2	0.1	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	2.2	0.9	0.3	1.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.9	7.8	30.0	3.0	16.6	0.0
LnGrp LOS	A	A	C	A	B	A
Approach Vol, veh/h	1210			419	316	
Approach Delay, s/veh	8.5			8.1	16.6	
Approach LOS	A			A	B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.8	24.8		9.9		30.6
Change Period (Y+Rc), s	3.5	4.0		3.5		4.0
Max Green Setting (Gmax), s	30.0	30.0		30.0		30.0
Max Q Clear Time (g_c+I1), s	3.7	14.0		5.3		5.0
Green Ext Time (p_c), s	0.2	6.7		1.1		2.0

Intersection Summary	
HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	532	204	99	313	72	52
Future Vol, veh/h	532	204	99	313	72	52
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	170	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	554	213	103	326	75	54

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	768	0	1087	555
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	532	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	855	-	241	535
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	593	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	854	-	212	535
Mov Cap-2 Maneuver	-	-	-	-	212	-
Stage 1	-	-	-	-	578	-
Stage 2	-	-	-	-	521	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	23.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	212	535	-	-	854	-
HCM Lane V/C Ratio	0.354	0.101	-	-	0.121	-
HCM Control Delay (s)	31	12.5	-	-	9.8	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	1.5	0.3	-	-	0.4	-

Intersection						
Int Delay, s/veh	0.1					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	659	6	2	386	7	2
Future Vol, veh/h	659	6	2	386	7	2
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	1	2	2	11	11
Mvmt Flow	732	7	2	429	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	740	0	1170	737
Stage 1	-	-	-	-	737	-
Stage 2	-	-	-	-	433	-
Critical Hdwy	-	-	4.12	-	6.51	6.31
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.218	-	3.599	3.399
Pot Cap-1 Maneuver	-	-	867	-	205	404
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	635	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	866	-	204	404
Mov Cap-2 Maneuver	-	-	-	-	332	-
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	633	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	346	-	-	866	-
HCM Lane V/C Ratio	0.029	-	-	0.003	-
HCM Control Delay (s)	15.7	-	-	9.2	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	54.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	341	8	3	37	293	8	7	10	522	10	4
Future Vol, veh/h	8	341	8	3	37	293	8	7	10	522	10	4
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.58	0.58	0.58	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	3	3	3	14	14	14	1	1	1
Mvmt Flow	9	383	9	3	40	318	14	12	17	580	11	4
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	29.8	19.2	12.4	96.3
HCM LOS	D	C	B	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	32%	2%	7%	0%	97%
Vol Thru, %	28%	96%	93%	0%	2%
Vol Right, %	40%	2%	0%	100%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	357	40	293	536
LT Vol	8	8	3	0	522
Through Vol	7	341	37	0	10
RT Vol	10	8	0	293	4
Lane Flow Rate	43	401	43	318	596
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.097	0.761	0.091	0.6	1.107
Departure Headway (Hd)	8.486	7.264	7.99	7.228	6.689
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	425	501	451	503	548
Service Time	6.486	5.264	5.69	4.928	4.691
HCM Lane V/C Ratio	0.101	0.8	0.095	0.632	1.088
HCM Control Delay	12.4	29.8	11.5	20.2	96.3
HCM Lane LOS	B	D	B	C	F
HCM 95th-tile Q	0.3	6.6	0.3	3.9	19

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	945	519	115	456	7	398	18	153	3	17	6
Future Volume (veh/h)	4	945	519	115	456	7	398	18	153	3	17	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1687	1687	1634	1687	1687	1856	1900	1856	1900	1900	1900
Adj Flow Rate, veh/h	4	1016	558	124	490	8	442	0	165	3	18	6
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	5	1	1	3	0	3	0	0	0
Cap, veh/h	7	1378	597	154	1691	28	684	0	295	6	34	11
Arrive On Green	0.00	0.43	0.43	0.10	0.52	0.52	0.19	0.00	0.19	0.03	0.03	0.03
Sat Flow, veh/h	1619	3205	1389	1556	3225	53	3534	0	1526	197	1184	395
Grp Volume(v), veh/h	4	1016	558	124	243	255	442	0	165	27	0	0
Grp Sat Flow(s),veh/h/ln	1619	1602	1389	1556	1602	1675	1767	0	1526	1776	0	0
Q Serve(g_s), s	0.2	19.6	28.4	5.8	6.3	6.3	8.6	0.0	7.3	1.1	0.0	0.0
Cycle Q Clear(g_c), s	0.2	19.6	28.4	5.8	6.3	6.3	8.6	0.0	7.3	1.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	0.11		0.22
Lane Grp Cap(c), veh/h	7	1378	597	154	840	878	684	0	295	51	0	0
V/C Ratio(X)	0.58	0.74	0.93	0.81	0.29	0.29	0.65	0.00	0.56	0.53	0.00	0.00
Avail Cap(c_a), veh/h	698	1381	599	671	840	878	1904	0	822	478	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.9	17.7	20.2	32.8	9.9	9.9	27.6	0.0	27.1	35.6	0.0	0.0
Incr Delay (d2), s/veh	25.4	3.2	23.3	3.8	0.7	0.7	1.0	0.0	1.7	9.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	7.0	11.9	2.2	2.1	2.2	3.6	0.0	2.7	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.3	20.8	43.5	36.5	10.6	10.6	28.6	0.0	28.7	45.4	0.0	0.0
LnGrp LOS	E	C	D	D	B	B	C	A	C	D	A	A
Approach Vol, veh/h		1578			622			607			27	
Approach Delay, s/veh		28.9			15.8			28.7			45.4	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.8	36.9		6.6	4.8	43.9		18.9
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	32.0	32.0		20.0	32.0	31.0		40.0
Max Q Clear Time (g_c+I1), s	7.8	30.4		3.1	2.2	8.3		10.6
Green Ext Time (p_c), s	0.1	1.5		0.1	0.0	6.8		2.3

Intersection Summary		
HCM 6th Ctrl Delay		26.1
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	872	0	253	0	581	528	0	780	143
Future Volume (veh/h)	0	0	0	872	0	253	0	581	528	0	780	143
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		0.97
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				1885	1900	1826	0	1870	1900	0	1870	1870
Adj Flow Rate, veh/h				958	0	278	0	638	0	0	857	157
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				1	0	5	0	2	0	0	2	2
Cap, veh/h				1103	0	475	0	1849		0	1551	284
Arrive On Green				0.31	0.00	0.31	0.00	0.52	0.00	0.00	0.52	0.52
Sat Flow, veh/h				3591	0	1547	0	3647	1610	0	3075	546
Grp Volume(v), veh/h				958	0	278	0	638	0	0	511	503
Grp Sat Flow(s),veh/h/ln				1795	0	1547	0	1777	1610	0	1777	1751
Q Serve(g_s), s				13.9	0.0	8.3	0.0	5.8	0.0	0.0	10.6	10.6
Cycle Q Clear(g_c), s				13.9	0.0	8.3	0.0	5.8	0.0	0.0	10.6	10.6
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.31
Lane Grp Cap(c), veh/h				1103	0	475	0	1849		0	924	911
V/C Ratio(X)				0.87	0.00	0.59	0.00	0.35		0.00	0.55	0.55
Avail Cap(c_a), veh/h				1143	0	492	0	1849		0	924	911
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.89	0.00	0.00	0.62	0.62
Uniform Delay (d), s/veh				18.0	0.0	16.1	0.0	7.7	0.0	0.0	8.9	8.9
Incr Delay (d2), s/veh				7.3	0.0	1.9	0.0	0.5	0.0	0.0	1.5	1.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.0	0.0	2.8	0.0	1.8	0.0	0.0	3.7	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				25.3	0.0	18.0	0.0	8.2	0.0	0.0	10.4	10.4
LnGrp LOS				C	A	B	A	A		A	B	B
Approach Vol, veh/h					1236			638	A		1014	
Approach Delay, s/veh					23.7			8.2			10.4	
Approach LOS					C			A			B	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		33.9				33.9		21.1				
Change Period (Y+Rc), s		5.3				5.3		4.2				
Max Green Setting (Gmax), s		28.0				28.0		17.5				
Max Q Clear Time (g_c+I1), s		7.8				12.6		15.9				
Green Ext Time (p_c), s		4.9				7.3		1.0				

Intersection Summary		
HCM 6th Ctrl Delay		15.6
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	475	159	34	30	88	115	46	847	67	148	766	338
Future Volume (veh/h)	475	159	34	30	88	115	46	847	67	148	766	338
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.91	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	500	167	36	32	93	121	48	892	71	156	806	356
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	730	311	67	55	161	169	62	1831	145	199	2337	710
Arrive On Green	0.21	0.21	0.21	0.12	0.12	0.12	0.03	0.38	0.38	0.11	0.45	0.45
Sat Flow, veh/h	3483	1485	320	480	1396	1464	1795	4844	384	1795	5147	1563
Grp Volume(v), veh/h	500	0	203	125	0	121	48	631	332	156	806	356
Grp Sat Flow(s),veh/h/ln	1742	0	1805	1876	0	1464	1795	1716	1797	1795	1716	1563
Q Serve(g_s), s	11.8	0.0	8.9	5.6	0.0	7.1	2.4	12.5	12.6	7.6	9.1	14.4
Cycle Q Clear(g_c), s	11.8	0.0	8.9	5.6	0.0	7.1	2.4	12.5	12.6	7.6	9.1	14.4
Prop In Lane	1.00		0.18	0.26		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	730	0	378	217	0	169	62	1297	679	199	2337	710
V/C Ratio(X)	0.68	0.00	0.54	0.58	0.00	0.72	0.77	0.49	0.49	0.78	0.34	0.50
Avail Cap(c_a), veh/h	819	0	425	441	0	344	322	1744	914	523	2617	795
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.6	0.0	31.4	37.4	0.0	38.1	42.7	21.2	21.2	38.6	15.8	17.2
Incr Delay (d2), s/veh	4.3	0.0	4.2	3.4	0.0	7.8	24.2	1.3	2.5	9.2	0.4	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	4.3	2.8	0.0	2.9	1.4	5.0	5.5	3.7	3.4	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.9	0.0	35.7	40.8	0.0	45.8	66.9	22.5	23.7	47.8	16.2	19.7
LnGrp LOS	D	A	D	D	A	D	E	C	C	D	B	B
Approach Vol, veh/h		703			246			1011			1318	
Approach Delay, s/veh		36.5			43.3			25.0			20.9	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	45.2		14.3	13.9	38.3		22.7				
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0				
Max Green Setting (Gmax), s	16.0	45.4		21.0	26.0	45.4		21.0				
Max Q Clear Time (g_c+I1), s	4.4	16.4		9.1	9.6	14.6		13.8				
Green Ext Time (p_c), s	0.1	20.4		1.2	0.6	19.1		3.9				

Intersection Summary			
HCM 6th Ctrl Delay			27.2
HCM 6th LOS			C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	443	575	132	216	311	88	177	525	91	158	461	144
Future Volume (veh/h)	443	575	132	216	311	88	177	525	91	158	461	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	395	679	136	212	337	91	182	541	94	163	475	148
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	525	887	177	380	603	160	211	1200	204	235	797	343
Arrive On Green	0.29	0.29	0.29	0.21	0.21	0.21	0.12	0.27	0.27	0.07	0.22	0.22
Sat Flow, veh/h	1795	3036	607	1810	2870	761	1795	4402	748	3483	3582	1542
Grp Volume(v), veh/h	395	421	394	212	221	207	182	419	216	163	475	148
Grp Sat Flow(s),veh/h/ln	1795	1885	1758	1810	1900	1731	1795	1716	1719	1742	1791	1542
Q Serve(g_s), s	22.5	23.0	23.0	11.8	11.7	12.1	11.2	11.4	11.8	5.2	13.4	9.3
Cycle Q Clear(g_c), s	22.5	23.0	23.0	11.8	11.7	12.1	11.2	11.4	11.8	5.2	13.4	9.3
Prop In Lane	1.00		0.35	1.00		0.44	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	525	551	514	380	399	363	211	935	469	235	797	343
V/C Ratio(X)	0.75	0.77	0.77	0.56	0.55	0.57	0.86	0.45	0.46	0.69	0.60	0.43
Avail Cap(c_a), veh/h	628	659	615	546	573	522	223	974	488	519	1106	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.2	36.4	36.4	39.8	39.8	40.0	48.8	34.0	34.1	51.4	39.3	37.7
Incr Delay (d2), s/veh	4.9	5.1	5.5	1.8	1.7	2.0	27.7	1.2	2.6	5.1	2.6	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	11.4	10.7	5.5	5.7	5.4	6.6	4.8	5.2	2.4	6.1	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.1	41.4	41.9	41.7	41.5	41.9	76.5	35.2	36.7	56.5	41.8	40.8
LnGrp LOS	D	D	D	D	D	D	E	D	D	E	D	D
Approach Vol, veh/h		1210			640			817			786	
Approach Delay, s/veh		41.5			41.7			44.8			44.7	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.6	35.3		28.3	17.2	29.7		37.5
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		4.6
Max Green Setting (Gmax), s	16.8	32.0		34.0	14.0	34.8		39.4
Max Q Clear Time (g_c+I1), s	7.2	13.8		14.1	13.2	15.4		25.0
Green Ext Time (p_c), s	0.5	8.0		4.7	0.1	7.7		7.9

Intersection Summary	
HCM 6th Ctrl Delay	43.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	189	67	59	92	81	68	511	90	49	482	92
Future Volume (veh/h)	139	189	67	59	92	81	68	511	90	49	482	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	146	199	71	62	97	85	72	538	95	52	507	97
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	1	1	1
Cap, veh/h	172	235	84	103	161	219	95	982	173	67	921	175
Arrive On Green	0.27	0.27	0.27	0.14	0.14	0.14	0.05	0.33	0.33	0.04	0.31	0.31
Sat Flow, veh/h	633	863	308	727	1137	1547	1795	3020	531	1795	2975	566
Grp Volume(v), veh/h	416	0	0	159	0	85	72	318	315	52	304	300
Grp Sat Flow(s),veh/h/ln	1803	0	0	1864	0	1547	1795	1791	1759	1795	1791	1749
Q Serve(g_s), s	16.2	0.0	0.0	5.9	0.0	3.7	2.9	10.8	10.9	2.1	10.5	10.6
Cycle Q Clear(g_c), s	16.2	0.0	0.0	5.9	0.0	3.7	2.9	10.8	10.9	2.1	10.5	10.6
Prop In Lane	0.35		0.17	0.39		1.00	1.00		0.30	1.00		0.32
Lane Grp Cap(c), veh/h	491	0	0	264	0	219	95	582	572	67	555	542
V/C Ratio(X)	0.85	0.00	0.00	0.60	0.00	0.39	0.76	0.55	0.55	0.77	0.55	0.55
Avail Cap(c_a), veh/h	632	0	0	653	0	542	629	1095	1076	629	1095	1070
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	0.0	0.0	29.9	0.0	28.9	34.7	20.6	20.6	35.4	21.3	21.4
Incr Delay (d2), s/veh	8.4	0.0	0.0	2.2	0.0	1.1	11.5	2.9	3.0	17.0	3.1	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	0.0	0.0	2.8	0.0	1.4	1.6	4.8	4.8	1.2	4.5	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	0.0	0.0	32.1	0.0	30.1	46.2	23.4	23.6	52.4	24.4	24.5
LnGrp LOS	C	A	A	C	A	C	D	C	C	D	C	C
Approach Vol, veh/h		416			244			705			656	
Approach Delay, s/veh		34.0			31.4			25.8			26.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	28.7		14.5	7.9	27.6		24.2				
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0				
Max Green Setting (Gmax), s	26.0	45.4		26.0	26.0	45.4		26.0				
Max Q Clear Time (g_c+I1), s	4.1	12.9		7.9	4.9	12.6		18.2				
Green Ext Time (p_c), s	0.1	11.2		1.1	0.1	10.1		1.7				

Intersection Summary			
HCM 6th Ctrl Delay			28.5
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	1044	324	36	510	73	168	193	54	118	243	25
Future Volume (veh/h)	31	1044	324	36	510	73	168	193	54	118	243	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	33	1123	348	39	548	78	181	208	58	127	261	27
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	57	1501	648	63	1326	188	220	456	377	166	335	35
Arrive On Green	0.03	0.42	0.42	0.04	0.42	0.42	0.12	0.24	0.24	0.09	0.20	0.20
Sat Flow, veh/h	1795	3582	1546	1795	3137	445	1795	1885	1556	1795	1675	173
Grp Volume(v), veh/h	33	1123	348	39	312	314	181	208	58	127	0	288
Grp Sat Flow(s),veh/h/ln	1795	1791	1546	1795	1791	1791	1795	1885	1556	1795	0	1848
Q Serve(g_s), s	1.5	22.6	8.4	1.8	10.4	10.5	8.4	8.0	2.5	5.9	0.0	12.6
Cycle Q Clear(g_c), s	1.5	22.6	8.4	1.8	10.4	10.5	8.4	8.0	2.5	5.9	0.0	12.6
Prop In Lane	1.00		1.00	1.00		0.25	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	57	1501	648	63	757	757	220	456	377	166	0	369
V/C Ratio(X)	0.58	0.75	0.54	0.61	0.41	0.41	0.82	0.46	0.15	0.77	0.00	0.78
Avail Cap(c_a), veh/h	548	1891	816	548	946	946	548	664	548	548	0	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.7	20.9	6.4	40.5	17.2	17.2	36.5	27.5	25.4	37.8	0.0	32.3
Incr Delay (d2), s/veh	8.9	1.4	0.8	9.3	0.4	0.4	2.9	0.3	0.1	8.6	0.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	9.0	2.6	1.0	4.2	4.2	3.8	3.6	0.9	3.0	0.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.6	22.3	7.2	49.8	17.6	17.7	39.4	27.8	25.5	46.4	0.0	36.6
LnGrp LOS	D	C	A	D	B	B	D	C	C	D	A	D
Approach Vol, veh/h		1504			665			447			415	
Approach Delay, s/veh		19.4			19.5			32.2			39.6	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	41.0	11.9	25.6	7.0	40.7	15.5	22.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	26.0	45.0	26.0	30.0	26.0	45.0	26.0	* 30
Max Q Clear Time (g_c+I1), s	3.5	12.5	7.9	10.0	3.8	24.6	10.4	14.6
Green Ext Time (p_c), s	0.0	5.2	0.4	0.5	0.1	11.1	0.1	1.8

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	937	92	111	493	54	120	194	93	204	359	34
Future Volume (veh/h)	33	937	92	111	493	54	120	194	93	204	359	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	35	986	97	117	519	57	126	204	98	215	378	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	48	1136	112	150	1308	143	162	263	127	258	465	44
Arrive On Green	0.03	0.34	0.34	0.08	0.40	0.40	0.09	0.22	0.22	0.14	0.27	0.27
Sat Flow, veh/h	1810	3304	325	1810	3264	357	1810	1199	576	1810	1703	162
Grp Volume(v), veh/h	35	539	544	117	286	290	126	0	302	215	0	414
Grp Sat Flow(s),veh/h/ln	1810	1805	1824	1810	1805	1816	1810	0	1775	1810	0	1865
Q Serve(g_s), s	1.6	23.8	23.9	5.4	9.6	9.7	5.8	0.0	13.7	9.9	0.0	17.7
Cycle Q Clear(g_c), s	1.6	23.8	23.9	5.4	9.6	9.7	5.8	0.0	13.7	9.9	0.0	17.7
Prop In Lane	1.00		0.18	1.00		0.20	1.00		0.32	1.00		0.09
Lane Grp Cap(c), veh/h	48	621	627	150	723	728	162	0	390	258	0	509
V/C Ratio(X)	0.73	0.87	0.87	0.78	0.40	0.40	0.78	0.00	0.77	0.83	0.00	0.81
Avail Cap(c_a), veh/h	434	750	758	434	750	755	434	0	530	434	0	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.3	26.2	26.2	38.4	18.2	18.3	38.1	0.0	31.4	35.6	0.0	29.0
Incr Delay (d2), s/veh	14.7	8.1	8.0	6.3	0.4	0.4	7.8	0.0	4.2	6.9	0.0	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	11.1	11.2	2.6	3.9	4.0	2.9	0.0	6.1	4.8	0.0	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	34.3	34.2	44.7	18.7	18.7	45.9	0.0	35.6	42.5	0.0	37.7
LnGrp LOS	E	C	C	D	B	B	D	A	D	D	A	D
Approach Vol, veh/h		1118			693			428			629	
Approach Delay, s/veh		34.9			23.1			38.6			39.4	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	33.9	16.7	23.3	6.8	38.7	12.2	27.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.5	35.5	20.5	25.5	20.5	35.5	20.5	25.5
Max Q Clear Time (g_c+I1), s	7.4	25.9	11.9	15.7	3.6	11.7	7.8	19.7
Green Ext Time (p_c), s	0.2	3.5	0.4	1.0	0.0	4.4	0.2	1.4

Intersection Summary	
HCM 6th Ctrl Delay	33.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	1141	59	55	579	80	26	58	64	264	136	44
Future Volume (veh/h)	30	1141	59	55	579	80	26	58	64	264	136	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.92	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	32	1201	62	58	609	84	27	61	67	278	143	46
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	46	1510	78	76	1421	195	40	114	126	325	414	133
Arrive On Green	0.03	0.43	0.43	0.04	0.45	0.45	0.02	0.15	0.15	0.18	0.30	0.30
Sat Flow, veh/h	1810	3477	179	1810	3154	434	1795	781	858	1810	1365	439
Grp Volume(v), veh/h	32	623	640	58	348	345	27	0	128	278	0	189
Grp Sat Flow(s),veh/h/ln	1810	1805	1851	1810	1805	1783	1795	0	1639	1810	0	1805
Q Serve(g_s), s	1.4	24.1	24.2	2.6	10.6	10.7	1.2	0.0	5.8	12.0	0.0	6.6
Cycle Q Clear(g_c), s	1.4	24.1	24.2	2.6	10.6	10.7	1.2	0.0	5.8	12.0	0.0	6.6
Prop In Lane	1.00		0.10	1.00		0.24	1.00		0.52	1.00		0.24
Lane Grp Cap(c), veh/h	46	784	804	76	813	804	40	0	240	325	0	548
V/C Ratio(X)	0.70	0.79	0.80	0.77	0.43	0.43	0.67	0.00	0.53	0.86	0.00	0.35
Avail Cap(c_a), veh/h	358	1028	1054	358	1028	1015	467	0	325	470	0	548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.1	19.7	19.8	38.3	15.1	15.1	39.2	0.0	31.9	32.1	0.0	21.9
Incr Delay (d2), s/veh	17.3	3.3	3.3	14.9	0.4	0.4	17.4	0.0	1.8	10.3	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	10.1	10.3	1.4	4.1	4.1	0.7	0.0	2.4	6.1	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.4	23.0	23.0	53.2	15.5	15.5	56.6	0.0	33.7	42.4	0.0	22.3
LnGrp LOS	E	C	C	D	B	B	E	A	C	D	A	C
Approach Vol, veh/h		1295			751			155			467	
Approach Delay, s/veh		23.8			18.4			37.7			34.2	
Approach LOS		C			B			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	15.8	7.4	39.1	5.8	28.5	6.0	40.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	21.0	16.0	16.0	46.0	21.0	16.0	16.0	46.0
Max Q Clear Time (g_c+I1), s	14.0	7.8	4.6	26.2	3.2	8.6	3.4	12.7
Green Ext Time (p_c), s	0.5	0.4	0.1	8.9	0.0	0.6	0.0	4.9

Intersection Summary	
HCM 6th Ctrl Delay	24.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	1336	102	149	672	22	92	10	119	19	9	15
Future Volume (veh/h)	30	1336	102	149	672	22	92	10	119	19	9	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	31	1377	105	154	693	23	95	10	123	20	9	15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	45	1591	121	197	1063	872	86	5	388	76	21	401
Arrive On Green	0.02	0.47	0.47	0.11	0.56	0.56	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1810	3390	257	1810	1900	1558	0	20	1545	0	86	1599
Grp Volume(v), veh/h	31	730	752	154	693	23	105	0	123	29	0	15
Grp Sat Flow(s),veh/h/ln	1810	1805	1842	1810	1900	1558	20	0	1545	86	0	1599
Q Serve(g_s), s	1.4	28.7	29.1	6.6	20.1	0.5	0.0	0.0	5.2	0.0	0.0	0.6
Cycle Q Clear(g_c), s	1.4	28.7	29.1	6.6	20.1	0.5	20.0	0.0	5.2	20.0	0.0	0.6
Prop In Lane	1.00		0.14	1.00		1.00	0.90		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	45	847	864	197	1063	872	91	0	388	98	0	401
V/C Ratio(X)	0.69	0.86	0.87	0.78	0.65	0.03	1.15	0.00	0.32	0.30	0.00	0.04
Avail Cap(c_a), veh/h	591	1018	1038	579	1071	878	91	0	388	98	0	401
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.5	18.8	18.9	34.6	12.2	7.8	38.7	0.0	24.3	25.4	0.0	22.5
Incr Delay (d2), s/veh	16.9	5.8	6.2	6.6	1.1	0.0	141.3	0.0	0.2	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	12.2	12.7	3.2	8.0	0.2	5.3	0.0	1.9	0.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.4	24.7	25.1	41.2	13.3	7.8	180.1	0.0	24.4	26.0	0.0	22.6
LnGrp LOS	E	C	C	D	B	A	F	A	C	C	A	C
Approach Vol, veh/h		1513			870			228			44	
Approach Delay, s/veh		25.5			18.1			96.1			24.8	
Approach LOS		C			B			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.2	42.5		24.0	6.0	49.7		24.0
Change Period (Y+Rc), s	4.5	5.1		4.0	4.0	5.1		4.0
Max Green Setting (Gmax), s	25.5	44.9		20.0	26.0	44.9		20.0
Max Q Clear Time (g_c+I1), s	8.6	31.1		22.0	3.4	22.1		22.0
Green Ext Time (p_c), s	0.4	6.2		0.0	0.0	3.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	29.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	309	109	134	205	32	67	314	105	61	404	28
Future Volume (veh/h)	43	309	109	134	205	32	67	314	105	61	404	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.95	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	45	322	114	140	214	33	70	327	109	64	421	29
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	0	0	0
Cap, veh/h	75	389	138	184	571	88	95	408	136	92	532	37
Arrive On Green	0.04	0.30	0.30	0.10	0.36	0.36	0.05	0.31	0.31	0.05	0.30	0.30
Sat Flow, veh/h	1795	1303	461	1810	1594	246	1795	1332	444	1810	1751	121
Grp Volume(v), veh/h	45	0	436	140	0	247	70	0	436	64	0	450
Grp Sat Flow(s),veh/h/ln	1795	0	1764	1810	0	1840	1795	0	1776	1810	0	1871
Q Serve(g_s), s	1.7	0.0	16.1	5.3	0.0	7.0	2.7	0.0	15.8	2.4	0.0	15.4
Cycle Q Clear(g_c), s	1.7	0.0	16.1	5.3	0.0	7.0	2.7	0.0	15.8	2.4	0.0	15.4
Prop In Lane	1.00		0.26	1.00		0.13	1.00		0.25	1.00		0.06
Lane Grp Cap(c), veh/h	75	0	526	184	0	659	95	0	543	92	0	568
V/C Ratio(X)	0.60	0.00	0.83	0.76	0.00	0.37	0.73	0.00	0.80	0.70	0.00	0.79
Avail Cap(c_a), veh/h	681	0	883	686	0	921	681	0	889	686	0	937
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.9	0.0	22.9	30.6	0.0	16.6	32.6	0.0	22.3	32.6	0.0	22.3
Incr Delay (d2), s/veh	7.5	0.0	3.4	6.4	0.0	0.4	10.3	0.0	4.0	9.0	0.0	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	6.8	2.6	0.0	2.9	1.4	0.0	6.7	1.3	0.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.5	0.0	26.3	37.0	0.0	17.0	42.9	0.0	26.3	41.7	0.0	25.9
LnGrp LOS	D	A	C	D	A	B	D	A	C	D	A	C
Approach Vol, veh/h		481			387			506			514	
Approach Delay, s/veh		27.6			24.2			28.6			27.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	25.9	7.2	26.2	6.4	30.0	7.1	26.4
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0
Max Green Setting (Gmax), s	26.5	35.0	26.5	35.0	26.5	35.0	26.5	35.0
Max Q Clear Time (g_c+I1), s	7.3	18.1	4.7	17.4	3.7	9.0	4.4	17.8
Green Ext Time (p_c), s	0.3	2.7	0.1	3.7	0.1	1.6	0.1	3.6

Intersection Summary		
HCM 6th Ctrl Delay		27.2
HCM 6th LOS		C

Intersection	
Intersection Delay, s/veh	41.2
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	424	86	50	263	51	33	94	37	39	123	65
Future Vol, veh/h	75	424	86	50	263	51	33	94	37	39	123	65
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	81	456	92	54	283	55	35	101	40	42	132	70
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	69.3	22.5	15.4	17.5
HCM LOS	F	C	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	15%	0%	16%	0%	17%
Vol Thru, %	57%	85%	0%	84%	0%	54%
Vol Right, %	23%	0%	100%	0%	100%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	164	499	86	313	51	227
LT Vol	33	75	0	50	0	39
Through Vol	94	424	0	263	0	123
RT Vol	37	0	86	0	51	65
Lane Flow Rate	176	537	92	337	55	244
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.373	1.049	0.16	0.676	0.1	0.49
Departure Headway (Hd)	7.839	7.037	6.241	7.504	6.7	7.523
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	462	520	577	485	538	483
Service Time	5.839	4.749	3.954	5.204	4.4	5.523
HCM Lane V/C Ratio	0.381	1.033	0.159	0.695	0.102	0.505
HCM Control Delay	15.4	79.5	10.1	24.5	10.1	17.5
HCM Lane LOS	C	F	B	C	B	C
HCM 95th-tile Q	1.7	15.8	0.6	5	0.3	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	537	244	16	322	108	89	44	7	158	97	93
Future Volume (veh/h)	56	537	244	16	322	108	89	44	7	158	97	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.89	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	62	597	0	18	358	0	99	49	8	176	108	103
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	97	726		39	665		129	295	48	223	204	195
Arrive On Green	0.05	0.39	0.00	0.02	0.35	0.00	0.07	0.19	0.19	0.12	0.24	0.24
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1563	255	1795	845	806
Grp Volume(v), veh/h	62	597	0	18	358	0	99	0	57	176	0	211
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	0	1819	1795	0	1651
Q Serve(g_s), s	2.0	16.8	0.0	0.6	8.9	0.0	3.2	0.0	1.5	5.6	0.0	6.5
Cycle Q Clear(g_c), s	2.0	16.8	0.0	0.6	8.9	0.0	3.2	0.0	1.5	5.6	0.0	6.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.49
Lane Grp Cap(c), veh/h	97	726		39	665		129	0	343	223	0	399
V/C Ratio(X)	0.64	0.82		0.46	0.54		0.77	0.00	0.17	0.79	0.00	0.53
Avail Cap(c_a), veh/h	488	1137		488	1137		492	0	649	488	0	589
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.3	16.3	0.0	28.5	15.2	0.0	26.9	0.0	20.0	25.0	0.0	19.4
Incr Delay (d2), s/veh	5.1	2.8	0.0	6.2	0.7	0.0	3.5	0.0	0.2	2.4	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	7.0	0.0	0.3	3.5	0.0	1.4	0.0	0.6	2.4	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	19.1	0.0	34.7	15.9	0.0	30.4	0.0	20.2	27.4	0.0	20.2
LnGrp LOS	C	B		C	B		C	A	C	C	A	C
Approach Vol, veh/h		659	A		376	A		156			387	
Approach Delay, s/veh		20.4			16.8			26.7			23.5	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	27.2	8.2	18.2	7.2	25.3	11.3	15.1
Change Period (Y+Rc), s	4.0	4.5	4.0	4.0	4.0	4.5	4.0	4.0
Max Green Setting (Gmax), s	16.0	35.5	16.0	21.0	16.0	35.5	16.0	21.0
Max Q Clear Time (g_c+I1), s	2.6	18.8	5.2	8.5	4.0	10.9	7.6	3.5
Green Ext Time (p_c), s	0.0	3.9	0.1	0.8	0.1	2.2	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

Notes
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	46	101	0	0	0	0	1074	1059	0	1282	370
Future Volume (vph)	35	46	101	0	0	0	0	1074	1059	0	1282	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6					4.9	4.9		4.9	4.0
Lane Util. Factor		1.00	0.88					0.95	1.00		0.91	1.00
Frpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	0.97
Flpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	1.00
Frt		1.00	0.85					1.00	0.85		1.00	0.85
Flt Protected		0.98	1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)		1757	2694					3455	1546		4964	1501
Flt Permitted		0.98	1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)		1757	2694					3455	1546		4964	1501
Peak-hour factor, PHF	0.80	0.72	0.75	0.92	0.92	0.92	0.92	0.85	0.94	0.92	0.96	0.82
Adj. Flow (vph)	44	64	135	0	0	0	0	1264	1127	0	1335	451
RTOR Reduction (vph)	0	0	121	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	108	14	0	0	0	0	1264	1127	0	1335	451
Confl. Peds. (#/hr)	13					13	11		1	1		11
Confl. Bikes (#/hr)												9
Heavy Vehicles (%)	6%	0%	2%	0%	0%	0%	0%	1%	1%	0%	1%	1%
Turn Type	Split	NA	Perm					NA	Prot		NA	Free
Protected Phases	2	2						1 3 4	1 3 4		1 3 4	
Permitted Phases			2									Free
Actuated Green, G (s)		12.4	12.4					98.7	98.7		98.7	119.9
Effective Green, g (s)		12.4	12.4					94.5	94.5		94.5	119.9
Actuated g/C Ratio		0.10	0.10					0.79	0.79		0.79	1.00
Clearance Time (s)		4.6	4.6									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		181	278					2723	1218		3912	1501
v/s Ratio Prot		c0.06						0.37	c0.73		0.27	
v/s Ratio Perm			0.01									c0.30
v/c Ratio		0.60	0.05					0.46	0.93		0.34	0.30
Uniform Delay, d1		51.4	48.4					4.2	9.9		3.7	0.0
Progression Factor		1.00	1.00					0.03	1.19		1.00	1.00
Incremental Delay, d2		5.2	0.1					0.1	5.7		0.1	0.5
Delay (s)		56.6	48.5					0.2	17.5		3.7	0.5
Level of Service		E	D					A	B		A	A
Approach Delay (s)		52.1			0.0			8.3			2.9	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	618	28	235	48	19	107	73	1408	17	46	1082	255
Future Volume (vph)	618	28	235	48	19	107	73	1408	17	46	1082	255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.97		1.00	1.00	1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1625	1642	1509		1786	1561	1745	4949		1745	4736	
Flt Permitted	0.95	0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1625	1642	1509		1786	1561	1745	4949		1745	4736	
Peak-hour factor, PHF	0.86	0.61	0.80	0.85	0.44	0.79	0.66	0.86	0.61	0.67	0.94	0.85
Adj. Flow (vph)	719	46	294	56	43	135	111	1637	28	69	1151	300
RTOR Reduction (vph)	0	0	115	0	0	117	0	1	0	0	37	0
Lane Group Flow (vph)	381	384	179	0	99	18	111	1664	0	69	1414	0
Confl. Peds. (#/hr)			18	18			12		8	8		12
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	1		2	6	
Permitted Phases			4			3						
Actuated Green, G (s)	30.0	30.0	30.0		16.0	16.0	12.5	43.6		12.4	44.4	
Effective Green, g (s)	30.0	30.0	30.0		16.0	16.0	12.5	43.6		12.4	44.4	
Actuated g/C Ratio	0.25	0.25	0.25		0.13	0.13	0.10	0.36		0.10	0.37	
Clearance Time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.2	
Lane Grp Cap (vph)	406	410	377		238	208	181	1799		180	1753	
v/s Ratio Prot	c0.23	0.23			c0.06		c0.06	c0.34		0.04	0.30	
v/s Ratio Perm			0.12			0.01						
v/c Ratio	0.94	0.94	0.48		0.42	0.09	0.61	0.92		0.38	0.81	
Uniform Delay, d1	44.0	44.0	38.3		47.7	45.5	51.4	36.6		50.2	33.9	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.17	0.92	
Incremental Delay, d2	29.2	28.7	0.9		1.2	0.2	6.0	9.6		1.3	4.0	
Delay (s)	73.3	72.7	39.2		48.8	45.7	57.4	46.2		59.8	35.2	
Level of Service	E	E	D		D	D	E	D		E	D	
Approach Delay (s)		63.6			47.0			46.9			36.3	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	47.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX G.
CUMULATIVE PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	607	374	80	530	66	639	28	133	28	23	12
Future Volume (veh/h)	28	607	374	80	530	66	639	28	133	28	23	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	29	626	0	82	546	68	680	0	0	29	24	12
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	52	1701		105	1610	200	763	0		67	55	103
Arrive On Green	0.03	0.47	0.00	0.06	0.50	0.50	0.21	0.00	0.00	0.07	0.07	0.07
Sat Flow, veh/h	1795	3582	1598	1795	3192	396	3591	0	1598	1012	837	1559
Grp Volume(v), veh/h	29	626	0	82	305	309	680	0	0	53	0	12
Grp Sat Flow(s),veh/h/ln	1795	1791	1598	1795	1791	1797	1795	0	1598	1849	0	1559
Q Serve(g_s), s	1.4	9.5	0.0	3.8	8.7	8.7	15.6	0.0	0.0	2.3	0.0	0.6
Cycle Q Clear(g_c), s	1.4	9.5	0.0	3.8	8.7	8.7	15.6	0.0	0.0	2.3	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	0.55		1.00
Lane Grp Cap(c), veh/h	52	1701		105	903	906	763	0		122	0	103
V/C Ratio(X)	0.55	0.37		0.78	0.34	0.34	0.89	0.00		0.43	0.00	0.12
Avail Cap(c_a), veh/h	118	1701		137	903	906	824	0		490	0	413
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.96	0.96	0.96	0.63	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.7	14.2	0.0	39.5	12.6	12.6	32.5	0.0	0.0	38.2	0.0	37.4
Incr Delay (d2), s/veh	3.4	0.6	0.0	13.1	1.0	1.0	7.2	0.0	0.0	0.9	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.8	0.0	2.1	3.6	3.6	7.3	0.0	0.0	1.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.1	14.8	0.0	52.6	13.6	13.6	39.8	0.0	0.0	39.1	0.0	37.6
LnGrp LOS	D	B		D	B	B	D	A		D	A	D
Approach Vol, veh/h		655	A		696			680	A		65	
Approach Delay, s/veh		16.1			18.2			39.8			38.8	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	44.4		9.6	6.5	46.9		22.1
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.5	20.5		22.5	5.6	21.4		19.5
Max Q Clear Time (g_c+I1), s	5.8	11.5		4.3	3.4	10.7		17.6
Green Ext Time (p_c), s	0.0	2.9		0.1	0.0	2.9		0.4

Intersection Summary	
HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	648	81	299	619	131	438
Future Volume (veh/h)	648	81	299	619	131	438
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.95	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	661	83	305	632	134	447
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	958	120	351	2004	552	492
Arrive On Green	0.30	0.30	0.20	0.56	0.31	0.31
Sat Flow, veh/h	3275	399	1795	3676	1795	1598
Grp Volume(v), veh/h	372	372	305	632	134	447
Grp Sat Flow(s),veh/h/ln	1791	1788	1795	1791	1795	1598
Q Serve(g_s), s	13.1	13.1	11.8	6.8	4.0	19.2
Cycle Q Clear(g_c), s	13.1	13.1	11.8	6.8	4.0	19.2
Prop In Lane		0.22	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	539	538	351	2004	552	492
V/C Ratio(X)	0.69	0.69	0.87	0.32	0.24	0.91
Avail Cap(c_a), veh/h	826	825	489	2004	715	636
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	22.1	27.9	8.4	18.5	23.8
Incr Delay (d2), s/veh	2.2	2.3	9.0	0.1	0.1	12.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	5.4	5.6	2.2	1.6	8.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.3	24.3	36.9	8.6	18.6	36.5
LnGrp LOS	C	C	D	A	B	D
Approach Vol, veh/h	744			937	581	
Approach Delay, s/veh	24.3			17.8	32.4	
Approach LOS	C			B	C	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	18.5	26.5		26.5		45.0
Change Period (Y+Rc), s	4.5	5.0		4.5		5.0
Max Green Setting (Gmax), s	19.5	33.0		28.5		33.0
Max Q Clear Time (g_c+I1), s	13.8	15.1		21.2		8.8
Green Ext Time (p_c), s	0.2	5.9		0.8		6.0

Intersection Summary	
HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	705	422	317	604	6	256	2	974	1	0	2
Future Volume (veh/h)	6	705	422	317	604	6	256	2	974	1	0	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1737	1870	1900	1900	1885	1885	1856	1870	1870	1870
Adj Flow Rate, veh/h	6	734	0	330	629	6	267	2	0	1	0	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	11	2	0	0	1	1	3	2	2	2
Cap, veh/h	11	1939		348	2662	25	279	2		9	0	17
Arrive On Green	0.01	0.54	0.00	0.39	1.00	1.00	0.16	0.16	0.00	0.02	0.00	0.02
Sat Flow, veh/h	1810	3610	1472	1781	3664	35	1783	13	1572	495	0	990
Grp Volume(v), veh/h	6	734	0	330	310	325	269	0	0	3	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1472	1781	1805	1894	1796	0	1572	1485	0	0
Q Serve(g_s), s	0.5	17.7	0.0	26.9	0.0	0.0	22.3	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	17.7	0.0	26.9	0.0	0.0	22.3	0.0	0.0	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.99		1.00	0.33		0.67
Lane Grp Cap(c), veh/h	11	1939		348	1311	1376	281	0		26	0	0
V/C Ratio(X)	0.56	0.38		0.95	0.24	0.24	0.96	0.00		0.11	0.00	0.00
Avail Cap(c_a), veh/h	48	1939		487	1311	1376	281	0		218	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.00	1.00	1.00	1.00	0.44	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	74.4	20.2	0.0	45.0	0.0	0.0	62.7	0.0	0.0	72.5	0.0	0.0
Incr Delay (d2), s/veh	11.5	0.4	0.0	20.6	0.4	0.4	24.9	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	7.6	0.0	12.0	0.2	0.2	12.2	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.9	20.6	0.0	65.5	0.4	0.4	87.6	0.0	0.0	74.0	0.0	0.0
LnGrp LOS	F	C		E	A	A	F	A		E	A	A
Approach Vol, veh/h		740	A		965			269	A		3	
Approach Delay, s/veh		21.1			22.7			87.6			74.0	
Approach LOS		C			C			F			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.3	84.6		6.1	3.9	113.0		27.0				
Change Period (Y+Rc), s	3.0	4.0		3.5	3.0	4.0		3.5				
Max Green Setting (Gmax), s	41.0	49.5		22.0	4.0	86.5		23.5				
Max Q Clear Time (g_c+I1), s	28.9	19.7		2.3	2.5	2.0		24.3				
Green Ext Time (p_c), s	0.4	7.7		0.0	0.0	6.5		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	31.0
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	910	615	7	1079	39	419	133	80	80	91	51
Future Volume (veh/h)	155	910	615	7	1079	39	419	133	80	80	91	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1841	1900	1841	1841	1811	1870	1856	1870	1900	1900
Adj Flow Rate, veh/h	161	948	0	7	1124	41	288	347	0	83	95	53
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	3	4	0	4	4	6	2	3	2	0	0
Cap, veh/h	101	1996		15	1779	65	353	383		179	115	64
Arrive On Green	0.08	0.75	0.00	0.01	0.52	0.52	0.20	0.20	0.00	0.10	0.10	0.10
Sat Flow, veh/h	1781	3526	1560	1810	3436	125	1725	1870	1572	1781	1142	637
Grp Volume(v), veh/h	161	948	0	7	572	593	288	347	0	83	0	148
Grp Sat Flow(s),veh/h/ln	1781	1763	1560	1810	1749	1812	1725	1870	1572	1781	0	1779
Q Serve(g_s), s	8.5	15.5	0.0	0.6	35.1	35.2	23.9	27.2	0.0	6.6	0.0	12.2
Cycle Q Clear(g_c), s	8.5	15.5	0.0	0.6	35.1	35.2	23.9	27.2	0.0	6.6	0.0	12.2
Prop In Lane	1.00		1.00	1.00		0.07	1.00		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	101	1996		15	906	939	353	383		179	0	179
V/C Ratio(X)	1.60	0.47		0.46	0.63	0.63	0.82	0.91		0.46	0.00	0.83
Avail Cap(c_a), veh/h	101	1996		62	906	939	397	430		338	0	338
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.3	10.0	0.0	74.0	25.9	25.9	56.9	58.2	0.0	63.6	0.0	66.2
Incr Delay (d2), s/veh	309.2	0.8	0.0	20.0	3.3	3.2	11.3	21.1	0.0	1.9	0.0	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	5.1	0.0	0.4	15.3	15.8	11.6	15.2	0.0	3.1	0.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	378.5	10.8	0.0	94.0	29.2	29.1	68.3	79.3	0.0	65.5	0.0	75.4
LnGrp LOS	F	B		F	C	C	E	E		E	A	E
Approach Vol, veh/h		1109	A		1172			635	A		231	
Approach Delay, s/veh		64.2			29.6			74.3			71.8	
Approach LOS		E			C			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	89.4		35.2	13.0	82.2		19.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	63.9		34.5	8.5	60.5		28.5				
Max Q Clear Time (g_c+I1), s	2.6	17.5		29.2	10.5	37.2		14.2				
Green Ext Time (p_c), s	0.0	8.6		1.5	0.0	8.3		0.9				
Intersection Summary												
HCM 6th Ctrl Delay			53.9									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	364	290	612	167	395	601
Future Volume (veh/h)	364	290	612	167	395	601
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	375	299	631	172	407	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	822	820	795	347	526	
Arrive On Green	0.46	0.46	0.22	0.22	0.15	0.00
Sat Flow, veh/h	1795	1885	3647	1551	3483	1598
Grp Volume(v), veh/h	375	299	631	172	407	0
Grp Sat Flow(s),veh/h/ln	1795	1791	1777	1551	1742	1598
Q Serve(g_s), s	11.5	8.7	13.4	7.7	9.0	0.0
Cycle Q Clear(g_c), s	11.5	8.7	13.4	7.7	9.0	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	822	820	795	347	526	
V/C Ratio(X)	0.46	0.36	0.79	0.50	0.77	
Avail Cap(c_a), veh/h	822	820	795	347	906	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.9	14.1	29.3	27.1	32.6	0.0
Incr Delay (d2), s/veh	1.3	0.9	8.0	5.0	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	3.6	6.5	3.3	3.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.1	15.0	37.3	32.1	35.1	0.0
LnGrp LOS	B	B	D	C	D	
Approach Vol, veh/h		674	803		407	A
Approach Delay, s/veh		15.6	36.2		35.1	
Approach LOS		B	D		D	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		41.2		16.3		22.5
Change Period (Y+Rc), s		4.6		* 4.2		4.6
Max Green Setting (Gmax), s		27.9		* 21		17.9
Max Q Clear Time (g_c+I1), s		13.5		11.0		15.4
Green Ext Time (p_c), s		3.8		1.1		1.2

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

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	386	264	67	347	412	113
Future Volume (veh/h)	386	264	67	347	412	113
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	411	281	71	369	279	290
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	0	0	1	0
Cap, veh/h	667	549	90	963	490	440
Arrive On Green	0.35	0.35	0.05	0.51	0.27	0.27
Sat Flow, veh/h	1885	1550	1810	1900	1795	1610
Grp Volume(v), veh/h	411	281	71	369	279	290
Grp Sat Flow(s),veh/h/ln	1885	1550	1810	1900	1795	1610
Q Serve(g_s), s	6.1	4.9	1.3	4.0	4.6	5.4
Cycle Q Clear(g_c), s	6.1	4.9	1.3	4.0	4.6	5.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	667	549	90	963	490	440
V/C Ratio(X)	0.62	0.51	0.79	0.38	0.57	0.66
Avail Cap(c_a), veh/h	1661	1366	1595	1674	1582	1419
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.1	8.7	16.0	5.1	10.7	11.0
Incr Delay (d2), s/veh	0.9	0.7	13.8	0.3	1.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.3	0.8	0.8	1.5	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.0	9.4	29.8	5.4	11.7	12.7
LnGrp LOS	B	A	C	A	B	B
Approach Vol, veh/h	692			440	569	
Approach Delay, s/veh	9.8			9.3	12.2	
Approach LOS	A			A	B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.2	16.0		12.8		21.2
Change Period (Y+Rc), s	3.5	4.0		3.5		4.0
Max Green Setting (Gmax), s	30.0	30.0		30.0		30.0
Max Q Clear Time (g_c+I1), s	3.3	8.1		7.4		6.0
Green Ext Time (p_c), s	0.2	3.8		1.9		2.2

Intersection Summary	
HCM 6th Ctrl Delay	10.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	7.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	433	97	99	267	162	181
Future Vol, veh/h	433	97	99	267	162	181
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	170	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	451	101	103	278	169	189

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	553	0	936	452
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	484	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1027	-	297	612
Stage 1	-	-	-	-	645	-
Stage 2	-	-	-	-	624	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1026	-	267	611
Mov Cap-2 Maneuver	-	-	-	-	267	-
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	562	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	25.6
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	267	611	-	-	1026	-
HCM Lane V/C Ratio	0.632	0.309	-	-	0.101	-
HCM Control Delay (s)	39.1	13.5	-	-	8.9	-
HCM Lane LOS	E	B	-	-	A	-
HCM 95th %tile Q(veh)	3.9	1.3	-	-	0.3	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	300	311	149	305	88	42
Future Volume (veh/h)	300	311	149	305	88	42
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1737	1737
Adj Flow Rate, veh/h	333	346	166	339	98	47
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	2	2	11	11
Cap, veh/h	862	714	538	855	321	285
Arrive On Green	0.46	0.46	0.46	0.46	0.19	0.19
Sat Flow, veh/h	1885	1561	761	1870	1654	1472
Grp Volume(v), veh/h	333	346	166	339	98	47
Grp Sat Flow(s),veh/h/ln	1885	1561	761	1870	1654	1472
Q Serve(g_s), s	3.0	4.0	4.7	3.1	1.3	0.7
Cycle Q Clear(g_c), s	3.0	4.0	7.8	3.1	1.3	0.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	862	714	538	855	321	285
V/C Ratio(X)	0.39	0.48	0.31	0.40	0.31	0.16
Avail Cap(c_a), veh/h	1316	1090	722	1306	1155	1027
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	4.6	4.9	7.2	4.6	8.9	8.7
Incr Delay (d2), s/veh	0.3	0.5	0.3	0.3	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.4	0.4	0.4	0.4	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	4.9	5.4	7.5	4.9	9.4	8.9
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	679			505	145	
Approach Delay, s/veh	5.2			5.8	9.3	
Approach LOS	A			A	A	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	9.5	16.3	16.3
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	3.3	6.0	9.8
Green Ext Time (p_c), s	0.3	2.6	2.0

Intersection Summary	
HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

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	17	92	0	6	26	528	0	2	9	305	0	6
Future Vol, veh/h	17	92	0	6	26	528	0	2	9	305	0	6
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	3	3	3	14	14	14	1	1	1
Mvmt Flow	18	96	0	6	27	550	0	2	9	318	0	6
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	10.4	22.1	9.3	15.4
HCM LOS	B	C	A	C

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	16%	19%	0%	98%
Vol Thru, %	18%	84%	81%	0%	0%
Vol Right, %	82%	0%	0%	100%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	109	32	528	311
LT Vol	0	17	6	0	305
Through Vol	2	92	26	0	0
RT Vol	9	0	0	528	6
Lane Flow Rate	11	114	33	550	324
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.019	0.187	0.054	0.773	0.529
Departure Headway (Hd)	6.112	5.938	5.862	5.059	5.881
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	583	603	611	715	612
Service Time	4.177	3.989	3.596	2.793	3.918
HCM Lane V/C Ratio	0.019	0.189	0.054	0.769	0.529
HCM Control Delay	9.3	10.4	8.9	22.9	15.4
HCM Lane LOS	A	B	A	C	C
HCM 95th-tile Q	0.1	0.7	0.2	7.4	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	388	398	177	543	5	633	5	127	0	9	3
Future Volume (veh/h)	1	388	398	177	543	5	633	5	127	0	9	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1687	1687	1634	1687	1687	1856	1900	1856	1900	1900	1900
Adj Flow Rate, veh/h	1	417	428	190	584	5	685	0	137	0	10	3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	5	1	1	3	0	3	0	0	0
Cap, veh/h	2	1167	504	225	1652	14	876	0	381	0	21	6
Arrive On Green	0.00	0.36	0.36	0.14	0.51	0.51	0.25	0.00	0.25	0.00	0.02	0.02
Sat Flow, veh/h	1619	3205	1385	1556	3255	28	3534	0	1536	0	1367	410
Grp Volume(v), veh/h	1	417	428	190	287	302	685	0	137	0	0	13
Grp Sat Flow(s),veh/h/ln	1619	1602	1385	1556	1602	1681	1767	0	1536	0	0	1777
Q Serve(g_s), s	0.1	7.7	23.1	9.7	8.7	8.8	14.7	0.0	6.0	0.0	0.0	0.6
Cycle Q Clear(g_c), s	0.1	7.7	23.1	9.7	8.7	8.8	14.7	0.0	6.0	0.0	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.00		0.23
Lane Grp Cap(c), veh/h	2	1167	504	225	813	853	876	0	381	0	0	28
V/C Ratio(X)	0.50	0.36	0.85	0.84	0.35	0.35	0.78	0.00	0.36	0.00	0.00	0.47
Avail Cap(c_a), veh/h	638	1262	545	613	813	853	1740	0	756	0	0	437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	40.6	18.9	23.8	33.9	12.0	12.0	28.5	0.0	25.2	0.0	0.0	39.7
Incr Delay (d2), s/veh	58.0	0.7	14.9	3.3	0.9	0.9	1.6	0.0	0.6	0.0	0.0	14.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.8	9.1	3.7	3.0	3.2	6.3	0.0	2.2	0.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.6	19.6	38.7	37.2	13.0	12.9	30.1	0.0	25.8	0.0	0.0	53.7
LnGrp LOS	F	B	D	D	B	B	C	A	C	A	A	D
Approach Vol, veh/h		846			779			822			13	
Approach Delay, s/veh		29.3			18.9			29.4			53.7	
Approach LOS		C			B			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.2	34.6		5.8	4.6	46.3		24.6				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	32.0	32.0		20.0	32.0	31.0		40.0				
Max Q Clear Time (g_c+I1), s	11.7	25.1		2.6	2.1	10.8		16.7				
Green Ext Time (p_c), s	0.2	4.5		0.0	0.0	7.7		3.2				
Intersection Summary												
HCM 6th Ctrl Delay			26.1									
HCM 6th LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	676	5	428	0	635	493	0	677	166
Future Volume (veh/h)	0	0	0	676	5	428	0	635	493	0	677	166
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		0.97
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				1885	1900	1826	0	1870	1900	0	1870	1870
Adj Flow Rate, veh/h				747	0	470	0	698	0	0	744	182
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				1	0	5	0	2	0	0	2	2
Cap, veh/h				1143	0	492	0	1809		0	1431	350
Arrive On Green				0.32	0.00	0.32	0.00	0.51	0.00	0.00	0.51	0.51
Sat Flow, veh/h				3591	0	1547	0	3647	1610	0	2903	687
Grp Volume(v), veh/h				747	0	470	0	698	0	0	470	456
Grp Sat Flow(s),veh/h/ln				1795	0	1547	0	1777	1610	0	1777	1720
Q Serve(g_s), s				9.9	0.0	16.4	0.0	6.6	0.0	0.0	9.7	9.7
Cycle Q Clear(g_c), s				9.9	0.0	16.4	0.0	6.6	0.0	0.0	9.7	9.7
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.40
Lane Grp Cap(c), veh/h				1143	0	492	0	1809		0	905	876
V/C Ratio(X)				0.65	0.00	0.95	0.00	0.39		0.00	0.52	0.52
Avail Cap(c_a), veh/h				1143	0	492	0	1809		0	905	876
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.93	0.00	0.00	0.74	0.74
Uniform Delay (d), s/veh				16.1	0.0	18.4	0.0	8.2	0.0	0.0	9.0	9.0
Incr Delay (d2), s/veh				1.4	0.0	29.4	0.0	0.6	0.0	0.0	1.6	1.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.7	0.0	8.9	0.0	2.0	0.0	0.0	3.5	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				17.6	0.0	47.8	0.0	8.8	0.0	0.0	10.6	10.7
LnGrp LOS				B	A	D	A	A		A	B	B
Approach Vol, veh/h					1217			698	A		926	
Approach Delay, s/veh					29.2			8.8			10.6	
Approach LOS					C			A			B	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		33.3				33.3		21.7				
Change Period (Y+Rc), s		5.3				5.3		4.2				
Max Green Setting (Gmax), s		28.0				28.0		17.5				
Max Q Clear Time (g_c+I1), s		8.6				11.7		18.4				
Green Ext Time (p_c), s		5.3				6.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			18.2									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	231	37	18	22	80	182	47	1066	26	129	724	338
Future Volume (veh/h)	231	37	18	22	80	182	47	1066	26	129	724	338
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	243	39	19	23	84	192	49	1122	27	136	762	356
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	520	174	85	64	233	236	64	2136	51	176	2450	744
Arrive On Green	0.15	0.15	0.15	0.16	0.16	0.16	0.04	0.41	0.41	0.10	0.48	0.48
Sat Flow, veh/h	3483	1164	567	404	1476	1498	1795	5164	124	1795	5147	1564
Grp Volume(v), veh/h	243	0	58	107	0	192	49	745	404	136	762	356
Grp Sat Flow(s),veh/h/ln	1742	0	1730	1880	0	1498	1795	1716	1857	1795	1716	1564
Q Serve(g_s), s	5.8	0.0	2.7	4.7	0.0	11.3	2.5	14.9	14.9	6.8	8.3	14.1
Cycle Q Clear(g_c), s	5.8	0.0	2.7	4.7	0.0	11.3	2.5	14.9	14.9	6.8	8.3	14.1
Prop In Lane	1.00		0.33	0.21		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	520	0	258	297	0	236	64	1419	768	176	2450	744
V/C Ratio(X)	0.47	0.00	0.22	0.36	0.00	0.81	0.77	0.53	0.53	0.77	0.31	0.48
Avail Cap(c_a), veh/h	800	0	397	432	0	344	314	1703	922	510	2554	776
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	0.0	34.3	34.4	0.0	37.2	43.7	20.1	20.1	40.3	14.7	16.3
Incr Delay (d2), s/veh	2.4	0.0	1.6	1.1	0.0	11.3	23.5	1.4	2.6	9.8	0.3	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	1.3	2.2	0.0	4.9	1.5	5.9	6.6	3.4	3.1	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.0	0.0	35.8	35.5	0.0	48.6	67.3	21.5	22.7	50.1	15.1	18.5
LnGrp LOS	D	A	D	D	A	D	E	C	C	D	B	B
Approach Vol, veh/h		301			299			1198			1254	
Approach Delay, s/veh		37.5			43.9			23.8			19.8	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	48.1		18.4	13.0	42.4		17.7				
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0				
Max Green Setting (Gmax), s	16.0	45.4		21.0	26.0	45.4		21.0				
Max Q Clear Time (g_c+I1), s	4.5	16.1		13.3	8.8	16.9		7.8				
Green Ext Time (p_c), s	0.1	19.9		1.1	0.5	20.9		2.5				

Intersection Summary			
HCM 6th Ctrl Delay			25.5
HCM 6th LOS			C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	472	181	69	124	266	152	49	542	36	118	440	85
Future Volume (veh/h)	472	181	69	124	266	152	49	542	36	118	440	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	487	187	71	128	274	157	51	559	37	122	454	88
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	828	297	113	386	485	267	67	1331	87	239	1080	468
Arrive On Green	0.23	0.23	0.23	0.21	0.21	0.21	0.04	0.27	0.27	0.07	0.30	0.30
Sat Flow, veh/h	3591	1289	489	1810	2271	1252	1795	4922	323	3483	3582	1551
Grp Volume(v), veh/h	487	0	258	128	227	204	51	388	208	122	454	88
Grp Sat Flow(s),veh/h/ln	1795	0	1778	1810	1900	1623	1795	1716	1814	1742	1791	1551
Q Serve(g_s), s	9.9	0.0	10.7	4.9	8.8	9.3	2.3	7.6	7.8	2.8	8.3	3.4
Cycle Q Clear(g_c), s	9.9	0.0	10.7	4.9	8.8	9.3	2.3	7.6	7.8	2.8	8.3	3.4
Prop In Lane	1.00		0.28	1.00		0.77	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	828	0	410	386	406	346	67	928	490	239	1080	468
V/C Ratio(X)	0.59	0.00	0.63	0.33	0.56	0.59	0.76	0.42	0.42	0.51	0.42	0.19
Avail Cap(c_a), veh/h	1111	0	550	560	588	502	569	1898	1003	1103	1981	858
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	0.0	28.4	27.3	28.8	29.0	39.1	24.6	24.7	36.9	22.9	21.2
Incr Delay (d2), s/veh	0.9	0.0	2.3	0.7	1.7	2.3	21.9	1.1	2.1	2.4	0.9	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	4.7	2.2	4.1	3.8	1.4	3.1	3.5	1.2	3.5	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	0.0	30.7	28.0	30.6	31.3	61.1	25.7	26.8	39.3	23.9	21.9
LnGrp LOS	C	A	C	C	C	C	E	C	C	D	C	C
Approach Vol, veh/h		745			559			647			664	
Approach Delay, s/veh		29.6			30.2			28.9			26.4	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	26.8		22.1	7.1	29.4		23.5				
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		4.6				
Max Green Setting (Gmax), s	26.0	45.4		25.4	26.0	45.4		25.4				
Max Q Clear Time (g_c+I1), s	11.8	9.8		11.3	4.3	10.3		12.7				
Green Ext Time (p_c), s	0.5	10.3		3.7	0.1	8.9		4.1				

Intersection Summary				
HCM 6th Ctrl Delay			28.8	
HCM 6th LOS			C	

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	81	41	46	59	101	21	433	31	79	321	82
Future Volume (veh/h)	113	81	41	46	59	101	21	433	31	79	321	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	119	85	43	48	62	106	22	456	33	83	338	86
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	1	1	1
Cap, veh/h	174	124	63	111	143	211	37	1034	74	110	974	243
Arrive On Green	0.20	0.20	0.20	0.14	0.14	0.14	0.02	0.31	0.31	0.06	0.35	0.35
Sat Flow, veh/h	862	616	312	811	1048	1545	1795	3375	243	1795	2808	702
Grp Volume(v), veh/h	247	0	0	110	0	106	22	241	248	83	213	211
Grp Sat Flow(s),veh/h/ln	1789	0	0	1859	0	1545	1795	1791	1827	1795	1791	1719
Q Serve(g_s), s	7.2	0.0	0.0	3.1	0.0	3.6	0.7	6.1	6.1	2.6	5.0	5.2
Cycle Q Clear(g_c), s	7.2	0.0	0.0	3.1	0.0	3.6	0.7	6.1	6.1	2.6	5.0	5.2
Prop In Lane	0.48		0.17	0.44		1.00	1.00		0.13	1.00		0.41
Lane Grp Cap(c), veh/h	362	0	0	254	0	211	37	549	560	110	621	596
V/C Ratio(X)	0.68	0.00	0.00	0.43	0.00	0.50	0.59	0.44	0.44	0.76	0.34	0.35
Avail Cap(c_a), veh/h	824	0	0	856	0	712	827	1440	1469	827	1440	1383
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	0.0	0.0	22.4	0.0	22.6	27.4	15.7	15.7	26.1	13.7	13.7
Incr Delay (d2), s/veh	2.3	0.0	0.0	1.2	0.0	1.9	14.2	2.0	2.0	10.1	1.2	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.0	1.4	0.0	1.3	0.4	2.6	2.7	1.3	1.9	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.1	0.0	0.0	23.5	0.0	24.5	41.6	17.7	17.7	36.2	14.9	15.0
LnGrp LOS	C	A	A	C	A	C	D	B	B	D	B	B
Approach Vol, veh/h		247			216			511			507	
Approach Delay, s/veh		23.1			24.0			18.7			18.4	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.5	21.9		11.7	5.2	24.2		15.4
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0
Max Green Setting (Gmax), s	26.0	45.4		26.0	26.0	45.4		26.0
Max Q Clear Time (g_c+I1), s	4.6	8.1		5.6	2.7	7.2		9.2
Green Ext Time (p_c), s	0.2	8.6		0.9	0.0	7.0		1.4

Intersection Summary			
HCM 6th Ctrl Delay			20.1
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	304	144	50	623	124	198	273	63	77	187	52
Future Volume (veh/h)	63	304	144	50	623	124	198	273	63	77	187	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	68	327	155	54	670	133	213	294	68	83	201	56
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	95	1194	514	84	970	192	261	561	464	111	281	78
Arrive On Green	0.05	0.33	0.33	0.05	0.33	0.33	0.15	0.30	0.30	0.06	0.20	0.20
Sat Flow, veh/h	1795	3582	1540	1795	2963	588	1795	1885	1560	1795	1409	393
Grp Volume(v), veh/h	68	327	155	54	405	398	213	294	68	83	0	257
Grp Sat Flow(s),veh/h/ln	1795	1791	1540	1795	1791	1760	1795	1885	1560	1795	0	1802
Q Serve(g_s), s	2.6	4.6	2.9	2.0	13.6	13.6	8.0	9.0	2.2	3.1	0.0	9.2
Cycle Q Clear(g_c), s	2.6	4.6	2.9	2.0	13.6	13.6	8.0	9.0	2.2	3.1	0.0	9.2
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	95	1194	514	84	586	576	261	561	464	111	0	360
V/C Ratio(X)	0.72	0.27	0.30	0.64	0.69	0.69	0.82	0.52	0.15	0.75	0.00	0.71
Avail Cap(c_a), veh/h	675	2332	1003	675	1166	1146	675	818	677	675	0	782
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.2	16.9	5.4	32.4	20.2	20.2	28.6	20.2	17.8	31.9	0.0	25.8
Incr Delay (d2), s/veh	9.7	0.1	0.4	8.0	1.8	1.8	2.4	0.3	0.1	11.3	0.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.8	1.7	1.0	5.5	5.4	3.5	3.8	0.8	1.7	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.9	17.0	5.8	40.4	22.0	22.0	31.0	20.5	17.9	43.2	0.0	29.0
LnGrp LOS	D	B	A	D	C	C	C	C	B	D	A	C
Approach Vol, veh/h		550			857			575			340	
Approach Delay, s/veh		17.0			23.1			24.1			32.5	
Approach LOS		B			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	27.6	8.3	25.6	7.2	28.0	15.0	18.8				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5				
Max Green Setting (Gmax), s	26.0	45.0	26.0	30.0	26.0	45.0	26.0	* 30				
Max Q Clear Time (g_c+I1), s	4.6	15.6	5.1	11.0	4.0	6.6	10.0	11.2				
Green Ext Time (p_c), s	0.1	7.0	0.2	0.7	0.1	3.4	0.1	1.8				

Intersection Summary	
HCM 6th Ctrl Delay	23.3
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)	44	305	106	71	492	54	159	371	64	67	241	60
Future Volume (veh/h)	44	305	106	71	492	54	159	371	64	67	241	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	46	321	112	75	518	57	167	391	67	71	254	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	65	659	224	98	884	97	219	518	89	93	379	94
Arrive On Green	0.04	0.25	0.25	0.05	0.27	0.27	0.12	0.33	0.33	0.05	0.26	0.26
Sat Flow, veh/h	1810	2601	885	1810	3259	357	1810	1574	270	1810	1460	362
Grp Volume(v), veh/h	46	220	213	75	286	289	167	0	458	71	0	317
Grp Sat Flow(s),veh/h/ln	1810	1805	1682	1810	1805	1811	1810	0	1843	1810	0	1822
Q Serve(g_s), s	1.5	6.0	6.2	2.4	7.9	8.0	5.2	0.0	12.8	2.2	0.0	9.0
Cycle Q Clear(g_c), s	1.5	6.0	6.2	2.4	7.9	8.0	5.2	0.0	12.8	2.2	0.0	9.0
Prop In Lane	1.00		0.53	1.00		0.20	1.00		0.15	1.00		0.20
Lane Grp Cap(c), veh/h	65	457	426	98	490	491	219	0	607	93	0	473
V/C Ratio(X)	0.70	0.48	0.50	0.77	0.58	0.59	0.76	0.00	0.75	0.76	0.00	0.67
Avail Cap(c_a), veh/h	643	1110	1034	643	1110	1114	643	0	814	643	0	805
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.5	18.3	18.4	26.9	18.2	18.2	24.6	0.0	17.3	27.0	0.0	19.2
Incr Delay (d2), s/veh	9.7	0.3	0.3	9.0	1.3	1.4	5.4	0.0	2.4	12.2	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.3	2.3	1.2	3.2	3.2	2.4	0.0	5.2	1.2	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.2	18.6	18.8	35.9	19.5	19.6	30.0	0.0	19.6	39.2	0.0	21.1
LnGrp LOS	D	B	B	D	B	B	C	A	B	D	A	C
Approach Vol, veh/h		479			650			625			388	
Approach Delay, s/veh		20.5			21.5			22.4			24.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	19.1	7.5	23.5	6.6	20.2	11.5	19.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.5	35.5	20.5	25.5	20.5	35.5	20.5	25.5
Max Q Clear Time (g_c+I1), s	4.4	8.2	4.2	14.8	3.5	10.0	7.2	11.0
Green Ext Time (p_c), s	0.1	1.8	0.1	1.8	0.0	4.5	0.3	1.9

Intersection Summary	
HCM 6th Ctrl Delay	22.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	288	67	101	489	154	45	117	70	71	98	47
Future Volume (veh/h)	24	288	67	101	489	154	45	117	70	71	98	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.92	1.00		0.94	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	25	303	71	106	515	162	47	123	74	75	103	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	43	878	200	140	956	298	69	248	149	98	296	141
Arrive On Green	0.02	0.31	0.31	0.08	0.36	0.36	0.04	0.23	0.23	0.05	0.25	0.25
Sat Flow, veh/h	1810	2854	652	1810	2643	825	1795	1074	646	1810	1201	572
Grp Volume(v), veh/h	25	189	185	106	350	327	47	0	197	75	0	152
Grp Sat Flow(s),veh/h/ln	1810	1805	1701	1810	1805	1663	1795	0	1720	1810	0	1773
Q Serve(g_s), s	0.7	3.9	4.1	2.8	7.5	7.6	1.3	0.0	4.8	2.0	0.0	3.4
Cycle Q Clear(g_c), s	0.7	3.9	4.1	2.8	7.5	7.6	1.3	0.0	4.8	2.0	0.0	3.4
Prop In Lane	1.00		0.38	1.00		0.50	1.00		0.38	1.00		0.32
Lane Grp Cap(c), veh/h	43	555	523	140	653	601	69	0	397	98	0	436
V/C Ratio(X)	0.59	0.34	0.35	0.75	0.54	0.54	0.68	0.00	0.50	0.77	0.00	0.35
Avail Cap(c_a), veh/h	597	1713	1614	597	1713	1578	778	0	568	784	0	585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.4	13.0	13.0	21.9	12.3	12.3	23.0	0.0	16.2	22.6	0.0	15.1
Incr Delay (d2), s/veh	12.1	0.4	0.4	7.9	0.7	0.8	10.9	0.0	1.0	11.8	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.4	1.4	1.4	2.6	2.5	0.7	0.0	1.8	1.1	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.5	13.3	13.5	29.8	12.9	13.1	33.9	0.0	17.2	34.4	0.0	15.5
LnGrp LOS	D	B	B	C	B	B	C	A	B	C	A	B
Approach Vol, veh/h		399			783			244			227	
Approach Delay, s/veh		14.8			15.3			20.4			21.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	15.2	7.8	18.9	5.9	15.9	5.1	21.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	21.0	16.0	16.0	46.0	21.0	16.0	16.0	46.0
Max Q Clear Time (g_c+I1), s	4.0	6.8	4.8	6.1	3.3	5.4	2.7	9.6
Green Ext Time (p_c), s	0.1	0.7	0.2	2.5	0.1	0.6	0.0	5.0

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	406	74	88	536	11	129	3	90	19	3	38
Future Volume (veh/h)	15	406	74	88	536	11	129	3	90	19	3	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	15	419	76	91	553	11	133	3	93	20	3	39
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	27	886	159	121	673	547	136	2	592	128	11	611
Arrive On Green	0.01	0.29	0.29	0.07	0.35	0.35	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1810	3031	544	1810	1900	1546	0	4	1552	0	29	1603
Grp Volume(v), veh/h	15	248	247	91	553	11	136	0	93	23	0	39
Grp Sat Flow(s),veh/h/ln	1810	1805	1770	1810	1900	1546	4	0	1552	29	0	1603
Q Serve(g_s), s	0.4	5.9	6.0	2.6	13.9	0.2	0.0	0.0	2.1	0.0	0.0	0.8
Cycle Q Clear(g_c), s	0.4	5.9	6.0	2.6	13.9	0.2	20.0	0.0	2.1	20.0	0.0	0.8
Prop In Lane	1.00		0.31	1.00		1.00	0.98		1.00	0.87		1.00
Lane Grp Cap(c), veh/h	27	528	517	121	673	547	137	0	592	139	0	611
V/C Ratio(X)	0.55	0.47	0.48	0.75	0.82	0.02	0.99	0.00	0.16	0.17	0.00	0.06
Avail Cap(c_a), veh/h	897	1545	1515	880	1626	1324	137	0	592	139	0	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.7	15.2	15.3	24.0	15.4	11.0	26.0	0.0	10.7	16.9	0.0	10.3
Incr Delay (d2), s/veh	16.5	0.2	0.3	8.9	1.0	0.0	73.5	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.2	2.2	1.3	5.4	0.1	4.4	0.0	0.6	0.2	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.1	15.5	15.5	32.9	16.4	11.0	99.5	0.0	10.7	17.1	0.0	10.3
LnGrp LOS	D	B	B	C	B	B	F	A	B	B	A	B
Approach Vol, veh/h		510			655			229			62	
Approach Delay, s/veh		16.3			18.6			63.4			12.8	
Approach LOS		B			B			E			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	20.4		24.0	4.8	23.7		24.0
Change Period (Y+Rc), s	4.5	5.1		4.0	4.0	5.1		4.0
Max Green Setting (Gmax), s	25.5	44.9		20.0	26.0	44.9		20.0
Max Q Clear Time (g_c+I1), s	4.6	8.0		22.0	2.4	15.9		22.0
Green Ext Time (p_c), s	0.2	2.0		0.0	0.0	2.7		0.0

Intersection Summary	
HCM 6th Ctrl Delay	24.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	127	96	96	176	37	91	477	80	27	320	43
Future Volume (veh/h)	46	127	96	96	176	37	91	477	80	27	320	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.94	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	48	132	100	100	183	39	95	497	83	28	333	45
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	0	0	0
Cap, veh/h	82	214	162	134	378	81	127	615	103	56	577	78
Arrive On Green	0.05	0.22	0.22	0.07	0.25	0.25	0.07	0.39	0.39	0.03	0.35	0.35
Sat Flow, veh/h	1795	956	724	1810	1497	319	1795	1563	261	1810	1628	220
Grp Volume(v), veh/h	48	0	232	100	0	222	95	0	580	28	0	378
Grp Sat Flow(s),veh/h/ln	1795	0	1680	1810	0	1817	1795	0	1824	1810	0	1848
Q Serve(g_s), s	1.6	0.0	7.6	3.3	0.0	6.4	3.2	0.0	17.3	0.9	0.0	10.2
Cycle Q Clear(g_c), s	1.6	0.0	7.6	3.3	0.0	6.4	3.2	0.0	17.3	0.9	0.0	10.2
Prop In Lane	1.00		0.43	1.00		0.18	1.00		0.14	1.00		0.12
Lane Grp Cap(c), veh/h	82	0	377	134	0	459	127	0	718	56	0	655
V/C Ratio(X)	0.59	0.00	0.62	0.75	0.00	0.48	0.75	0.00	0.81	0.50	0.00	0.58
Avail Cap(c_a), veh/h	776	0	958	782	0	1036	776	0	1040	782	0	1055
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.7	0.0	21.4	27.8	0.0	19.5	28.0	0.0	16.5	29.3	0.0	16.1
Incr Delay (d2), s/veh	6.5	0.0	1.6	8.0	0.0	0.8	8.6	0.0	3.9	6.8	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	3.0	1.7	0.0	2.6	1.6	0.0	7.1	0.5	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	0.0	23.1	35.8	0.0	20.3	36.6	0.0	20.4	36.0	0.0	17.2
LnGrp LOS	D	A	C	D	A	C	D	A	C	D	A	B
Approach Vol, veh/h		280			322			675			406	
Approach Delay, s/veh		25.2			25.1			22.7			18.5	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	18.8	7.8	26.7	6.3	20.5	5.4	29.2
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0
Max Green Setting (Gmax), s	26.5	35.0	26.5	35.0	26.5	35.0	26.5	35.0
Max Q Clear Time (g_c+I1), s	5.3	9.6	5.2	12.2	3.6	8.4	2.9	19.3
Green Ext Time (p_c), s	0.2	1.5	0.2	3.3	0.1	1.4	0.0	4.8

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

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	186	36	29	176	41	50	163	38	31	77	48
Future Vol, veh/h	27	186	36	29	176	41	50	163	38	31	77	48
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	29	200	39	31	189	44	54	175	41	33	83	52
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	12.5	12.3	13	11.1
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	13%	0%	14%	0%	20%
Vol Thru, %	65%	87%	0%	86%	0%	49%
Vol Right, %	15%	0%	100%	0%	100%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	251	213	36	205	41	156
LT Vol	50	27	0	29	0	31
Through Vol	163	186	0	176	0	77
RT Vol	38	0	36	0	41	48
Lane Flow Rate	270	229	39	220	44	168
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.427	0.399	0.059	0.385	0.067	0.271
Departure Headway (Hd)	5.697	6.276	5.499	6.291	5.506	5.812
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	629	570	648	569	647	614
Service Time	3.761	4.041	3.263	4.056	3.27	3.885
HCM Lane V/C Ratio	0.429	0.402	0.06	0.387	0.068	0.274
HCM Control Delay	13	13.2	8.6	13	8.7	11.1
HCM Lane LOS	B	B	A	B	A	B
HCM 95th-tile Q	2.1	1.9	0.2	1.8	0.2	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	175	109	25	346	109	110	57	12	114	66	96
Future Volume (veh/h)	84	175	109	25	346	109	110	57	12	114	66	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.91	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	93	194	0	28	384	0	122	63	13	127	73	107
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	129	613		58	538		160	337	70	166	149	218
Arrive On Green	0.07	0.33	0.00	0.03	0.29	0.00	0.09	0.22	0.22	0.09	0.23	0.23
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1498	309	1795	650	953
Grp Volume(v), veh/h	93	194	0	28	384	0	122	0	76	127	0	180
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	0	1808	1795	0	1604
Q Serve(g_s), s	2.6	3.9	0.0	0.8	9.3	0.0	3.3	0.0	1.7	3.5	0.0	4.9
Cycle Q Clear(g_c), s	2.6	3.9	0.0	0.8	9.3	0.0	3.3	0.0	1.7	3.5	0.0	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.59
Lane Grp Cap(c), veh/h	129	613		58	538		160	0	407	166	0	367
V/C Ratio(X)	0.72	0.32		0.49	0.71		0.76	0.00	0.19	0.77	0.00	0.49
Avail Cap(c_a), veh/h	567	1321		567	1321		571	0	749	567	0	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.0	12.9	0.0	24.1	16.3	0.0	22.6	0.0	15.9	22.5	0.0	17.0
Incr Delay (d2), s/veh	5.5	0.3	0.0	4.6	1.8	0.0	2.9	0.0	0.2	2.8	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.5	0.0	0.4	3.7	0.0	1.5	0.0	0.7	1.5	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	13.2	0.0	28.7	18.0	0.0	25.4	0.0	16.1	25.3	0.0	17.7
LnGrp LOS	C	B		C	B		C	A	B	C	A	B
Approach Vol, veh/h		287	A		412	A		198			307	
Approach Delay, s/veh		18.1			18.8			21.8			20.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.6	21.0	8.5	15.6	7.6	19.0	8.7	15.4
Change Period (Y+Rc), s	4.0	4.5	4.0	4.0	4.0	4.5	4.0	4.0
Max Green Setting (Gmax), s	16.0	35.5	16.0	21.0	16.0	35.5	16.0	21.0
Max Q Clear Time (g_c+I1), s	2.8	5.9	5.3	6.9	4.6	11.3	5.5	3.7
Green Ext Time (p_c), s	0.0	1.2	0.1	0.7	0.1	2.4	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	19.6
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	226	0	538	0	0	0	0	902	739	0	1075	278
Future Volume (vph)	226	0	538	0	0	0	0	902	739	0	1075	278
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6					4.9	4.9		4.9	4.0
Lane Util. Factor		1.00	0.88					0.95	1.00		0.91	1.00
Frpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	0.97
Flpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	1.00
Frt		1.00	0.85					1.00	0.85		1.00	0.85
Flt Protected		0.95	1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)		1646	2694					3455	1546		4964	1501
Flt Permitted		0.95	1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)		1646	2694					3455	1546		4964	1501
Peak-hour factor, PHF	0.80	0.72	0.75	0.92	0.92	0.92	0.92	0.85	0.94	0.92	0.96	0.82
Adj. Flow (vph)	282	0	717	0	0	0	0	1061	786	0	1120	339
RTOR Reduction (vph)	0	0	247	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	283	470	0	0	0	0	1061	786	0	1120	339
Confl. Peds. (#/hr)	13					13	11		1	1		11
Confl. Bikes (#/hr)												9
Heavy Vehicles (%)	6%	0%	2%	0%	0%	0%	0%	1%	1%	0%	1%	1%
Turn Type	Split	NA	Perm					NA	Prot		NA	Free
Protected Phases	2	2						1 3 4	1 3 4		1 3 4	
Permitted Phases			2									Free
Actuated Green, G (s)		16.0	16.0					95.1	95.1		95.1	119.9
Effective Green, g (s)		16.0	16.0					90.9	90.9		90.9	119.9
Actuated g/C Ratio		0.13	0.13					0.76	0.76		0.76	1.00
Clearance Time (s)		4.6	4.6									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		219	359					2619	1172		3763	1501
v/s Ratio Prot		0.17						0.31	c0.51		0.23	
v/s Ratio Perm			c0.17									c0.23
v/c Ratio		1.29	1.31					0.41	0.67		0.30	0.23
Uniform Delay, d1		52.0	52.0					5.1	7.1		4.5	0.0
Progression Factor		1.00	1.00					0.01	1.08		1.00	1.00
Incremental Delay, d2		161.2	157.9					0.1	0.8		0.0	0.3
Delay (s)		213.1	209.8					0.1	8.5		4.6	0.3
Level of Service		F	F					A	A		A	A
Approach Delay (s)		210.8			0.0			3.7			3.6	
Approach LOS		F			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	51.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	296	16	101	14	7	27	154	1318	23	91	1140	382
Future Volume (vph)	296	16	101	14	7	27	154	1318	23	91	1140	382
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.97		1.00	1.00	1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.96	
Flt Protected	0.95	0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1625	1645	1509		1792	1561	1745	4943		1745	4666	
Flt Permitted	0.95	0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1625	1645	1509		1792	1561	1745	4943		1745	4666	
Peak-hour factor, PHF	0.86	0.61	0.80	0.85	0.44	0.79	0.66	0.86	0.61	0.67	0.94	0.85
Adj. Flow (vph)	344	26	126	16	16	34	233	1533	38	136	1213	449
RTOR Reduction (vph)	0	0	94	0	0	29	0	2	0	0	56	0
Lane Group Flow (vph)	186	184	32	0	32	5	233	1569	0	136	1606	0
Confl. Peds. (#/hr)			18	18			12		8	8		12
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	1		2	6	
Permitted Phases			4			3						
Actuated Green, G (s)	30.0	30.0	30.0		16.0	16.0	16.0	40.0		16.0	40.9	
Effective Green, g (s)	30.0	30.0	30.0		16.0	16.0	16.0	40.0		16.0	40.9	
Actuated g/C Ratio	0.25	0.25	0.25		0.13	0.13	0.13	0.33		0.13	0.34	
Clearance Time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.2	
Lane Grp Cap (vph)	406	411	377		239	208	232	1649		232	1591	
v/s Ratio Prot	c0.11	0.11			c0.02		c0.13	0.32		0.08	c0.34	
v/s Ratio Perm			0.02			0.00						
v/c Ratio	0.46	0.45	0.08		0.13	0.02	1.00	0.95		0.59	1.01	
Uniform Delay, d1	38.1	38.0	34.4		45.8	45.1	52.0	39.0		48.8	39.5	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.08	0.87	
Incremental Delay, d2	0.8	0.8	0.1		0.3	0.0	60.2	13.3		2.9	22.1	
Delay (s)	38.9	38.7	34.5		46.1	45.2	112.1	52.3		55.7	56.5	
Level of Service	D	D	C		D	D	F	D		E	E	
Approach Delay (s)		37.7			45.6			60.0			56.5	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	55.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	1127	1243	132	636	39	658	19	50	56	32	25
Future Volume (veh/h)	12	1127	1243	132	636	39	658	19	50	56	32	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	12	1162	0	136	656	40	692	0	0	58	33	26
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	24	2000		136	2125	129	669	0		81	46	108
Arrive On Green	0.01	0.56	0.00	0.08	0.62	0.62	0.19	0.00	0.00	0.07	0.07	0.07
Sat Flow, veh/h	1795	3582	1598	1795	3422	208	3591	0	1598	1174	668	1560
Grp Volume(v), veh/h	12	1162	0	136	343	353	692	0	0	91	0	26
Grp Sat Flow(s),veh/h/ln	1795	1791	1598	1795	1791	1840	1795	0	1598	1841	0	1560
Q Serve(g_s), s	1.0	30.8	0.0	11.0	13.0	13.1	27.0	0.0	0.0	7.0	0.0	2.3
Cycle Q Clear(g_c), s	1.0	30.8	0.0	11.0	13.0	13.1	27.0	0.0	0.0	7.0	0.0	2.3
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	0.64		1.00
Lane Grp Cap(c), veh/h	24	2000		136	1112	1142	669	0		128	0	108
V/C Ratio(X)	0.51	0.58		1.00	0.31	0.31	1.03	0.00		0.71	0.00	0.24
Avail Cap(c_a), veh/h	68	2000		136	1112	1142	669	0		292	0	247
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.95	0.95	0.95	0.84	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	71.1	20.9	0.0	67.0	12.9	12.9	59.0	0.0	0.0	66.1	0.0	63.9
Incr Delay (d2), s/veh	6.0	1.2	0.0	74.7	0.7	0.7	41.3	0.0	0.0	2.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	13.4	0.0	7.9	5.6	5.7	16.0	0.0	0.0	3.4	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.1	22.2	0.0	141.7	13.6	13.6	100.3	0.0	0.0	68.8	0.0	64.3
LnGrp LOS	E	C		F	B	B	F	A		E	A	E
Approach Vol, veh/h		1174	A		832			692	A		117	
Approach Delay, s/veh		22.7			34.5			100.3			67.8	
Approach LOS		C			C			F			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.0	85.0		14.0	5.9	94.0		31.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	11.0	68.0		23.0	5.5	73.5		27.0
Max Q Clear Time (g_c+I1), s	13.0	32.8		9.0	3.0	15.1		29.0
Green Ext Time (p_c), s	0.0	11.5		0.3	0.0	5.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	47.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1109	71	298	761	124	342
Future Volume (veh/h)	1109	71	298	761	124	342
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.96	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	1132	72	304	777	127	349
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	1324	84	345	2280	439	391
Arrive On Green	0.39	0.39	0.19	0.64	0.24	0.24
Sat Flow, veh/h	3503	217	1795	3676	1795	1598
Grp Volume(v), veh/h	594	610	304	777	127	349
Grp Sat Flow(s),veh/h/ln	1791	1834	1795	1791	1795	1598
Q Serve(g_s), s	24.3	24.4	13.2	8.1	4.6	16.9
Cycle Q Clear(g_c), s	24.3	24.4	13.2	8.1	4.6	16.9
Prop In Lane		0.12	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	696	712	345	2280	439	391
V/C Ratio(X)	0.85	0.86	0.88	0.34	0.29	0.89
Avail Cap(c_a), veh/h	739	757	438	2280	640	569
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	22.4	31.4	6.7	24.6	29.2
Incr Delay (d2), s/veh	9.7	9.6	13.6	0.1	0.1	9.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.2	11.5	6.7	2.5	1.9	7.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.1	32.0	45.0	6.9	24.7	38.5
LnGrp LOS	C	C	D	A	C	D
Approach Vol, veh/h	1204			1081	476	
Approach Delay, s/veh	32.0			17.6	34.8	
Approach LOS	C			B	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	19.9	36.1		24.1		55.9
Change Period (Y+Rc), s	4.5	5.0		4.5		5.0
Max Green Setting (Gmax), s	19.5	33.0		28.5		33.0
Max Q Clear Time (g_c+I1), s	15.2	26.4		18.9		10.1
Green Ext Time (p_c), s	0.2	4.7		0.7		7.5

Intersection Summary						
HCM 6th Ctrl Delay			26.9			
HCM 6th LOS			C			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	950	533	389	774	2	302	1	834	5	5	10
Future Volume (veh/h)	8	950	533	389	774	2	302	1	834	5	5	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.87
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1737	1870	1900	1900	1885	1885	1856	1870	1870	1870
Adj Flow Rate, veh/h	8	990	0	405	806	2	315	1	0	5	5	10
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	11	2	0	0	1	1	3	2	2	2
Cap, veh/h	14	1753		420	2638	7	280	1		11	11	22
Arrive On Green	0.01	0.49	0.00	0.47	1.00	1.00	0.16	0.16	0.00	0.03	0.03	0.03
Sat Flow, veh/h	1810	3610	1472	1781	3694	9	1790	6	1572	393	393	786
Grp Volume(v), veh/h	8	990	0	405	394	414	316	0	0	20	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1472	1781	1805	1898	1796	0	1572	1573	0	0
Q Serve(g_s), s	0.7	29.2	0.0	33.0	0.0	0.0	23.5	0.0	0.0	1.9	0.0	0.0
Cycle Q Clear(g_c), s	0.7	29.2	0.0	33.0	0.0	0.0	23.5	0.0	0.0	1.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.25		0.50
Lane Grp Cap(c), veh/h	14	1753		420	1289	1356	281	0		45	0	0
V/C Ratio(X)	0.58	0.56		0.96	0.31	0.31	1.12	0.00		0.45	0.00	0.00
Avail Cap(c_a), veh/h	48	1753		487	1289	1356	281	0		231	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	0.00	1.00	1.00	1.00	0.40	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	74.2	27.3	0.0	39.0	0.0	0.0	63.3	0.0	0.0	71.7	0.0	0.0
Incr Delay (d2), s/veh	7.6	0.7	0.0	28.5	0.6	0.6	73.2	0.0	0.0	5.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	12.7	0.0	15.1	0.2	0.2	16.5	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.8	28.0	0.0	67.5	0.6	0.6	136.4	0.0	0.0	76.9	0.0	0.0
LnGrp LOS	F	C		E	A	A	F	A		E	A	A
Approach Vol, veh/h		998	A		1213			316	A		20	
Approach Delay, s/veh		28.5			22.9			136.4			76.9	
Approach LOS		C			C			F			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	38.4	76.9		7.8	4.1	111.1		27.0
Change Period (Y+Rc), s	3.0	4.0		3.5	3.0	4.0		3.5
Max Green Setting (Gmax), s	41.0	49.5		22.0	4.0	86.5		23.5
Max Q Clear Time (g_c+I1), s	35.0	31.2		3.9	2.7	2.0		25.5
Green Ext Time (p_c), s	0.4	8.8		0.0	0.0	9.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	1219	507	3	1254	13	502	14	48	114	145	119
Future Volume (veh/h)	63	1219	507	3	1254	13	502	14	48	114	145	119
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1841	1900	1841	1841	1811	1870	1856	1870	1900	1900
Adj Flow Rate, veh/h	66	1270	0	3	1306	14	534	0	0	119	151	124
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	3	4	0	4	4	6	2	3	2	0	0
Cap, veh/h	83	1867		7	1724	18	603	0		306	165	136
Arrive On Green	0.06	0.70	0.00	0.00	0.49	0.49	0.17	0.00	0.00	0.17	0.17	0.17
Sat Flow, veh/h	1781	3526	1560	1810	3543	38	3450	0	1572	1781	962	790
Grp Volume(v), veh/h	66	1270	0	3	644	676	534	0	0	119	0	275
Grp Sat Flow(s),veh/h/ln	1781	1763	1560	1810	1749	1832	1725	0	1572	1781	0	1753
Q Serve(g_s), s	5.5	30.7	0.0	0.2	44.9	45.0	22.7	0.0	0.0	8.9	0.0	23.1
Cycle Q Clear(g_c), s	5.5	30.7	0.0	0.2	44.9	45.0	22.7	0.0	0.0	8.9	0.0	23.1
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	83	1867		7	851	892	603	0		306	0	301
V/C Ratio(X)	0.79	0.68		0.42	0.76	0.76	0.89	0.00		0.39	0.00	0.91
Avail Cap(c_a), veh/h	101	1867		62	851	892	793	0		338	0	333
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.6	15.0	0.0	74.5	31.3	31.3	60.4	0.0	0.0	55.1	0.0	61.0
Incr Delay (d2), s/veh	28.8	2.0	0.0	35.4	6.2	6.0	9.6	0.0	0.0	0.8	0.0	27.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	10.9	0.0	0.2	20.1	21.0	10.8	0.0	0.0	4.1	0.0	12.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.5	17.0	0.0	110.0	37.5	37.3	70.0	0.0	0.0	55.9	0.0	88.0
LnGrp LOS	F	B		F	D	D	E	A		E	A	F
Approach Vol, veh/h		1336	A		1323			534	A		394	
Approach Delay, s/veh		21.0			37.6			70.0			78.3	
Approach LOS		C			D			E			E	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	5.1	83.9	30.7	11.5	77.5	30.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	63.9	34.5	8.5	60.5	28.5
Max Q Clear Time (g_c+I1), s	2.2	32.7	24.7	7.5	47.0	25.1
Green Ext Time (p_c), s	0.0	11.9	1.5	0.0	7.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

Notes
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	332	592	648	57	703	450
Future Volume (veh/h)	332	592	648	57	703	450
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	342	610	668	59	725	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	461	883	795	347	825	
Arrive On Green	0.37	0.37	0.22	0.22	0.24	0.00
Sat Flow, veh/h	1240	2468	3647	1551	3483	1598
Grp Volume(v), veh/h	503	449	668	59	725	0
Grp Sat Flow(s),veh/h/ln	1823	1791	1777	1551	1742	1598
Q Serve(g_s), s	19.1	16.8	14.4	2.5	16.0	0.0
Cycle Q Clear(g_c), s	19.1	16.8	14.4	2.5	16.0	0.0
Prop In Lane	0.68			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	678	666	795	347	825	
V/C Ratio(X)	0.74	0.67	0.84	0.17	0.88	
Avail Cap(c_a), veh/h	678	666	795	347	906	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.32	0.32	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.8	21.1	29.7	25.1	29.4	0.0
Incr Delay (d2), s/veh	2.4	1.8	10.4	1.1	9.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	7.1	7.1	1.0	7.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.2	22.8	40.1	26.1	38.7	0.0
LnGrp LOS	C	C	D	C	D	
Approach Vol, veh/h		952	727		725	A
Approach Delay, s/veh		23.5	38.9		38.7	
Approach LOS		C	D		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		34.4		23.1		22.5
Change Period (Y+Rc), s		4.6		* 4.2		4.6
Max Green Setting (Gmax), s		27.9		* 21		17.9
Max Q Clear Time (g_c+I1), s		21.1		18.0		16.4
Green Ext Time (p_c), s		3.4		0.9		0.7
Intersection Summary						
HCM 6th Ctrl Delay			32.8			
HCM 6th LOS			C			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	720	465	128	439	271	51
Future Volume (veh/h)	720	465	128	439	271	51
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	766	495	136	467	338	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	0	0	1	0
Cap, veh/h	959	791	184	1302	558	250
Arrive On Green	0.51	0.51	0.10	0.69	0.16	0.00
Sat Flow, veh/h	1885	1555	1810	1900	3591	1610
Grp Volume(v), veh/h	766	495	136	467	338	0
Grp Sat Flow(s),veh/h/ln	1885	1555	1810	1900	1795	1610
Q Serve(g_s), s	15.8	10.8	3.4	4.8	4.1	0.0
Cycle Q Clear(g_c), s	15.8	10.8	3.4	4.8	4.1	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	959	791	184	1302	558	250
V/C Ratio(X)	0.80	0.63	0.74	0.36	0.61	0.00
Avail Cap(c_a), veh/h	1202	992	1154	1302	2290	1027
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.6	8.3	20.5	3.1	18.5	0.0
Incr Delay (d2), s/veh	3.1	0.8	5.6	0.2	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	2.9	1.6	0.7	1.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.7	9.1	26.2	3.3	19.6	0.0
LnGrp LOS	B	A	C	A	B	A
Approach Vol, veh/h	1261			603	338	
Approach Delay, s/veh	11.3			8.4	19.6	
Approach LOS	B			A	B	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	8.3	27.9	10.8	36.2
Change Period (Y+Rc), s	3.5	4.0	3.5	4.0
Max Green Setting (Gmax), s	30.0	30.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	5.4	17.8	6.1	6.8
Green Ext Time (p_c), s	0.3	6.1	1.2	2.9

Intersection Summary	
HCM 6th Ctrl Delay	11.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	6.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	603	204	174	485	72	79
Future Vol, veh/h	603	204	174	485	72	79
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	170	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	628	213	181	505	75	82

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	842	0	1496	629
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	867	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	802	-	137	486
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	415	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	801	-	106	486
Mov Cap-2 Maneuver	-	-	-	-	106	-
Stage 1	-	-	-	-	534	-
Stage 2	-	-	-	-	321	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	53.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	106	486	-	-	801	-
HCM Lane V/C Ratio	0.708	0.169	-	-	0.226	-
HCM Control Delay (s)	96.2	13.9	-	-	10.8	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	3.7	0.6	-	-	0.9	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	659	103	49	386	252	121
Future Volume (veh/h)	659	103	49	386	252	121
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1737	1737
Adj Flow Rate, veh/h	732	114	54	429	280	134
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	2	2	11	11
Cap, veh/h	953	790	327	946	400	356
Arrive On Green	0.51	0.51	0.51	0.51	0.24	0.24
Sat Flow, veh/h	1885	1562	651	1870	1654	1472
Grp Volume(v), veh/h	732	114	54	429	280	134
Grp Sat Flow(s),veh/h/ln	1885	1562	651	1870	1654	1472
Q Serve(g_s), s	11.2	1.4	2.6	5.2	5.5	2.7
Cycle Q Clear(g_c), s	11.2	1.4	13.8	5.2	5.5	2.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	953	790	327	946	400	356
V/C Ratio(X)	0.77	0.14	0.17	0.45	0.70	0.38
Avail Cap(c_a), veh/h	1402	1161	482	1391	905	806
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.1	4.7	12.7	5.6	12.3	11.3
Incr Delay (d2), s/veh	1.5	0.1	0.2	0.3	2.2	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.2	0.3	1.1	1.9	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.7	4.8	12.9	6.0	14.6	11.9
LnGrp LOS	A	A	B	A	B	B
Approach Vol, veh/h	846			483	414	
Approach Delay, s/veh	8.1			6.8	13.7	
Approach LOS	A			A	B	

Timer - Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		13.1		22.5				22.5
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		19.5		26.5				26.5
Max Q Clear Time (g_c+I1), s		7.5		13.2				15.8
Green Ext Time (p_c), s		1.1		4.5				2.2

Intersection Summary			
HCM 6th Ctrl Delay			9.1
HCM 6th LOS			A

Intersection	
Intersection Delay, s/veh	105.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	341	8	3	37	338	8	7	10	634	10	8
Future Vol, veh/h	10	341	8	3	37	338	8	7	10	634	10	8
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.58	0.58	0.58	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	3	3	3	14	14	14	1	1	1
Mvmt Flow	11	383	9	3	40	367	14	12	17	704	11	9
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	34.1	25.3	13.3	197.1
HCM LOS	D	D	B	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	32%	3%	7%	0%	97%
Vol Thru, %	28%	95%	93%	0%	2%
Vol Right, %	40%	2%	0%	100%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	359	40	338	652
LT Vol	8	10	3	0	634
Through Vol	7	341	37	0	10
RT Vol	10	8	0	338	8
Lane Flow Rate	43	403	43	367	724
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.099	0.781	0.091	0.698	1.366
Departure Headway (Hd)	9.315	7.998	8.668	7.902	6.789
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	387	456	416	463	536
Service Time	7.315	5.998	6.368	5.602	4.863
HCM Lane V/C Ratio	0.111	0.884	0.103	0.793	1.351
HCM Control Delay	13.3	34.1	12.2	26.9	197.1
HCM Lane LOS	B	D	B	D	F
HCM 95th-tile Q	0.3	6.9	0.3	5.3	32.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	945	520	119	456	7	402	18	164	3	17	6
Future Volume (veh/h)	4	945	520	119	456	7	402	18	164	3	17	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1687	1687	1634	1687	1687	1856	1900	1856	1900	1900	1900
Adj Flow Rate, veh/h	4	1016	559	128	490	8	446	0	176	3	18	6
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	5	1	1	3	0	3	0	0	0
Cap, veh/h	7	1370	594	158	1693	28	687	0	297	6	34	11
Arrive On Green	0.00	0.43	0.43	0.10	0.52	0.52	0.19	0.00	0.19	0.03	0.03	0.03
Sat Flow, veh/h	1619	3205	1389	1556	3225	53	3534	0	1526	197	1184	395
Grp Volume(v), veh/h	4	1016	559	128	243	255	446	0	176	27	0	0
Grp Sat Flow(s),veh/h/ln	1619	1602	1389	1556	1602	1675	1767	0	1526	1776	0	0
Q Serve(g_s), s	0.2	19.9	28.8	6.0	6.4	6.4	8.7	0.0	7.8	1.1	0.0	0.0
Cycle Q Clear(g_c), s	0.2	19.9	28.8	6.0	6.4	6.4	8.7	0.0	7.8	1.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	0.11		0.22
Lane Grp Cap(c), veh/h	7	1370	594	158	841	879	687	0	297	51	0	0
V/C Ratio(X)	0.58	0.74	0.94	0.81	0.29	0.29	0.65	0.00	0.59	0.53	0.00	0.00
Avail Cap(c_a), veh/h	693	1373	595	666	841	879	1892	0	817	475	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.1	17.9	20.5	32.8	9.9	9.9	27.7	0.0	27.4	35.8	0.0	0.0
Incr Delay (d2), s/veh	25.4	3.3	24.6	3.7	0.7	0.7	1.0	0.0	1.9	9.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	7.1	12.2	2.3	2.1	2.2	3.7	0.0	2.9	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.5	21.2	45.0	36.6	10.6	10.6	28.8	0.0	29.3	45.7	0.0	0.0
LnGrp LOS	E	C	D	D	B	B	C	A	C	D	A	A
Approach Vol, veh/h		1579			626			622			27	
Approach Delay, s/veh		29.7			15.9			28.9			45.7	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.1	36.9		6.6	4.8	44.2		19.0				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	32.0	32.0		20.0	32.0	31.0		40.0				
Max Q Clear Time (g_c+I1), s	8.0	30.8		3.1	2.2	8.4		10.7				
Green Ext Time (p_c), s	0.2	1.1		0.1	0.0	6.8		2.4				

Intersection Summary		
HCM 6th Ctrl Delay		26.7
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	887	0	253	0	596	528	0	785	143
Future Volume (veh/h)	0	0	0	887	0	253	0	596	528	0	785	143
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		0.97
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				1885	1900	1826	0	1870	1900	0	1870	1870
Adj Flow Rate, veh/h				975	0	278	0	655	0	0	863	157
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				1	0	5	0	2	0	0	2	2
Cap, veh/h				1111	0	479	0	1840		0	1546	281
Arrive On Green				0.31	0.00	0.31	0.00	0.52	0.00	0.00	0.52	0.52
Sat Flow, veh/h				3591	0	1547	0	3647	1610	0	3079	543
Grp Volume(v), veh/h				975	0	278	0	655	0	0	514	506
Grp Sat Flow(s),veh/h/ln				1795	0	1547	0	1777	1610	0	1777	1752
Q Serve(g_s), s				14.2	0.0	8.3	0.0	6.0	0.0	0.0	10.8	10.8
Cycle Q Clear(g_c), s				14.2	0.0	8.3	0.0	6.0	0.0	0.0	10.8	10.8
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.31
Lane Grp Cap(c), veh/h				1111	0	479	0	1840		0	920	907
V/C Ratio(X)				0.88	0.00	0.58	0.00	0.36		0.00	0.56	0.56
Avail Cap(c_a), veh/h				1143	0	492	0	1840		0	920	907
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.89	0.00	0.00	0.62	0.62
Uniform Delay (d), s/veh				18.0	0.0	16.0	0.0	7.8	0.0	0.0	9.0	9.0
Incr Delay (d2), s/veh				8.0	0.0	1.8	0.0	0.5	0.0	0.0	1.5	1.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.2	0.0	2.8	0.0	1.8	0.0	0.0	3.8	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				26.0	0.0	17.8	0.0	8.3	0.0	0.0	10.5	10.5
LnGrp LOS				C	A	B	A	A		A	B	B
Approach Vol, veh/h					1253			655	A		1020	
Approach Delay, s/veh					24.2			8.3			10.5	
Approach LOS					C			A			B	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		33.8				33.8		21.2				
Change Period (Y+Rc), s		5.3				5.3		4.2				
Max Green Setting (Gmax), s		28.0				28.0		17.5				
Max Q Clear Time (g_c+I1), s		8.0				12.8		16.2				
Green Ext Time (p_c), s		5.0				7.3		0.9				

Intersection Summary		
HCM 6th Ctrl Delay		15.9
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	475	159	34	30	88	116	46	870	67	152	819	341
Future Volume (veh/h)	475	159	34	30	88	116	46	870	67	152	819	341
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.91	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	500	167	36	32	93	122	48	916	71	160	862	359
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	723	308	66	56	161	169	62	1847	143	203	2361	717
Arrive On Green	0.21	0.21	0.21	0.12	0.12	0.12	0.03	0.38	0.38	0.11	0.46	0.46
Sat Flow, veh/h	3483	1485	320	480	1396	1464	1795	4855	375	1795	5147	1563
Grp Volume(v), veh/h	500	0	203	125	0	122	48	646	341	160	862	359
Grp Sat Flow(s),veh/h/ln	1742	0	1805	1876	0	1464	1795	1716	1799	1795	1716	1563
Q Serve(g_s), s	12.0	0.0	9.1	5.7	0.0	7.3	2.4	13.0	13.1	7.9	9.9	14.6
Cycle Q Clear(g_c), s	12.0	0.0	9.1	5.7	0.0	7.3	2.4	13.0	13.1	7.9	9.9	14.6
Prop In Lane	1.00		0.18	0.26		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	723	0	375	217	0	169	62	1305	684	203	2361	717
V/C Ratio(X)	0.69	0.00	0.54	0.58	0.00	0.72	0.77	0.50	0.50	0.79	0.37	0.50
Avail Cap(c_a), veh/h	807	0	418	435	0	339	317	1719	901	515	2578	783
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	0.0	32.1	38.0	0.0	38.7	43.4	21.4	21.5	39.1	15.9	17.2
Incr Delay (d2), s/veh	4.5	0.0	4.4	3.4	0.0	7.9	24.1	1.3	2.6	9.2	0.4	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	0.0	4.4	2.8	0.0	3.0	1.5	5.2	5.7	3.9	3.7	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	0.0	36.4	41.4	0.0	46.6	67.5	22.8	24.0	48.3	16.4	19.7
LnGrp LOS	D	A	D	D	A	D	E	C	C	D	B	B
Approach Vol, veh/h		703			247			1035			1381	
Approach Delay, s/veh		37.4			43.9			25.3			20.9	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.1	46.2		14.5	14.3	39.1		22.8
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0
Max Green Setting (Gmax), s	16.0	45.4		21.0	26.0	45.4		21.0
Max Q Clear Time (g_c+I1), s	4.4	16.6		9.3	9.9	15.1		14.0
Green Ext Time (p_c), s	0.1	21.1		1.2	0.6	19.4		3.8

Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	443	583	132	216	318	95	177	541	91	183	488	146
Future Volume (veh/h)	443	583	132	216	318	95	177	541	91	183	488	146
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	398	684	136	216	337	98	182	558	94	189	503	151
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	523	885	176	381	593	169	210	1187	196	259	808	348
Arrive On Green	0.29	0.29	0.29	0.21	0.21	0.21	0.12	0.27	0.27	0.07	0.23	0.23
Sat Flow, veh/h	1795	3040	604	1810	2818	804	1795	4424	730	3483	3582	1542
Grp Volume(v), veh/h	398	424	396	216	225	210	182	430	222	189	503	151
Grp Sat Flow(s),veh/h/ln	1795	1885	1758	1810	1900	1722	1795	1716	1723	1742	1791	1542
Q Serve(g_s), s	23.1	23.5	23.6	12.2	12.1	12.5	11.4	12.0	12.4	6.1	14.5	9.6
Cycle Q Clear(g_c), s	23.1	23.5	23.6	12.2	12.1	12.5	11.4	12.0	12.4	6.1	14.5	9.6
Prop In Lane	1.00		0.34	1.00		0.47	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	523	549	512	381	400	362	210	921	462	259	808	348
V/C Ratio(X)	0.76	0.77	0.77	0.57	0.56	0.58	0.87	0.47	0.48	0.73	0.62	0.43
Avail Cap(c_a), veh/h	618	649	606	538	565	512	220	1020	512	451	1090	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	37.1	37.1	40.5	40.5	40.6	49.6	35.0	35.1	51.8	39.9	38.0
Incr Delay (d2), s/veh	5.3	5.5	5.9	1.9	1.8	2.1	28.5	1.3	2.8	5.5	2.8	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	11.7	11.0	5.7	5.9	5.6	6.7	5.1	5.5	2.8	6.6	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.2	42.5	43.0	42.4	42.2	42.7	78.2	36.3	37.9	57.3	42.7	41.1
LnGrp LOS	D	D	D	D	D	D	E	D	D	E	D	D
Approach Vol, veh/h		1218			651			834			843	
Approach Delay, s/veh		42.6			42.4			45.9			45.7	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.5	35.3		28.7	17.4	30.4		37.9				
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		4.6				
Max Green Setting (Gmax), s	14.8	34.0		34.0	14.0	34.8		39.4				
Max Q Clear Time (g_c+I1), s	8.1	14.4		14.5	13.4	16.5		25.6				
Green Ext Time (p_c), s	0.5	8.5		4.8	0.0	7.9		7.7				

Intersection Summary			
HCM 6th Ctrl Delay			44.1
HCM 6th LOS			D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	189	67	59	92	88	68	519	90	67	486	97
Future Volume (veh/h)	140	189	67	59	92	88	68	519	90	67	486	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	147	199	71	62	97	93	72	546	95	71	512	102
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	1	1	1
Cap, veh/h	171	232	83	102	160	217	95	976	169	94	949	188
Arrive On Green	0.27	0.27	0.27	0.14	0.14	0.14	0.05	0.32	0.32	0.05	0.32	0.32
Sat Flow, veh/h	636	861	307	727	1137	1546	1795	3027	524	1795	2952	584
Grp Volume(v), veh/h	417	0	0	159	0	93	72	322	319	71	309	305
Grp Sat Flow(s),veh/h/ln	1803	0	0	1864	0	1546	1795	1791	1761	1795	1791	1745
Q Serve(g_s), s	16.9	0.0	0.0	6.2	0.0	4.2	3.0	11.4	11.5	3.0	10.9	11.0
Cycle Q Clear(g_c), s	16.9	0.0	0.0	6.2	0.0	4.2	3.0	11.4	11.5	3.0	10.9	11.0
Prop In Lane	0.35		0.17	0.39		1.00	1.00		0.30	1.00		0.33
Lane Grp Cap(c), veh/h	486	0	0	262	0	217	95	577	568	94	576	561
V/C Ratio(X)	0.86	0.00	0.00	0.61	0.00	0.43	0.76	0.56	0.56	0.76	0.54	0.54
Avail Cap(c_a), veh/h	609	0	0	629	0	522	606	1056	1038	606	1056	1029
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.7	0.0	0.0	31.1	0.0	30.3	36.0	21.6	21.6	36.0	21.4	21.5
Incr Delay (d2), s/veh	9.8	0.0	0.0	2.3	0.0	1.3	11.5	3.0	3.2	11.7	2.8	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	0.0	0.0	2.9	0.0	1.6	1.6	5.1	5.1	1.6	4.7	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	0.0	0.0	33.4	0.0	31.6	47.5	24.6	24.7	47.8	24.2	24.4
LnGrp LOS	D	A	A	C	A	C	D	C	C	D	C	C
Approach Vol, veh/h		417			252			713			685	
Approach Delay, s/veh		36.5			32.7			27.0			26.8	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	29.4		14.8	8.1	29.4		24.8
Change Period (Y+Rc), s	4.0	4.6		4.0	4.0	4.6		4.0
Max Green Setting (Gmax), s	26.0	45.4		26.0	26.0	45.4		26.0
Max Q Clear Time (g_c+I1), s	5.0	13.5		8.2	5.0	13.0		18.9
Green Ext Time (p_c), s	0.1	11.3		1.1	0.1	10.2		1.6

Intersection Summary			
HCM 6th Ctrl Delay			29.5
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1054	324	56	510	73	168	199	59	118	253	70
Future Volume (veh/h)	40	1054	324	56	510	73	168	199	59	118	253	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	43	1133	348	60	548	78	181	214	63	127	272	75
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	65	1450	625	79	1295	184	217	504	417	164	321	88
Arrive On Green	0.04	0.40	0.40	0.04	0.41	0.41	0.12	0.27	0.27	0.09	0.23	0.23
Sat Flow, veh/h	1795	3582	1545	1795	3137	445	1795	1885	1558	1795	1413	390
Grp Volume(v), veh/h	43	1133	348	60	312	314	181	214	63	127	0	347
Grp Sat Flow(s),veh/h/ln	1795	1791	1545	1795	1791	1791	1795	1885	1558	1795	0	1803
Q Serve(g_s), s	2.2	25.7	10.0	3.1	11.6	11.7	9.2	8.8	2.9	6.5	0.0	17.2
Cycle Q Clear(g_c), s	2.2	25.7	10.0	3.1	11.6	11.7	9.2	8.8	2.9	6.5	0.0	17.2
Prop In Lane	1.00		1.00	1.00		0.25	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	65	1450	625	79	739	739	217	504	417	164	0	409
V/C Ratio(X)	0.67	0.78	0.56	0.76	0.42	0.42	0.83	0.42	0.15	0.78	0.00	0.85
Avail Cap(c_a), veh/h	500	1726	744	500	863	863	500	605	500	500	0	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.5	24.2	8.1	44.2	19.5	19.5	40.2	28.3	26.1	41.5	0.0	34.6
Incr Delay (d2), s/veh	11.1	2.1	0.9	13.9	0.5	0.5	3.2	0.2	0.1	9.2	0.0	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	10.6	3.2	1.7	4.8	4.8	4.3	4.0	1.1	3.3	0.0	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	26.3	9.1	58.1	20.0	20.0	43.4	28.5	26.2	50.7	0.0	43.4
LnGrp LOS	E	C	A	E	B	B	D	C	C	D	A	D
Approach Vol, veh/h		1524			686			458			474	
Approach Delay, s/veh		23.2			23.3			34.1			45.3	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	43.6	12.5	30.0	8.1	42.8	16.3	26.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	26.0	45.0	26.0	30.0	26.0	45.0	26.0	* 30
Max Q Clear Time (g_c+I1), s	4.2	13.7	8.5	10.8	5.1	27.7	11.2	19.2
Green Ext Time (p_c), s	0.1	5.2	0.4	0.5	0.1	10.1	0.1	1.9

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)	42	943	92	117	503	54	120	199	96	204	371	44
Future Volume (veh/h)	42	943	92	117	503	54	120	199	96	204	371	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	44	993	97	123	529	57	126	209	101	215	391	46
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	56	1136	111	157	1306	140	162	265	128	257	456	54
Arrive On Green	0.03	0.34	0.34	0.09	0.40	0.40	0.09	0.22	0.22	0.14	0.27	0.27
Sat Flow, veh/h	1810	3306	323	1810	3272	351	1810	1196	578	1810	1663	196
Grp Volume(v), veh/h	44	542	548	123	291	295	126	0	310	215	0	437
Grp Sat Flow(s),veh/h/ln	1810	1805	1824	1810	1805	1818	1810	0	1774	1810	0	1858
Q Serve(g_s), s	2.1	24.6	24.6	5.8	10.1	10.2	6.0	0.0	14.4	10.1	0.0	19.5
Cycle Q Clear(g_c), s	2.1	24.6	24.6	5.8	10.1	10.2	6.0	0.0	14.4	10.1	0.0	19.5
Prop In Lane	1.00		0.18	1.00		0.19	1.00		0.33	1.00		0.11
Lane Grp Cap(c), veh/h	56	620	627	157	720	726	162	0	393	257	0	510
V/C Ratio(X)	0.78	0.87	0.87	0.78	0.40	0.41	0.78	0.00	0.79	0.84	0.00	0.86
Avail Cap(c_a), veh/h	425	733	741	425	733	739	425	0	518	425	0	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.0	26.9	26.9	39.1	18.8	18.8	38.9	0.0	32.1	36.5	0.0	30.1
Incr Delay (d2), s/veh	15.6	9.0	9.0	6.2	0.4	0.4	7.9	0.0	5.3	7.3	0.0	12.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	11.7	11.8	2.8	4.1	4.2	3.0	0.0	6.6	4.9	0.0	10.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.6	35.9	35.9	45.3	19.2	19.3	46.8	0.0	37.4	43.8	0.0	42.7
LnGrp LOS	E	D	D	D	B	B	D	A	D	D	A	D
Approach Vol, veh/h		1134			709			436			652	
Approach Delay, s/veh		36.8			23.8			40.1			43.1	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	34.5	16.9	23.9	7.2	39.4	12.3	28.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.5	35.5	20.5	25.5	20.5	35.5	20.5	25.5
Max Q Clear Time (g_c+I1), s	7.8	26.6	12.1	16.4	4.1	12.2	8.0	21.5
Green Ext Time (p_c), s	0.2	3.4	0.4	1.0	0.0	4.4	0.2	1.1

Intersection Summary		
HCM 6th Ctrl Delay		35.5
HCM 6th LOS		D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	39	1141	59	55	579	89	26	58	64	282	143	60
Future Volume (veh/h)	39	1141	59	55	579	89	26	58	64	282	143	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.92	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	41	1201	62	58	609	94	27	61	67	297	151	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	53	1499	77	76	1374	211	40	112	123	342	391	163
Arrive On Green	0.03	0.43	0.43	0.04	0.44	0.44	0.02	0.14	0.14	0.19	0.31	0.31
Sat Flow, veh/h	1810	3476	179	1810	3099	477	1795	781	857	1810	1260	526
Grp Volume(v), veh/h	41	623	640	58	354	349	27	0	128	297	0	214
Grp Sat Flow(s),veh/h/ln	1810	1805	1851	1810	1805	1771	1795	0	1638	1810	0	1786
Q Serve(g_s), s	1.9	24.7	24.8	2.6	11.2	11.3	1.2	0.0	6.0	13.1	0.0	7.7
Cycle Q Clear(g_c), s	1.9	24.7	24.8	2.6	11.2	11.3	1.2	0.0	6.0	13.1	0.0	7.7
Prop In Lane	1.00		0.10	1.00		0.27	1.00		0.52	1.00		0.29
Lane Grp Cap(c), veh/h	53	778	798	76	801	785	40	0	236	342	0	555
V/C Ratio(X)	0.77	0.80	0.80	0.77	0.44	0.44	0.67	0.00	0.54	0.87	0.00	0.39
Avail Cap(c_a), veh/h	351	1007	1032	351	1007	988	457	0	318	461	0	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.7	20.4	20.4	39.1	15.9	15.9	40.0	0.0	32.8	32.4	0.0	22.3
Incr Delay (d2), s/veh	20.1	3.6	3.6	14.8	0.4	0.4	17.7	0.0	1.9	12.7	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	10.4	10.7	1.5	4.4	4.4	0.7	0.0	2.5	6.9	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.8	23.9	23.9	54.0	16.3	16.3	57.7	0.0	34.7	45.1	0.0	22.7
LnGrp LOS	E	C	C	D	B	B	E	A	C	D	A	C
Approach Vol, veh/h		1304			761			155			511	
Approach Delay, s/veh		25.1			19.2			38.7			35.7	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.6	15.9	7.4	39.6	5.8	29.6	6.4	40.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	21.0	16.0	16.0	46.0	21.0	16.0	16.0	46.0
Max Q Clear Time (g_c+I1), s	15.1	8.0	4.6	26.8	3.2	9.7	3.9	13.3
Green Ext Time (p_c), s	0.5	0.4	0.1	8.8	0.0	0.6	0.0	5.0

Intersection Summary	
HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	1347	106	149	679	22	93	10	119	19	9	16
Future Volume (veh/h)	34	1347	106	149	679	22	93	10	119	19	9	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	35	1389	109	154	700	23	96	10	123	20	9	16
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	0	0	0
Cap, veh/h	49	1598	125	197	1065	873	85	5	385	76	21	398
Arrive On Green	0.03	0.47	0.47	0.11	0.56	0.56	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1810	3381	264	1810	1900	1558	0	20	1544	0	86	1599
Grp Volume(v), veh/h	35	738	760	154	700	23	106	0	123	29	0	16
Grp Sat Flow(s),veh/h/ln	1810	1805	1840	1810	1900	1558	20	0	1544	86	0	1599
Q Serve(g_s), s	1.5	29.3	29.8	6.7	20.6	0.5	0.0	0.0	5.2	0.0	0.0	0.6
Cycle Q Clear(g_c), s	1.5	29.3	29.8	6.7	20.6	0.5	20.0	0.0	5.2	20.0	0.0	0.6
Prop In Lane	1.00		0.14	1.00		1.00	0.91		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	49	853	870	197	1065	873	90	0	385	97	0	398
V/C Ratio(X)	0.72	0.87	0.87	0.78	0.66	0.03	1.17	0.00	0.32	0.30	0.00	0.04
Avail Cap(c_a), veh/h	586	1010	1030	575	1065	873	90	0	385	97	0	398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.7	18.9	19.0	34.8	12.3	7.9	39.0	0.0	24.6	25.8	0.0	22.8
Incr Delay (d2), s/veh	17.7	6.2	6.6	6.7	1.2	0.0	148.5	0.0	0.2	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	12.6	13.1	3.3	8.2	0.2	5.5	0.0	1.9	0.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.4	25.1	25.6	41.5	13.5	7.9	187.5	0.0	24.7	26.4	0.0	22.9
LnGrp LOS	E	C	C	D	B	A	F	A	C	C	A	C
Approach Vol, veh/h		1533			877			229			45	
Approach Delay, s/veh		26.1			18.2			100.1			25.1	
Approach LOS		C			B			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.2	43.0		24.0	6.2	50.1		24.0
Change Period (Y+Rc), s	4.5	5.1		4.0	4.0	5.1		4.0
Max Green Setting (Gmax), s	25.5	44.9		20.0	26.0	44.9		20.0
Max Q Clear Time (g_c+I1), s	8.7	31.8		22.0	3.5	22.6		22.0
Green Ext Time (p_c), s	0.4	6.2		0.0	0.1	3.5		0.0

Intersection Summary		
HCM 6th Ctrl Delay		29.8
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	309	109	134	205	32	67	316	105	61	412	38
Future Volume (veh/h)	49	309	109	134	205	32	67	316	105	61	412	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.95	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	51	322	114	140	214	33	70	329	109	64	429	40
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	0	0	0
Cap, veh/h	80	387	137	183	564	87	94	420	139	91	532	50
Arrive On Green	0.04	0.30	0.30	0.10	0.35	0.35	0.05	0.31	0.31	0.05	0.31	0.31
Sat Flow, veh/h	1795	1302	461	1810	1594	246	1795	1335	442	1810	1703	159
Grp Volume(v), veh/h	51	0	436	140	0	247	70	0	438	64	0	469
Grp Sat Flow(s),veh/h/ln	1795	0	1764	1810	0	1840	1795	0	1777	1810	0	1862
Q Serve(g_s), s	2.0	0.0	16.5	5.4	0.0	7.2	2.8	0.0	16.1	2.5	0.0	16.6
Cycle Q Clear(g_c), s	2.0	0.0	16.5	5.4	0.0	7.2	2.8	0.0	16.1	2.5	0.0	16.6
Prop In Lane	1.00		0.26	1.00		0.13	1.00		0.25	1.00		0.09
Lane Grp Cap(c), veh/h	80	0	523	183	0	651	94	0	559	91	0	581
V/C Ratio(X)	0.64	0.00	0.83	0.76	0.00	0.38	0.74	0.00	0.78	0.70	0.00	0.81
Avail Cap(c_a), veh/h	664	0	862	669	0	899	664	0	868	669	0	910
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.7	0.0	23.5	31.4	0.0	17.3	33.5	0.0	22.4	33.5	0.0	22.7
Incr Delay (d2), s/veh	8.2	0.0	3.7	6.5	0.0	0.4	10.9	0.0	3.5	9.5	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	7.1	2.6	0.0	3.0	1.4	0.0	6.8	1.3	0.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.8	0.0	27.2	37.8	0.0	17.6	44.4	0.0	25.9	43.0	0.0	26.7
LnGrp LOS	D	A	C	D	A	B	D	A	C	D	A	C
Approach Vol, veh/h		487			387			508			533	
Approach Delay, s/veh		28.7			24.9			28.4			28.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	26.3	7.3	27.4	6.7	30.3	7.1	27.5
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0
Max Green Setting (Gmax), s	26.5	35.0	26.5	35.0	26.5	35.0	26.5	35.0
Max Q Clear Time (g_c+I1), s	7.4	18.5	4.8	18.6	4.0	9.2	4.5	18.1
Green Ext Time (p_c), s	0.3	2.7	0.1	3.8	0.1	1.6	0.1	3.6

Intersection Summary	
HCM 6th Ctrl Delay	27.9
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	41.9
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	424	86	50	263	51	33	95	37	39	127	65
Future Vol, veh/h	75	424	86	50	263	51	33	95	37	39	127	65
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	81	456	92	54	283	55	35	102	40	42	137	70
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	70.8	22.8	15.6	17.8
HCM LOS	F	C	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	15%	0%	16%	0%	17%
Vol Thru, %	58%	85%	0%	84%	0%	55%
Vol Right, %	22%	0%	100%	0%	100%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	165	499	86	313	51	231
LT Vol	33	75	0	50	0	39
Through Vol	95	424	0	263	0	127
RT Vol	37	0	86	0	51	65
Lane Flow Rate	177	537	92	337	55	248
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.377	1.054	0.161	0.68	0.1	0.499
Departure Headway (Hd)	7.877	7.071	6.276	7.542	6.738	7.549
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	460	515	574	481	535	479
Service Time	5.877	4.783	3.987	5.242	4.438	5.549
HCM Lane V/C Ratio	0.385	1.043	0.16	0.701	0.103	0.518
HCM Control Delay	15.6	81.2	10.2	24.8	10.2	17.8
HCM Lane LOS	C	F	B	C	B	C
HCM 95th-tile Q	1.7	16	0.6	5	0.3	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	537	244	16	322	109	89	44	7	162	97	97
Future Volume (veh/h)	57	537	244	16	322	109	89	44	7	162	97	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.89	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	63	597	0	18	358	0	99	49	8	180	108	108
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	98	725		39	663		129	294	48	228	200	200
Arrive On Green	0.05	0.38	0.00	0.02	0.35	0.00	0.07	0.19	0.19	0.13	0.24	0.24
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1563	255	1795	824	824
Grp Volume(v), veh/h	63	597	0	18	358	0	99	0	57	180	0	216
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	0	1819	1795	0	1647
Q Serve(g_s), s	2.0	16.9	0.0	0.6	9.0	0.0	3.2	0.0	1.6	5.8	0.0	6.8
Cycle Q Clear(g_c), s	2.0	16.9	0.0	0.6	9.0	0.0	3.2	0.0	1.6	5.8	0.0	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.50
Lane Grp Cap(c), veh/h	98	725		39	663		129	0	342	228	0	401
V/C Ratio(X)	0.64	0.82		0.46	0.54		0.77	0.00	0.17	0.79	0.00	0.54
Avail Cap(c_a), veh/h	485	1131		485	1131		489	0	645	485	0	585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.4	16.4	0.0	28.6	15.3	0.0	27.0	0.0	20.1	25.1	0.0	19.5
Incr Delay (d2), s/veh	5.2	2.9	0.0	6.2	0.7	0.0	3.5	0.0	0.2	2.3	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	7.1	0.0	0.3	3.6	0.0	1.4	0.0	0.6	2.4	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.6	19.3	0.0	34.9	16.0	0.0	30.5	0.0	20.3	27.4	0.0	20.3
LnGrp LOS	C	B		C	B		C	A	C	C	A	C
Approach Vol, veh/h		660	A		376	A		156			396	
Approach Delay, s/veh		20.6			16.9			26.8			23.6	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	27.3	8.2	18.4	7.2	25.3	11.5	15.1
Change Period (Y+Rc), s	4.0	4.5	4.0	4.0	4.0	4.5	4.0	4.0
Max Green Setting (Gmax), s	16.0	35.5	16.0	21.0	16.0	35.5	16.0	21.0
Max Q Clear Time (g_c+I1), s	2.6	18.9	5.2	8.8	4.0	11.0	7.8	3.6
Green Ext Time (p_c), s	0.0	3.9	0.1	0.8	0.1	2.2	0.2	0.2

Intersection Summary	
HCM 6th Ctrl Delay	21.1
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	46	101	0	0	0	0	1089	1096	0	1302	370
Future Volume (vph)	35	46	101	0	0	0	0	1089	1096	0	1302	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6					4.9	4.9		4.9	4.0
Lane Util. Factor		1.00	0.88					0.95	1.00		0.91	1.00
Frpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	0.97
Flpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	1.00
Frt		1.00	0.85					1.00	0.85		1.00	0.85
Flt Protected		0.98	1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)		1757	2694					3455	1546		4964	1501
Flt Permitted		0.98	1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)		1757	2694					3455	1546		4964	1501
Peak-hour factor, PHF	0.80	0.72	0.75	0.92	0.92	0.92	0.92	0.85	0.94	0.92	0.96	0.82
Adj. Flow (vph)	44	64	135	0	0	0	0	1281	1166	0	1356	451
RTOR Reduction (vph)	0	0	121	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	108	14	0	0	0	0	1281	1166	0	1356	451
Confl. Peds. (#/hr)	13					13	11		1	1		11
Confl. Bikes (#/hr)												9
Heavy Vehicles (%)	6%	0%	2%	0%	0%	0%	0%	1%	1%	0%	1%	1%
Turn Type	Split	NA	Perm					NA	Prot		NA	Free
Protected Phases	2	2						1 3 4	1 3 4		1 3 4	
Permitted Phases			2									Free
Actuated Green, G (s)		12.4	12.4					98.7	98.7		98.7	119.9
Effective Green, g (s)		12.4	12.4					94.5	94.5		94.5	119.9
Actuated g/C Ratio		0.10	0.10					0.79	0.79		0.79	1.00
Clearance Time (s)		4.6	4.6									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		181	278					2723	1218		3912	1501
v/s Ratio Prot		c0.06						0.37	c0.75		0.27	
v/s Ratio Perm			0.01									c0.30
v/c Ratio		0.60	0.05					0.47	0.96		0.35	0.30
Uniform Delay, d1		51.4	48.4					4.3	11.0		3.7	0.0
Progression Factor		1.00	1.00					0.03	1.15		1.00	1.00
Incremental Delay, d2		5.2	0.1					0.0	8.0		0.1	0.5
Delay (s)		56.6	48.5					0.2	20.7		3.8	0.5
Level of Service		E	D					A	C		A	A
Approach Delay (s)		52.1			0.0			9.9			2.9	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	670	28	295	48	19	107	98	1408	17	46	1082	275
Future Volume (vph)	670	28	295	48	19	107	98	1408	17	46	1082	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.97		1.00	1.00	1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1625	1641	1509		1786	1561	1745	4949		1745	4722	
Flt Permitted	0.95	0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1625	1641	1509		1786	1561	1745	4949		1745	4722	
Peak-hour factor, PHF	0.86	0.61	0.80	0.85	0.44	0.79	0.66	0.86	0.61	0.67	0.94	0.85
Adj. Flow (vph)	779	46	369	56	43	135	148	1637	28	69	1151	324
RTOR Reduction (vph)	0	0	134	0	0	117	0	1	0	0	41	0
Lane Group Flow (vph)	413	412	235	0	99	18	148	1664	0	69	1434	0
Confl. Peds. (#/hr)			18	18			12		8	8		12
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	1		2	6	
Permitted Phases			4			3						
Actuated Green, G (s)	30.0	30.0	30.0		16.0	16.0	14.0	43.6		12.4	42.9	
Effective Green, g (s)	30.0	30.0	30.0		16.0	16.0	14.0	43.6		12.4	42.9	
Actuated g/C Ratio	0.25	0.25	0.25		0.13	0.13	0.12	0.36		0.10	0.36	
Clearance Time (s)	4.2	4.2	4.2		4.2	4.2	3.7	4.9		4.6	4.9	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.2	
Lane Grp Cap (vph)	406	410	377		238	208	203	1799		180	1689	
v/s Ratio Prot	c0.25	0.25			c0.06		c0.08	c0.34		0.04	0.30	
v/s Ratio Perm			0.16			0.01						
v/c Ratio	1.02	1.00	0.62		0.42	0.09	0.73	0.92		0.38	0.85	
Uniform Delay, d1	45.0	45.0	39.9		47.7	45.5	51.1	36.6		50.2	35.5	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.17	0.93	
Incremental Delay, d2	49.1	45.7	3.2		1.2	0.2	12.3	9.6		1.3	5.4	
Delay (s)	94.0	90.6	43.1		48.8	45.7	63.4	46.2		59.9	38.2	
Level of Service	F	F	D		D	D	E	D		E	D	
Approach Delay (s)		77.1			47.0			47.6			39.2	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	52.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	17.9
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX H.
IMPROVED CONDITIONS
SYNCHRO OUTPUT SHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	178	35	29	175	41	49	157	37	30	76	47
Future Volume (veh/h)	26	178	35	29	175	41	49	157	37	30	76	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.94	0.98		0.95	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	191	38	31	188	44	53	169	40	32	82	51
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	48	327	297	54	324	302	168	312	66	156	250	132
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	241	1647	1495	267	1620	1508	222	1239	263	178	993	524
Grp Volume(v), veh/h	219	0	38	219	0	44	262	0	0	165	0	0
Grp Sat Flow(s),veh/h/ln	1888	0	1495	1887	0	1508	1724	0	0	1694	0	0
Q Serve(g_s), s	4.1	0.0	0.8	4.1	0.0	0.9	1.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.1	0.0	0.8	4.1	0.0	0.9	5.0	0.0	0.0	3.0	0.0	0.0
Prop In Lane	0.13		1.00	0.14		1.00	0.20		0.15	0.19		0.31
Lane Grp Cap(c), veh/h	375	0	297	378	0	302	546	0	0	538	0	0
V/C Ratio(X)	0.58	0.00	0.13	0.58	0.00	0.15	0.48	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	1343	0	1064	1391	0	1112	1442	0	0	1395	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.0	0.0	12.7	14.0	0.0	12.7	12.6	0.0	0.0	11.9	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.2	1.4	0.0	0.2	0.7	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.2	1.6	0.0	0.3	1.7	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.5	0.0	12.9	15.4	0.0	13.0	13.3	0.0	0.0	12.3	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		257			263			262			165	
Approach Delay, s/veh		15.1			15.0			13.3			12.3	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.2		12.2		14.2		12.2				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		30.5		27.5		30.5		28.5				
Max Q Clear Time (g_c+I1), s		7.0		6.1		5.0		6.1				
Green Ext Time (p_c), s		1.7		1.4		1.0		1.4				
Intersection Summary												
HCM 6th Ctrl Delay			14.1									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	424	86	49	250	49	31	89	36	39	127	64
Future Volume (veh/h)	74	424	86	49	250	49	31	89	36	39	127	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	0.99		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	80	456	92	53	269	53	33	96	39	42	137	69
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	100	567	541	70	358	345	111	231	82	106	211	96
Arrive On Green	0.35	0.35	0.35	0.23	0.23	0.23	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	281	1604	1531	310	1574	1516	208	1140	408	188	1045	475
Grp Volume(v), veh/h	536	0	92	322	0	53	168	0	0	248	0	0
Grp Sat Flow(s),veh/h/ln	1886	0	1531	1884	0	1516	1756	0	0	1707	0	0
Q Serve(g_s), s	16.0	0.0	2.6	9.9	0.0	1.7	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	16.0	0.0	2.6	9.9	0.0	1.7	5.1	0.0	0.0	8.3	0.0	0.0
Prop In Lane	0.15		1.00	0.16		1.00	0.20		0.23	0.17		0.28
Lane Grp Cap(c), veh/h	667	0	541	428	0	345	424	0	0	413	0	0
V/C Ratio(X)	0.80	0.00	0.17	0.75	0.00	0.15	0.40	0.00	0.00	0.60	0.00	0.00
Avail Cap(c_a), veh/h	1167	0	947	772	0	621	681	0	0	675	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.2	0.0	13.8	22.4	0.0	19.3	21.8	0.0	0.0	23.0	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.1	2.7	0.0	0.2	0.6	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	0.9	4.5	0.0	0.6	2.1	0.0	0.0	3.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	0.0	14.0	25.1	0.0	19.5	22.4	0.0	0.0	24.4	0.0	0.0
LnGrp LOS	C	A	B	C	A	B	C	A	A	C	A	A
Approach Vol, veh/h		628			375			168			248	
Approach Delay, s/veh		19.5			24.3			22.4			24.4	
Approach LOS		B			C			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.1		26.5		17.1		18.6				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		38.5		22.5		25.5				
Max Q Clear Time (g_c+I1), s		7.1		18.0		10.3		11.9				
Green Ext Time (p_c), s		0.8		4.0		1.2		1.8				
Intersection Summary												
HCM 6th Ctrl Delay			22.0									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	228	36	29	236	42	50	161	37	30	76	48
Future Volume (veh/h)	28	228	36	29	236	42	50	161	37	30	76	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.94	0.98		0.95	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	30	245	39	31	254	45	54	173	40	32	82	52
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	46	379	339	48	391	352	151	298	62	140	239	129
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	206	1684	1505	206	1684	1517	227	1237	258	181	990	535
Grp Volume(v), veh/h	275	0	39	285	0	45	267	0	0	166	0	0
Grp Sat Flow(s),veh/h/ln	1890	0	1505	1890	0	1517	1722	0	0	1706	0	0
Q Serve(g_s), s	5.9	0.0	0.9	6.1	0.0	1.0	2.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.9	0.0	0.9	6.1	0.0	1.0	6.1	0.0	0.0	3.5	0.0	0.0
Prop In Lane	0.11		1.00	0.11		1.00	0.20		0.15	0.19		0.31
Lane Grp Cap(c), veh/h	425	0	339	439	0	352	512	0	0	507	0	0
V/C Ratio(X)	0.65	0.00	0.12	0.65	0.00	0.13	0.52	0.00	0.00	0.33	0.00	0.00
Avail Cap(c_a), veh/h	1162	0	925	1204	0	967	1247	0	0	1210	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.7	0.0	13.8	15.5	0.0	13.6	15.1	0.0	0.0	14.2	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	0.1	1.6	0.0	0.2	0.8	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.3	2.5	0.0	0.3	2.2	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.4	0.0	13.9	17.1	0.0	13.7	15.9	0.0	0.0	14.6	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		314			330			267			166	
Approach Delay, s/veh		16.9			16.7			15.9			14.6	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.3		14.6		15.3		14.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		30.5		27.5		30.5		28.5				
Max Q Clear Time (g_c+I1), s		8.1		7.9		5.5		8.1				
Green Ext Time (p_c), s		1.7		1.7		1.0		1.8				
Intersection Summary												
HCM 6th Ctrl Delay			16.3									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	465	87	49	296	49	31	89	36	39	129	67
Future Volume (veh/h)	75	465	87	49	296	49	31	89	36	39	129	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	0.99		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	81	500	94	53	318	53	33	96	39	42	139	72
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	97	598	565	65	392	368	103	222	80	97	203	96
Arrive On Green	0.37	0.37	0.37	0.24	0.24	0.24	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	263	1624	1533	270	1617	1520	211	1132	406	189	1036	487
Grp Volume(v), veh/h	581	0	94	371	0	53	168	0	0	253	0	0
Grp Sat Flow(s),veh/h/ln	1887	0	1533	1887	0	1520	1749	0	0	1711	0	0
Q Serve(g_s), s	19.7	0.0	2.9	13.0	0.0	1.9	0.0	0.0	0.0	3.8	0.0	0.0
Cycle Q Clear(g_c), s	19.7	0.0	2.9	13.0	0.0	1.9	5.8	0.0	0.0	9.6	0.0	0.0
Prop In Lane	0.14		1.00	0.14		1.00	0.20		0.23	0.17		0.28
Lane Grp Cap(c), veh/h	695	0	565	457	0	368	405	0	0	396	0	0
V/C Ratio(X)	0.84	0.00	0.17	0.81	0.00	0.14	0.41	0.00	0.00	0.64	0.00	0.00
Avail Cap(c_a), veh/h	1038	0	843	687	0	553	606	0	0	602	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.2	0.0	14.9	25.0	0.0	20.8	24.9	0.0	0.0	26.4	0.0	0.0
Incr Delay (d2), s/veh	3.9	0.0	0.1	4.5	0.0	0.2	0.7	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	0.0	1.0	6.1	0.0	0.7	2.5	0.0	0.0	4.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.1	0.0	15.0	29.5	0.0	21.0	25.6	0.0	0.0	28.1	0.0	0.0
LnGrp LOS	C	A	B	C	A	C	C	A	A	C	A	A
Approach Vol, veh/h		675			424			168			253	
Approach Delay, s/veh		22.8			28.4			25.6			28.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		18.2		30.3		18.2		21.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		38.5		22.5		25.5				
Max Q Clear Time (g_c+I1), s		7.8		21.7		11.6		15.0				
Green Ext Time (p_c), s		0.8		4.1		1.1		1.9				

Intersection Summary			
HCM 6th Ctrl Delay			25.6
HCM 6th LOS			C

Intersection	
Int Delay, s/veh	5.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	433	97	99	267	162	181
Future Vol, veh/h	433	97	99	267	162	181
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	170	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	451	101	103	278	169	189

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	553	0	936	452
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	484	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1027	-	297	612
Stage 1	-	-	-	-	645	-
Stage 2	-	-	-	-	624	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1026	-	267	611
Mov Cap-2 Maneuver	-	-	-	-	395	-
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	562	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	16.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	395	611	-	-	1026	-
HCM Lane V/C Ratio	0.427	0.309	-	-	0.101	-
HCM Control Delay (s)	20.7	13.5	-	-	8.9	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	2.1	1.3	-	-	0.3	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	186	36	29	176	41	50	163	38	31	77	48
Future Volume (veh/h)	27	186	36	29	176	41	50	163	38	31	77	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.94	0.98		0.95	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	29	200	39	31	189	44	54	175	41	33	83	52
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	49	337	306	53	322	300	165	318	67	155	253	134
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	239	1649	1498	266	1621	1507	220	1243	262	180	989	524
Grp Volume(v), veh/h	229	0	39	220	0	44	270	0	0	168	0	0
Grp Sat Flow(s),veh/h/ln	1888	0	1498	1887	0	1507	1725	0	0	1694	0	0
Q Serve(g_s), s	4.4	0.0	0.8	4.2	0.0	1.0	1.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.4	0.0	0.8	4.2	0.0	1.0	5.3	0.0	0.0	3.1	0.0	0.0
Prop In Lane	0.13		1.00	0.14		1.00	0.20		0.15	0.20		0.31
Lane Grp Cap(c), veh/h	386	0	306	375	0	300	551	0	0	543	0	0
V/C Ratio(X)	0.59	0.00	0.13	0.59	0.00	0.15	0.49	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	1311	0	1040	1263	0	1008	1662	0	0	1601	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.3	0.0	12.9	14.4	0.0	13.1	12.9	0.0	0.0	12.1	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.2	1.5	0.0	0.2	0.7	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.3	1.7	0.0	0.3	1.9	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.7	0.0	13.1	15.8	0.0	13.3	13.5	0.0	0.0	12.4	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		268			264			270			168	
Approach Delay, s/veh		15.3			15.4			13.5			12.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.6		12.6		14.6		12.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		36.5		27.5		36.5		26.5				
Max Q Clear Time (g_c+I1), s		7.3		6.4		5.1		6.2				
Green Ext Time (p_c), s		1.8		1.5		1.1		1.4				

Intersection Summary			
HCM 6th Ctrl Delay			14.4
HCM 6th LOS			B

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	603	204	174	485	72	79
Future Vol, veh/h	603	204	174	485	72	79
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	25	170	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	628	213	181	505	75	82

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	842	0	1496	629
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	867	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	802	-	137	486
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	415	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	801	-	106	486
Mov Cap-2 Maneuver	-	-	-	-	227	-
Stage 1	-	-	-	-	534	-
Stage 2	-	-	-	-	321	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	20.9
HCM LOS			C

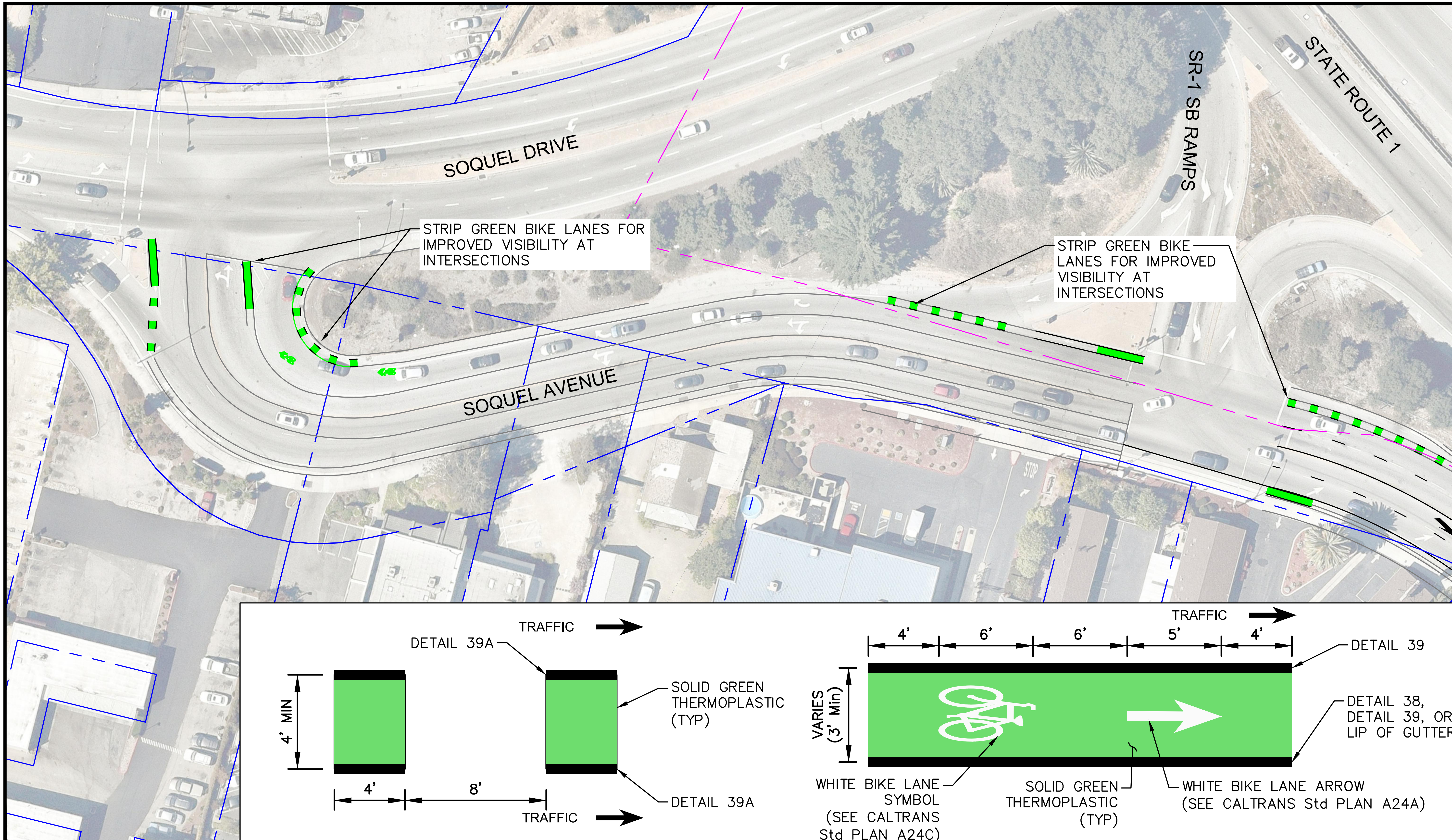
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	227	486	-	-	801	-
HCM Lane V/C Ratio	0.33	0.169	-	-	0.226	-
HCM Control Delay (s)	28.5	13.9	-	-	10.8	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	1.4	0.6	-	-	0.9	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	424	86	50	263	51	33	95	37	39	127	65
Future Volume (veh/h)	75	424	86	50	263	51	33	95	37	39	127	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	0.99		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	81	456	92	54	283	55	35	102	40	42	137	70
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	100	565	540	71	370	355	111	231	80	104	210	97
Arrive On Green	0.35	0.35	0.35	0.23	0.23	0.23	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	284	1601	1531	302	1583	1518	215	1146	397	188	1042	481
Grp Volume(v), veh/h	537	0	92	337	0	55	177	0	0	249	0	0
Grp Sat Flow(s),veh/h/ln	1886	0	1531	1885	0	1518	1758	0	0	1711	0	0
Q Serve(g_s), s	16.4	0.0	2.6	10.6	0.0	1.8	0.0	0.0	0.0	3.0	0.0	0.0
Cycle Q Clear(g_c), s	16.4	0.0	2.6	10.6	0.0	1.8	5.5	0.0	0.0	8.5	0.0	0.0
Prop In Lane	0.15		1.00	0.16		1.00	0.20		0.23	0.17		0.28
Lane Grp Cap(c), veh/h	665	0	540	441	0	355	422	0	0	411	0	0
V/C Ratio(X)	0.81	0.00	0.17	0.76	0.00	0.15	0.42	0.00	0.00	0.61	0.00	0.00
Avail Cap(c_a), veh/h	1167	0	947	782	0	630	716	0	0	710	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.7	0.0	14.2	22.8	0.0	19.4	22.5	0.0	0.0	23.7	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.0	0.1	2.8	0.0	0.2	0.7	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	0.0	0.9	4.8	0.0	0.6	2.3	0.0	0.0	3.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	0.0	14.4	25.6	0.0	19.6	23.2	0.0	0.0	25.1	0.0	0.0
LnGrp LOS	C	A	B	C	A	B	C	A	A	C	A	A
Approach Vol, veh/h		629			392			177			249	
Approach Delay, s/veh		20.1			24.8			23.2			25.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.4		27.0		17.4		19.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		24.5		39.5		24.5		26.5				
Max Q Clear Time (g_c+I1), s		7.5		18.4		10.5		12.6				
Green Ext Time (p_c), s		0.9		4.1		1.3		1.9				

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

APPENDIX I.
SOQUEL AVENUE STRIPING IMPROVEMENT CONCEPT LAYOUTS



NORTH

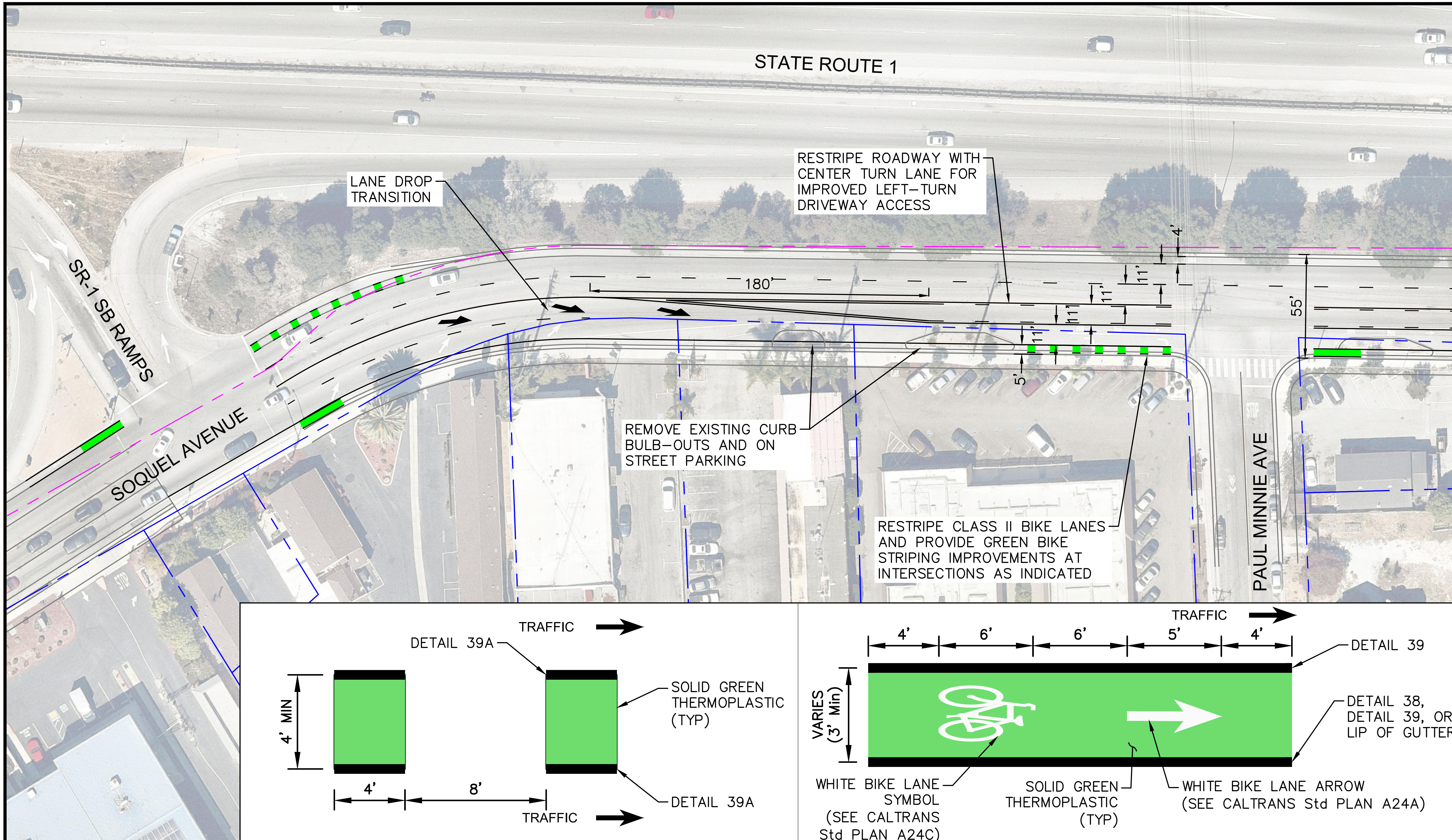
GRAPHIC SCALE IN FEET
0 25 50 100

– APPROXIMATE R/W PER SANTA CRUZ COUNTY GIS

FIGURE S1

XX-097XXXXXX FEBRUARY 2019

SANTA CRUZ COUNTY - STRIPING CONCEPT ON SOQUEL AVENUE



NORTH

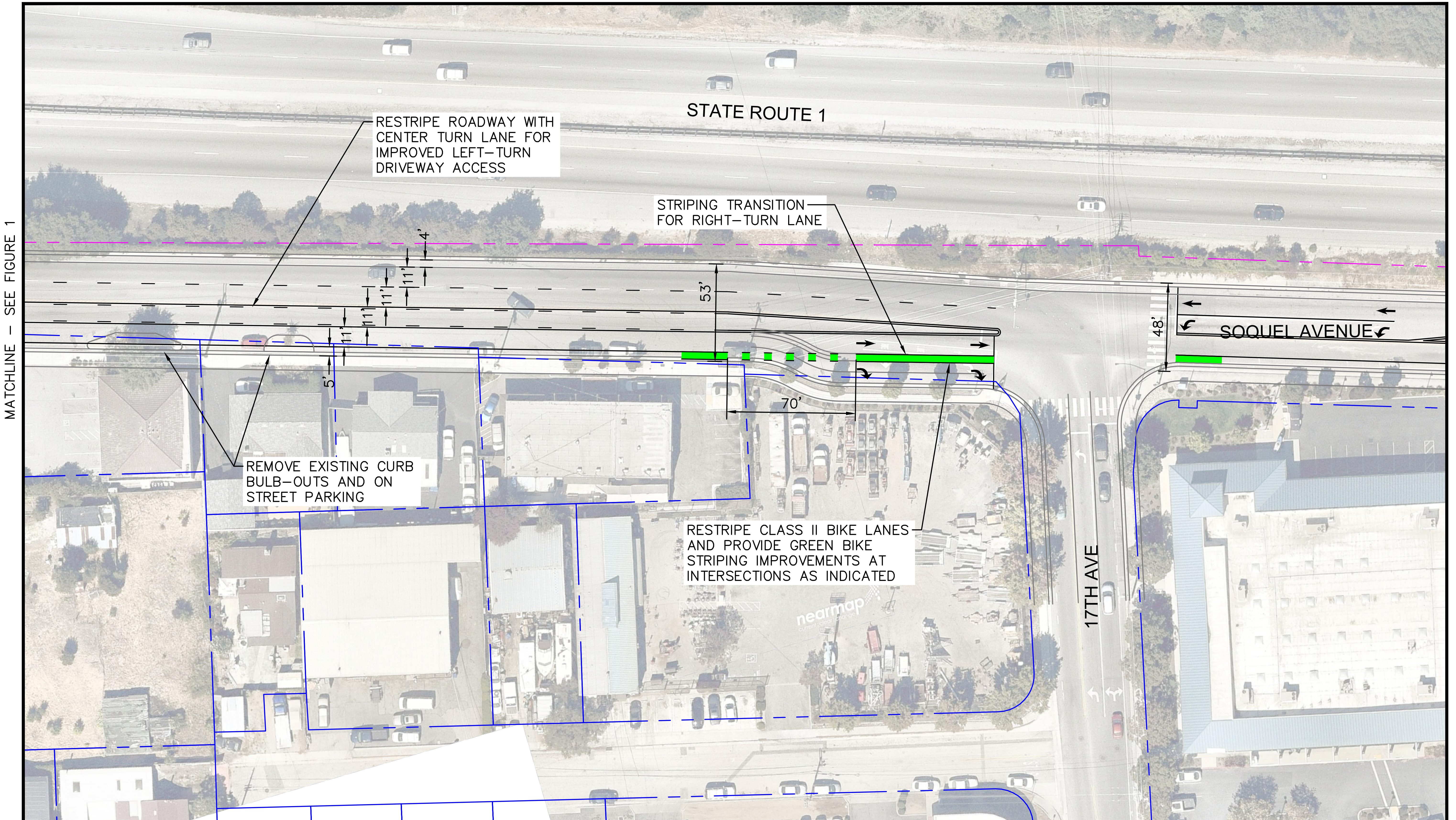
GRAPHIC SCALE IN FEET
0 25 50 100

- APPROXIMATE R/W PER SANTA CRUZ COUNTY GIS

FIGURE S2

XX-097XXXXXX FEBRUARY 2019

SANTA CRUZ COUNTY - STRIPING CONCEPT ON SOQUEL AVENUE



Kimley»Horn

NORTH

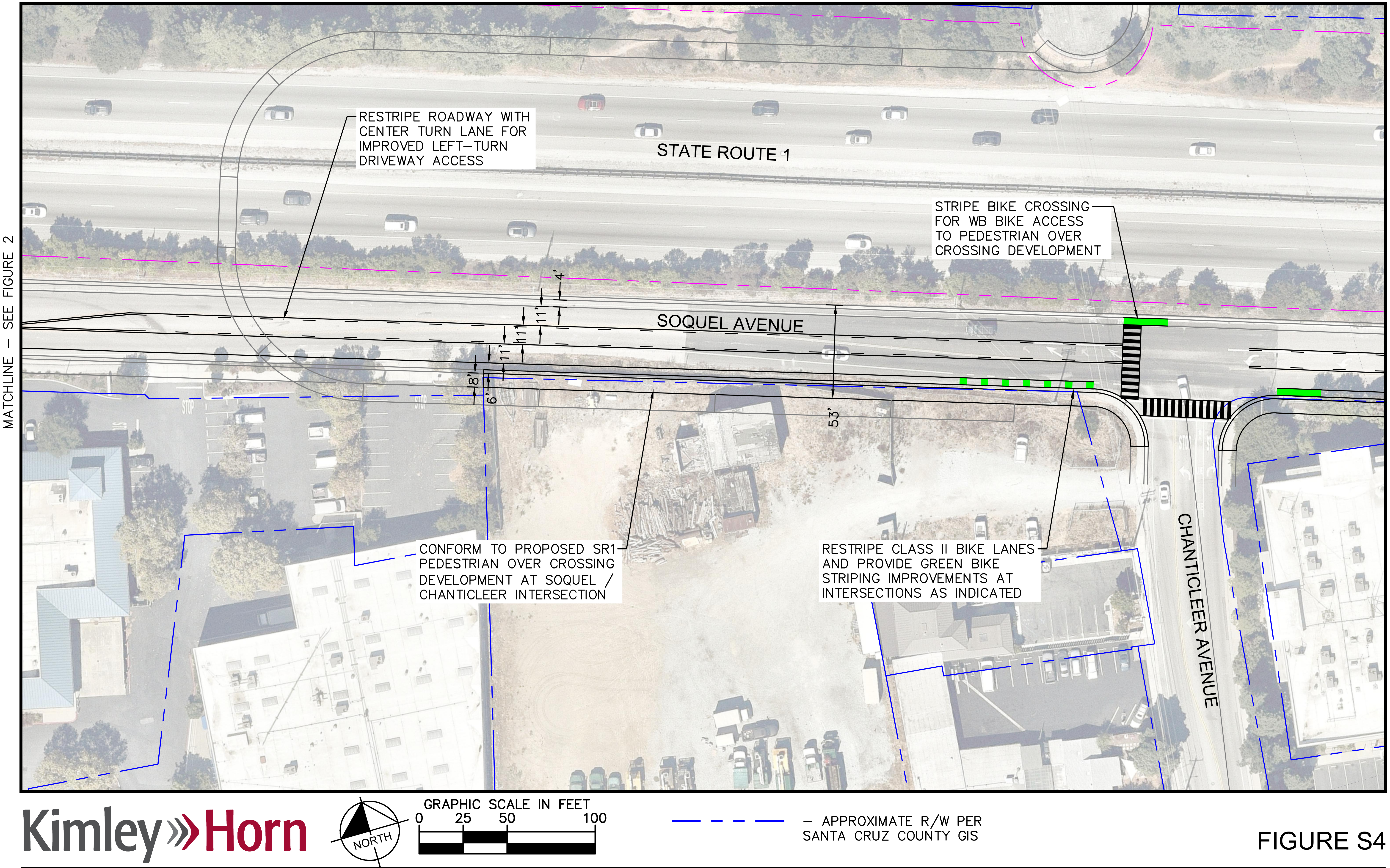
GRAPHIC SCALE IN FEET
0 25 50 100

- APPROXIMATE R/W PER SANTA CRUZ COUNTY GIS

FIGURE S3

XX-097XXXXXX FEBRUARY 2019

SANTA CRUZ COUNTY - STRIPING CONCEPT ON SOQUEL AVENUE



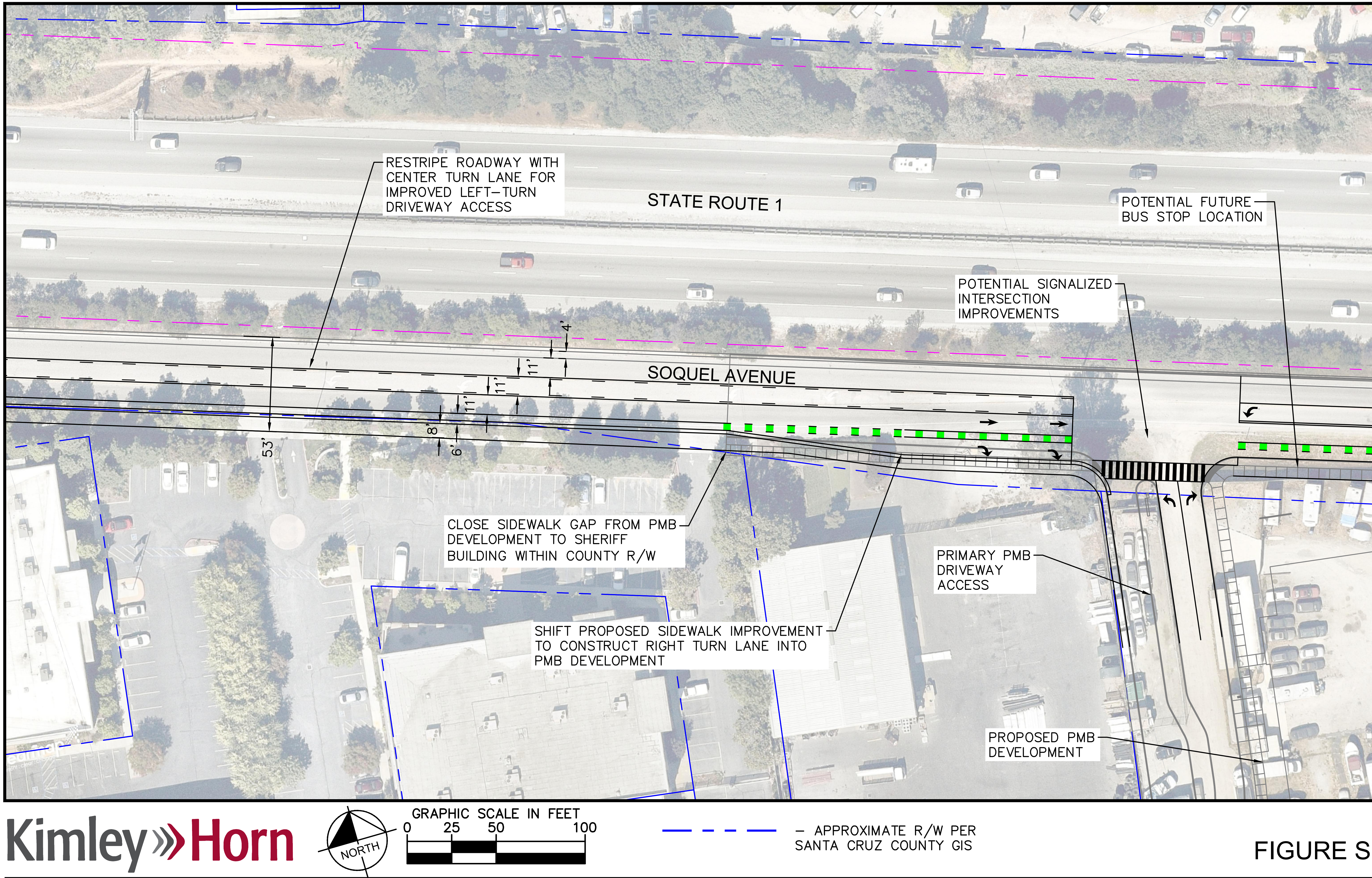
Kimley»Horn

- APPROXIMATE R/W PER SANTA CRUZ COUNTY GIS

FIGURE S4

XX-097XXXXXX FEBRUARY 2019

SANTA CRUZ COUNTY - STRIPING CONCEPT ON SOQUEL AVENUE

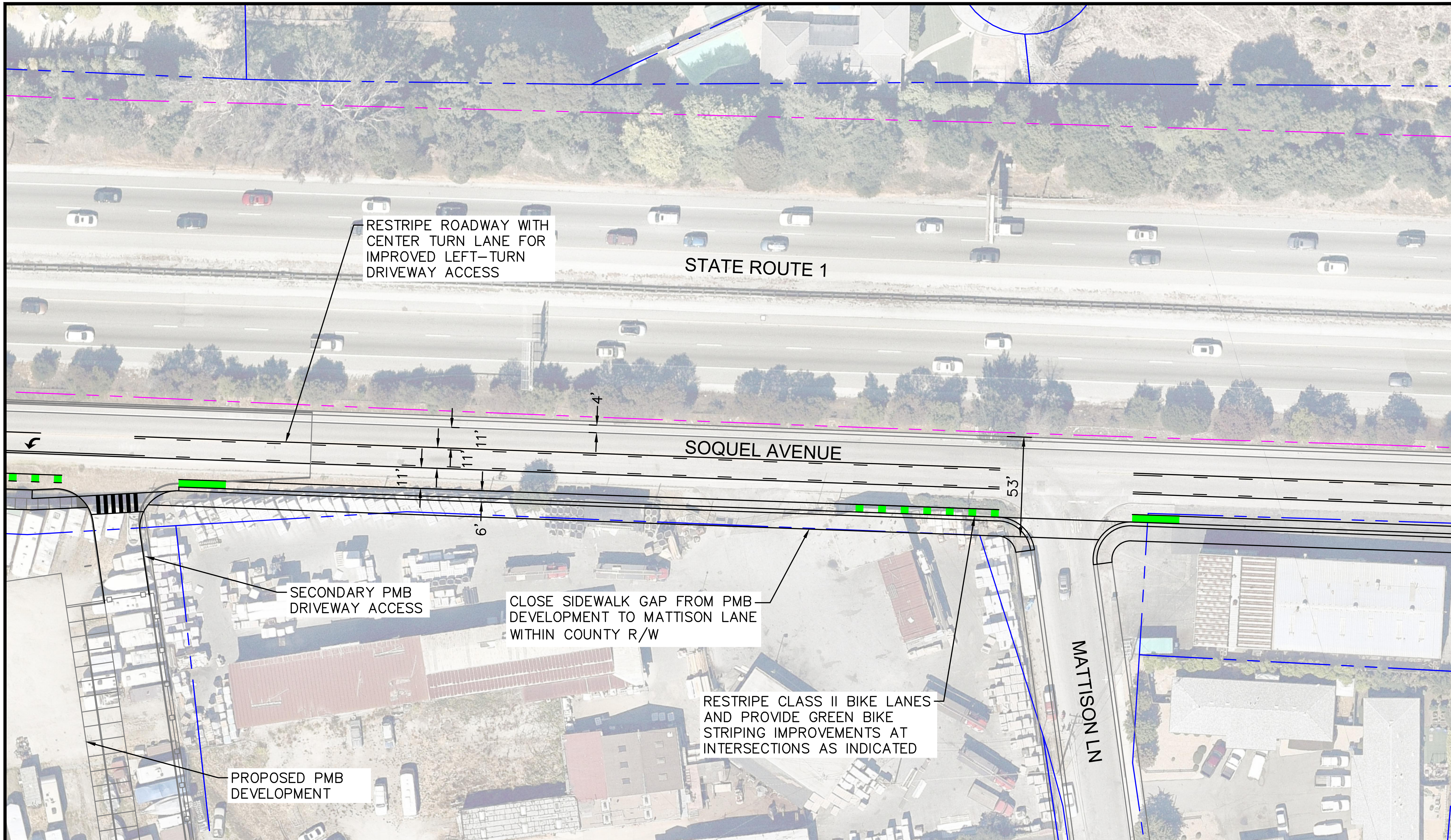


Kimley»Horn

FIGURE S5

XX-097XXXXXX FEBRUARY 2019

SANTA CRUZ COUNTY - STRIPING CONCEPT ON SOQUEL AVENUE



Kimley»Horn

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

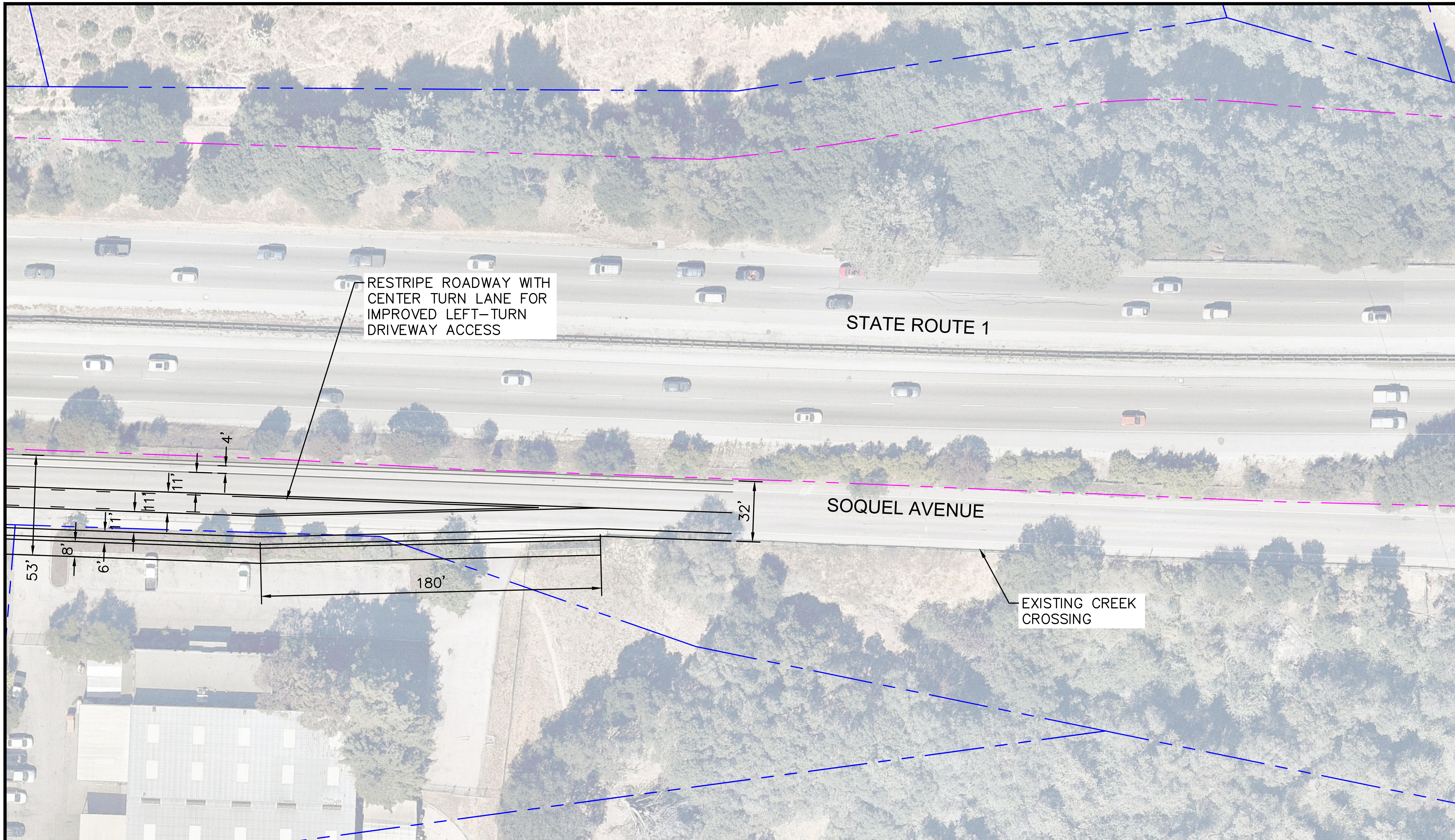
- APPROXIMATE R/W PER SANTA CRUZ COUNTY GIS

FIGURE S6

XX-097XXXXXX FEBRUARY 2019

SANTA CRUZ COUNTY - STRIPING CONCEPT ON SOQUEL AVENUE

MATCHLINE – SEE FIGURE 5



Kimley»Horn

NORTH

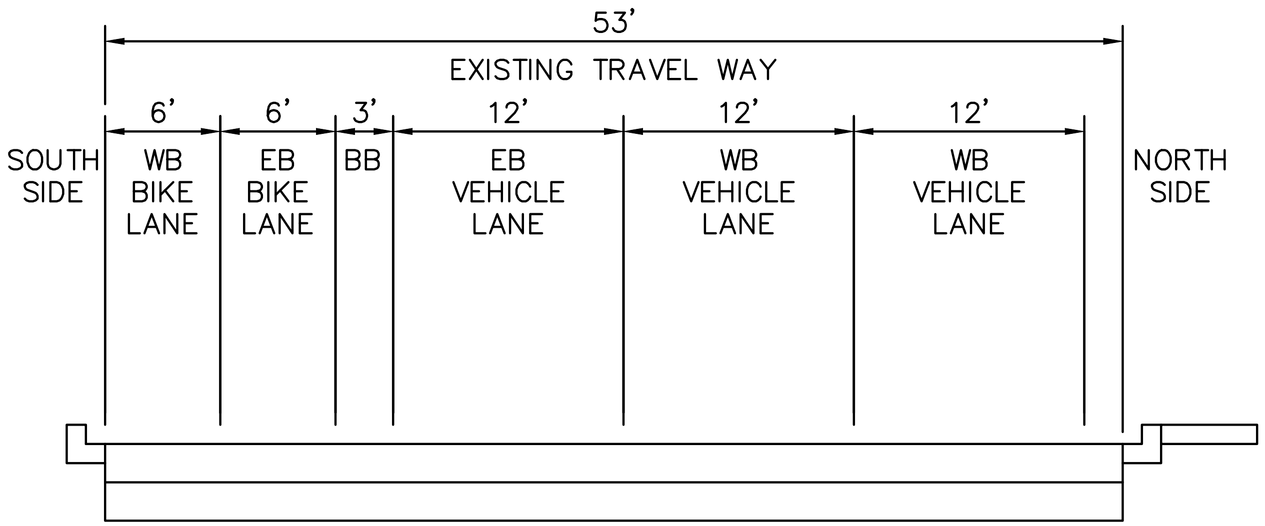
GRAPHIC SCALE IN FEET
0 25 50 100

– APPROXIMATE R/W PER
SANTA CRUZ COUNTY GIS

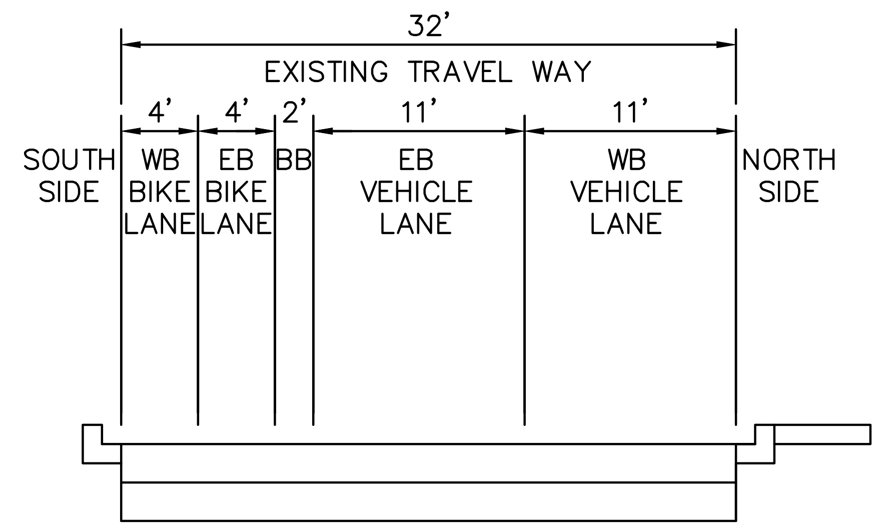
FIGURE S7

XX-097XXXXXX FEBRUARY 2019

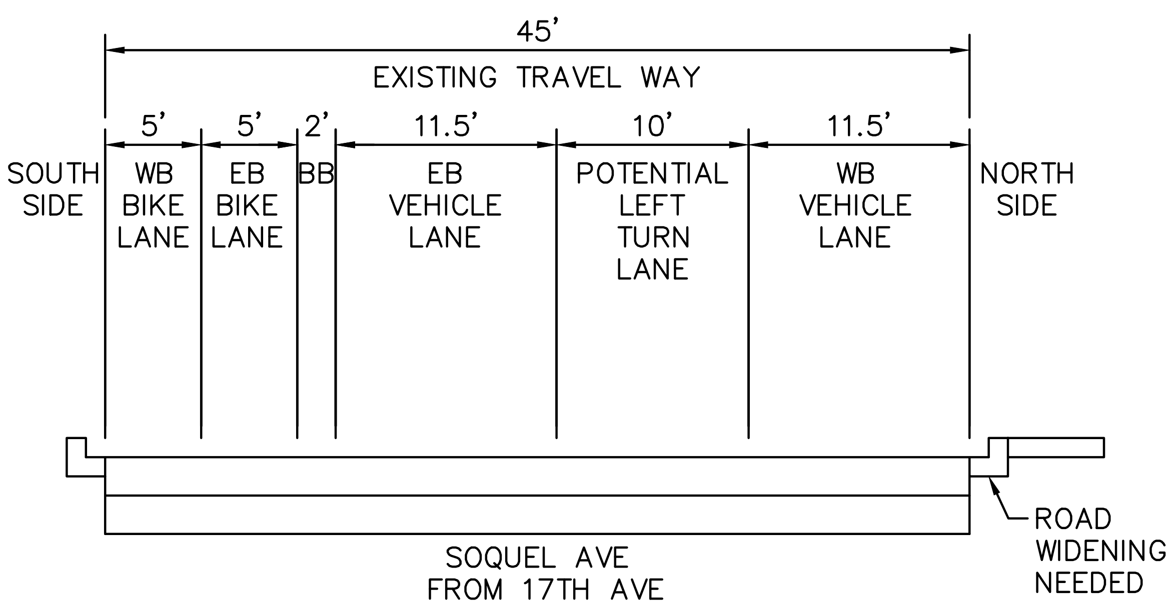
SANTA CRUZ COUNTY - STRIPING CONCEPT ON SOQUEL AVENUE



SOQUEL AVE
FROM HIGHWAY 1 RAMPS
TO 17TH AVE

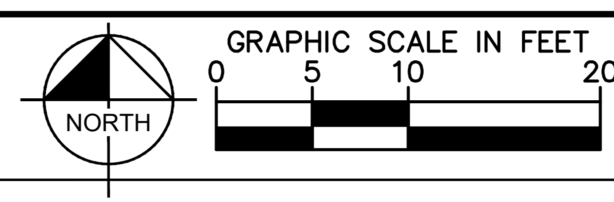


SOQUEL AVE
FROM CHANTICLEER AVE
TO PROJECT DRIVEWAY



SOQUEL AVE
FROM 17TH AVE
TO CHANTICLEER AVE

Kimley»Horn



– APPROXIMATE R/W PER
SANTA CRUZ COUNTY GIS

FIGURE S8

XX-097XXXXXX FEBRUARY 2019

SANTA CRUZ COUNTY - CYCLE TRACK CONCEPT AT SOQUEL AVENUE

Kimley»Horn

APPENDIX J.
SIGNAL WARRANT WORKSHEETS

Traffic Signal Warrant Write-up

Signal warrant analysis was completed for the following intersections:

- Intersection 8: Soquel Avenue & Project Driveway
- Intersection 24: Brommer Street & 30th Avenue

This analysis used methodology provided by Chapter 4 of the California Manual on Uniform Traffic Control Devices (MUTCD) (2014). The Peak Hour Warrant (Warrant 3) was used to analyze these intersections because 24-hour counts were not collected near the intersections to complete the Eight-Hour Warrant (Warrant 1) and Four-Hour Warrant (Warrant 2). In addition, future volumes are only analyzed during the peak hour, therefore the Peak Hour Warrant would only be used in the future scenarios.

For Intersection 8, three scenarios were analyzed:

1. One approach lane for both the Major and Minor Street
    a. This simulates the geometry present at Intersection 8 in existing conditions.
2. Two approach lanes for the Major and Minor Road
    a. This simulates the proposed geometry of Intersection 8 provided in this report.
3. Two approach lanes for the Major and Minor Street with the highest left turning volumes added to the Minor Street approach
    a. This is compliant with Paragraph 13 of Chapter 4 of the California MUTCD. The paragraph states that if the intersection has a high volume of left-turn traffic, the higher volume of the Major Street left turn may be added to the Minor Street approach volumes. This analysis was completed to because the MUTCD does not define what a high volume of left-turn traffic means and left-turn volumes in the plus project conditions are relatively high.

In all three scenarios, it was determined that the plus project conditions warrant a traffic signal at Intersection 8.

For Intersection 24, one scenario was analyzed:

1. One approach for both the Major and Minor Road – It is anticipated that the intersection geometry would remain the same in both existing and cumulative conditions.

In this scenario, it was determined that the existing and plus project conditions warrant a traffic signal at Intersection 24.

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Brommer St** EB WB # OF APPROACH LANES: **1**

MINOR STREET: **30th Ave** SB NB # OF APPROACH LANES: **1**

CITY, STATE: **Santa Cruz County, California**

COMMENTS: **Existing Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N) **N**
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N) **N**

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
				MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES →				**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM TO 07:30 AM																	
07:30 AM TO 08:30 AM																	
08:30 AM TO 09:30 AM	484	239			Y			Y		Y	Y	**Y**		Y			
09:30 AM TO 10:30 AM																	
10:30 AM TO 11:30 AM																	
11:00 AM TO 12:00 PM																	
12:30 PM TO 01:30 PM																	
01:30 PM TO 02:30 PM																	
02:30 PM TO 03:30 PM																	
03:30 PM TO 04:30 PM																	
04:30 PM TO 05:30 PM	932	226		Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
05:30 PM TO 06:30 PM																	
06:30 PM TO 07:30 PM																	
07:30 PM TO 08:30 PM																	
08:30 PM TO 09:30 PM																	
09:30 PM TO 10:30 PM																	
	1,416	465		1	2	**1**	1	2	**1**	2	2	**2**	1	2	**1**	**1**	**1**
				8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
				NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**SATISFIED**

04/25/19
Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Brommer St** EB WB # OF APPROACH LANES: **1**

MINOR STREET: **30th Ave** SB NB # OF APPROACH LANES: **1**

CITY, STATE: **Santa Cruz County, California**

COMMENTS: **Existing Plus Project Conditions Existing Geometry**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N) **N**
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N) **N**

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
				MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES →				**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM TO 07:30 AM																	
07:30 AM TO 08:30 AM																	
08:30 AM TO 09:30 AM	484	243			Y			Y		Y	Y	**Y**		Y			
09:30 AM TO 10:30 AM																	
10:30 AM TO 11:30 AM																	
11:00 AM TO 12:00 PM																	
12:30 PM TO 01:30 PM																	
01:30 PM TO 02:30 PM																	
02:30 PM TO 03:30 PM																	
03:30 PM TO 04:30 PM																	
04:30 PM TO 05:30 PM	932	230		Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
05:30 PM TO 06:30 PM																	
06:30 PM TO 07:30 PM																	
07:30 PM TO 08:30 PM																	
08:30 PM TO 09:30 PM																	
09:30 PM TO 10:30 PM																	
	1,416	473		1	2	**1**	1	2	**1**	2	2	**2**	1	2	**1**	**1**	**1**
				8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
				NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**SATISFIED**

04/25/19
Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Soquel Avenue** EB WB # OF APPROACH LANES: **1**

MINOR STREET: **Project Driveway** NB # OF APPROACH LANES: **1**

CITY, STATE: **Santa Cruz County, California**

COMMENTS: **Existing Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N) **N**

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N) **N**

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
				MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES →				**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM TO 07:30 AM																	
07:30 AM TO 08:30 AM																	
08:30 AM TO 09:30 AM	571	16		Y						Y							
09:30 AM TO 10:30 AM																	
10:30 AM TO 11:30 AM																	
11:00 AM TO 12:00 PM																	
12:30 PM TO 01:30 PM																	
01:30 PM TO 02:30 PM																	
02:30 PM TO 03:30 PM																	
03:30 PM TO 04:30 PM																	
04:30 PM TO 05:30 PM	853	9		Y			Y			Y			Y				
05:30 PM TO 06:30 PM																	
06:30 PM TO 07:30 PM																	
07:30 PM TO 08:30 PM																	
08:30 PM TO 09:30 PM																	
09:30 PM TO 10:30 PM																	
	1,424	25		2	0	**0**	1	0	**0**	2	0	**0**	1	0	**0**	**0**	**0**
				8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
				NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

04/25/19
Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Soquel Avenue** EB WB — # OF APPROACH LANES: **1**

MINOR STREET: **Project Driveway** NB — # OF APPROACH LANES: **1**

CITY, STATE: **Santa Cruz County, California**

COMMENTS: **Existing Plus Project Conditions Existing Geometry**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N) **N**
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N) **N**

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
						MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES		→				**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM	TO	07:30 AM																	
07:30 AM	TO	08:30 AM																	
08:30 AM	TO	09:30 AM	1,014	130		Y			Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	
09:30 AM	TO	10:30 AM																	
10:30 AM	TO	11:30 AM																	
11:00 AM	TO	12:00 PM																	
12:30 PM	TO	01:30 PM																	
01:30 PM	TO	02:30 PM																	
02:30 PM	TO	03:30 PM																	
03:30 PM	TO	04:30 PM																	
04:30 PM	TO	05:30 PM	997	373		Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
05:30 PM	TO	06:30 PM																	
06:30 PM	TO	07:30 PM																	
07:30 PM	TO	08:30 PM																	
08:30 PM	TO	09:30 PM																	
09:30 PM	TO	10:30 PM																	
			2,011	503		2	1	**1**	2	2	**2**	2	2	**2**	2	2	**2**	**2**	**1**
						8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
						NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**SATISFIED**

04/25/19
Kimley-Horn and Associates

APPENDIX K.
FULL SCCRTP IMPROVEMENT LIST

Appendix F

Project List

2040 Regional Transportation Plan Project List

Constrained and Unconstrained Projects - Not Escalated

Projects listed by lead agency, in alphabetical order by project name.
Project IDs without the letter "P" in front of the number have been also included in the Regional Transportatioon Improvement Program.
"Constrained" represents amount of project cost that could be funded with revenues anticipated through 2040.
While some projects have secured funding, this amount does not typically represent committed funds. "Unconstrained" represents amount of project cost that would need additional funding in order to be implemented.

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Caltrans					
Collision Reduction & Emergency Projects	CT-P46	Various SHOPP projects that address collision reduction, mandates (including stormwater mandates) and emergency projects. (Constrained=30% of total cost).	$732,380	$219,714	$512,666
Hwy 1/Harkins Slough Road Interchange: Bicycle/Pedestrian Bridge	WAT 01A	Construction of Pedestrian/Bicycle Bridge over Highway 1. Caltrans Project ID 05-1G490	$9,900	$9,900	$0
Hwy 17 Access Management - Laurel Rd/Sugarloaf Rd/Glenwood Cutoff Area Grade Separation Concept	CT-P52	New structure providing grade-separation to facilitate crossing and turnaround.	$40,000	$0	$40,000
Hwy 17 Access Management - Multimodal Improvements	CT-P50	Multimodal improvements including park and ride improvements, and facilities serving separated bike/ped crossing or express transit route.	$20,000	$0	$20,000
Hwy 17 Access Management - Old Santa Cruz Hwy Area Grade Separation Concept	CT-P53	New structure providing grade-separation to facilitate crossing and turnaround.	$40,000	$0	$40,000
Hwy 17 Access Management - Operational Improvements	CT-P49	Operational improvements to existing facilities including ramp modifications, accel/decel lanes, turning lanes, driveway consolidation, driveway channelization, etc.	$50,000	$0	$50,000
Hwy 17 Access Management - Vine Hill Area Grade Separation Concept	CT-P51	New structure providing grade-separation to facilitate crossing and turnaround.	$40,000	$0	$40,000
Hwy 17 Wildlife Habitat Connectivity	CT-P48	Wildlife Crossing	$9,198	$9,198	$0
Measure D Hwy 9 Corridor Projects	CT-P09e	Corridor study is underway to identify need for shoulder widening, turnouts for buses, bicycle and pedestrian improvements, and turn lanes at spot locations in SLV. Capital Cost Est. TBD.	$10,000	$7,349	$2,651
Minors	CT-P47	Various small SHOPP projects (less than $1 million) that reduce/enhance maintenance efforts by providing minor operational, pavement rehab, drainage, intersection, electrical upgrades, landscape and barrier improvements. (Constrained=30% of total cost).	$8,600	$2,580	$6,020
State Highway Preservation (bridge, roadway, roadside)	CT-P45	Various SHOPP projects that address bridge preservation, roadway & roadside preservation and limited mobility improvements. (Constrained=30% of cost to maintain).	$778,390	$467,163	$311,227
		Caltrans Total	**$1,738,468**	**$715,904**	**$1,022,564**
CHP - California Highway Patrol					
Hwy 129 Safety Program	CHP-P03	Additional CHP enforcement and public education campaign on Highway 129.	$500	$0	$500
Hwy 17 Safety Program	CHP-P01	Continuation of Highway 17 Safety Program in Santa Cruz County at $100/year. Includes public education and awareness, California Highway Patrol (CHP) enhancement, pilot cars, electronic speed signs.	$2,200	$2,200	$0

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Traffic Management	CHP-P02	Patrol of state route system and unincorporated roadways aimed at minimizing traffic collisions and traffic delays; and provide assistance to motorists. COST EST TBD.	$0	$0	$0
		CHP - California Highway Patrol Total	**$2,700**	**$2,200**	**$500**
City of Capitola					
40th Ave (at Deanes Ln)Bike/Ped connection	CAP-P46	40th Avenue N/S bike/pedestrian connection at Deanes Lane.	$10	$10	$0
40th Ave/Clares St Intersection Improvements	CAP-P38	Widen intersection and signalize.	$1,550	$1,050	$500
41st Ave (Soquel to Portola) Crosswalks	CAP-P47	Evaluate and if found necessary, increase number of crosswalks on 41st to closer to every 300 ft.	$20	$20	$0
41st Ave/Capitola Road Intersection Improvements	CAP-P37	Widen intersection and reconfigure signal phasing.	$520	$520	$0
46th/47th Ave (Clares to Cliff Dr) Bike Lanes/Traffic Calming	CAP-P40	46th/47th from Clares to Portola/Cliff - Add traffic calming and wayfinding signage to connect to Brommer and MBSST.	$20	$20	$0
47th Avenue Traffic Calming and Greenway	CAP-P30	Traffic calming and traffic dispersion improvements along 47th Ave from Capitola Rd to Portola Drive and implementation of greenway, which gives priority to bicycles and pedestrians on low volume, low speed streets including, pedestrian facilities, way finding and pavement markings, bicycle treatments to connect to MBSST.	$100	$100	$0
Auto Plaza Drive Extension to Bay Avenue	CAP-P35	Extend Auto Plaza Drive over Soquel Creek to Bay Avenue. Includes improvements to Auto Plaza Drive.	$10,330	$0	$10,330
Bay Avenue Traffic Calming and Bike/Ped Enhancements	CAP-P29	Traffic calming features along Bay Avenue from Highway 1 to Monterey Avenue, including left turn pocket, buffered pedestrian facilities and bicycle treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) to address speed inconsistency between bicyclists and vehicles.	$410	$210	$200
Bay Avenue/Capitola Avenue Intersection Modifications/Roundabout	CAP 16	Multimodal improvements to intersection. Roundabout.	$1,000	$1,000	$0
Bay Avenue/Hill Street Intersection	CAP-P07	Intersection improvements to improve traffic flow. Roundabout.	$210	$210	$0
Bay Avenue/Monterey Avenue Intersection Modification	CAP-P32	Multimodal improvements to the intersection. Include signalization or roundabout along with pedestrian, bicycle treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) and transit access.	$310	$310	$0
Brommer Street Complete Street Improvements (250' west of 38th Ave to 41st Ave)	CAP 18	Construct complete street roadway improvements on Brommer St. to improve access for vehicles, bikes, and pedestrians. Pavement reconstruction, install ADA driveways and sidewalks, and reconfigure eastbound approach to 41st Ave. for vehicle access.	$770	$770	$0
Brommer/Jade/Topaz St Bike Lanes/Traffic Calming (Western City Limit on Brommer to 47thAve)	CAP-P41	Add buffered bike lanes, traffic calming and wayfinding signage and bike/ped priority crossing at 41st Ave, connecting the two N/S neighborhood greenways.	$20	$20	$0
Capitola Intra-City Rail Trolley	CAP-P18	Construct & Operate Weekend Rail Trolley Service. Project includes installation of 3 stations.	$14,460	$0	$14,460
Capitola Jitney Transit Service	CAP-P15	Purchase and operate local transit service.	$1,030	$0	$1,030
Capitola Mall (Capitola Rd to Clares) Bike Path	CAP-P48	Separated bicycle facility through Capitola Mall parking lot to connect 38th Ave bike lanes and 40th Ave.	$50	$50	$0

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Capitola Rd & 45th Avenue I/S Improvements	CAP-P53	Signalization or other LOS improvements	$400	$400	$0
Capitola Village Enhancements: Capitola Ave	CAP-P34	Multimodal enhancements along Capitola Avenue.	$1,030	$1,030	$0
Capitola Village Multimodal Enhancements - Phase 2/3	CAP-P04b	Multimodal enhancements in Capitola Village along Stockton Ave, Esplanade, San Jose Ave, & Monterey Av. Includes sidewalks, bike lanes, bike lockers, landscaping, improve transit facilities, parking, pavement rehab and drainage.	$3,100	$3,100	$0
Capitola-wide HOV priority	CAP-P50	Evaluate HOV priority at signals and HOV queue bypass.	$40	$40	$0
Citywide Bike Projects	CAP-P52	Bike projects based on needs identified through the Bicycle Plan. These projects are in addition to projects listed individually in the RTP.	$1,030	$400	$630
Citywide General Maintenance and Operations	CAP-P06	Ongoing maintenance, repair, and operation of road/street system within the City limits. (Const=$1850K/yr; Unconst=$150K/yr).	$44,000	$40,666	$3,334
Citywide Sidewalk Program	CAP-P51	Install sidewalks to fill gaps. Annual Cost $50k/yr.	$1,030	$520	$510
Citywide Traffic Calming	CAP-P17	Install traffic calming/neighborhood livability improvements.	$1,450	$1,450	$0
Clares St Bike Lanes/Sharrows (Capitola Rd to 41st Ave)	CAP-P42	Evaluate and if found necessary, add bike lanes/sharrows to Clares.	$100	$100	$0
Clares St/41st Ave Bicycle Intersection Improvement	CAP-P43	Bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) at Clares across 41st.	$10	$10	$0
Clares Street Pedestrian Crossing west of 40th Ave	CAP-P16	Construct signalized ped x-ing 0.20 miles west of 40th Ave.	$520	$250	$270
Clares Street Traffic Calming	CAP 11	Implementation of traffic calming measures: chicanes, center island median, new bus stop, and road edge landscape treatments to slow traffic. Construct new safe, accessible ped x-ing at 42nd and 46th Av.	$750	$750	$0
Cliff Drive Improvements	CAP-P05	Installation of sidewalks, pedestrian crossing and slope stabilization of embankment including seawall.	$1,550	$1,550	$0
Gross/41st Ave Bicycle Intersection Improvement	CAP-P44	Bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) from Gross E/B to 41st N/B.	$20	$20	$0
Hwy 1/41st Avenue Interchange	CAP-P01	Implement 41st Avenue & Bay Ave/Porter Ave single interchange improvements as detailed and expensed in Hwy 1 HOV project (RTC 24) as a stand alone project if the RTC project does not proceed. ($117M)	$0	$0	$0
Monterey Avenue and Park Avenue I/S Improvements	CAP-P56	Signalization or other LOS improvements	$400	$400	$0
Monterey Avenue at Depot Hill	CAP-P28	Improve vehicle ingress and egress to Depot Hill along Escalona Ave and improve pedestrian facilities.	$260	$260	$0
Monterey Avenue Multimodal Improvements	CAP-P12	Installation of sidewalks and bike lanes in area near school and parks.	$360	$360	$0
Park Avenue Sidewalks	CAP 15	Installation of sidewalks, plus crosswalks at Cabrillo and Washburn to improve access to transit stops. Links Cliffwood Heights neighborhood to Capitola Village. Currently only 4 short segments of sidewalk exist.	$650	$650	$0
Park Avenue/Kennedy Drive Improvements	CAP-P09	Construct intersection improvements, especially for bikes/peds. May include traffic signal.	$360	$360	$0

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Porter Street and Highway 1 I/S Improvements	CAP-P55	Add additional dedicated right turn lane on Porter St to northbound on ramp	$250	$250	$0
Stockton Ave Bridge Rehab	CAP-P07p	Replace bridge with wider facility that includes standard bike lanes and sidewalks.	$3,000	$1,500	$1,500
Stockton Avenue and Capitola Avenue I/S Improvements	CAP-P57	Signalization or other LOS improvements	$350	$350	$0
Upper Capitola Avenue Improvements	CAP-P03	Installation of bike lanes and sidewalks on Capitola Av. (Bay Av.-SR 1) and sidewalks on Hill St. from Bay Av. to Rosedale Av.	$1,340	$1,340	$0
Upper Pacific Cove Parking Lot Pedestrian Trail and Depot Park Metro Development	CAP 17	Construct 4 foot wide pedestrian pathway along City owned Upper Pacific Cove Parking lot, adjacent to rail line (680'). Includes new signal for ped crossing over Monterey Avenue. Includes a new metro shelter located and landscaped setting along the rail corridor/Park Ave. Part of MBSST.	$310	$310	$0
Wharf Road and Stockton Avenue I/S Improvements	CAP-P54	Signalization or other LOS improvements	$350	$350	$0
Wheelchair Access Ramps	CAP-P27	Install wheelchair access/curb cut ramps on sidewalks citywide.	$200	$200	$0
		City of Capitola Total	**$93,670**	**$60,906**	**$32,764**
City of Santa Cruz					
Almar Ave Sidewalks	SC-P126	Fill gaps in sidewalks and access ramps to improve pedestrian safety.	$200	$200	$0
Arroyo Seco Trail (Medar St to Grandview St)	SC-P107	Pave existing gravel trail and widen and pave connection to Grandview St.	$500	$0	$500
Bay Street Corridor Modifications	SC-P77	Intersection modifications on Bay St Corridor from Mission St to Escalona Dr, including widening at the Mission St northeast corner and widening on Bay. Improve bike lanes and add sidewalks to west side of Bay.	$5,100	$970	$4,130
Bay/California Traffic Signals	SC-P96	Install traffic signals for safety and capacity improvements.	$520	$0	$520
Bay/High Intersection Modification	SC-P109	Install a roundabout or modify the traffic signal to include protected left-turns and new turn lanes. Revise sidewalks, access ramps and bike lanes as appropriate.	$2,150	$2,150	$0
Beach/Cliff Intersection Signalization	SC-P93	Signalize intersection for pedestrian and train safety.	$210	$210	$0
Branciforte Creek Pedestrian Path Connections	SC-P95	Fill gaps in pedestrian and bike paths along and across Branciforte Creek in the Ocean-Lee-Market-May Streets area.	$3,410	$0	$3,410
Brookwood Drive Bike and Pedestrian Path	SC-P21	Provide 2-way bicycle and pedestrian travel.	$1,030	$0	$1,030
Chestnut St. Pathway	SC-P22	Install a Class 1 bicycle/pedestrian facility to connect the east side of Neary Lagoon Park with the Depot Park path.	$570	$570	$0
Chestnut Street Bike Lanes	SC-P47	Install Class 2 bike lanes to provide connection from existing bike lanes on Laurel Street and upper Chestnut Street to proposed Class 1 bike path connections to Bay Street and Pacific Avenue/Beach Street.	$100	$100	$0
Citywide Operations and Maintenance	SC-P07	Ongoing maintenance, repair, and operation of street system within the City limits. (Const=$3.0M/yr; Unconst=$4.2M/yr)	$163,630	$86,249	$77,381
Citywide Safe Routes to School Projects - ATP	SC-P125	Projects to improve pedestrian and bicycle safety near schools.	$8,204	$1,404	$6,800

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Citywide Street Sweeping	SC-P128	Ongoing street sweeping, funded from City Refuse Enterprise Fund.	$19,800	$19,800	$0
Delaware Avenue Complete Streets	SC-P23	Fill gaps in bicycle lanes, sidewalks and sidewalk access ramps.	$150	$150	$0
High St/Moore St Intersection Modification	SC-P90	Add a protected left turn to existing signalized intersection along High St at city arterial. Project is located in high pedestrian and bicycle use activity area.	$100	$100	$0
Hwy 1 - Harvey West Area Alternative Access	SC-P108	Development of an on/off ramp from NB Highway 1 to Harvey West Boulevard/Evergreen St, to improve access, especially during peak congestion times and emergencies.	$4,130	$0	$4,130
Hwy 1 Sound Wall	SC-P03	Install sound wall on Hwy 1: River to Chestnut.	$520	$0	$520
Hwy 1/9 Intersection Modifications	SC 25	Intersection modifications including new turn lanes, bike lanes, shoulders, lighting, sidewalks and access ramps. Includes adding second left-turn lane on Highway 1 southbound to Highway 9 northbound; second northbound through lane and shoulder on northbound Highway 9, from Highway 1 to Fern Street; a right-turn lane and shoulder on northbound Highway 9; through-left turn lane on northbound River St; replace channelizers on Highway 9 at the intersection of Coral Street; sufficient lane width along the northbound through/left turn lane on Highway 9 from Fern Street to Encinal Street; new sidewalk along the east side of Highway 9 from Fern Street north to Encinal Street; new through/left turn lane on southbound Highway 9; Traffic Signal interconnect to adjacent signals. (Caltrans project ID - 05-46580)	$7,850	$7,850	$0
Hwy 1/Mission St at Chestnut/King/Union Intersection Modification	SC-P81	Modify design of existing intersections to add lanes and upgrade the traffic signal operations to add capacity, reduce delay and improve safety. Provide access ramps and bike lanes on King and Mission. Includes traffic signal coordination.	$4,650	$4,650	$0
Hwy 1/San Lorenzo Bridge Replacement	SC 38	Replace the Highway 1 bridge over San Lorenzo River to increase capacity, improve safety and improve seismic stability, from Highway 17 to the Junction of 1/9. Reduce flooding potential and improve fish passage. Caltrans Project ID 05-0P460	$20,000	$20,000	$0
Hwy 1/Shaffer Rd Signalization	SC-P92	Signalization of intersection of Hwy 1 and Shaffer Rd. Project may includes some widening of Hwy 1 to accommodate a left turn lane.	$520	$0	$520
King Street Bike Facility (entire length)	SC-P59	Install Class 2 bike lanes on residential collector street which includes some parking and landscape strip removals, and some drainage inlet modifications.	$2,070	$2,070	$0
King/Laurel Intersection Modification	SC-P114	Modify unsignalized intersection to add eastbound right turn lane.	$100	$0	$100
Laurent/High Intersection Improvements	SC-P97	Install Traffic Signal.	$410	$0	$410
Lump Sum Bike Projects	SC-P75	Bike projects based on needs identified through the Active Transportation Plan and Santa Cruz City Schools Complete Streets Master Plan. These are in addition to projects listed individually in the RTP.	$6,800	$0	$6,800
Market Street Sidewalks and Bike Lanes	SC-P105	Completion of sidewalks and bicycle lanes. Includes retaining walls, right-of-way, tree removals, and a bridge modification.	$1,030	$1,030	$0
MBSST (Coastal Rail Trail): Segment 7 (Natural Bridges to Pacific Ave)	TRL 07SC	2.1 miles of Monterey Bay Sanctuary Scenic Trail Network (MBSST) Segment 7 along rail line (excluding Moore Creek rail trestle bridge and trail to Natural Bridges Drive).	$7,400	$7,400	$0
MBSST (Coastal Rail Trail_ - Segment 8 and 9)	TRL 8-9a	Rail Trail Design, Environmental Clearance and Construction along the rail corridor between Pacific Ave in the City of Santa Cruz to 17th Ave in Santa Cruz County	$32,934	$32,934	$0
Measure H Road Projects	SC-P104	Road rehabilitation and reconstruction projects citywide to address backlog of needs using Measure H sales tax revenues. (Some Measure H funds anticipated to fund specific projects listed in the RTP).	$41,800	$41,800	$0

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon- strained
Mission St (Hwy 1)/Laurel St Intersection Modification	SC-P112	Modify traffic signal to add right-turn from Mission St to Laurel St and signal overlap phase.	$1,030	$0	$1,030
Mission St (Hwy 1)/Swift St Intersection Modification	SC-P113	Modify traffic signal to add Swift St right-turn lane and signal overlap phase.	$500	$0	$500
Morrissey Blvd. Bike Path over Hwy 1	SC-P29	Install a Class 1 bicycle and pedestrian facility on freeway overpass.	$300	$300	$0
Morrissey/Poplar/Soquel Intersection Modification	SC-P12	Modify the roadway configuration in the Morrissey/Poplar/Soquel triangle area to improve traffic circulation and safety for all modes.	$2,070	$0	$2,070
Murray St Bridge Retrofit	SC 37	Seismic retrofit of existing Murray St. bridge (36C0108) over Woods Lagoon at harbor and associated approach roadway improvements and replacement of barrier rail. Includes wider bike lanes and sidewalk on ocean side. Include access paths to harbor if eligible.	$11,440	$11,440	$0
Murray St to Harbor Path Connection	SC-P30	Install a Class 1 bicycle/pedestrian facility.	$210	$210	$0
Neighborhood Traffic Management Improvements	SC-P73	Install traffic control devices and roadway design features to manage neighborhood traffic.	$2,580	$0	$2,580
North Branciforte/Water Intersection Modification	SC-P115	Modify traffic signal and add additional lanes per traffic study. Include signal interconnect if applicable.	$2,070	$0	$2,070
Ocean St and San Lorenzo River Levee Bike/Ped Connections (Felker, Kennan, Blain, Barson Streets)	SC-P120	Improve pedestrian and bicycle facilities on side streets to connect Ocean Street with San Lorenzo River Levee path system.	$620	$0	$620
Ocean St Pavement Rehabilitation	SC 48	Pavement rehabilitation using cold-in-place recycling process; includes new curb ramps, restriping of bicycle lanes and crosswalks.	$1,030	$1,030	$0
Ocean St Streetscape and Intersection, Plymouth to Water	SC-P86	Implement this phase of the Ocean Street plan and modify Plymouth St to provide separate turn lanes and through lanes, widen sidewalks, pedestrian islands/bulbouts, transit improvements, street trees, street lighting and medians landscaping improvements. This includes pedestrian and bicycle crossing improvements and detection and connectivity to the pedestrian and bicycle path on the San Lorenzo River and adjacent neighborhoods. Include Gateway treatment.	$4,130	$2,000	$2,130
Ocean St Streetscape and Intersection, Water to Soquel	SC-P84	Implement this phase of the adopted Ocean Street plan including adding turn lanes on Ocean Street at the Water Street intersections, wider sidewalks, pedestrian crossing islands/bulb outs, transit improvements, street trees, pedestrian scale street lights, and medians improvements, way finding, and pedestrian and bicycle connectivity to San Lorenzo Park and neighborhoods.	$6,200	$0	$6,200
Ocean Street Corridor Multiuse Transit Lane	SC-P122	Consider restricting parking to develop business access and transit (BAT) lane to serve tourism and improving transit facilities.	$410	$0	$410
Ocean Street Widening from Soquel to East Cliff	SC-P66	Implement this phase of the Ocean Street plan that includes utility undergrounding, bike lanes, wider sidewalks, pedestrian crossing islands/bulb outs, transit improvements, pedestrian scale street lights, street trees and left turn lanes at Broadway and a right-turn lane at San Lorenzo Blvd. This includes pedestrian and bicycle crossing improvements and detection and connectivity to the pedestrian and bicycle path on the San Lorenzo River and adjacent neighborhoods.	$5,170	$0	$5,170
Ocean Street/San Lorenzo River Levee Area Wayfinding	SC-P124	Install signage on the bike/ped scale to bike/ped facilities connecting key destinations.	$150	$0	$150

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Pacific Ave. Sidewalk	SC 50	Construct 200' of new sidewalk on Pacific Avenue between Front Street and 55 Front St, including installation of a new accessible crosswalk at Front and Pacific; 150' bike lane.	$440	$440	$0
River (Rte 9)/Fern Intersection Modification	SC-P110	Install traffic signal, sidewalk and new access ramps. Provide bike lanes on Fern.	$520	$0	$520
River St/River Street South Intersection Modification	SC-P116	Install a roundabout or traffic signal to improve access and safety to the Downtown core, integrating bike and pedestrian facilities.	$520	$0	$520
River Street Pavement Rehabilitation (Water St to Potrero Street)	SC 51	Pavement rehabilitation of River Street between Water Street and Potrero Street. (0.4 mi)	$2,000	$1,000	$1,000
Riverside Ave/Second St Intersection Modification.	SC-P13	Modify intersection to reduce congestion and improve pedestrian crossing.	$175	$175	$0
San Lorenzo River Bike/Ped Trail at RR Bridge	TRL 8a	Widen existing four foot walkway that connects the east end of the Beach Street Pathway with East Cliff Drive at the location of the current railroad bridge over the San Lorenzo River and to connect the east and west banks of the San Lorenzo River Pathway. The crossing currently only accommodates pedestrians.	$1,550	$1,550	$0
San Lorenzo River Levee Path Connection	SC-P35	Install a Multi-Use bicycle/pedestrian facility connecting the end of the San Lorenzo River Levee path on the eastern side of the river, up East Cliff Drive near Buena Vista Ave.	$2,070	$2,070	$0
Seabright Avenue Bike Lanes (Pine-Soquel)	SC-P69	Install Class 2 bike lanes on arterial street to complete the Seabright Avenue bike lane corridor and connect to bike lane corridor on Soquel Avenue and Murray. Includes removal of some parking and some landscape strips.	$2,070	$2,070	$0
Seabright/Murray Traffic Signal Modifications	SC-P100	Remove split phasing on Seabright and add right-turn lane northbound.	$1,030	$1,030	$0
Seabright/Water Intersection Improvements	SC-P99	Modify unsignalized intersection to add northbound right and extend left-turn pocket.	$100	$0	$100
Shaffer Road Widening and Railroad Crossing	SC-P91	Construction of a new crossing of the Railroad line at Shaffer Rd. and widening at the southern leg of Shaffer in conjunction with development. Complete sidewalks and bike lanes.	$1,000	$1,000	$0
Sidewalk Program	SC-P09	Install and maintain sidewalks and access ramps.	$20,660	$5,500	$15,160
Soquel Ave at Frederick St Intersection Modifications	SC 42	Widen to improve eastbound through-lane transition on Soquel Ave and lengthen right-turn pocket and bicycle lane on Frederick St. Upgrade access ramps.	$310	$310	$0
Soquel Ave Corridor Widening (Branciforte-Morrissey)	SC-P87	Minor widening and signal modifications along Soquel Ave corridor from Branciforte to Morrissey Blvd to widen sidewalks, transit improvements, improve pedestrian and bicycle detection and crossings, add a travel lane, maintain some commercial parking and improve existing bike lanes. Replacing the split phasing with protected left-turns at Branciforte to reduce delays for all modes of travel and GHG.	$2,320	$0	$2,320
Soquel/Branciforte/Water (San Lorenzo River to Branciforte) Bike Lane Treatments	SC-P123	Consider bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) to address speed inconsistency and parking conflicts between bicyclists and vehicles.	$410	$410	$0
Soquel/Water (Branciforte to Morrissey) Crosswalks	SC-P119	Evaluate and if found necessary implement additional crosswalks on Soquel/Water with consideration for safety, and update crosswalks to more visible pattern (block).	$300	$150	$150
Storey/King Street Intersection Left-Turn Lane	SC-P76	Remove parking and modify striping for second southbound left turn lane.	$100	$0	$100
Swift/Delaware Intersection Roundabout or Traffic Signal	SC-P101	Install Traffic Signal or Roundabout at Intersection to improve capacity and safety.	$500	$500	$0

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Water Street Pavement Rehabilitation(N. Branciforte Ave- Ocean St)	SC 49	Pavement rehabilitation of Water Street between North Branciforte Avenue and Ocean Street. Grant Condition: Add bicycle and pedestrian treatments at intersections, especially at Branciforte to reduce conflicts between motorized and non-motorized users.	$1,453	$1,453	$0
West Cliff Path Minor Widening (David Way Lighthouse to Swanton)	SC 23	Improve existing path.	$520	$520	$0
West Cliff/Bay Street Modifications	SC-P83	Install signal or roundabout to replace the all-way stop to improve safety and capacity.	$500	$500	$0
		City of Santa Cruz Total	**$412,346**	**$263,295**	**$149,051**
City of Scotts Valley					
Bean Creek Rd Sidewalks (SVMS to Blue Bonnet)	SV-P35	Fill gaps in sidewalks on Bean Creek Rd.	$410	$410	$0
Bean Creek Road Realignment	SV-P16	Realign Bean Creek Road to intersect Scotts Valley Drive farther North to create a four way intersection.	$2,840	$0	$2,840
Bike Rest Stops in Scotts Valley	SV-P38	Bike rest stops (including racks, water) at Camp Evers Park and Skypark.	$230	$0	$230
Citywide Access Ramps	SV-P06	Place handicap ramps at various locations. Avg annual cost: $8K/yr.	$210	$210	$0
Citywide Bike Lanes	SV-P41	Construction of additional bike lanes and paths citywide (including Green Hills).	$3,100	$0	$3,100
Citywide General Maintenance and Operations	SV-P27	Ongoing maintenance, repairs, and operation of road/street system within the City limits. ($400K/yr const; $250/yr unconst).	$14,770	$13,459	$1,311
Citywide Sidewalk Program	SV-P05	Install sidewalks to fill gaps. Annual Cost $50k/yr	$5,170	$2,600	$2,570
Civic Center Dr Bike Lanes	SV-P33	Add bike lanes to narrow road.	$410	$0	$410
El Pueblo Rd Ext North	SV-P14	Connect El Pueblo Road via Janis Way to Victor Square, crossing Carbonero Creek.	$1,240	$0	$1,240
El Pueblo Rd Extensions	SV-P15	Connect El Pueblo Road to Disc Drive.	$410	$0	$410
El Rancho Dr Bike Lanes	SV-P36	Add bike lanes on El Rancho within city limits.	$340	$0	$340
Emergency Access Granite Creek/Hwy 17	SV-P24	Connect Granite Creek Rd to SR 17 via Navarra Drive to Sucinto Drive, for emergency access.	$570	$0	$570
Emergency Access SV DR/Upper Willis Dr	SV-P25	Connect Scotts Valley Drive to Upper Willis Road for emergency access.	$1,030	$0	$1,030
Emergency Access Whispering Pines	SV-P26	Connect Whispering Pines Drive to Manana Woods for emergency access.	$50	$0	$50
Emergency Access-Bethany/Glenwood	SV-P23	Connect Bethany Drive to Glenwood Drive.	$210	$0	$210
Emergency Access-Sundridge/Pueblo	SV-P22	Connect Sunridge Drive to Disc Drive for emergency access.	$410	$0	$410
Erba Lane/Terrace View/SV Drive Realignment	SV-P10	Realign Terrace View to access Scotts Valley Drive via Erba Lane.	$520	$0	$520
Glen Canyon Rd Bike Lanes	SV-P29	Class 2 Bike lanes from Flora Lane to Green Hills. Oak Creek to Flora Ln are already complete.	$1,030	$0	$1,030

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Glen Canyon Rd/Green Hills Rd/S. Navarra Dr Bike Corridor and Roadway Preservation	SV 28	Repave two roads, add bike lanes (on Green Hills Rd), and signage. Includes road markings like sharrows and green lane treatments to assist commuters, students, and recreational bikers; and bike/walk education and outreach programs ($14k).	$993	$993	$0
Glenwood Drive Rehabilitation and Bicycle Improvement Project	SV 29	Pavement rehabilitation of Glenwood Dr. (K Street Way to city limits), drainage repair, and widen to add bike lanes. (0.58mi)	$865	$865	$0
Hwy 17/Midtown Interchange	SV-P01	Construct new SR17 interchange midway between Mt. Hermon Rd and Granite Creek Rd. Will require right-of-way.	$30,990	$0	$30,990
Hwy 17/Mt. Hermon Rd Interchange Operations Improvement	SV-P44	Add lane to SB off-ramp at Hwy 17/Mt. Hermon Rd interchange.	$1,030	$0	$1,030
Kings Village Rd/Town Center Entrance Traffic Signal	SV-P52	Install new traffic signal at the intersection of Kings Village Rd and new Town Center entrance (near transit center) with protected pedestrian crossings and transit signal priority. New Signalization of the intersection on Kings Village Rd at the transit center exit and future Plan street connection would provide a location for protected pedestrian crossings, and would allow transit operators to easily exit the transit center and maintain operating schedules.	$210	$105	$105
Kings Village Road/ Bluebonnet Lane Sidewalk	SV 30	Construct new, fill gaps, and improve accessibility of sidewalks on both sides of King's Village Rd. (Mt. Hermon to Bluebonnet) and south side of Bluebonnet Lon (KV to Bean Creek). Approx.0.3mi. Curb ramp upgrades at Mt. Hermon.	$306	$306	$0
Lockhart Gulch Rd Bike Lanes	SV-P37	Add Class 2 bike lanes to narrow, primarily residential street.	$720	$0	$720
Lockwood Ln Pedestrian Signal Near Golf Course	SV-P21	Construct a pedestrian signal at unprotected ped crossing on Lockwood Lane.	$50	$50	$0
Lockwoode Lane Sidewalk and Bike Lanes	SV-P40	Construct Bike Lanes and add sidewalk on the west side from Mt. Hermon to the City limit.	$520	$520	$0
Mt Hermon Rd and Scotts Valley Drive - Crosswalks	SV-P49	Increase number of crosswalks on Mt Hermon/Scotts Valley Dr, update crosswalks to block pattern, add pedestrian treatments where necessary at intersections to decrease distance across using refuge islands. Add crosswalks to all sides of intersections (particularly an issue on Scotts Valley Dr). Add HAWK signals to provide a low delay signalized crossing opportunity at select locations. Examples include the Safeway Driveway on Mt. Hermon Rd, at Victor Square/Scotts Valley Dr., and at Tramell Way/Scotts Valley Dr.	$1,030	$515	$515
Mt Hermon Rd to El Rancho Drive Bike/Ped Connection	SV-P53	New bike/ped connection between Mt Hermon Road and El Rancho Drive which could include improved bike/ped facilities on existing interchange or new bike/ped crossing.	$1,030	$1,030	$0
Mt Hermon Rd/ Spring Lakes Dr. Pedestrian Intersection Improvements	SV-P54	Improve pedestrian crossing at Spring Lakes Drive and Mt. Hermon Road.	$50	$50	$0
Mt Hermon Road Sidewalk Connections	SV-P30A	Add sidewalks to fill gaps in business district.	$520	$520	$0
Mt Hermon, Lockewood, Springs Lake Widening	SV-P13	Widen, reconstruct and improve portions of roadway and intersection.	$4,130	$0	$4,130
Mt Hermon/King's Village Rd-Transit Signal priority	SV-P46	Transit signal priority at Kings Village Rd/Mt Hermon Rd.	$80	$80	$0
Mt Hermon/Scotts Valley - Transit Queue Jump	SV-P47	Evaluate and if found to be beneficial, remove right turn islands at Mt Hermon Rd/Scotts Valley Road to add transit queue jump lanes/signals.	$620	$620	$0
Mt. Hermon Rd Circulation Master Plan	SV-P09	Provides various circulation and access improvements to the Mount Herman corridor.	$3,620	$0	$3,620

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Mt. Hermon Road/Town Center Entrance Traffic Signal	SV-P51	Install new traffic signal at the intersection of the future Town Center road that will accommodate increased pedestrian travel. Add a right-turn lane on the westbound approach. New signalization of the intersection at the future Town Center's primary access point on Mt. Hermon Road would provide protected pedestrian crossing, ADA accessible curb ramps and detectable surfaces on all intersection corners. Permitted left-turn phasing shall be used for the northbound and southbound approaches, while protected left-turn phasing shall be provided on the eastbound and westbound Mt. Hermon Road approaches.	$260	$130	$130
N. Navarra Dr-Sucinto Dr Bike Lanes	SV-P34	Add bike lanes to developing area behind commercial.	$620	$0	$620
Neighborhood Traffic Calming	SV-P28	Citywide traffic calming devices.	$770	$770	$0
Scotts Valley Town Center Bicycle/Pedestrian Facilities	SV-P45	Bicycle and pedestrian facilities and circulation elements within planned development.	$4,130	$4,130	$0
Scotts Valley-wide - Greenway Signage	SV-P48	Add signage for neighborhood greenways.	$20	$0	$20
Sky Park Commercial Area Circulation	SV-P11	Construct infrastructure improvement for Skypark commercial area.	$2,070	$0	$2,070
Synchronize Traffic Signals along Mt. Hermon Road	SV-P42	Re-time to coordinate traffic signals along Mt. Hermon Road.	$100	$100	$0
		City of Scotts Valley Total	**$87,684**	**$27,463**	**$60,221**
City of Watsonville					
2nd/Maple Ave (Lincoln to Walker) Traffic Calming and Greenway	WAT-P49	Evaluate and if found necessary, add traffic calming/bicycle traffic priority with wayfinding signage to provide access to MBSST and create low stress grid around downtown.	$25	$25	$0
5th St (Lincoln to Walker) - Traffic Calming and Greenway	WAT-P50	Evaluate and if found necessary, add traffic calming/bicycle traffic priority with wayfinding signage to provide access to MBSST and create low stress grid around downtown.	$25	$25	$0
Airport Blvd Improvements (Freedom Blvd to City Limits)	WAT 38	Road widening to accommodate extension of bicycle lane and portion of travel lane, installation of bus pull out, new sidewalks and curb ramps, refuge island, rectangular flashing beacon, striping, and roadway rehab.	$1,346	$1,346	$0
Airport Blvd Modifications (Hanger Way to Ross Ave)	WAT-P34	Reconstruct or repave roadway and bike lanes; repair, replace and install curb, gutter, sidewalk and curb ramps; replace and upgrade signage and striping.	$600	$0	$600
Airport Boulevard Improvements: Westgate/Larkin to Hanger Way	WAT 40	Reconstruct roadway, install new sidewalk, upgrade curb ramps and driveway crossings, install median islands, modify traffic signals to include add'l ped crossing and install rectangular rapid flashing beacon at crosswalk.	$1,645	$1,645	$0
Alley Improvements	WAT-P36	Repair & reconstruct some alleys.	$60	$60	$0
Bicycle Safety Improvements (Various Locations)	WAT 44	Improve existing bicycle facilities by installing new striping, markings and signage in place of the existing and installing new green bike lanes at the approaches on various streets. Work will be done at the following locations: Beach St from Lee Rd to Rodriguez St (1.42 mi); Bridge St from Beck St to East Lake Ave (1.48 mi); Green Valley Rd from Harkins Slough Rd to Corralitos Creek Bridge (1.92 mi); Harkins Slough Rd/Walker St from Green Valley Rd to Riverside Dr (1.73 mi); Rodriguez St from Riverside Dr to Main St (0.92 mi).	$525	$375	$150
Bridge Maintenance	WAT-P35	Maintenance of bridges	$115	$115	$0
Buena Vista/Calabasas/Freedom Connection	WAT-P30	Construction of roadway connection from Buena Vista area to Freedom Blvd. Reconstruct Via Nicola.	$5,950	$0	$5,950

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Citywide General Maintenance and Operations	WAT-P06	Ongoing maintenance, repair, and operation of road/street system, including bicycle and pedestrian facilities.(Total Need = $2,600/year, constr=$1500/yr)	$65,350	$41,400	$23,950
Citywide Pedestrian Facilities	WAT-P15	Construct sidewalks and curb ramps where necessary. This work is usually combined with the annual road rehabilitation and maintenance projects. Avg annual cost: $100/yr.	$2,380	$0	$2,380
Citywide Transportation Projects	WAT-P24	Lump sum of transportation projects to be identified in the future. Including major rehabilitation and operational improvements ($1.2M/yr).	$28,510	$0	$28,510
Crestview/Wagner Extension	WAT-P29	Construction of roadway connection from Atkinson Lane area to SR 152. Reconstruct/widen Wagner St.	$4,750	$0	$4,750
Downtown Watsonville Universal Streets	WAT-P59	Evaluate and if feasible, implement universal streets, which are designed for pedestrians and restrict vehicular access, which facilitate new ped access.	$600	$600	$0
East Fifth St (Main St to Lincoln St)	WAT-P39	Repair, replace and install curb, gutter, sidewalk and curb ramps; replace and upgrade signage and striping.	$300	$0	$300
East Lake Ave-(Hwy 152) Widening (Martinelli St-Holohan Rd)	CT-P33	Widen East Lake Ave. (SR 152) from 2 to 4 lanes (Martinelli St-Holohan Rd).	$1,030	$0	$1,030
East Lake/Madison - ped crossing	WAT-P57	Evaluate and if feasible, add pedestrian crossing (HAWK signal if ped volume warrants) at E Lake & Madison for better access to Hall Middle School.	$300	$300	$0
Freedom Blvd (Davis Ave to Green Valley Rd)	WAT-P68	Repair, reconstruct and/or upgrade pavement, bike lanes, sidewalks, transit facilities, signage and striping	$1,730	$1,730	$0
Freedom Blvd (Green Valley Rd to Buena Vista Dr)	WAT-P72	Repair and resurface damaged roadway and bike lanes, replace damaged sidewalks, add pedestrian facilities where none exist.	$5,000	$5,000	$0
Freedom Blvd (Green Valley Rd to Davis) Bicycle and Pedestrian Improvements	WAT-P61	Evaluate and if feasible, install bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) to address speed inconsistency between bicyclists and vehicles. Complete sidewalks, including pedestrian buffer, and pedestrian islands at crossings.	$300	$300	$0
Freedom Blvd Pedestrian Crossings (Airport to Lincoln)	WAT-P62	Evaluate and if feasible, install new and improve existing uncontrolled pedestrian crossings at Roach Road, Davis Avenue, Clifford Lane, Mariposa Avenue, Alta Vista Street, Crestview Drive, Martinelli Street and Marin Street).	$600	$600	$0
Freedom Blvd Reconstruction (Alta Vista to Green Valley)	WAT 45	Remove and replace non-ADA compliant driveways and curb ramps, install high visibility crosswalks, provide sharrows and bicycle signage, upgrade existing bus stop shelter, install new traffic signal at Sydney Ave with pedestrian signal heads, pedestrian actuated traffic signals, audible countdown, pedestrian-level lighting and illumination at crosswalks and reconstruct roadway.	$3,250	$2,000	$1,250
Freedom Blvd Undergrounding	WAT-P38	Underground existing overhead utilities.	$1,270	$1,270	$0
Freedom Blvd/Green Valley Rd Neighborhood Bike/Ped Connections	WAT-P64	Evaluate and if feasible, implement greenway, which gives priority to bicycles and pedestrians on low volume, low speed streets including, pedestrian facilities, way finding and pavement markings, bicycle treatments to connect neighborhoods to goods and services on Freedom Blvd.	$1,800	$0	$1,800
Freedom Boulevard Plan Line	WAT 43	Preparation of a plan line for Freedom Boulevard between Green Valley Road and Buena Vista Drive that delineates multimodal modifications supported by the community.	$160	$160	$0
Green Valley Rd Improvement (Freedom Blvd to City Limit)	WAT-P45	Reconstruct existing roadway, install a median island to encourage safer turning movements, remove and replace existing driveways and curb ramps that do not comply with existing accessibility standards, restripe roadway to provide striping for bike lanes where none exist.	$2,000	$0	$2,000

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Green Valley Road Reconstruction (Struve Slough-Freedom Blvd)	WAT 42	Reconstruct existing roadway and bikelanes, remove existing asphalt pedestrian path and replace with concrete curb, gutter and sidewalk, remove and replace non-ADA compliant curb ramps and driveways, remove and replace existing signage, striping and loop detectors for traffic signal detectors. Increase sidewalk width consistent with the Complete Streets Guidebook. City may have to reduce existing roadway lane widths in order to provide wider sidewalks; may repave instead of reconstruct roadway or reduce limits of reconstruction based on allocated funds.	$1,598	$1,598	$0
Harkins Slough Rd (Hwy 1 to Green Valley Rd)	WAT-P69	Repair, reconstruct and/or upgrade pavement, bike lanes, sidewalks, transit facilities, signage and striping	$1,150	$0	$1,150
Hillside Ave to Freedom Blvd Ped/Bike Connection	WAT-P60	Evaluate and if feasible, install new bike/ped connection from Carey Avenue to Freedom Boulevard between Roache Road and Green Valley Road to connect neighborhood to goods, services and transit on Freedom Boulevard. Include new crossing from new bicycle/pedestrian facility to east side of Freedom Boulevard.	$360	$0	$360
Kearney/Rodriguez - Ped Crossing	WAT-P53	Evaluate and if found necessary, add pedestrian crossing at Kearney and Rodriguez with traffic calming for access to Radcliffe Elementary.	$35	$35	$0
Lower Watsonville Slough Trail	WAT-P46	Install bicycle/pedestrian trail	$770	$770	$0
Lump Sum Bicycle Projects	WAT-P19	Update the City Bicycle Plan and construction of additional routes and paths (250k/yr).	$5,950	$0	$5,950
Main St - 3 HAWK Signals	WAT-P54	Evaluate and if found necessary, add Hawk signals in 3 locations on Main St.	$890	$890	$0
Main St (Freedom to Riverside) Ped/Bike Enhancements	WAT-P58	Evaluate and if feasible improve ped facilities and bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) and bike boxes and bicycle priority at intersections on Main Street intersections.	$890	$890	$0
Main St Modifications (500 Block: Fifth St to East Lake Ave)	WAT-P40	Repair, replace and install curb, gutter, and curb ramps; replace and upgrade signage and striping. Evaluate and if feasible, provide bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals), and buffered sidewalk.	$710	$710	$0
Main St Modifications (City Limit to Lake Ave)	WAT-P47	Repave roadway and bike lanes; repair, replace and install curb, gutter, sidewalk and curb ramps: replace and upgrade signage and striping. Evaluate and if feasible, provide bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) and buffered sidewalks.	$1,670	$1,670	$0
Main St Modifications (East Lake Ave to Freedom Blvd)	WAT-P73	Provide complete streets improvements including but not limited to pedestrian crossings, bicycle facilities, bus stops, parking, sidewalks and traffic management	$1,000	$1,000	$0
Main St. (Hwy 152)/Freedom Blvd Roundabout	WAT 27a	Installation of a roundabout to replace the currently signalized intersection with safety considerations for bike/ped. Caltrans Project ID - 05-0T150.	$1,500	$1,500	$0
Main St/Beach St/Lake Ave Bike Facilities	CT-P38	Bicycle facilities - Main St (GV Rd to Mont Co line), Beach St (Walker to Lincoln) and Lake Ave (Main St to fairgrounds). County/City Project - Cost unknown.	$0	$0	$0
Main/Rodriguez/Union/Brennan (Freedom to Riverside) - Crosswalks	WAT-P55	Evaluate and if found necessary, increase the number of crosswalks on Main St, Rodriguez, and Union/Brennan to aim for 300 ft distance between crossings. Update pattern of crosswalks to block pattern.	$115	$115	$0
MBSST (Coastal Rail Trail): Lee Road, 4000 feet east to City Slough Trail connection	TRL 18L	Construction of 4000-foot long pathway parallel to the railroad tracks: twelve-foot width asphalt (hma). A 500 ft long retaining wall up to 3 ft tall with fence near Lee Road. A drainage structure east of Ohlone Parkway to be modified. Connection to Lee Road shall require installation of pathway or sidewalk to link to the existing sidewalk. At grade crossing at Ohlone Parkway and at a spur line located between Lee Road and Highway 1.	$1,540	$1,540	$0

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
MBSST Rail Trail: Walker Street to City Slough Trail connection	TRL 18W	Construction of 2400 ft pedestrian and bicycle path parallel to the existing railroad tracks and within the rail right-of-way. Also includes public outreach and training to improve bicycle and pedestrian safety.	$860	$860	$0
Neighborhood Traffic Plan	WAT-P04	Plan to identify and address concerns regarding speeding, bicycle and pedestrian access and safety, and other neighborhood traffic issues ($5k/yr).	$115	$115	$0
Neighborhood Traffic Plan Implementation	WAT-P13	Address concerns about traffic complaints through Education, Enforcement, and Engineering solutions. Install traffic calming devices that do not impede bicyclist access ($20k/yr).	$470	$470	$0
Ohlone Parkway Improvements - Phase 2 (UPRR to West Beach)	WAT-P31	Roadway, pedestrian, and bicycle facilities.	$600	$600	$0
Pajaro Lane to Freedom Blvd Ped/Bike Connection	WAT-P63	Evaluate and if feasible, new bike/ped connection from Pajaro Lane to Freedom Blvd to connect neighborhood to goods, services and transit on Freedom Boulevard. Include new crossing from new bicycle/pedestrian facility to west side of Freedom Boulevard.	$360	$0	$360
Pajaro Valley High School Connector Trail	WAT-P42	Install bicycle/pedestrian trail (this trail connects Pajaro Valley High School to Airport Blvd).	$710	$710	$0
Pennsylvania Dr (Green Valley Rd to Clifford Ave)	WAT-P70	Repair, reconstruct and/or upgrade pavement, bike lanes, sidewalks, transit facilities, signage and striping	$4,600	$0	$4,600
Riverside (Hwy 129) Bike Facilities	CT-P39	Bicycle facilities - Lee to Lakeview Road. County/City Project -Cost Unknown.	$0	$0	$0
Rodriguez St (Main St to Riverside)- Buffered Bike Lane	WAT-P51	Evaluate and if found necessary, improve bike lane striping, add buffered lanes on Rodriguez St to delineate bike lane from vehicle parking and traffic.	$12	$12	$0
Union/Brennan (Freedom to Riverside) - Sharrows	WAT-P52	Evaluate and if found necessary, add sharrows to Union/Brennan.	$12	$12	$0
Upper Struve Slough Trail	WAT-P65	Construction of 450 foot long pedestrian/bicycle path along upper Struve Slough from Green Valley Road to Pennsylvania Drive. The trail shall consist of a twelve-foot wide by one foot deep aggregate base section with the center eight feet covered with a chip seal. Additional improvements include installing a 130-length of modular concrete block retaining wall, reinforcing a 160-foot length of slough embankment with rock slope protection and installing a 175-foot long by eight foot wide boardwalk.	$530	$530	$0
Upper Watsonville Slough Trail	WAT-P43	Install bicycle/pedestrian trail.	$770	$770	$0
Walker St Modifications (Beach St to Watsonville Slough)	WAT-P48	Repave roadway and bike lanes; repair, replace and install curb, gutter, sidewalk and curb ramps; replace and upgrade signage and striping	$3,200	$0	$3,200
Watsonville Shuttle	WAT-P27	Year round public transit service.	$300	$0	$300
Watsonville-wide HOV priority	WAT-P56	Evaluate HOV priority at signals and HOV queue bypass.	$60	$60	$0
West Beach St (Lee Rd to Ohlone Parkway)	WAT-P66	Repair, reconstruct and/or upgrade pavement, bike lanes, sidewalks, transit facilities, signage and striping	$2,900	$0	$2,900
West Beach St (Ohlone Parkway to Walker St)	WAT-P67	Repair, reconstruct and/or upgrade pavement, bike lanes, sidewalks, transit facilities, signage and striping	$4,600	$0	$4,600
West Lake Ave Modifications (Main St to Rodriguez St)	WAT-P41	Repair, replace and install curb, gutter, sidewalk and curb ramps; replace and upgrade signage and striping	$240	$0	$240
		City of Watsonville Total	**$168,138**	**$71,808**	**$96,330**

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Consolidated Transportation					
Countywide Specialized Transportation	CTSA-P01	Non-ADA mandated paratransit and other specialized transportation service for seniors and people with disabilities. Includes medical service rides, Elderday, out-of-county rides, Sr. Meal Site, Taxi Script, and same day rides etc. Current avg annual need $2.58M. Constrained=$2M.	$56,700	$46,000	$10,700
Lift Line Maintenance/Operations Center	CTSA-P02	Construct a permanent maintenance center/consolidated operations facility for paratransit program (currently Lift Line).	$15,500	$0	$15,500
Medical Specialized Transportation for Veterans	CTSA-P06	Non-emergency medical transportation for veterans	$6,500	$0	$6,500
Medically Fragile Specialized Transportation	CTSA-P04	Non-emergency transportation service for medically fragile individuals. Includes operations and capital.	$5,000	$0	$5,000
Non-ADA Paratransit Service Expansion	CTSA-P03	Expansion of non-ADA paratransit system to meet needs of growing elderly and disabled populations. May include pre/post natal transport to medical appointments.	$21,700	$0	$21,700
		Consolidated Transportation Total	**$105,400**	**$46,000**	**$59,400**
County Health Services Agency					
Santa Cruz County Health Service Agency - Traffic Safety Education	CO 50	Ongoing education program to decrease the risk and severity of collisions. Includes bicycle and pedestrian programs: Community Traffic Safety Coalition, South County coalition, and Ride n' Stride Bicycle/Pedestrian Education Program.	$6,500	$2,200	$4,300
		County Health Services Agency Total	**$6,500**	**$2,200**	**$4,300**
County of Santa Cruz					
26th Ave Improvements (entire length-Portola Dr to end)	CO-P31a	Roadway and roadside improvements on various Major Collectors including sidewalks, bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$2,580	$0	$2,580
26th to 30th (at Lode/Quartz) Bike/Ped Connection	CO-P78	New bike/ped connection from Lode and Quartz to Moran Trail, which connects to 30th.	$520	$0	$520
37th/38th Ave (Brommer to Eastcliff) Multimodal Circulation Improvements and Greenway	CO-P27a	Evaluate and if feasible improve vehicle and transit access on 38th Avenue from East Cliff to Brommer and develop greenway on 37th Avenue from East Cliff to Portola. Roadway improvements may include roadway and roadside improvements including sidewalks, bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals), transit turnouts, left turn pockets, and intersection improvement.	$2,070	$570	$1,500
41st Ave Improvements Phase 2 (Hwy 1 Interchange to Soquel Dr)	CO-P26a	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$1,240	$340	$900
Airport Blvd Improvements (City limits to Green Valley Rd)	CO-P02	Major rehab, addition of bike lanes, transit facilities, merge lanes, intersection improvements, sidewalks, drainage, and landscaping.	$1,240	$1,240	$0
Alba Rd Improvements (Empire Grade to State Hwy 9)	CO-P30b	Roadwork includes major rehabilitation and maintenance of the road and roadsides.	$1,760	$0	$1,760
Amesti Road Multimodal Improvements (Green Valley to Brown Valley Rd)	CO-P03	Roadway rehab and reconstruction, left turn pockets at Green Valley Road, Pioneer Road/Varni Road. Add bike lanes, transit turnouts, sidewalks, merge lanes, landscaping, and intersection improvements.	$6,200	$600	$5,600
Aptos Beach Dr Improvements (Esplanade to Rio Del Mar Blvd)	CO-P27b	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	$1,240	$0	$1,240

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Aptos Village Plan Improvements	CO 64	Modifications for ped, bike, bus and auto traffic. Add pedestrian facilities and drainage infrastructure on both sides of Soquel Dr; improve bike lanes; new bike parking; new bus pullout and shelter on north side. Trout Gulch: Replace sidewalks with standard sidewalks on east side, ADA upgrades to west side sidewalks. Install traffic signals at Soquel Dr/Aptos Creek Rd (CO 64c) & Soquel/Trout Gulch. Left turn lanes on Soquel at new street - Parade St and at Aptos Creek Road. RR crossing modifications - new crossing arms, concrete panels for vehicle and pedestrian crossings. New RR xing at Parade St. Phase 1: Trout Gulch Rd improvements w/traffic signal and upgraded RR xg at Soquel Dr. Pavement overlay of Soquel Dr (Spreckels to Trout Gulch) and a portion of Aptos Creek Road.	$4,100	$4,100	$0
Beach Road Improvements (City limits to Pajaro Dunes)	CO-P26b	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$1,240	$340	$900
Bean Creek Rd Improvements (Scotts Valley City Limits to Glenwood Dr)	CO-P28a	Roadway and roadside improvements on various Minor Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$1,760	$485	$1,275
Bear Creek Road Improvements (Hwy 9 to Hwy 35)	CO-P04	Major rehab, add bike lanes, turnouts, merge lanes, and intersection improvements. Some landscaping and drainage improvements also.	$4,750	$250	$4,500
Bonita Dr Improvements (entire length)	CO-P29b	Improvements of roadways and roadsides on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$1,240	$0	$1,240
Bonny Doon Rd Improvements (Hwy 1 to Pine Flats Rd)	CO-P43	Construction of a Class 1 bike lane facility, addition of transit stops, intersection improvements, major road rehabilitation, road maintenance, and drainage improvements.	$8,260	$0	$8,260
Bowker Rd Improvements (entire length- Buena Vista Dr to Freedom Blvd)	CO-P33a	Roadway and roadside improvements on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$620	$0	$620
Branciforte Dr Improvements (City of Santa Cruz to Vine Hill Rd)	CO-P30c	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	$1,760	$0	$1,760
Branciforte Drive Chip Seal Project (Granite Creek Rd to SC city limits - 1.91mi)	CO 82	Roadway rehabilitation: Digouts, Rubberized Chip Seal, and restriping of a portion of Branciforte Drive	$433	$433	$0
Branciforte Drive Road Recycle & Overlay (PM 2.4 to Granite Ck Rd)	CO 79	Pavement recycling, asphalt overlay, and restriping of 0.62 miles of Branciforte Drive from Granite Creek to PM 2.4 (0.62 mil). To be constructed with CO 81 (Granite Creek).	$431	$431	$0
Brown Valley Rd Improvements (Corralitos Rd to Redwood Rd)	CO-P26d	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$1,240	$340	$900
Buena Vista Rd Improvements (San Andreas to Freedom Blvd)	CO-P26e	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$3,000	$825	$2,175
Bulb Ave Road Improvements (Garden St to Capitola City Limits)	CO-P65	Roadway and roadside improvements including curb, gutter, sidewalk, bike lanes, left turn lanes, intersection improvements and roadway rehabilitation.	$770	$0	$770
Cabrillo College Dr Improvements (Park Ave to Twin Lakes Church)	CO-P30d	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	$1,240	$240	$1,000
Capital improvement projects consistent with the Sustainable Santa Cruz County Plan	CO-P96	Construct associated multi-modal infrastructure improvements associated with the Sustainable Santa Cruz County Plan	$22,000	$11,000	$11,000

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Capitola Rd Ext Improvements (Capitola Rd to Soquel Ave)	CO-P31b	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$1,240	$0	$1,240
Carol Way/Lompico Creek Bridge Replacement	CO-P49	Replace existing single span-two lane bridge construction of steel girders and long deck with new 30 ft wide single span flat sale concrete bridge. Include (2) 11 ft lanes and (2) 4 ft shoulders.	$1,240	$0	$1,240
Casserly Rd Improvements (Hwy 152 to Green Valley Rd)	CO-P26g	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$770	$208	$562
Cathedral Dr Improvements (entire length)	CO-P33b	Roadway and roadside improvements on Minor Collector. Roadwork includes major rehabilitation and maintenance of the road.	$620	$0	$620
Center Ave/Seacliff Dr Improvements (Broadway to Aptos Beach Dr)	CO-P26h	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$1,240	$340	$900
Chanticleer Ave Improvements (Hwy 1 to Soquel Dr)	CO-P26i	Roadway and roadside improvements including bike lanes, sidewalks, drainage and intersection improvements.	$1,240	$340	$900
Cliff Dr Improvements (Rio Del Mar to Railroad Crossing)	CO-P29c	Improvements of roadways and roadsides on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$620	$0	$620
Clubhouse Drive Improvements (Sumner Av to Rio Del Mar Blvd)	CO-P32a	Road rehabilitation and maintenance. Roadside improvements: left lane pockets, sidewalks, bike lanes and transit turnouts.	$1,450	$0	$1,450
College Road Improvements (Hwy 152 to Lakeview Rd)	CO-P23	Major road rehab, add left turn pocket at Cutter Drive. Also add bike lanes, transit turnouts, sidewalks, landscaping. Drainage improvements, merge lanes, and intersection improvements may also be needed.	$1,760	$0	$1,760
Commercial Way Improvements (Mission Dr. to Soquel Dr.)	CO-P28c	Roadway and roadside improvements on various Minor Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$620	$170	$450
Corcoran Ave Improvements (Alice St to Felt St)	CO-P27c	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	$620	$150	$470
Corralitos Road Rehab and Improvements (Freedom Blvd to Hames Rd)	CO-P08	Major rehab, transit, bike, and ped facilities. May also include drainage, merge lanes, landscaping and intersection improvements.	$620	$620	$0
County wide guardrail	CO-P97	Install guardrail on County roads	$15,000	$15,000	$0
Countywide ADA Access Ramps	CO-P37	Construction of handicapped access ramps countywide.	$1,240	$620	$620
Countywide Bike Projects	CO-P71	Bike projects based on needs identified through the Santa Cruz County Bicycle Plan and plan updates. These are in addition to projects listed individually in the RTP.	$4,130	$0	$4,130
Countywide General Road Maintenance and Operations	CO-P35	Ongoing maintenance, repair, and operation of road/street system within the unincorporated areas of the county.	$495,000	$446,857	$48,143
Countywide Sidewalks	CO-P41	Install sidewalks.	$72,310	$7,000	$65,310
Day Valley Rd Improvements (entire length-Freedom Blvd to Valencia Rd)	CO-P31c	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$1,240	$0	$1,240
East Cliff (26th to Moran Way) Sidewalk Improvement	CO-P77	Install sidewalk from 26th south to link to Moran Way.	$410	$0	$410

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
East Cliff Dr Pedestrian Pathway (7th-12th Ave)	CO-P50	Construct pedestrian pathway on East Cliff.	$1,760	$1,760	$0
East Cliff Drive Cape Seal (12th-17th)	CO 66	Pavement maintenance, isolated section digout and asphalt replacement and cape seal on entire roadway.	$230	$230	$0
East Cliff Drive Improvements (32nd Ave to Harbor)	CO-P09	Roadway rehab, add left turn pockets at 26th and 30th Ave, fill gaps in bikeways and sidewalks, add transit turnouts, intersection improvements. Some landscaping and drainage improvements.	$4,750	$1,500	$3,250
East Zayante Rd Improvements (Lompico Rd to just before Summit Rd)	CO-P26j	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$1,760	$485	$1,275
Either Way Ln Bridge Replacement Project	CO-P88	The project will consist of completely replacing the existing narrow one lane structure and roadway approaches with a two lane clear span precast voided concrete slab bridge and standard bridge approaches.	$2,180	$2,180	$0
El Dorado Ave Road Improvements (Capitola Rd to RR)	CO-P67	Roadway and roadside improvements including curb, gutter, buffered sidewalk, bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals), left turn lanes, intersection improvements and roadway rehabilitation.	$1,810	$0	$1,810
El Rancho Dr Improvements (Mt. Hermon/Hwy 17 to SC city limits)	CO-P26k	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$2,380	$655	$1,725
Empire Grade Improvements	CO-P10	Road rehab and maintenance, left turn pocket at Felton Empire Road, add bike lanes, transit facilities, some sidewalks, landscaping. Drainage improvements, merge lanes, and intersection improvements may also be needed.	$4,750	$1,190	$3,560
Eureka Canyon Rd Improvements (Hames Rd to Buzzard Lagoon Rd)	CO-P26l	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$2,380	$655	$1,725
Felton Empire Road Improvements (entire length to State Hwy 9)	CO-P28d	Roadway and roadside improvements on various Minor Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$2,380	$655	$1,725
Fern Dr @ San Lorenzo River Bridge Replacement Project	CO-P90	The project will consist of completely replacing the existing three span single lane structure and roadway approaches with a new two lane clear span reinforced concrete box girder bridge and standard bridge approaches.	$2,830	$2,830	$0
Forest Hill Dr @ Bear Creek Bridge Replacement Project	CO-P86	The Project will consist of completely replacing existing steel girder bridge crossing Bear Creek with a new precast concrete voided slab bridge.	$2,050	$0	$2,050
Freedom Blvd Multimodal Improvements (Bonita Dr to City of Watsonville)	CO-P11	Add bike lanes, sidewalks on some segments, transit turnouts, signalization. Left turn pockets at Bowker, Day Valley, White Rd, and Corralitos Rd. Also includes merge lanes, intersection improvements, landscaping, major rehabilitation and maintenance, drainage improvements.	$3,100	$775	$2,325
Freedom Blvd Pavement Preservation (Hwy 1 to Pleasant Vly Rd)	CO 74	Rehabilitate the roadway surface.	$1,430	$1,430	$0
Glen Arbor Rd Improvements (State Hwy 9 to State Hwy 9)	CO-P30f	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	$1,240	$0	$1,240
Glen Arbor Road Recycle, Overlay, & Chip Seal (SR 9-Quail Hallow)	CO 80	Pavement recycling, asphalt overlay, chip seal, and restriping 0.52 miles of Glen Arbor Road from Hwy 9 at bridge to Quail Hollow Rd. The project will also include a subdrain at a point where a natural spring is causing subgrade destabilization and repairs rutting damage adjacent to bus stops.	$467	$467	$0

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Glen Canyon Rd Improvements (Branciforte Dr to City of Scotts Valley)	CO-P26m	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$5,990	$1,640	$4,350
Glen Coolidge Drive/Hwy 9 Bike Path	CO-P40	Class 1 bike facility from Glen Coolidge Dr to Hwy 9 to provide eastern access to UCSC.	$2,380	$0	$2,380
Glenwood Cutoff General Improvements (Glenwood Dr to Hwy 17)	CO-P61	Roadway and roadside improvements including bike lanes, left turn lanes, intersection improvements and roadway rehabilitation.	$3,100	$0	$3,100
Glenwood Dr. Improvements (Scotts Valley city limits to State Hwy 17)	CO-P26n	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$3,000	$825	$2,175
Graham Hill Road Multimodal Improvements (City of SC to Hwy 9)	CO-P12	Bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes, traffic signals. Major rehabilitation and maintenance. Drainage improvements. Signal upgrade at SR9.	$7,020	$1,755	$5,265
Granite Creek Rd Improvements (Branciforte Dr to City of Scotts Valley)	CO-P30h	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	$1,760	$0	$1,760
Granite Creek Road Recycle & Overlay - Part of CO 79B	CO 81	Pavement recycling, asphalt overlay, and restriping of 1.85 miles of Granite Creek Road from Scotts Valley city limits to PM 0.56.	$1,100	$1,100	$0
Green Valley Rd Bridge Replacement Project	CO-P85	The project will consist of completely replacing the existing two lane structure and roadway approaches with a two lane clear span concrete slab bridge and standard bridge approaches.	$2,110	$2,110	$0
Green Valley Rd Pedestrian Safety Project	CO 42b	Build 6-foot wide sidewalk with some curb and gutter on NW side of Green Valley Rd from Airport Blvd to Amesti Rd (1800 ft).	$390	$390	$0
Green Valley Road Improvements	CO-P13	Add two-way left turn lanes from Mesa Verde to Pinto Lake on Green Valley Rd. Also includes some road rehab and maintenance, bike lanes, sidewalks, transit facilities, landscaping, and merge lanes.	$4,130	$1,030	$3,100
Hames Rd Improvements (entire length-Freedom Blvd to Eureka Canyon Rd)	CO-P32b	Road rehab and maint. Roadside improvements--left lane pockets, sidewalks, bike lanes and transit turnouts.	$3,620	$0	$3,620
Harkins Slough Rd. Improvements (entire length-Buena Vista Dr to State Hwy 1)	CO-P32c	Road rehab and maint. Roadside improvements--left lane pockets, sidewalks, bike lanes and transit turnouts.	$1,760	$0	$1,760
Harper St Improvements (entire length-El Dorado Ave to ECM)	CO-P33d	Roadway and roadside improvements on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$1,240	$310	$930
Highway 17 To Soquel Corridor Chip Seal Project	CO 83	Roadway rehabilitation: Digouts, Chip Seal, and restriping of Vine Hill Rd (Hwy 17 to B40), Branciforte Dr (Vine Hill to PM 0.7), Mt. View Rd (B40-N. Rodeo Gulch), N. Rodeo Gulch Rd (Mt. View-PM 1.97), Laurel Rd (N. Rodeo-Soquel San Jose Rd), and Soquel-San Jose Rd. (Laurel Glen to Dawn Lane) - 9.90 mi.	$1,881	$881	$1,000
Huntington Dr Improvements (Monroe Ave to Valencia Rd.)	CO-P32d	Road rehab and maint. Roadside improvements--left lane pockets, sidewalks, bike lanes and transit turnouts.	$2,380	$0	$2,380
Hwy 152/Holohan - College Intersection	CO 84	Intersection capacity enhancements and signal modifications, pedestrian and bicycle safety improvements. Add sidewalks and bicycle lanes on Holohan Rd, an additional left-turn lane from Holohan to EB Hwy 152, sidewalk on north side of Hwy 152 from Holohan to Corralitos Creek bridge, adds crosswalks and speed feedback signs.	$3,150	$3,150	$0
Jamison Cr Rd Improvements (entire length-Empire Grade to Hwy 236)	CO-P32e	Road rehab and maint. Roadside improvements--left lane pockets, sidewalks, bike lanes and transit turnouts.	$620	$0	$620

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
La Madrona Dr Improvements (El Rancho Dr to City of Scotts Valley)	CO-P14	Bike lanes, sidewalks, transit turnouts, left turn pockets at Sims Road, Highway 17, and El Rancho Road), merge lanes, and intersection improvements. Also includes major rehabilitation, drainage and maintenance.	$3,620	$905	$2,715
Lakeview Road Improvements	CO-P15	Major road rehab, add left turn pocket at College Road, intersection improvements at Carlton Rd. Also add bike lanes, new transit facilities, landscaping. Drainage improvements, merge lanes, and intersection improvements may also be needed.	$1,240	$0	$1,240
Larkin Valley Rd Improvements (San Andreas Rd to Buena Vista Dr)	CO-P30i	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	$620	$0	$620
Larkspur Bridge @San Lorenzo River	CO-P91	The project will consist of completely replacing the existing narrow one lane structure and roadway approaches with a two lane bridge and standard bridge approaches.	$3,930	$3,930	$0
Laurel Glen Rd Improvements (Soquel-San Jose Rd to Mt. View/Rodeo Gulch Rd)	CO-P30j	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	$1,240	$0	$1,240
Ledyard Way Improvements (entire length-Soquel Dr to Soquel Dr)	CO-P31d	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$620	$0	$620
Lockhart Gulch Improvements (Scotts Valley City limits to end)	CO-P31e	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$1,240	$0	$1,240
Lockwood Lane Improvements (Graham Hill Rd to SV limits)	CO-P24	Major road rehab, add bicycle lanes, sidewalks, some transit facilities, landscaping, and intersection improvements.	$881	$243	$638
Lompico Rd Bridge Replacement	CO-P95	The project will consist of replacing existing steel stringer bridge with a reinforced concrete slab bridge	$1,860	$0	$1,860
Lompico Rd Improvements (E Zayante Rd. to end)	CO-P30k	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	$620	$0	$620
Maciel Ave Improvements (Capitola Rd to Mattison Ln)	CO-P29e	Improvements of roadways and roadsides on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$1,450	$400	$1,050
Main St Improvements (Porter St to Cherryvale Ave)	CO-P27e	Roadway and roadside improvements on Major Collector including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	$1,760	$1,760	$0
Manfre Rd Improvements (entire length-Larkin Valley Rd to Buena Vista Dr)	CO-P33e	Roadway and roadside improvements on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$620	$0	$620
Mar Monte Ave Improvements (San Andreas Rd to State Hwy 1)	CO-P30l	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	$620	$0	$620
Mar Vista Dr Improvements (entire length-just before Seacliff Dr to Soquel Dr)	CO-P33f	Roadway and roadside improvements on various Minor Collectors including addition of bike lanes, buffered sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$300	$0	$300
Mattison Ln Improvements (Chanticleer Ave to Soquel Ave)	CO-P26p	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$1,450	$400	$1,050

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
McGregor Dr Improvements (Capitola city limits to Searidge Rd)	CO-P33g	Roadway and roadside improvements on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$1,240	$0	$1,240
Mesa Dr Improvements (Vienna Drive to Ledyard Way)	CO-P31f	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$1,240	$0	$1,240
Mill St Improvements (entire length)	CO-P27f	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	$360	$360	$0
Mountain View Rd Improvements (Branciforte Dr to Rodeo Gulch Rd)	CO-P27g	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	$1,240	$0	$1,240
Mt. Hermon Rd. Improvements (Lockhart Gulch to Graham Hill Rd)	CO-P26q	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$3,000	$825	$2,175
Murphy Crossing Improvements	CO-P39	Bikeway on Murphy Crossing (Hwy 129 to Monterey Co line), major rehabilitation and maintenance of road, drainage improvements may also be needed.	$1,240	$0	$1,240
Opal Cliff Dr Improvements (41st Av to Capitola City Limits)	CO-P31g	Roadway, roadside and intersection improvements including sidewalks, bike treatments (such as buffered and/or painted bike lanes), designed to accommodate the number of users and link to East Cliff Drive.	$1,240	$290	$950
Pajaro River Bike Path System	CO-P38	Construction of a Class 1 bike path along the levees and a Class 2 bikeway on Thurwatcher Road and Beach Road.	$9,500	$2,500	$7,000
Paul Minnie Ave. Improvements (Rodriguez St to Soquel Ave)	CO-P29f	Improvements of roadways and roadsides on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$1,240	$340	$900
Paul Sweet Road Improvements (Soquel Dr to end)	CO-P22	Major road rehab and maintenance. Also adds bike lanes, sidewalks, landscaping. Drainage improvements, merge lanes, and intersection improvements, and new transit facilities may also be needed.	$1,240	$310	$930
Paulsen Rd Improvements (Green Valley Rd to Whiting Rd)	CO-P27h	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	$1,240	$240	$1,000
Pine Flat Rd Improvements (Bonny Doon Rd to Empire Grade Rd)	CO-P28f	Roadway and roadside improvements on various Minor Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$2,380	$655	$1,725
Pinehurst Dr Improvements (entire length)	CO-P27i	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	$880	$180	$700
Pioneer Rd Improvements (Amesti Rd to Green Valley Rd)	CO-P31h	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$880	$0	$880
Polo Dr Improvements (Soquel Dr to end)	CO-P29g	Improvements of roadways and roadsides on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$1,450	$0	$1,450
Porter St Improvements (Soquel Dr to Paper Mill Rd)	CO-P26r	Roadway and roadside improvements including buffered sidewalks and bicycle treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) to address speed inconsistency between bicyclists and vehicles, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$1,240	$340	$900
Quail Hollow Rd Bridge Replacement Project	CO-P82	The project will consist of completely replacing the existing two lane structure and roadway approaches with a two lane clear span concrete bridge and standard bridge approaches.	$2,430	$0	$2,430

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Quail Hollow Rd Improvements (entire length- East Zayante to Glen Arbor Rd)	CO-P32f	Road rehab and maint. Roadside improvements--left lane pockets, sidewalks, bike lanes and transit turnouts.	$830	$0	$830
Rancho Rio Ave @ Newell Creek Bridge Replacement Project	CO-P87	The project will consist of completely replacing the existing one lane structure and roadway approaches with a two lane clear span concrete slab bridge and standard bridge approaches.	$1,730	$0	$1,730
Redwood Lodge Rd (Entire Length)	CO-P51	Roadway and roadside improvements including curb, gutter, sidewalk, bike lanes, left turn lanes, intersection improvements and roadway rehabilitation.	$3,100	$0	$3,100
Redwood Rd Bridge Replacement Project	CO-P89	The project will consist of completely replacing the existing steel army tread way bridge crossing a tributary of Brown's Creek on Redwood Road with a reinforced concrete slab bridge and standard bridge approaches.	$1,310	$1,310	$0
Rio Del Mar Blvd Improvements (Esplanade to Soquel Dr)	CO-P30n	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	$3,000	$725	$2,275
Rodeo Gulch Rd Improvements (So & North: Mt. View/Laurel Glen Rd to Hwy 1)	CO-P31i	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$1,760	$0	$1,760
Roland Dr Improvements (30th to 35th)	CO-P31j	Roadway and roadside improvements and implementation of greenway, which gives priority to bicycles and pedestrians on low volume, low speed streets including, pedestrian facilities, way finding and pavement markings, bicycle treatments to connect to new bike/ped connection to 41st.	$880	$0	$880
San Lorenzo River Valley Trail	CO-P46	15 mile, paved multi-use path for bicyclists and pedestrians from Boulder Creek to Santa Cruz.	$25,830	$0	$25,830
San Lorenzo Valley Trail: Hwy 9 - Downtown Felton Bike Lanes & Sidewalks	CO-P46a	Install sidewalks and bicycle lanes on Hwy 9 through downtown Felton.	$2,270	$2,270	$0
San Lorenzo Valley Trail: Hwy 9 - North Felton Bike Lanes & Sidewalks	CO-P46b	Install sidewalk/pedestrian path on west side, shoulder widening to 5' for bicycle lanes from Felton-Empire/Graham Hill Rd to Glen Arbor Road, Ben Lomond, including frontage of SLV elementary, middle and high schools. Includes new and replacement bike/ped bridges.	$7,640	$7,640	$0
San Lorenzo Way Bridge Replacement Project	CO-P83	The project will consist of completely replacing the existing one lane structure and roadway approaches with a two lane clear span bridge and standard bridge approaches.	$3,190	$3,190	$0
Scotts Valley Area Routes Chip Seal Project	CO 85	Roadway rehabilitation: Digouts, Chip Seal, and restriping Mt. Hermon Rd (PM 1.31 to SV city limits), Lockewood Ln (GH-SV city limits), and Graham Hill Rd (Sims to Lockewood) - 2.76mi	$940	$940	$0
Seacliff Dr Improvements (entire length)	CO-P27j	Roadway and roadside improvements on various Major Collectors including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvement.	$1,760	$0	$1,760
Seacliff Village/State Park Drive Improvements	CO 36	Construct sidewalks, bike lanes, bus turnouts/stops, central plaza, street lighting, EV charging station, parking, landscaping, drainage and roadway overlay in Seacliff core area- consistent with the Seacliff Village Plan adopted by the BOS in 2003.	$3,400	$3,400	$0
Seascape Blvd Improvements (Sumner Ave to San Andreas Rd)	CO-P26s	Roadway improvements and pavement rehabilitation.	$620	$170	$450
Sims Road Improvements (Graham Hill Rd to La Madrona Dr)	CO-P17	Road rehab and maintenance, drainage, intersection improvements, landscaping, add bike, ped, and transit facilities.	$1,760	$440	$1,320
Smith Grade Improvements (entire length- Empire Grade to Bonny Doon Rd)	CO-P32g	Road rehab and maint. Roadside improvements--left lane pockets, sidewalks, bike lanes and transit turnouts.	$2,380	$0	$2,380

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Soquel Ave Improvements (City of SC to Gross Rd)	CO-P18	Transit turnouts, two way left turn lanes from Chanticleer to Mattison, merge lanes, signalization and intersection improvements. Signals at Chanticleer and Gross Rd. Roadwork: major rehabilitation and maintenance, perhaps drainage improvements. Roadside: sidewalks, landscaping, and new transit facilities.	$3,310	$3,310	$0
Soquel Dr Improvements (Soquel Ave to Freedom Blvd)	CO-P19	Major rehab, merge lanes, intersections improvements, signal coordination, transit turnouts, fill sidewalk and bike facility gaps, some landscaping.	$7,540	$1,885	$5,655
Soquel Dr Road Improvements (Robertson St to Daubenbiss)	CO-P62	Roadway and roadside improvements including curb, gutter, sidewalk, bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals), left turn lanes, intersection improvements and roadway rehabilitation.	$410	$410	$0
Soquel Dr Traffic Signal and Left Turn Lane (Robertson St)	CO-P58	Install left turn lane at signalized intersection from Soquel Dr to Robertson St and associated roadside improvements	$1,000	$0	$1,000
Soquel-San Jose Rd Improvements (Paper Mill Rd to Summit Rd)	CO-P36	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$2,580	$580	$2,000
Soquel-Wharf Rd Improvements (Robertson St to Porter St)	CO-P28g	Roadway and roadside improvements on various Minor Arterials including addition of bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals), transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$1,030	$515	$515
Spreckels Dr Improvements (Soquel Dr to Aptos Beach Dr)	CO-P27k	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	$1,240	$340	$900
Spreckels Dr/Treasure Island Dr Improvements	CO-P42	Addition of bike lanes, intersection improvements, major road rehabilitation, road maintenance, and possible drainage improvements.	$620	$0	$620
State Park Drive Improvements Phase 2	CO-P20	Transit turnouts, two way left turn, merge lanes, intersection improvements, and fill gaps in bike and ped facilities including pedestrian crossing improvements, bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals). Plus, major rehabilitation and maintenance, drainage improvements, landscaping.	$1,340	$335	$1,005
Summit Rd Improvements	CO-P26u	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$5,580	$1,530	$4,050
Sumner Ave Improvements (entire length-Rio Del Mar Blvd to end [just past via Novella])	CO-P32h	Road rehab and maint. Roadside improvements--left lane pockets, sidewalks, bike lanes and transit turnouts.	$1,450	$0	$1,450
Swanton Rd Bridge Replacement	CO-P94	The project will consist of replacing existing 3 span steel girder bridge with a single span concrete box girder bridge	$2,540	$0	$2,540
Thompson Ave Improvements (entire length-Capitola Rd to end)	CO-P33h	Roadway and roadside improvements including major rehabilitation and maintenance of road and includes implementation of greenway, which gives priority to bicycles and pedestrians on low volume, low speed streets including, pedestrian facilities, way finding and pavement markings, bicycle treatments to connect to MBSST.	$1,240	$0	$1,240
Thurber Ln Improvements (entire length)	CO-P28h	Roadway and roadside improvements on various Minor Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$1,760	$485	$1,275
Thurwachter Road Bike Lanes	CO-P68	Install bicycle lanes.	$50	$0	$50

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Trout Gulch Rd Improvements (Soquel Dr. to end)	CO-P30p	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	$3,000	$0	$3,000
Upper Zayante Rd Improvements	CO-P98	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	$1,500	$0	$1,500
Valencia Rd Improvements (Trout Gulch Rd to Valencia School Rd)	CO-P32j	Road rehab and maint. Roadside improvements--left lane pockets, sidewalks, bike lanes and transit turnouts.	$1,760	$0	$1,760
Varni Rd Improvements (Corralitos Rd to Amesti Rd)	CO-P28i	Roadway and roadside improvements on various Minor Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$1,240	$340	$900
Vine Hill Rd Improvements (Branciforte/Mt. View Rd to State Hwy 17)	CO-P30q	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	$1,450	$0	$1,450
Wallace Ave Improvements (entire length-Huntington Dr to end)	CO-P33i	Roadway and roadside improvements on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$880	$0	$880
Webster St Improvements (Jose Ave to 16th St)	CO-P29h	Improvements of roadways and roadsides on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	$1,240	$0	$1,240
Winkle Ave Improvements (entire length from Soquel Dr)	CO-P27l	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	$2,380	$655	$1,725
Zayante Road Corridor Chip Seal Project	CO 86	Roadway rehabilitation: Digouts, Chip Seal, and restriping East Zayante & Upper E. Zayante from Quail Hallow to SR 35 (up to 9.07mi). Project to be scaled to match available funds	$1,725	$1,025	$700
		County of Santa Cruz Total	**$915,568**	**$565,675**	**$349,893**
Ecology Action					
Bike To Work/School Program	RTC 26	Countywide education, promotion, and incentive program to actively encourage bicycle commuting and biking to school. Coordinates efforts with local businesses, schools, and community organizations to promote bicycling on a regular basis. Provides referrals to community resources. Avg annual cost: $140K/yr-includes in-kind donations and staff time.	$3,870	$1,870	$2,000
Ecology Action Countywide SRTS Youth Pedestrian and Bicycle Safety Education	EA 02	EA will serve approximately 120 second grade classrooms with 'feet on the ground' pedestrian safety education and 88 fifth grade classrooms with bike safety education and 'rodeos' serving a total of 44 local schools.	$8,360	$440	$7,920
Ecology Action Transportation Employer Membership Program	RTC 17	Community organization that promotes alternative commute choices. Work with employers, incentives for travelers to get out of SOVs including: emergency ride home, interest-free bike loans, discounted bus passes. Avg cost: $90K/yr. Coordinates with Bike to Work program.	$2,320	$1,135	$1,185
Every Day is Bike to Work Day	EA 03	Pilot bike commuter initiative to increase bike commuting at 6 large employers in Santa Cruz, Live Oak, and Watsonville areas; includes bike commute and safety workshops, online tracking apps/systems, support/encouragement	$3,360	$60	$3,300

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Monterey Bay Electric Vehicle Alliance (MBEVA)	VAR-P22	Help facilitate this broad collaboration of PEV advocates, businesses, union labor, manufacturers and public agencies to assist the adoption of PEV's in the Monterey Bay region. MBEVA's main goals are to: • Create PEV infrastructure in this region • Educate the public on the benefits of PEV's • Educate gov't agencies on ways to streamline PEV policy, permitting, and implementation and • Help train workforce for PEV related jobs.	$900	$200	$700
		Ecology Action Total	**$18,810**	**$3,705**	**$15,105**
SCCRTC					
Bicycle Route Signage Countywide	RTC 32	Define routes, develop and install signs directing bicyclists to preferred routes to various destinations countywide.	$600	$600	$0
Bike Parking Subsidy Program	RTC 16	Subsidies for bicycle racks and lockers for businesses, schools, government agencies, and non-profit organizations are all eligible. Recipients are responsible for installation and maintenance of the equipment. Avg annual cost: $25K/yr.	$550	$210	$340
County-wide Bicycle, Pedestrian and Vehicle Occupancy Counts	RTC-P50	Conduct counts to assess mode split over time and assess impact of new facilities.	$432	$232	$200
Cruz511 TDM and Traveler Information	RTC 02a	Transportation demand management including centralized traveler information system and ride matching services. Outreach, education and incentives; multimodal traveler information system on traffic conditions, incidents, road and lane closures; ride matching service for carpools, vanpools, and bicyclists; services and information about availability and benefits of all transportation modes, including sharing rides, transit, walking, bicycling, telecommuting, alternative work schedules, alternative fuel vehicles, and park-n-ride lots. Avg annual cost: $315k.	$5,290	$2,640	$2,650
Environmental Assessment, Economic and Other Analyses of Options for Rail Corridor	RTC-P02a	Environmental assessment, economic and other analyses of a possible future public transit system and other transportation options on the rail corridor right-of-way.	$8,000	$8,000	$0
Freeway Service Patrol (FSP) on Hwy 1 and Hwy 17	RTC 01	Maintain and expand tow truck patrols on Highways 1 and 17. Work with the CHP to quickly clear collisions, remove debris from travel lanes, and provide assistance to motorists during commute hours to keep incident related congestion to a minimum and keep traffic moving. Avg need: $300k/yr constrained (some from SB1); $430k/yr total cost.	$9,460	$6,600	$2,860
MBSST - North Coast Rail Trail	TRL 5	Monterey Bay Sanctuary Scenic Trail Network (MBSST) sections ph. 1 Wilder Ranch-Coast Dairies (5.1 mi); ph. 2-Yellow Bank Beach/Panther Beach-Davenport (2.1 mi).	$20,000	$20,000	$0
MBSST - Rail and Hwy 1 Bicycle and Pedestrian Crossing at Laguna Creek Beach	RTC 27d	Design, approval of CPUC, environmental clearance, and construction of a bicycle and pedestrian crossing of the rail line and Hwy 1 to provide access between the Coastal Rail Trail at Laguna Creek Beach and the parking area on the inland side of Hwy 1.	$2,000	$0	$2,000
Measure D Administration and Implementation	RTC-P59	SCCRTC administration, implementation and oversight of Measure D and the revenues generated from the 2016 Santa Cruz County Transportation Sales Tax - Measure D. Costs include annual independent fiscal audits, reports to the public, preparation and implementation of state-mandated reports, oversight committee, preparation of implementation, funding and financing plans, and other responsibilities as may be necessary to administer, implement and oversee the Ordinance and the Expenditure Plan.	$16,500	$16,500	$0
Monterey Bay Sanctuary Scenic Trail Network (Coastal Rail Trail) - Trail Management Program	RTC 27c	Coordinate trail implementation as it traverses multiple jurisdictions to ensure uniformity; serve as Project Manager for construction of some segments; handle environmental clearance; coordinate use in respect to other requirements (closures for ag spraying, etc); solicit ongoing funding and distribute funds to implementing entities through MOUs; coordinate with community initiatives; etc.	$1,030	$1,030	$0

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Monterey Bay Sanctuary Scenic Trail Network - Design, Environmental Clearance, and Construction	RTC 27a	Design, environmental clearance and construction of the 32-mile rail component of the 50+ mile network of bicycle and pedestrian facilities on or near the coast, with the rail trail as the spine and additional spur trails to connect to key destinations. (Funded segments listed individually.)	$80,500	$41,500	$39,000
Monterey Bay Sanctuary Scenic Trail Network (Coastal Rail Trail) - Maintenance	RTC 27b	Maintenance of the rail trail component of the Monterey Bay Sanctuary Scenic Trail Network - ongoing clean-up, trash/recycling removal, graffiti abatement, brush clearance, surface repairs (from drainage issues, tree root intrusion) etc.	$9,600	$4,800	$4,800
Performance Monitoring	RTC-P51	Transportation data collection and compilation to monitor performance of transportation system to advance goals/targets. Includes travel surveys of commuters, Transportation Demand Management plan, a low-stress bicycle network plan and parking standards plan.	$1,650	$220	$1,430
Planning, Programming & Monitoring (PPM) - SB45	RTC 04	Development and amendments to state and federally mandated planning and programming documents, monitoring of programmed projects. Avg annual cost: $250k/yr.	$5,680	$1,870	$3,810
Rail and Trail Corridor Management and Maintenance	RTC-P03	Operating expenses for rail line oversight. Avg annual cost:$175K/yr.	$3,850	$3,850	$0
Rail Line: Freight Service Upgrades	RTC-P41	Upgrade rail line to FRA Class 2 to a condition for reasonable ongoing maintenance into the future. Upgrade crossings, replace jointed rail with continuously welded rail, upgrade signals, and replace ties.	$25,000	$0	$25,000
Rail Transit: Watsonville-Santa Cruz Corridor	RTC-P02	Design, construction, and operation of fixed guideway public transit between Santa Cruz and Watsonville. May be a joint project with the SCCRTC, SCMTD, and local jurisdictions. Annual op cost est: $5-10M/yr; capital: $31.5M-$133M depending on service area and frequency (Total cost reflects Scenario G from 2015Rail Transit Study). Cost shown for 15 years of service during RTP period.	$283,000	$0	$283,000
Railroad Infrastructure Maintenance and Rehabilitation	RTC 36	Protect, maintain and rehabilitate the railroad infrastructure on the Santa Cruz Branch Rail Line including bridges, track, drainage, culverts, signals, etc.	$22,410	$22,410	$0
Real-Time Transit Info	RTC-P58	Develop and maintain distribution channel for disseminating real time transit arrival and departure information to Santa Cruz Metro users. To be developed in coordination with Santa Cruz Metro.	$520	$220	$300
Recreational Rail Infrastructure	RTC 25	Seasonal passenger rail service on Santa Cruz Branch rail line. Infrastructure needed for the service is listed here (e.g. platforms, sidings, pedestrian & disabled access, rail vehicles). Unsubsidized operations will be provided by a private operator and operating costs are therefore not included here. All costs are estimated.	$5,340	$0	$5,340
Regional State Transit Assistance Projects	RTC-P60	State Transit Assistance (STA) eligible transit projects	$33,220	$33,220	$0
RTC Bikeway Map	RTC-P49	Update, print and distribute free SC County Bikeway Map and update GIS files as needed.	$320	$320	$0
SAFE: Call Box System Along Hwys	RTC-P01	Motorist aid system of telephone call boxes along all highways plus maintenance and upgrades. Call boxes may be used to request assistance or report incidents. Avg annual cost: $245/yr	$5,390	$5,390	$0
Santa Cruz Branch Rail Line Improvements	RTC 03a	Infrastructure preservation for current uses and future transportation purposes.	$570	$570	$0
SCCRTC Administration (TDA)	RTC-P07	SCCRTC as Regional Transportation Planning Agency for Santa Cruz County distributes Transportation Development Act Local Transportation Funds and State Assistance Funds for planning, transit, bicycle facilities and programs, pedestrian facilities and programs and specialized transportation in accordance with state law and the unmet transit needs process. Average annual cost: $650K/yr.	$14,300	$14,300	$0

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
SCCRTC Planning	RTC-P08	SCCRTC Planning Tasks. Includes public outreach, long and short range planning, interagency coordination. Avg annual cost: $625k/yr.	$13,750	$13,750	$0
School-Based Mobility/TDM Programs	RTC-P54	Student transportation programs aimed at improving health and well being, transportation safety and sustainability and that facilitate mode shift from driving alone in a motor vehicle to active and group transportation.	$2,690	$1,100	$1,590
Shared Parking Program	RTC-P57	Develop tools to allow adjacent property owners to develop and share parking facilities.	$150	$50	$100
Transportation Demand Management Ordinance and User Guide	RTC-P56	Develop Model TDM Ordinance and User Guide to include provisions for both residential and non-residential projects and address program and facilities improvements in return for reductions in off-street parking requirements.	$260	$0	$260
Vanpool Incentive Program	RTC 15	Assist in start up and retention of vanpools. Includes financial incentives: new rider subsidies, driver bonuses, and empty seat subsidies. Also may include installation of wifi on vans. Avg Annual Cost: $25k/yr.	$670	$100	$570
		SCCRTC Total	**$572,732**	**$199,482**	**$373,250**
SCCRTC/Caltrans					
1 - Hwy 1 Corridor Investment Program	RTC 24a	Tier 1 – program level design/environmental analysis to establish a Corridor Investment Program (CIP) to reduce congestion along the 9 mile section of Highway 1 between San Andreas Rd/Larkin Valley Rd (Aptos) and Morrissey Boulevard (Santa Cruz). [Other RTC24_ projects are increments of the Highway 1 CIP.] Caltrans Project ID 05-0C730	$0	$0	$0
2 - Hwy 1: Auxiliary Lanes from 41st Ave to Soquel Ave and Chanticleer Bike/Ped Bridge	RTC 24f	Construct auxiliary lanes and a bicycle/pedestrian overcrossing of Hwy 1 at Chanticleer Ave. Caltrans Project ID 05-0C732	$32,100	$32,100	$0
3 - Hwy 1 Auxiliary Lanes: State Park Dr-Park Ave and Park Ave-Bay/Porter	RTC 24e	Construct approximately 2.5 miles of auxiliary lanes northbound and southbound between State Park Dr and Park Ave interchange and the Park Ave and Bay/Porter interchange. Includes retaining walls, soundwalls and reconstruction of Capitola Avenue overcrossing with wider sidewalks and bike lanes. [Part of Highway 1 CIP project (RTC 24a)]	$73,000	$73,000	$0
5 - Hwy 1: Reconstruct Morrissey Blvd Interchange	RTC 24h	Reconstruct Morrissey Blvd overcrossing with enhanced pedestrian and bicycle treatments (such as buffered or painted facilities) on both sides of the overcrossing, and/or a bicycle/pedestrian overcrossing at Trevethan Ave, reconfigure ramps and local streets to accommodate the new interchange, and ramp metering.[Part of Highway 1 CIP project (RTC 24a), but listed here as standalone project.]	$45,800	$0	$45,800
6 - Hwy 1: Reconstruct Soquel Avenue Interchange	RTC 24i	Reconstruct the overcrossing with enhanced pedestrian and bicycle facilities on both sides, reconfigure ramps and local streets to accommodate the new interchange, and ramp metering. [Part of Highway 1 CIP project (RTC 24a), but listed here as standalone project.]	$67,330	$0	$67,330
7 - Hwy 1: Reconstruct Bay Ave/Porter St and 41st Avenue Interchange	RTC 24j	Reconstruct highway to operate as a single interchange. Includes construction of a frontage road that includes bike lanes and sidewalks connecting the Bay/Porter and 41st Ave intersections ; reconstruction of the Bay/Porter undercrossing and the 41st Avenue overcrossing with enhanced pedestrian and bicycle treatments on both sides, and reconfiguration of ramps and local streets to accommodate local traffic and ramp metering. [Part of the Highway 1 CIP project (RTC 24a), but is listed here as a standalone project.]	$113,810	$0	$113,810
91 - Hwy 1: Reconstruction of 2 Railroad Crossings in Aptos.	RTC 24o	Reconstruct two railroad crossings over Highway 1 in Aptos. [Part of Highway 1 CIP project (RTC 24a), but listed as a standalone project.]	$41,100	$0	$41,100

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
92 - Hwy 1: Auxiliary Lanes from Rio Del Mar Blvd to State Park Dr Including Bridge over Aptos Creek	RTC 24p	Construct auxiliary lanes and reconstruct bridge over Aptos Creek. [Part of Highway 1 CIP project (RTC 24a), but listed as a standalone project.]	$66,800	$0	$66,800
93 - Hwy 1: Auxiliary Lanes from Freedom Blvd to Rio Del Mar Blvd	RTC 24q	Construct auxiliary lanes. [Part of Highway 1 CIP project (RTC 24a), but listed as a standalone project.]	$16,700	$0	$16,700
94 - Hwy 1: Northbound Auxiliary Lane from San Andreas Rd/Larkin Valley Rd to Freedom Blvd	RTC 24r	Construct northbound auxiliary lane. [Note: This project was not included as part of Highway 1 CIP project (RTC 24a).]	$8,800	$8,800	$0
95 - Hwy 1: Reconstruct Remaining Interchanges	RTC 24k	Interchange modifications not identified as separate projects (San Andreas Rd/Larkin Valley Rd, Freedom Blvd, Rio Del Mar Blvd, State Park Dr, and Park Ave) , including reconfiguration of ramps and local streets for ramp meters, enhanced pedestrian and bike treatments (such as buffered or painted facilities) in each direction and sufficient width to allow addition of HOV lanes. [Part of the Highway 1 CIP project (RTC 24a), but is listed here as a standalone project.]	$127,200	$0	$127,200
96 - Hwy 1: Construction of HOV Lanes from San Andreas Rd/Larkin Valley Rd to Morrissey Blvd	RTC 24m	Construction of High Occupancy Vehicle (HOV or Carpool) Lanes on Highway 1 from San Andreas Rd/Larkin Valley Rd to Morrissey Blvd. Cost excludes auxiliary lanes, reconstruction of interchanges for ramp metering, over and under crossings, and traffic operation system (TOS) elements on the corridor. [These costs are listed separately (RTC 24 a,e,f,g,h,l,j, m,n,o,p,q,r). Could be expensed under a complete Hwy 1 HOV Lane project (RTC 24, $603,000) but currently expensed as a standalone project.]	$61,980	$0	$61,980
97 - Hwy 1: HOV Lanes from San Andreas Rd/Larkin Valley to Morrissey Blvd	RTC 24z	Construct HOV or Carpool lanes on Highway 1 from San Andreas Rd/Larkin Valley Rd to Morrissey Blvd, including auxiliary lanes, reconstruction of interchanges with enhanced bike and pedestrian facilities, arterial and ramp modifications to allow ramp metering, a new bike/ped crossing at Trevethan, and traffic operation system (TOS) element. [Cost if built in entirety: $603,000. See stand alone projects (RTC24f,e,g,h,I,j,a,m) for cost of incremental implementation.] Caltrans Project ID 05-0C730	$0	$0	$0
98 - Hwy 1: TSM Project from Morrissey to San Andreas Rd.	RTC 24n	Construct the TSM project alternative as described in the Tier 1 environmental study to establish a Highway 1 Corridor Investment Program. Project includes auxiliary lanes, modifications of interchanges with enhanced bike and pedestrian treatment, arterial and ramp modifications to allow ramp metering, a new bike/ped crossing at Trevethan, and traffic operation system (TOS) element. [Cost if built in entirety, rather than incrementally: $249,100. Assumes RTC 24f has been completed.]	$0	$0	$0
Hwy 1 Bicycle/Ped Overcrossing at Mar Vista	RTC 30	Construct a bicycle/pedestrian overcrossing of Hwy 1 in vicinity of Mar Vista Drive, providing improved access to Seacliff and Aptos neighborhoods and schools.	$7,800	$7,800	$0
Hwy 1 Ramp Metering: Northern Sections Between San Andreas Road and Morrissey Blvd	RTC 34	Reconfiguration of ramps and local streets to allow for ramp metering and installation of ramp meters. Could be expensed under a separate stand alone project ($6.7 M)	$0	$0	$0
Hwy 1 Ramp Metering: Southern Sections	CT-P01	Reconfigurations of ramps and installation of ramp meters at interchanges from Hwy 129/Riverside Dr to Mar Monte Ave.	$20,600	$0	$20,600
		SCCRTC/Caltrans Total	**$683,020**	**$121,700**	**$561,320**
SCMTD					
ADA Access Improvements	MTD-P51	Add or improve ADA accessibility to all bus stops and METRO facilities.	$4,222	$350	$3,872
ADA Paratransit Service - Continuation of Existing Service	MTD-P10C	Operation & maintenance cost of existing Paratransit service. Avg Annual Cost: $5.5M.	$121,000	$121,000	$0

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
ADA Paratransit Vehicle Replacements	MTD 02	Replace buses/vans for ADA paratransit fleet (including Accessible Taxi program).	$14,040	$6,000	$8,040
ADA Service Expansion	MTD-P11	Add capacity to meet increased trip demand thru 2040. Assumes 2% increase/year starting in 2019.	$2,500	$1,050	$1,450
Automatic Vehicle Locator and Automatic Passenger Counter Systems	MTD 24	Automatic Vehicle Locator (AVL), Automatic Passenger Counters, and automatic vehicle announcing systems on METRO buses. Provide real time bus arrival/departure displays at bus stops. Necessary IT upgrades and data collectionfor system operations, security, planning and maintenance.	$3,200	$3,200	$0
Bike Station at Capitola Mall	MTD-P23	Establish bike station at Capitola Mall, especially to serve UCSC. Would be joint mall, UCSC, MTD project.	$1,030	$0	$1,030
Bikes on Buses Expansion	MTD-P20	Add additional space for bikes on articulated buses when/if METRO purchases or leases 60-ft articulated buses.	$60	$0	$60
Bus on Shoulder	MTD-P57	Plan, design, seek Caltrans approvals, and construct improvements to utilize freeway shoulders to bypass congestion on Highway 1 and possibly Highway 17 to speed inter-city bus service	$12,000	$0	$12,000
Bus Rapid Transit	MTD-P15	Construct park & ride lots, transit centers and grade-separation where feasible to operate bus rapid transit to reduce congestion on Highway 1.	$26,780	$0	$26,780
Bus Rebuild and Maintenance	MTD-P31	Rebuild engines; Fleet maintenance equipment. Avg. cost is ~$250k/bus, increases useful life up to 8 years at 40% of the cost of new buses.	$5,250	$5,250	$0
Bus Replacements	MTD-P04	Replace fleet at the end of normal bus lifetime (approximately every 12 years; $675 each for local fixed route; $900k each for Hwy 17 Over the Road coaches).	$142,420	$73,000	$69,420
Bus Stop and Station Improvements	MTD-P52	Improve customer access and/or amenities at bus stops; add bus stop pads to preserve pavement.	$500	$500	$0
Commuter/Subscription Bus Program	MTD-P18	Capital and operating for subscription buses to areas not currently served by express buses (similar to large vanpool).	$2,070	$0	$2,070
Customer IT amenities	MTD-P55	Upgrade Hwy 17 Wi-Fi and expand to local routes; real-time bus arrival website.	$1,010	$0	$1,010
Deviated Fixed-Route Pilot Program	MTD-P43	Pilot project allowing buses to make minor route modifications to address needs of senior and disabled riders.	$100	$0	$100
Electric Non-Fleet Vehicles	MTD-P47	Replace non-revenue vehicles to EV.	$580	$0	$580
EV Fast Charging Stations	MTD-P48	Install 5 electric vehicle charging stations at transit centers.	$1,030	$0	$1,030
Hwy 1 Express Buses	MTD-P27	Hwy 1 express bus replacements - 6 Buses @ $500k ea. Replace every 12 years.	$6,200	$0	$6,200
Hwy 17 Express Service - Continuation of Baseline Service Levels	MTD-P10B	Operation & maintenance cost of existing Highway 17 Express bus service. Avg annual cost: $4.5M.	$99,000	$99,000	$0
Hwy 17 Express Service Restoration and Expansion	MTD-P12	Restore Hwy 17 Express service to FY16 levels, then expand service 2% annually. Restore $300K/yr operating plus 2% annually plus capital costs (2 buses)	$10,000	$4,000	$6,000
Inter-County Paratransit Connection	MTD-P44	Establish paratransit connection location with Santa Clara County.	$1,290	$0	$1,290
Local Transit - Continuation of Baseline Service Levels 2019-2040	MTD-P10	Operation & maintenance cost of existing local fixed route bus service. Avg annual cost: $38M.	$836,000	$836,000	$0

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Local Transit Service Restoration and Expansion	MTD-P14	Restore local service to FY16 levels, then expand service 2% annually. Restore $6.2M/yr operating plus 2% annually plus capital costs (16 buses)	$173,000	$72,000	$101,000
Maintenance Facility Expansion	MTD-P38	Property acquisition, design, and construction of maintenance facility expansion.	$15,850	$0	$15,850
Metro facilities repair/upgrades	MTD-P36	Maintain and upgrade facilities.	$6,270	$4,300	$1,970
Metro rebranding	MTD-P58	Develop marketing program and establish consistent brand with uniform signage, letterhead, ads.	$500	$0	$500
Non-Revenue Vehicle Replacements	MTD-P32	Replace support vehicles.	$3,450	$1,200	$2,250
Pacific Station- Bike Station	MTD-P49	Establish bike station at Pacific Station.	$410	$0	$410
ParaCruz Mobile Data Terminals; Radios	MTD-P30	Replace mobile data terminals in vehicles	$760	$400	$360
ParaCruz Operating Facility	MTD-P28	Design, Right-of-Way and construction for new ParaCruz Operating Facility.	$12,400	$0	$12,400
Park and Ride Facilities	MTD-P53	Fund purchase and construction or lease of parking areas for commuter bus patrons, either surface lot or parking structure.	$29,400	$0	$29,400
Replacement of Watsonville Transit Center	MTD-P56	Replacement transit center at existing or new location.	$25,000	$0	$25,000
Replacement Transit Fareboxes, Ticket Vending Machines, and Fare System Enhancements	MTD 18	Upgrade GFI Farebox system to enable fare media loading, tracking, registration, interoperability via internet. Necessary IT upgrade. System Integrator to analyze and propose integrated fare media strategy. Replacement fareboxes at end of useful life. Replacement of Ticket Vending Machines at end of useful life.	$5,550	$1,000	$4,550
Santa Cruz Metro Center/Pacific Station Renovation	MTD 13	Renovate Pacific Station or construct new transit center in alternate location.	$25,000	$0	$25,000
Senior/Disabled/Low-Income Fixed-Route Transit Incentives	MTD-P42	Incentives to encourage fixed-route bus ridership. Includes existing discounts for Seniors and persons with disabilities. May include free/reduced rates for seniors during off-peak hours, free bus passes to ADA eligible persons, bus pass subsidies for low income riders transportation to employment, and other incentives to encourage use of fixed-route system.	$17,125	$0	$17,125
Signal Priority/Pre-Emption for Buses	MTD-P21	Enable coach operators to actuate traffic signals to prolong green or change red lights to improve transit running time.	$2,070	$0	$2,070
Small Bus Fleet	MTD-P24	Purchase smaller buses for travel through residential neighborhoods. Cost currently unknown.	$1,700	$0	$1,700
Solar Panels for Souza Operations Facility	MTD-P29	Energy reduction through installation of solar panels on the new Judy K. Souza Operations Facility	$2,000	$0	$2,000
South County Operations and Maintenance Facility	MTD-P54	Acquisition of property and construction of second operations and maintenance facilities to better serve South County.	$50,000	$0	$50,000
Transit Mobility Training Program Expansion	MTD-P19	Expand public outreach and training to encourage fixed route, rather than Paratransit, use. Outreach may also involve other partners (ex. DMV, doctors, senior centers, etc). Avg annual cost: $80K/yr.	$1,240	$0	$1,240
Transit Security and Surveillance Systems	MTD-P33	Enhance passenger safety and facilities security. Emergency response systems.	$1,140	$0	$1,140

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Transit System Technology Improvements	MTD-P35	Automated Data Processing software, telephones, portable computers, servers, Customer Information Kiosks, digital ID processing equipment. Maintain and upgrade office software and hardware, bandwidth, web site, phone network, to enhance productivity, customer service and maintain functionality.	$5,490	$1,000	$4,490
Transit Technological Improvements	MTD-P06	IT software and hardware upgrades for scheduling, customer service, planning systems. Upgrades every 5 years.	$5,170	$2,500	$2,670
Transit/Paratransit Driver Emergency Training	MTD-P45	Provide training equipment for drivers on new mobility devices (scooters, motorized wheelchairs) plus emergency training and biohazard container and clean-up kits for vehicles.	$260	$0	$260
		SCMTD Total	**$1,674,067**	**$1,231,750**	**$442,317**
Seniors Council					
Senior Employment Ride Reimbursement	RTC-P43	Reimburse low income seniors for transit expenses to/from employer sites.	$1,600	$1,600	$0
		Seniors Council Total	**$1,600**	**$1,600**	**$0**
UCSC					
Alternative Fuel Fleet Vehicles	UC-P64	Purchase and upgrade fleet vehicles to alt. fueled vehicles (refuse trucks, street sweepers, fleet cars, etc.)	$3,100	$500	$2,600
Alternative Fuel/Electric Shuttle Vehicles	UC-P22	Capital acquisition of vehicles/conversion of shuttles to EV.	$10,330	$0	$10,330
Bike Shuttle Vehicle Acquisition	UC-P51	Acquire more alt fueled vehicles for bike shuttle (and possible expansion).	$520	$0	$520
Bus Tracking and AVL Transit Programs	UC-P62	GPS bus tracking and Automatic Vehicle Locator programs inform travelling population of transit locations so they can make informed mode choices.	$260	$260	$0
College Nine/Communications Pedestrian Bridge	UC-P39	Construct pedestrian bridge.	$1,030	$0	$1,030
College Nine/Crown College Pedestrian Bridge	UC-P37	Construct pedestrian bridge.	$1,550	$0	$1,550
Coolidge Overlook	UC-P42	Improve overlook for parking, benches and signage for Sanctuary.	$620	$0	$620
Disability Van Service	UC-P75	Operate disability van service ($240k/yr).	$5,450	$5,450	$0
East Collector Transit Hub	UC-P46	New transit hub at East Collector (East Remote) lot.	$5,170	$0	$5,170
Electric Vehicle Charging Stations	UC-P65	Add additional electrical infrastructure and install electric vehicle charging stations around campus.	$810	$310	$500
Great Meadow Bike Path Safety Improvements	UCSC 07	Bike path safety and maintenance improvements: Reconstruct and widen Class 1 bike path, separate pedestrian improvements northbound to minimize conflicts.	$1,135	$1,135	$0
Hagar/McLaughlin Intersection Improvements	UC-P10	Signal, pedestrian safety improvements(including new crosswalk) and roadway improvements.	$520	$0	$520
Hagar/Steinhart Intersection Improvements	UC-P14	Signal, pedestrian safety improvements, transit, roadway improvements.	$1,030	$0	$1,030
Hagar-Coolidge Connector Road/Hagar/East Remote Intersection Improvements	UC-P47	New roadway connector, including bicycle lanes, between Hagar Drive and Coolidge, plus Hagar/East Remote Intersection Improvements: signal, pedestrian safety improvements and roadway improvements.	$3,100	$0	$3,100

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Heller Drive Bicycle Lanes (Empire Grade to Porter College)	UC-P56	Add Class II bicycle lanes in downhill direction as feasible.	$830	$0	$830
Kerr/Porter Rd Pedestrian Bridge ADA Upgrades	UC-P72	Modify bridge to improve access.	$3,100	$0	$3,100
Kresge/Core West Pedestrian Bridge: ADA Upgrades	UC-P57	Modify bridge to enhance ADA access.	$3,100	$3,100	$0
McLaughlin Drive Bike Lanes/Pedestrian Enhancements	UC-P30	Install Class 2 bike lanes and enhance pedestrian circulation on University campus roadway.	$2,580	$0	$2,580
Meyer Drive Extension/Jordan Gulch Bridges	UC-P04	Extension of Meyer Drive from existing Meyer Drive to Hagar Drive. Includes potential construction of two bridges, pedestrian, and bicycle facilities.	$20,660	$0	$20,660
Northern Entrance	UC-P08	Construct new access road including Cave Gulch Bridge to Empire Grade and road and bicycle lanes to Northern Heller Dr. for access and fire safety.	$10,330	$0	$10,330
Northern Loop Roadway	UC-P07	Construct new roadway, including bicycle lanes, on upper campus. Will be phased. Phase I: Chinquapin Extension to support Social Science 3.	$18,590	$0	$18,590
Parking Management Technology Improvements	UC-P68	Updating existing parking management technologies to allow for more effective management, additional parking management at Coastal Marine Campus and 2300 Delaware site.	$410	$410	$0
Pedestrian Directional Map/Wayfinding System	UC-P38	Develop and install signs throughout campus.	$520	$520	$0
Porter/Performing Arts Pedestrian Bridge	UC-P36	Construct pedestrian bridge.	$1,030	$0	$1,030
Science Hill/North Academic Core Pedestrian Bridge	UC-P40	Construct pedestrian bridge.	$1,030	$0	$1,030
Sidewalk/Pedestrian Improvements	UC-P50	Widen sidewalks/improve ped access in areas of campus.	$5,170	$0	$5,170
Spring Street Bikeway	UC-P34	Construct bikeway connecting Spring Street to Hagar Ct.	$310	$0	$310
Steinhart Way Multimodal Improvements	UC-P03	Roadway improvements for shuttles, bikes and pedestrians.	$520	$0	$520
Transit Pullouts and Shelters Enhancements	UC-P19	Construction and installation of transit pullouts and reconstruction of shelters throughout campus.	$1,550	$0	$1,550
Transit Vehicles (ongoing)	UC-P23	Ongoing capital acquisition of transit vehicles for on-campus transit and University shuttles.	$5,170	$5,170	$0
Transportation-Related Stormwater Management Projects	UC-P66	Retrofitting existing transportation facilities and developing new facilities with new stormwater management techniques.	$1,030	$1,030	$0
Traveler Safety Education/Information Programs	UC-P61	Bike/pedestrian safety programs; light and helmet giveaways, safety classes, distracted driver programs, bus etiquette program.	$660	$100	$560
UCSC - Metro Station Bus Rapid Transit Improvements	UC-P48	Bus Rapid Transit Improvements between Metro Station, Bay Street Corridor, and UCSC Roadways.	$5,170	$0	$5,170
UCSC Bicycle Facilities	UC-P55	Add bicycle facilities on campus roadways and paths. Lump sum of projects, including but not limited to UCSC Bicycle Plan that are not listed individually elsewhere in the RTP.	$1,030	$0	$1,030
UCSC Bicycle Parking Improvements	UC-P33	Install bicycle parking facilities to serve bicycle commuters to the University.	$520	$520	$0
UCSC Bike Loan Program	UC-P52	Develop and implement a bike loan program for UC students.	$1,030	$0	$1,030

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
UCSC Bike Showers/Storage Lockers	UC-P32	Install showers and storage facilities to serve bicycle commuters to the University.	$620	$0	$620
UCSC Commute Counseling Program	UC-P69	Staffing program development to individually market to UCSC affiliates on more sustainable means of travel to campus.	$3,100	$3,100	$0
UCSC Commuter Incentive Programs	UC-P70	Provide ongoing support and development of new programs to encourage travel to campus via sustainable modes of travel.	$1,550	$1,550	$0
UCSC Lump Sum Roadway Maintenance	UC-P59	Repaving and rehabilitation of roadways on UCSC campus to maintain existing network.	$10,330	$3,100	$7,230
UCSC Main Entrance Improvements	UC-P01	Realign roadway, transit pullout/shelter, relocate bike parking, construct pedestrian path, historic resource analysis. Work may be done in conjunction with City Roundabout project.	$2,070	$2,070	$0
UCSC Parking Operations & Maintenance	UC-P73	Operate and administer the parking operations for UCSC including planning, TDM, marketing and debt service.	$70,450	$70,450	$0
UCSC Pedestrian/Transit Zone	UC-P44	Pedestrian safety improvements including, colored/textured asphalt and signage at various locations on core campus roadways.	$1,030	$0	$1,030
UCSC Traffic Control	UC-P58	Non-traditional traffic control/crossing guard program at key intersections on UCSC campus to improve pedestrian and vehicle safety, reduce conflicts, improve travel times.	$2,580	$2,580	$0
UCSC Transit Service	UC-P74	Operate the on campus shuttle service and Night Owl ($3.01m/year).	$68,410	$68,410	$0
UCSC Vanpool Program	UC-P63	Maintain, operate and expand upon UCSC vanpool program.	$8,680	$8,680	$0
Zimride Emergency Preparedness Database	UC-P67	Creating a new database through Zimride to have emergency response evacuation of UCSC campus.	$310	$0	$310
		UCSC Total	**$288,095**	**$178,445**	**$109,650**
Various Agencies					
Active Transportation Plan	VAR-P39	Prepare Active Transportation Plans that address bicycle, pedestrian, safe routes to schools and complete streets facilities within the jurisdictions of Santa Cruz County as well as the Santa Cruz Harbor Port District.	$2,380	$2,380	$0
Bicycle Sharrows	VAR-P03	Install sharrows (shared roadway marking) designating areas where bicyclists should ride on streets, especially when bicycle lanes are not available. To be implemented by local jurisdictions.	$520	$520	$0
Bicycle Treatments for intersection improvements (ADD)	VAR-P32	Add painted bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike detection and signals), at major intersections.	$4,130	$4,130	$0
Bike Share	VAR-P16	Establish and maintain an urban centered bike share program allowing county residents to access loaner bikes at key locations such as downtowns, transit centers, shopping districts, and tourist destinations.	$5,170	$5,170	$0
Bike-Activated Traffic Signal Program	VAR-P05	Provide traffic signal equipment to ensure that the traffic signals will detect bicycles just as cars are detected and ensure that the appropriate traffic signal phase is activated by the bicycles.	$1,030	$1,030	$0

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Cabrillo College TDM Programs	RTC 33	Provide students and employees at all four Cabrillo College campuses with education, promotion, and incentives that support the use of sustainable transportation modes. Develop information, programs and services customized to meet the transportation needs of the Cabrillo College community. 'Provide Sustainable Transportation education, promotion, and Go Green program enrollment to Cabrillo College students and employees. Partner with Cabrillo staff and students to reduce SOV trips to the Aptos, Watsonville and Scotts Valley campuses. Provided targeted information and services to Cabrillo members.	$1,560	$780	$780
Carsharing Program	VAR-P06	Program to assist people in sharing a vehicle for occasional use. Implementing Agency TBD, varies.	$2,580	$1,290	$1,290
Climate Action Transportation Programs	RTC-P48	Projects that reduce greenhouse gas emissions through reducing vehicle trips and vehicle miles traveled, increasing fuel efficiency and expanding use of alternatively fueled vehicles. Includes comprehensive outreach and education campaigns, a countywide emergency ride home for those using alternatives, and TDM incentive programs: $100k/year.	$2,580	$2,330	$250
Complete Streets Implementation	VAR-P27	Additional projects for complete streets implementation that would fall under the Complete Streets Guidelines.	$10,330	$10,330	$0
Coolidge Drive Reconstruction	VAR-P23	Reconstruction of roadway and bike lane.	$3,100	$0	$3,100
Countywide Pedestrian Signal Upgrades	RTC-P26	Grant program to fund installation of accessible pedestrian equipment with locator tones including rapid flashing beacons and count down times etc. to facilitate roadway crossings by visually and mobility impaired persons.	$2,070	$1,035	$1,035
Countywide Senior Driving Training	VAR-P24	Coordinate and enhance current programs that help maturing drivers maintain their driving skills and provides transitional info about driving alternatives. (Current programs are run by AARP and CHP.)	$800	$80	$720
Eco-Tourism - Sustainable Transportation	VAR-P17	Provide sustainable transportation information, incentives and promotions to the estimated one million visitors to Santa Cruz County. Work with the Santa Cruz County Conference and Visitors Council, local lodgings, and tourist attractions.	$1,030	$515	$515
Electric Bicycle Commuter Incentive Program	VAR-P44	Financial incentives, promotion and/or education to encourage residents to use electric bikes instead of commuting by car.	$3,400	$1,000	$2,400
Environmental Mitigation Program	VAR-P38	Allocate funds to protect, preserve, and restore native habitat that construction of transportation projects listed in SCCRTC's RTP could potentially impact. EMP funds will be for uses such as, but not limited to, purchasing land prior to project development to bank for future mitigation needs, funding habitat improvements in advance of project development to leverage and enhance investments by partner agencies.	$5,680	$5,680	$0
Hwy 1 Bike/Ped Bridge (Cabrillo-New Brighton)	CT-P07a	Construction of bike/ped bridge connecting New Brighton State Beach and Cabrillo College as part of larger Nisene SP to the Sea trail concept. Lead agency TBD.	$8,260	$0	$8,260
Live Oak Transit Hub	VAR-P46	Transfer node near rail corridor at 17th Ave - may include transit, rideshare, bicycle, bikeshare, pedestrian to provide regional connections to/from other parts of the county.	$530	$530	$0
Local Arterial ITS Infrastructure	VAR-P11	ITS (Intelligent Transportation Systems): advanced electronics and information technologies to increase the safety and efficiency of the surface transportation system, including vehicle detection devices along major arterials in urbanized areas to alert motorists of incidents.	$620	$0	$620
Lump Sum Bridge Preservation	VAR-P14	Painting, Barrier Rail Replacement, Low Water Crossing, Rehab, and Replacement bridges for SHOPP and Highway Bridge Program (HBP).	$54,500	$54,500	$0

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Lump Sum Emergency Response Local Roads	VAR-P13	Lump sum for repair of local roads damaged in emergency. (Based on average ER/FEMA/CalEMA funds, storm damage, fire, etc. Costs of repairs assumed under lump sum maintenance and operations within local jurisdiction listings.)	$23,370	$23,370	$0
Mission St/Hwy 1 Bike/Truck Safety Campaign	VAR-P18	Partnership with road safety shareholders including Caltrans, UCSC, City of Santa Cruz, Ecology Action, trucking companies and others to improve bike/truck safety along the Mission Street corridor. Provide safety presentations, videos, brochures, safety equipment, etc.	$520	$520	$0
Mobility Management Center	VAR-P04	Centralized one-stop-shop for information and resources on specialized transportation options. May be combined with 511 and local senior information and assistance efforts. Implementing agency TBD. Est. annual cost: $100-300k/yr.	$7,750	$0	$7,750
Neighborhood Greenways	VAR-P33	Implement greenways which gives priority to bicycles and pedestrians on low volume, low speed streets including, way finding and pavement markings, bicycle treatments in areas identified for more intensified development in Sustainable Communities Strategy.	$5,170	$0	$5,170
Park and Ride Lot Development	VAR-P26	Upgrade and maintain existing park and ride lots for commuters countywide. Secure additional park and ride lot spaces for motorized vehicles and bicycles. Long range plan: identify, purchase land, construct Park & Ride lots.	$8,260	$2,260	$6,000
Planning for Transit Oriented Development for Seniors	VAR-P25	Evaluate opportunities for Transit Oriented Development serving seniors including access to medical facilities.	$80	$80	$0
Plug-in Electric Vehicle Access, Education & Promotion	VAR-P21	Target motorist looking for a cleaner vehicle by providing access, education and promotion on ever evolving plug-in electric vehicles (PEV). Provide PEV car share, rental and demo drives, educational workshops, online, and hard copy information. Promote through current EA groups, partners, media and other available sources.	$830	$0	$830
Public Transit Marketing	VAR-P20	Initiatives that increase public transit ridership including discount passes, free fare days, commuter clubs, and promotional and marketing campaigns.	$1,550	$775	$775
Public/Private Partnership Bicycle and Pedestrian Connection Plan	VAR-P29	Develop model for assisting local jurisdictions in working with private property owners to allow bicycle and pedestrian access through private property in areas identified for more intensified development in Sustainable Communities Strategy.	$150	$150	$0
Public/Private Partnership Transit Stops and Pull Outs Plan	VAR-P30	Develop model for assisting local jurisdictions in working with businesses to install transit pullouts and shelters on property in areas identified as high quality transit corridors in Sustainable Communities Strategy.	$150	$150	$0
Safe Paths of Travel	VAR-P08	Regional program to construct and/or repair pedestrian facilities adjacent to high frequency use origins and destinations, particularly near transit stops.	$3,100	$3,100	$0
Safe Routes to Schools Studies	VAR-P10	Studies to assess pedestrian and bicycle safety near schools.	$210	$210	$0
Safety Plan	VAR-P36	Develop a safety plan that addresses traffic related injuries and fatalities for all modes of transportation.	$310	$310	$0
Santa Cruz County Open Streets	VAR-P40	Community events promoting alternatives to driving alone as part of a sustainable, healthy, and active life-style. Temporarily opens roadways to bicycle and pedestrian travel only, diverting automobiles to other roadways.(Average annual cost - $100k/yr)	$2,000	$200	$1,800
School Complete Streets Projects	VAR-P35	Implement ped/bike programs and facilities near schools.	$10,330	$10,330	$0

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
School Safety Programs	VAR-P19	Bicycle and walking safety education and encouragement programs targeting K-12 schools in Santa Cruz County including Ecology Action's Safe Routes to School and Bike Smart programs. Provide classroom and on the bike safety training in an age appropriate method. Provide a variety of bicycle, walking, busing and carpooling encouragement projects ranging from bike to school events, to incentive driven tracking, and educational support activities. Est. annual cost $150k.	$3,820	$1,910	$1,910
TDM Individualized Employer/Multiunit Housing Program	RTC-P53	Implement individualized employer and multiunit housing TDM programs with incentives for existing development.	$4,650	$2,325	$2,325
Transit Oriented Development Grant Program	RTC-P25	Smart growth grant program to fund TODs that encourage land use and transportation system coordination. May include joint child care/PNR/transit centers.	$5,170	$2,570	$2,600
Transit Priority	VAR-P34	Install transit queues at major intersections.	$5,170	$2,585	$2,585
Transit Service to San Jose Airport	VAR-P43	Provide transit service to San Jose airport from Santa Cruz. Current average annual need $0.5M	$11,000	$0	$11,000
Transportation Demand Management Plan	VAR-P37	Collaborate with other organizations to develop a coordinated plan for transportation demand management program implementation for Santa Cruz County.	$310	$310	$0
Transportation for Caregivers of Seniors/People with Disabilities	VAR-P42	Transportation service for caregivers of seniors or people with disabilities. Including, but not limited to programs such as, volunteer rides, taxi script, ride to work program. Current avg annual need $.5M. Constrained=$0M.	$11	$0	$11
Transportation for Low Income Youth	VAR-P15	Safe, reliable transportation services for foster care children to/from school. Avg annual cost: $100k/yr.	$2,580	$0	$2,580
Transportation for Low-Income Families	VAR-P41	Transportation service for low income families with children. Includes medical service rides, out-of-county rides, volunteer rides, taxi script, ride to work program, etc. Current avg annual need $.5M. Constrained=$0M.	$11,000	$0	$11,000
Transportation System Electrification	VAR-P07	Partnership with local gov't agencies, electric vehicle manufactures, businesses, and Ecology Action to establish electric vehicle charging stations for EV's, plug-in hybrids, NEV's, as well as ebikes and escooters. Work with manufacturers on developing advanced electric vehicles and educating the public regarding the ease of use and benefits of electric vehicles.	$51,650	$51,650	$0
Uncontrolled Pedestrian Crossing Improvements	VAR-P31	Implement improvements to uncontrolled pedestrian crossing such as painted and/or raised crosswalks, flashing beacons and pedestrian islands.	$5,170	$2,570	$2,600
Watsonville Transit Hub	VAR-P47	Expand transportation mode options at transfer node near rail corridor and current transit center to increase use of transit, rideshare, bicycle, bikeshare, pedestrian to provide regional connections to/from other parts of the county.	$585	$585	$0
West Side Transit Hub	VAR-P45	Transfer node near rail corridor at Natural Bridges Dr - may include transit, rideshare, bicycle, bikeshare, pedestrian to provide regional connections to/from other parts of the county and the university.	$580	$580	$0
		Various Agencies Total	**$275,746**	**$197,840**	**$77,906**
Volunteer Center					
Volunteer Center Transportation Program	VC-P1	Program providing specialized transportation to seniors and people with disabilities. Constrained=existing TDA allocations.	$3,750	$1,640	$2,110
		Volunteer Center Total	**$3,750**	**$1,640**	**$2,110**

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Uncon-strained
Watsonville Airport					
Lump Sum Watsonville Municipal Airport Capital Projects	AIR-P01	Projects from the Watsonville Airport Capital Improvement Program. Includes new hangers, reconstruction of aviation apron, security features, and runway extensions.	$21,700	$21,700	$0
Watsonville Municipal Airport Operations	AIR-P02	Ongoing operations/maintenance. Average $2M/year.	$44,000	$44,000	$0
		Watsonville Airport Total	**$65,700**	**$65,700**	**$0**

Total Within Projected Funds (Constrained) $3,757,313

Minimum New Funds Needed (Unconstrained) $3,356,681
***For some projects no cost estimate was available thus was not included in this total**

APPENDIX L.
PENDING PROJECTS LIST

Name/ APN	Project Type	# Units/ Comm. S.F.	Status Discretionary Permit App. **P** pending **A** approved	App. No.	Notes
RESIDENTIAL					
2340 Harper 29 171 05	Multi Family (MF) + one SFD	11	P	181094	GP, Rezone included
Wells Fargo Bank LD 26 062 96	Minor Land Division (MLD)	Net 2	P	171063	MLD 1 into 3
Mattison Lane Brunetti 25 211 02	APTS	22	P	161426	
Bostick Lane 26 021 13	MLD	Net 2	P	171357	
Jody Court 25 032 17	MLD	Net 4	P	171353	
Paul Minnie LD 26 071 19	MLD	Net 3	P	171077	
Capitola Extension 26 081 09	MF	Net 4	P	171265	Existing duplex into 6
DeFaymoreau MLD	MLD	Net 1	P	151024	2015
Moana Way 32 122 26	MLD	Net 1	P	171151	MLD, 2 SFDs 2 ADUs
Workbench 37 113 26	MF	16	P	181231	GPA, rezone included
Maciel RDG 29 121 01	Residential Dwelling Group (RDG)	Net 1	P	181055	
Roadhouse LD 32 181 08	Land Division and SFDs	8 SFDs	A	151204	Building Permits submitted
COMMERCIAL, MIXED USE					
Nissan Dealership	Commercial (C)	12,550 SF sales 10,000 SF service	A	171179	EIR completed
Paul Minnie 026 43 14	Mixed Use (MU)	15 units 3600 sf office	P	181171	

Portola Mixed Use 32 051 36	MU	23 res, 4 live/work, 29710 office	P	181263	Amendment to approved MU CUP, check SF office
Lumberyard 32 092 01,05	MU	8 units, 9600 SF comm	A	141157	
Childcare Porter St. 30 153 20	C	Increase by 20 children to 50 total	P	171078	Minor variation to existing CUP
Animal Shelter addition 26 063 01	C	2000 SF add cafe	P	181132	Amend CUP
GSAG LLC 025-131-20	MU	1 , 1800 SF comm	P	181079	confirm net 1
Herbal Cruz 32 022 23	C	Retail, add 800 SF	P	181026	
Case de Montgomery 100 161 06	Sanitarium/nursing home	Demolish existing 43 bed, 14,500 SF facility to construct 100 bed, 56,777 SF facility	P	131266	
CONSULTATION AND PRE-APPLICATION*					
Mid Penn Capitola and 17th 26 741 12	MU	58 units 29,696 SF med. clinic and office, 1000 SF retail	NA	PA181013	
875 30th 28 091 40	MF	4	NA	PA181021	4 added to existing 9 units
Seaview	Attached condo	15	NA	PA	Number units in flux
Prather Lane MU 025 351 16	MU medical and senior housing	60 sr. units 20,000 SF med offices	NA	PA181016	

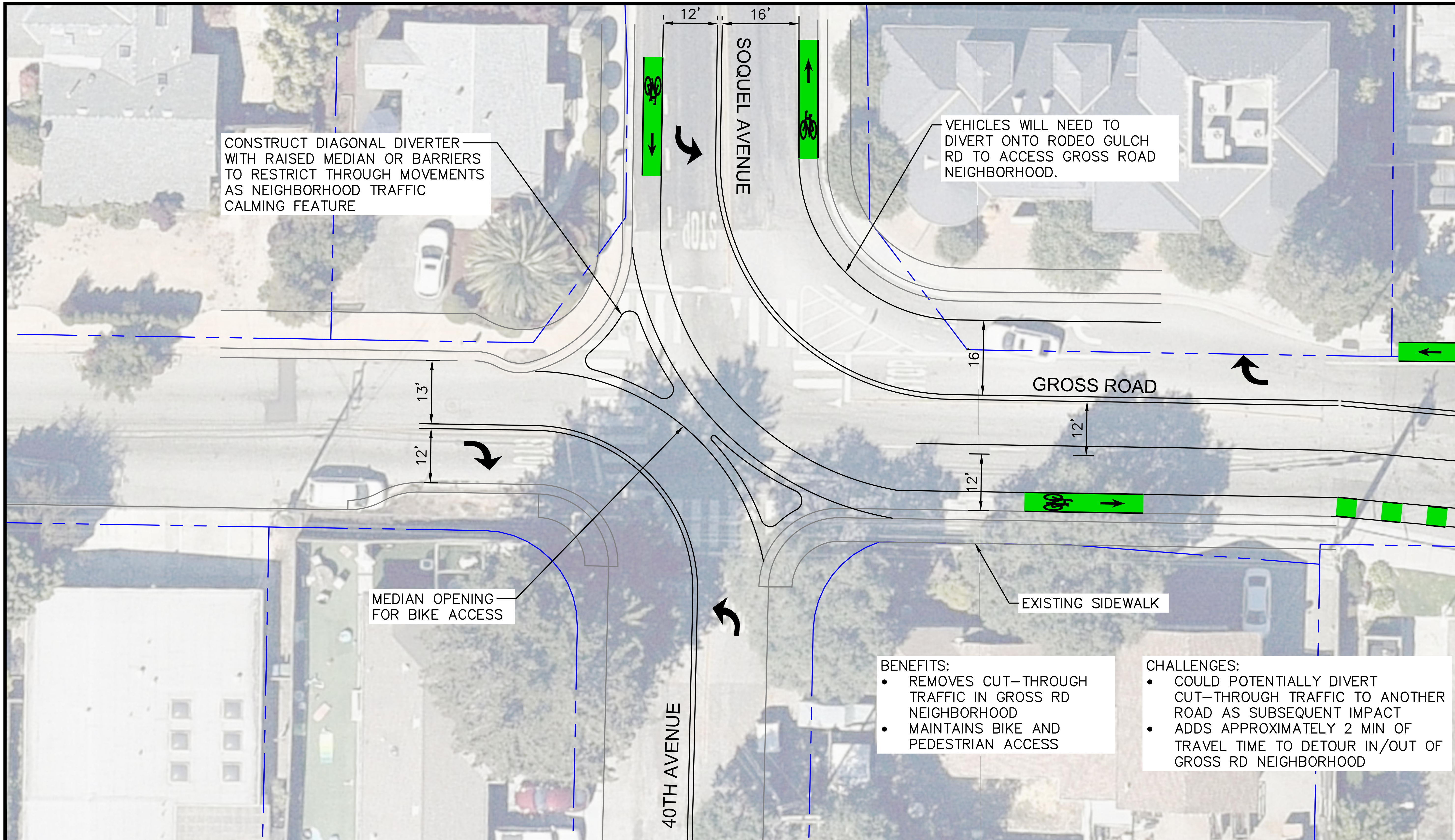
Rodriquez RDG 26 062 91	Dwelling Group			PA171009	
Shashank consultation 26 193 53	Dwelling Group	6		PA181012	Consult completed?
26 451 31		"construct additional units"		PA171008	Consult completed? Confirm data
7-11 and gas station 29 101 41	C			PA16106	Consult completed?
ECV womens' health clinic	Medical Office	Add 8500-17000 SF to ex. office		PA161017	Confirm status, update
Sutter Hospital remodel 25 171 18	Medical			PA161006	2016 confirm whether addition included
Locatelli Mattison Townhomes 29 391 01	Townhome (TH) Planned Unit Development (PUD)	24		PA181008	completed
CVS 25 071 20	Pharmacy	13,000		PA181000	Consult completed. 13,000 existing SF have been demo'd
NO APPLICATIONS MADE*					
Pure Water Soquel	C, Industrial	EIR underway			
Capitola Mall redevelopment		Assumptions TBD			
Sutter campus	Mixed Medical Use	Assumptions TBD			
SMOB receiver R- zoned housing site	MF, PUD	100			
East Cliff Village center redevelopment	MU	Assumptions TBD			2016 consultation

Dominican parking structure					

***** Treatment of consultations and early projects to be determined

- Includes only pending discretionary apps with net new units and non -residential SF and selected pre-application projects only.
- Confirm boundaries of search area out to Park Avenue
- “Approved not built” may be augmented

APPENDIX M.
DIAGONAL DIVERTER & WAYFINDING SIGNAGE CONCEPT LAYOUTS AND TRAVEL TIMES



Kimley»Horn

NORTH

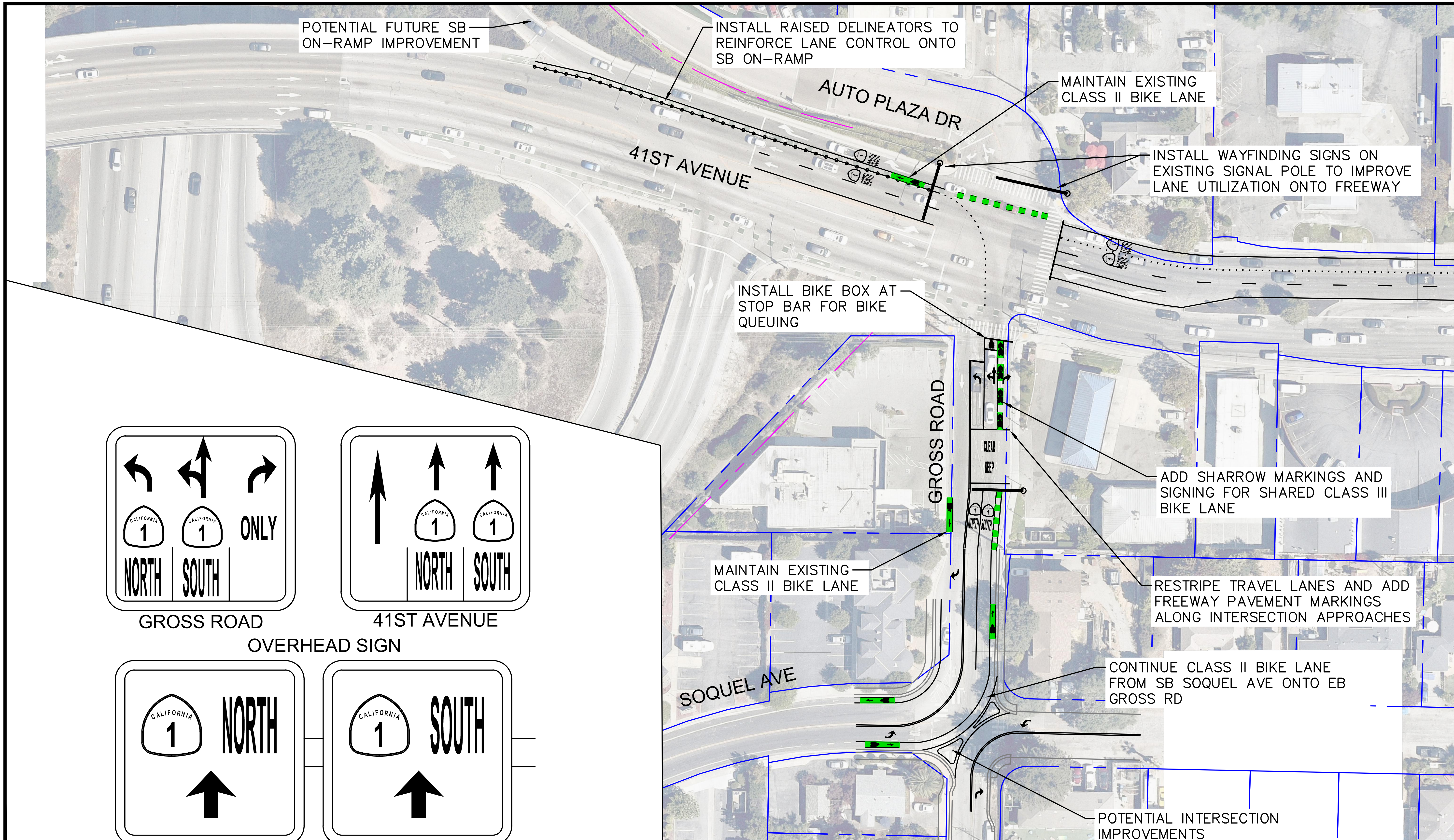
GRAPHIC SCALE IN FEET
0 10 20 40

– APPROXIMATE R/W PER SANTA CRUZ COUNTY GIS

FIGURE G1

XX-097XXXXXX FEBRUARY 2019

SANTA CRUZ COUNTY - DIAGONAL DIVERTER CONCEPT AT GROSS RD / 40TH AVE



Kimley»Horn

GRAPHIC SCALE IN FEET
0 35 70 140

NORTH

— APPROXIMATE R/W PER SANTA CRUZ COUNTY GIS

FIGURE G3

XX-097XXXXXX FEBRUARY 2019

SANTA CRUZ COUNTY - INTERSECTION CONCEPT AT GROSS RD / 41ST AVE

Scenario	Distance (feet)	Travel Time (Minutes)
Existing PM[1]	2050	8.15

1. Travel time measurement was taken from Soquel Ave (just east of Rodeo Gulch Rd) to HWY 1 SB On-Ramp off of 41st Ave.

N

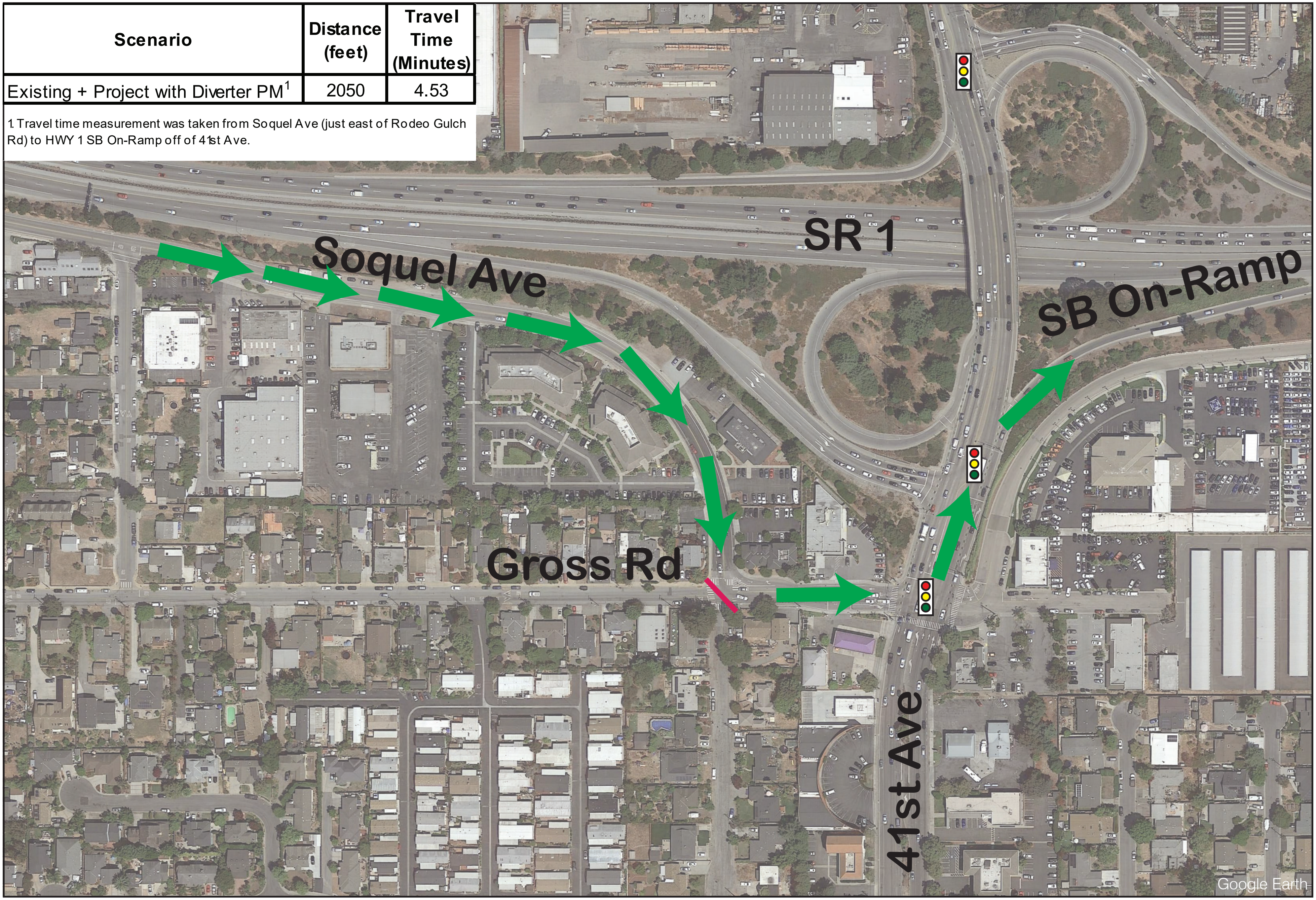
Santa Cruz Medical Office

Figure A

Existing Conditions Travel Time

Scenario	Distance (feet)	Travel Time (Minutes)
Existing + Project with Diverter PM[1]	2050	4.53

1 Travel time measurement was taken from Soquel Ave (just east of Rodeo Gulch Rd) to HWY 1 SB On-Ramp off of 41st Ave.



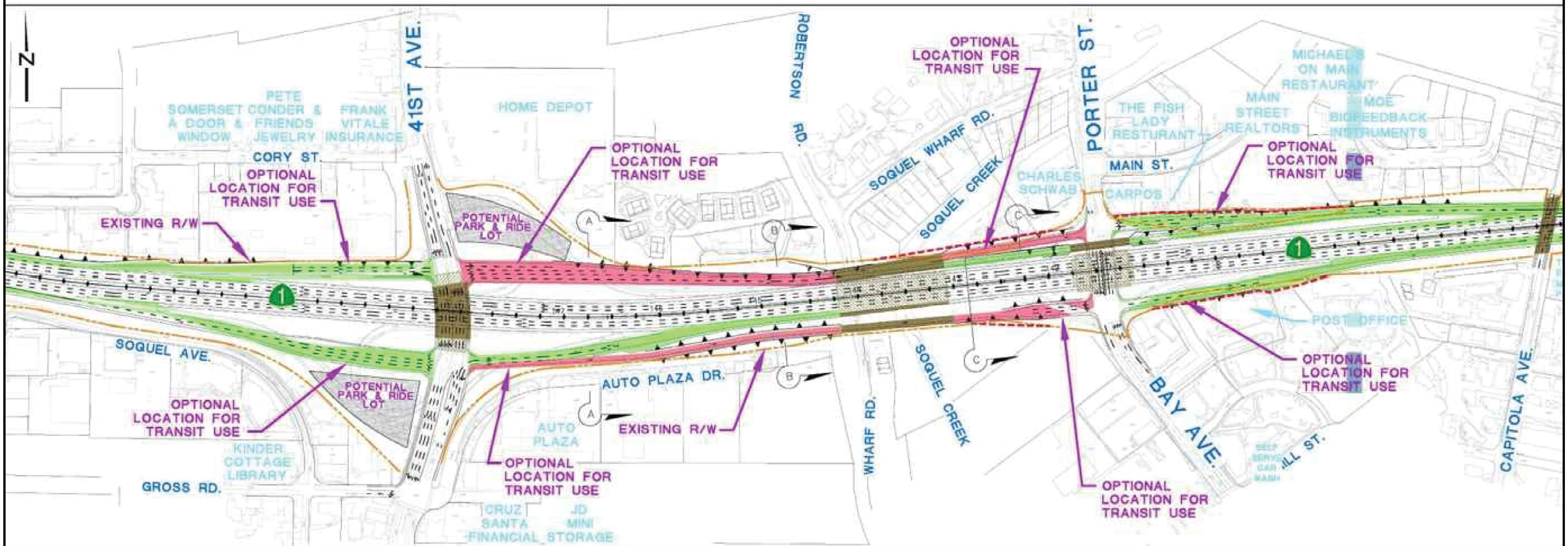
Santa Cruz Medical Office

Figure B

Existing + Project Travel Time with Diverter & Weaving Improvements

Kimley»Horn

APPENDIX N.
HIGHWAY 1 INTERCHANGE LAYOUTS



PMB MOB

Figure 10

Highway 1 - 41st and Porter Interchange Improvements

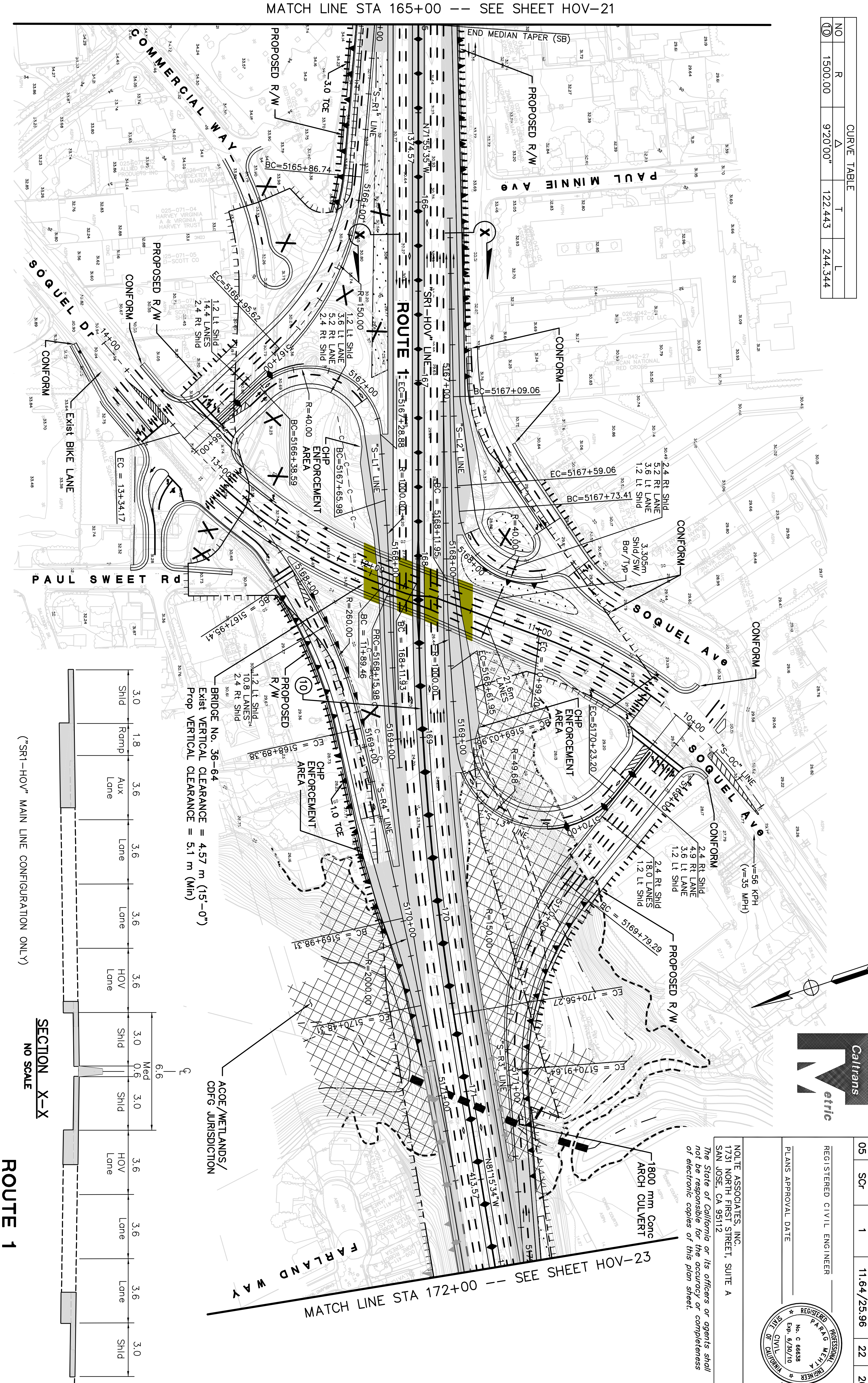
EXMA, TBCT, exlo, exto10, exto11, PRPN_HOV-2, Wetdel, bmpsHOV, EX-Aerial, EX PR Soquel To Morrissey

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN OVERSIGHT	CALCULATED/ DESIGNED BY	DATE	REVISED BY
Caltrans		CHECKED BY		DATE REVISED

NUMBER	DATE	REVISION
4	3/2008	REVISED SHOULDER WIDTHS ON MAIN LINE
3	4/2007	ADDED CUT/FILL LINES, WALLS & DATA FOR FACT SHEETS
2	2/2007	REVISED APE LINE WORK
1	2/2007	ADDED STATION LINE INFORMATION

CURVE TABLE

NO	R	Δ	T	L
10	1500.00	9°20'00"	122.443	244.344



SECTION X-X
NO SCALE
("SR1-HOV" MAIN LINE CONFIGURATION ONLY)

FOR REDUCED PLANS ORIGINAL 0 20 40 60 80

ALL DIMENSIONS ARE IN METERS, UNLESS OTHERWISE SHOWN.

ROUTE 1
HOV LANE ALTERNATIVE
DECEMBER, 2009
SCALE: 1:1000

HOV-22

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SCr	1	11.64/25.96	22	26

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

NOLTE ASSOCIATES, INC.
1731 NORTH FIRST STREET, SUITE A
SAN JOSE, CA 95112

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Caltrans Metric

LAST REVISION
DATE PLOTTED => 9/9/10

APPENDIX O.
HIGHWAY CAPACITY SOFTWARE (HCS) INPUTS AND RESULTS

2018 Exisiting Conditions

		Highway 1												Highway 17			
		1. Highway 1 Morrissey Blvd to Soquel Dr				2. Highway 1 Soquel Dr to 41st Ave				3. Highway 1 41st Ave to Porter St/Bay Ave				4.Highway 17 Pasatiempo Overcrossing to Highway 1 Interchange			
		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
HCS Freeway Inputs	Number of Lanes	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	FF Speed (Measured)	68.1	68.1	68.9	68.9	68.7	68.7	67.1	67.1	67.1	67.1	68.7	68.7	69.3	69.3	63.7	63.7
	Terrain Type	Rolling	Rolling	Rolling	Rolling	Level	Level	Level	Level	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling
	Driver Population	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix
	Weather Factor	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe
	Incident Type	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident
	Speed Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
	Capacity Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
	Demand Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
Volume Calculations	2018 TDM Flow (veh/3 hour)	3104	4720	3895	4399	3313	4384	3671	4234	3667	4982	3933	4982	2167	3883	3317	3009
	Proportion of flow in peak hour	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	2018 TDM Hourly Volume	3104	4720	3895	4399	3313	4384	3671	4234	3667	4982	3933	4982	2167	3883	3317	3009
	2018 PeMS Flow (veh/hr)	3563	2193	1832	1559	2429	2326	1739	1775	3157	2553	2754	1883	3018	2996	1706	1950
	2018 PeMS PHF	0.91	0.97	0.96	0.96	0.99	0.96	0.89	0.93	0.92	0.97	0.84	0.84	0.95	0.98	0.90	0.94
	2018 PeMS Speed	59.8	42.9	57.4	19.7	52.8	57.0	54.8	9.8	39.2	61.1	61.3	10.1	51.3	52.0	62.6	61.7
	PeMS PHF	0.91	0.97	0.96	0.96	0.99	0.96	0.89	0.93	0.92	0.97	0.84	0.84	0.95	0.98	0.90	0.94
	Oversaturated? (PeMS Speed <= 45 mph)	F	T	F	T	F	F	F	T	T	F	F	T	F	F	F	F
	Demand (without site trips)	3563	4720	1832	4399	2429	2326	1739	4234	3667	2553	2754	4982	3018	2996	1706	1950
	PHF (if oversaturated, min 0.95)	0.91	0.95	0.96	0.95	0.99	0.96	0.89	0.95	0.95	0.97	0.84	0.95	0.95	0.98	0.90	0.94
	Trip Distribution (%)	19%	19%	19%	19%	0%	0%	0%	0%	10%	10%	10%	10%	11%	11%	11%	11%
	Site Trips	22	70	85	28	0	0	0	0	45	15	12	37	13	42	51	17
HCS Vol. Inputs	Coded HCS Demand	3563	4720	1832	4399	2429	2326	1739	4234	3667	2553	2754	4982	3018	2996	1706	1950
	Heavy Vehicle Percent (from PeMS, min 0.5%)	2.27%	0.50%	6.33%	0.50%	0.50%	0.50%	0.50%	1.07%	1.71%	3.17%	1.34%	2.23%	2.25%	2.40%	5.51%	7.64%
	PHF	0.91	0.95	0.96	0.95	0.99	0.96	0.89	0.95	0.95	0.97	0.84	0.95	0.95	0.98	0.90	0.94
HCS Outputs	Volume/capacity ratio	0.60	0.76	0.49	1.06	0.56	0.55	0.45	1.03	0.91	0.64	0.76	1.24	0.90	0.72	0.49	0.55

2018 Exisiting Plus Conditions

		Highway 1												Highway 17			
		1. Highway 1 Morrissey Blvd to Soquel Dr				2. Highway 1 Soquel Dr to 41st Ave				3. Highway 1 41st Ave to Porter St/Bay Ave				4.Highway 17 Pasatiempo Overcrossing to Highway 1 Interchange			
		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
HCS Freeway Inputs	Number of Lanes	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	FF Speed (Measured)	68.1	68.1	68.9	68.9	68.7	68.7	67.1	67.1	67.1	67.1	68.7	68.7	69.3	69.3	63.7	63.7
	Terrain Type	Rolling	Rolling	Rolling	Rolling	Level	Level	Level	Level	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling
	Driver Population	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix
	Weather Factor	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe
	Incident Type	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident
	Speed Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
	Capacity Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
	Demand Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
Volume Calculations	2018 TDM Flow (veh/3 hour)	3104	4720	3895	4399	3313	4384	3671	4234	3667	4982	3933	4982	2167	3883	3317	3009
	Proportion of flow in peak hour	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	2018 TDM Hourly Volume	3104	4720	3895	4399	3313	4384	3671	4234	3667	4982	3933	4982	2167	3883	3317	3009
	2018 PeMS Flow (veh/hr)	3563	2193	1832	1559	2429	2326	1739	1775	3157	2553	2754	1883	3018	2996	1706	1950
	2018 PeMS PHF	0.91	0.97	0.96	0.96	0.99	0.96	0.89	0.93	0.92	0.97	0.84	0.84	0.95	0.98	0.90	0.94
	2018 PeMS Speed	59.8	42.9	57.4	19.7	52.8	57.0	54.8	9.8	39.2	61.1	61.3	10.1	51.3	52.0	62.6	61.7
	PeMS PHF	0.91	0.97	0.96	0.96	0.99	0.96	0.89	0.93	0.92	0.97	0.84	0.84	0.95	0.98	0.90	0.94
	Oversaturated? (PeMS Speed <= 45 mph)	F	T	F	T	F	F	F	T	T	F	F	T	F	F	F	F
	Demand (without site trips)	3563	4720	1832	4399	2429	2326	1739	4234	3667	2553	2754	4982	3018	2996	1706	1950
	PHF (if oversaturated, min 0.95)	0.91	0.95	0.96	0.95	0.99	0.96	0.89	0.95	0.95	0.97	0.84	0.95	0.95	0.98	0.90	0.94
	Trip Distribution (%)	19%	19%	19%	19%	0%	0%	0%	0%	10%	10%	10%	10%	11%	11%	11%	11%
	Site Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HCS Vol. Inputs	Coded HCS Demand	3563	4720	1832	4399	2429	2326	1739	4234	3667	2553	2754	4982	3018	2996	1706	1950
	Heavy Vehicle Percent (from PeMS, min 0.5%)	2.27%	0.50%	6.33%	0.50%	0.50%	0.50%	0.50%	1.07%	1.71%	3.17%	1.34%	2.23%	2.25%	2.40%	5.51%	7.64%
	PHF	0.91	0.95	0.96	0.95	0.99	0.96	0.89	0.95	0.95	0.97	0.84	0.95	0.95	0.98	0.90	0.94
HCS Outputs	Volume/capacity ratio	0.62	0.77	0.51	1.06	0.56	0.55	0.45	1.03	0.92	0.64	0.77	1.25	0.75	0.73	0.50	0.56

Not Applicable for this Scenario

2021 Near Term Conditions

2021 Near Term Conditions		Highway 1												Highway 17			
		1. Highway 1 Morrissey Blvd to Soquel Dr				2. Highway 1 Soquel Dr to 41st Ave				3. Highway 1 41st Ave to Porter St/Bay Ave				4.Highway 17 Pasatiempo Overcrossing to Highway 1 Interchange			
		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
HCS Freeway Inputs	Number of Lanes	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	FF Speed (Measured)	68.1	68.1	68.9	68.9	68.7	68.7	67.1	67.1	67.1	67.1	68.7	68.7	69.3	69.3	63.7	63.7
	Terrain Type	Rolling	Rolling	Rolling	Rolling	Level	Level	Level	Level	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling
	Driver Population	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix
	Weather Factor	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe
	Incident Type	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident
	Speed Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
	Capacity Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
	Demand Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
Volume Calculations	2021 TDM Flow (veh/3 hour)	3140	4763	3955	4430	3358	4397	3712	4240	3694	4996	4000	4991	2214	3916	3358	3055
	Proportion of flow in peak hour	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	2021 TDM Hourly Volume	3140	4763	3955	4430	3358	4397	3712	4240	3694	4996	4000	4991	2214	3916	3358	3055
	2018 PeMS Flow (veh/hr)	3563	2193	1832	1559	2429	2326	1739	1775	3157	2553	2754	1883	3018	2996	1706	1950
	2018 PeMS PHF	0.91	0.97	0.96	0.96	0.99	0.96	0.89	0.93	0.92	0.97	0.84	0.84	0.95	0.98	0.90	0.94
	2018 PeMS Speed	59.8	42.9	57.4	19.7	52.8	57.0	54.8	9.8	39.2	61.1	61.3	10.1	51.3	52.0	62.6	61.7
	PeMS PHF	0.91	0.97	0.96	0.96	0.99	0.96	0.89	0.93	0.92	0.97	0.84	0.84	0.95	0.98	0.90	0.94
	Oversaturated? (PeMS Speed <= 45 mph)	F	T	F	T	F	F	F	T	T	F	F	T	F	F	F	F
	Demand (without site trips)	3563	4763	1832	4430	2429	2326	1739	4240	3694	2553	2754	4991	3018	2996	1706	1950
	PHF (if oversaturated, min 0.95)	0.91	0.95	0.96	0.95	0.99	0.96	0.89	0.95	0.95	0.97	0.84	0.95	0.95	0.98	0.90	0.94
	Trip Distribution (%)	19%	19%	19%	19%	0%	0%	0%	0%	10%	10%	10%	10%	11%	11%	11%	11%
	Site Trips	22	70	85	28	0	0	0	0	45	15	12	37	13	42	51	17
HCS Vol. Inputs	Coded HCS Demand	3563	4763	1832	4430	2429	2326	1739	4240	3694	2553	2754	4991	3018	2996	1706	1950
	Heavy Vehicle Percent (from PeMS, min 0.5%)	2.27%	0.50%	6.33%	0.50%	0.50%	0.50%	0.50%	1.07%	1.71%	3.17%	1.34%	2.23%	2.25%	2.40%	5.51%	7.64%
	PHF (min 0.92)	0.92	0.95	0.96	0.95	0.99	0.96	0.92	0.95	0.95	0.97	0.92	0.95	0.95	0.98	0.92	0.94
HCS Outputs	Volume/capacity ratio	0.61	0.77	0.49	1.06	0.56	0.55	0.43	1.03	0.92	0.64	0.70	1.24	0.75	0.72	0.48	0.55

2021 Near Term Plus Conditions

2021 Near Term Plus Conditions		Highway 1												Highway 17			
		1. Highway 1 Morrissey Blvd to Soquel Dr				2. Highway 1 Soquel Dr to 41st Ave				3. Highway 1 41st Ave to Porter St/Bay Ave				4.Highway 17 Pasatiempo Overcrossing to Highway 1 Interchange			
		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
HCS Freeway Inputs	Number of Lanes	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	FF Speed (Measured)	68.1	68.1	68.9	68.9	68.7	68.7	67.1	67.1	67.1	67.1	68.7	68.7	69.3	69.3	63.7	63.7
	Terrain Type	Rolling	Rolling	Rolling	Rolling	Level	Level	Level	Level	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling
	Driver Population	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix
	Weather Factor	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe
	Incident Type	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident
	Speed Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
	Capacity Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
	Demand Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
Volume Calculations	2021 TDM Flow (veh/3 hour)	3140	4763	3955	4430	3358	4397	3712	4240	3694	4996	4000	4991	2214	3916	3358	3055
	Proportion of flow in peak hour	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	2021 TDM Hourly Volume	3140	4763	3955	4430	3358	4397	3712	4240	3694	4996	4000	4991	2214	3916	3358	3055
	2018 PeMS Flow (veh/hr)	3563	2193	1832	1559	2429	2326	1739	1775	3157	2553	2754	1883	3018	2996	1706	1950
	2018 PeMS PHF	0.91	0.97	0.96	0.96	0.99	0.96	0.89	0.93	0.92	0.97	0.84	0.84	0.95	0.98	0.90	0.94
	2018 PeMS Speed	59.8	42.9	57.4	19.7	52.8	57.0	54.8	9.8	39.2	61.1	61.3	10.1	51.3	52.0	62.6	61.7
	PeMS PHF	0.91	0.97	0.96	0.96	0.99	0.96	0.89	0.93	0.92	0.97	0.84	0.84	0.95	0.98	0.90	0.94
	Oversaturated? (PeMS Speed <= 45 mph)	F	T	F	T	F	F	F	T	T	F	F	T	F	F	F	F
	Demand (without site trips)	3604	4763	1860	4430	2462	2333	1758	4240	3694	2560	2801	4991	3083	3022	1727	1980
	PHF (if oversaturated, min 0.95)	0.91	0.95	0.96	0.95	0.99	0.96	0.89	0.95	0.95	0.97	0.84	0.95	0.95	0.98	0.90	0.94
	Trip Distribution (%)	19%	19%	19%	19%	0%	0%	0%	0%	10%	10%	10%	10%	11%	11%	11%	11%
	Site Trips	22	70	85	28	0	0	0	0	45	15	12	37	13	42	51	17
HCS Vol. Inputs	Coded HCS Demand	3626	4833	1945	4458	2462	2333	1758	4240	3739	2575	2813	5028	3096	3064	1778	1997
	Heavy Vehicle Percent (from PeMS, min 0.5%)	2.27%	0.50%	6.33%	0.50%	0.50%	0.50%	0.50%	1.07%	1.71%	3.17%	1.34%	2.23%	2.25%	2.40%	5.51%	7.64%
	PHF (min 0.92)	0.92	0.95	0.96	0.95	0.99	0.96	0.92	0.95	0.95	0.97	0.92	0.95	0.95	0.98	0.92	0.94
HCS Outputs	Volume/capacity ratio	0.62	0.78	0.52	1.07	0.57	0.55	0.44	1.03	0.93	0.64	0.71	1.25	0.77	0.74	0.50	0.57

Not Applicable for this Scenario

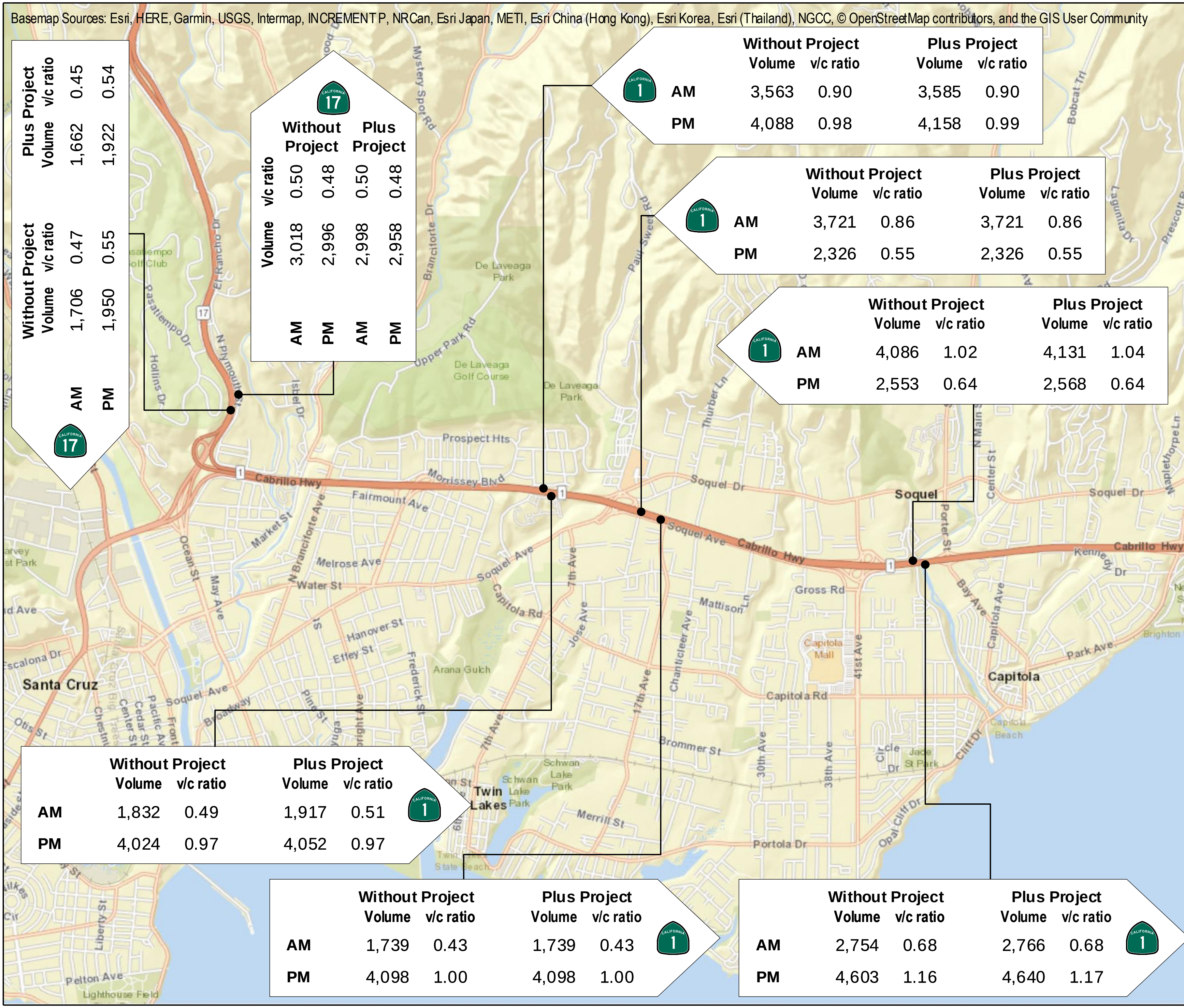
2040 Cumulative Conditions

		Highway 1												Highway 17			
		1. Highway 1 Morrissey Blvd to Soquel Dr				2. Highway 1 Soquel Dr to 41st Ave				3. Highway 1 41st Ave to Porter St/Bay Ave				4.Highway 17 Pasatiempo Overcrossing to Highway 1 Interchange			
		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
HCS Freeway Inputs	Number of Lanes	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	FF Speed (Measured)	68.1	68.1	68.9	68.9	68.7	68.7	67.1	67.1	67.1	67.1	68.7	68.7	69.3	69.3	63.7	63.7
	Terrain Type	Rolling	Rolling	Rolling	Rolling	Level	Level	Level	Level	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling
	Driver Population	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix
	Weather Factor	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe
	Incident Type	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident
	Speed Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
	Capacity Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
	Demand Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
Volume Calculations	2040 TDM Flow (veh/3 hour)	3365	5034	4333	4627	3641	4479	3971	4275	3863	5158	4424	5047	2509	4126	3618	3347
	Proportion of flow in peak hour	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	2040 TDM Hourly Volume	3365	5034	4333	4627	3641	4479	3971	4275	3863	5158	4424	5047	2509	4126	3618	3347
	2018 PeMS Flow (veh/hr)	3563	2193	1832	1559	2429	2326	1739	1775	3157	2553	2754	1883	3018	2996	1706	1950
	2018 PeMS PHF	0.91	0.97	0.96	0.96	0.99	0.96	0.89	0.93	0.92	0.97	0.84	0.84	0.95	0.98	0.90	0.94
	2018 PeMS Speed	59.8	42.9	57.4	19.7	52.8	57.0	54.8	9.8	39.2	61.1	61.3	10.1	51.3	52.0	62.6	61.7
	PeMS PHF	0.91	0.97	0.96	0.96	0.99	0.96	0.89	0.93	0.92	0.97	0.84	0.84	0.95	0.98	0.90	0.94
	Oversaturated? (PeMS Speed <= 45 mph)	F	T	F	T	F	F	F	T	T	F	F	T	F	F	F	F
	Demand (without site trips)	3862	5034	2038	4627	2669	2377	1881	4275	3863	2643	3098	5047	3494	3184	1861	2169
	PHF (if oversaturated, min 0.95)	0.91	0.95	0.96	0.95	0.99	0.96	0.89	0.95	0.95	0.97	0.84	0.95	0.95	0.98	0.90	0.94
	Trip Distribution (%)	19%	19%	19%	19%	0%	0%	0%	0%	10%	10%	10%	10%	11%	11%	11%	11%
	Site Trips	20	68	86	24	0	0	0	0	45	13	11	36	12	41	51	14
HCS Vol. Inputs	Coded HCS Demand	3862	5034	2038	4627	2669	2377	1881	4275	3863	2643	3098	5047	3494	3184	1861	2169
	Heavy Vehicle Percent (from PeMS, min 0.5%)	2.27%	0.50%	6.33%	0.50%	0.50%	0.50%	0.50%	1.07%	1.71%	3.17%	1.34%	2.23%	2.25%	2.40%	5.51%	7.64%
	PHF (min 0.92)	0.92	0.95	0.96	0.95	0.99	0.96	0.92	0.95	0.95	0.97	0.92	0.95	0.95	0.98	0.92	0.94
HCS Outputs	Volume/capacity ratio	0.66	0.81	0.54	1.11	0.61	0.56	0.47	1.04	0.96	0.66	0.78	1.26	0.87	0.77	0.52	0.61

2040 Cumulative Plus Conditions

		Highway 1												Highway 17			
		1. Highway 1 Morrissey Blvd to Soquel Dr				2. Highway 1 Soquel Dr to 41st Ave				3. Highway 1 41st Ave to Porter St/Bay Ave				4.Highway 17 Pasatiempo Overcrossing to Highway 1 Interchange			
		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND		NORTHBOUND		SOUTHBOUND	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
HCS Freeway Inputs	Number of Lanes	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	FF Speed (Measured)	68.1	68.1	68.9	68.9	68.7	68.7	67.1	67.1	67.1	67.1	68.7	68.7	69.3	69.3	63.7	63.7
	Terrain Type	Rolling	Rolling	Rolling	Rolling	Level	Level	Level	Level	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling
	Driver Population	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix	Balanced Mix
	Weather Factor	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe	Non-Severe
	Incident Type	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident	No Incident
	Speed Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
	Capacity Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
	Demand Adjustment Factor	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default	Default
Volume Calculations	2040 TDM Flow (veh/3 hour)	3365	5034	4333	4627	3641	4479	3971	4275	3863	5158	4424	5047	2509	4126	3618	3347
	Proportion of flow in peak hour	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	2040 TDM Hourly Volume	3365	5034	4333	4627	3641	4479	3971	4275	3863	5158	4424	5047	2509	4126	3618	3347
	2018 PeMS Flow (veh/hr)	3563	2193	1832	1559	2429	2326	1739	1775	3157	2553	2754	1883	3018	2996	1706	1950
	2018 PeMS PHF	0.91	0.97	0.96	0.96	0.99	0.96	0.89	0.93	0.92	0.97	0.84	0.84	0.95	0.98	0.90	0.94
	2018 PeMS Speed	59.8	42.9	57.4	19.7	52.8	57.0	54.8	9.8	39.2	61.1	61.3	10.1	51.3	52.0	62.6	61.7
	PeMS PHF	0.91	0.97	0.96	0.96	0.99	0.96	0.89	0.93	0.92	0.97	0.84	0.84	0.95	0.98	0.90	0.94
	Oversaturated? (PeMS Speed <= 45 mph)	F	T	F	T	F	F	F	T	T	F	F	T	F	F	F	F
	Demand (without site trips)	3862	5034	2038	4627	2669	2377	1881	4275	3863	2643	3098	5047	3494	3184	1861	2169
	PHF (if oversaturated, min 0.95)	0.91	0.95	0.96	0.95	0.99	0.96	0.89	0.95	0.95	0.97	0.84	0.95	0.95	0.98	0.90	0.94
	Trip Distribution (%)	19%	19%	19%	19%	0%	0%	0%	0%	10%	10%	10%	10%	11%	11%	11%	11%
	Site Trips	20	68	86	24	0	0	0	0	45	13	11	36	12	41	51	14
HCS Vol. Inputs	Coded HCS Demand	3882	5102	2124	4651	2669	2377	1881	4275	3908	2656	3109	5083	3506	3225	1912	2183
	Heavy Vehicle Percent (from PeMS, min 0.5%)	2.27%	0.50%	6.33%	0.50%	0.50%	0.50%	0.50%	1.07%	1.71%	3.17%	1.34%	2.23%	2.25%	2.40%	5.51%	7.64%
	PHF	0.92	0.95	0.96	0.95	0.99	0.96	0.92	0.95	0.95	0.97	0.92	0.95	0.95	0.98	0.92	0.94
HCS Outputs	Volume/capacity ratio	0.67	0.82	0.56	1.12	0.61	0.56	0.47	1.04	0.97	0.66	0.79	1.27	0.87	0.78	0.53	0.62

(grey shading) Not Applicable for this Scenario



State Route 17 (north segment)

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	1,706	0.47	1,662	0.45
PM	1,950	0.55	1,922	0.54

State Route 17 (south segment)

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	3,018	0.50	2,998	0.50
PM	2,996	0.48	2,958	0.48

State Route 1

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	3,563	0.90	3,585	0.90
PM	4,088	0.98	4,158	0.99

State Route 1

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	3,721	0.86	3,721	0.86
PM	2,326	0.55	2,326	0.55

State Route 1

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	4,086	1.02	4,131	1.04
PM	2,553	0.64	2,568	0.64

State Route 1

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	1,832	0.49	1,917	0.51
PM	4,024	0.97	4,052	0.97

State Route 1

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	1,739	0.43	1,739	0.43
PM	4,098	1.00	4,098	1.00

State Route 1

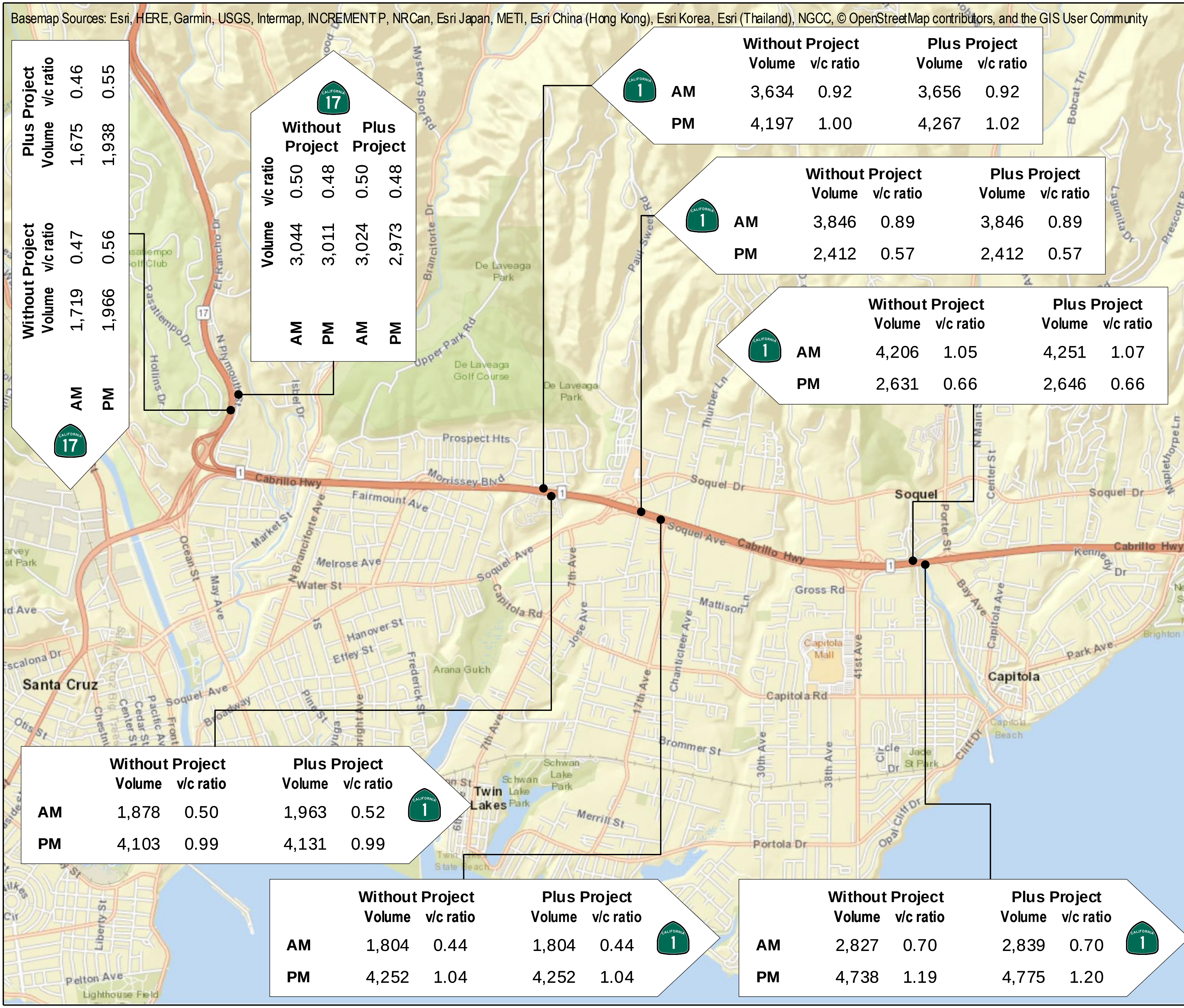
	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	2,754	0.68	2,766	0.68
PM	4,603	1.16	4,640	1.17

2018 Existing Conditions HCS Results

NOT TO SCALE

Santa Cruz Medical Office Building Freeway Analysis

Kimley-Horn



SR 17 (north of SR 1 interchange)

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	1,719	0.47	1,675	0.46
PM	1,966	0.56	1,938	0.55

SR 17

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	3,044	0.50	3,024	0.50
PM	3,011	0.48	2,973	0.48

SR 1

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	3,634	0.92	3,656	0.92
PM	4,197	1.00	4,267	1.02

SR 1

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	3,846	0.89	3,846	0.89
PM	2,412	0.57	2,412	0.57

SR 1

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	4,206	1.05	4,251	1.07
PM	2,631	0.66	2,646	0.66

SR 1

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	1,878	0.50	1,963	0.52
PM	4,103	0.99	4,131	0.99

SR 1

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	1,804	0.44	1,804	0.44
PM	4,252	1.04	4,252	1.04

SR 1

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	2,827	0.70	2,839	0.70
PM	4,738	1.19	4,775	1.20

2021 Near Term Conditions HCS Results

NOT TO SCALE

Santa Cruz Medical Office Building Freeway Analysis

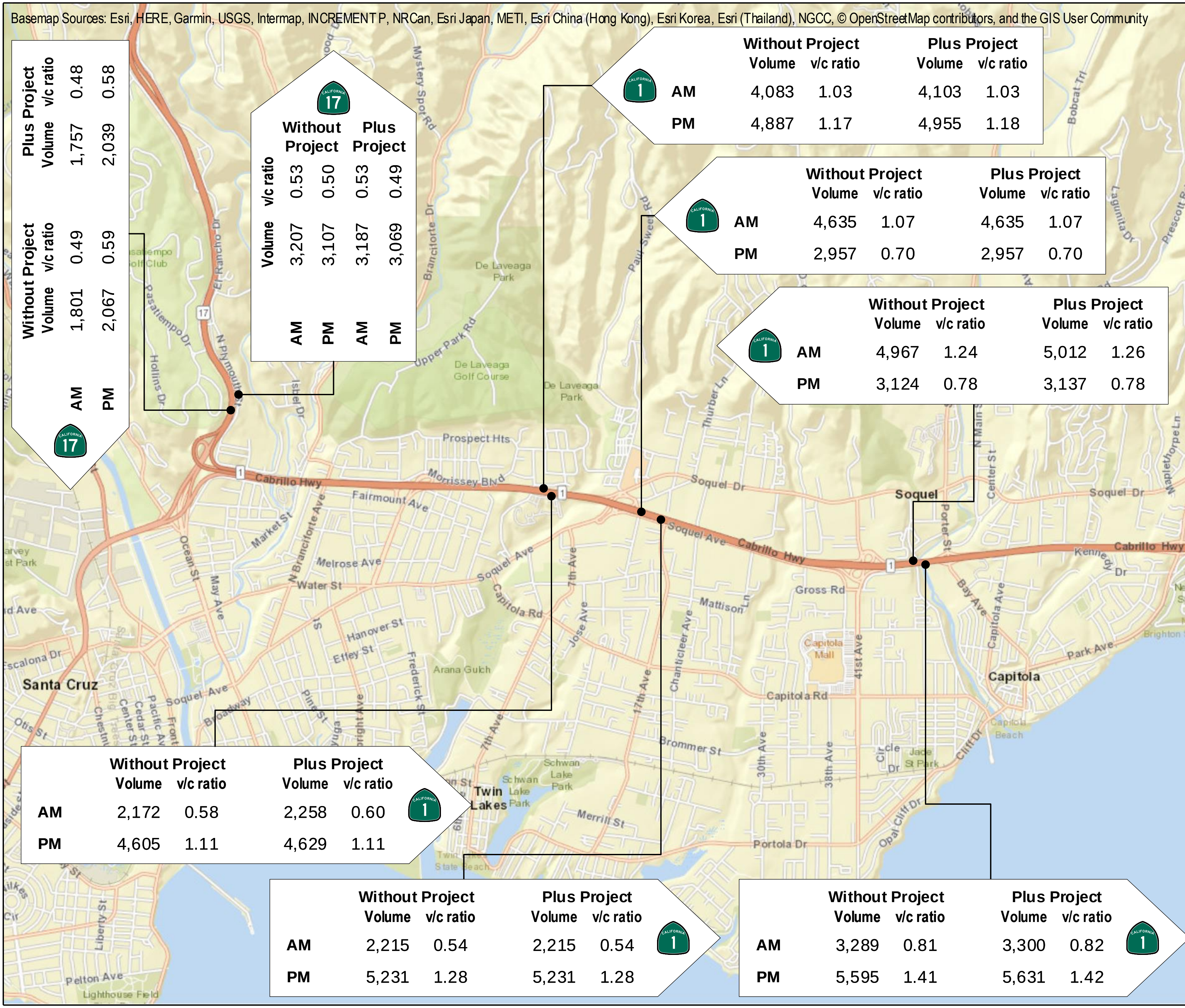
Kimley»Horn

2040 Cumulative Conditions HCS Results

NOT TO SCALE

Santa Cruz Medical Office Building Freeway Analysis

Basemap Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community



17 (SR 17, northern segment)

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	1,801	0.49	1,757	0.48
PM	2,067	0.59	2,039	0.58

17 (SR 17, southern segment)

	Volume	v/c ratio
Without Project AM	3,207	0.53
Without Project PM	3,107	0.50
Plus Project AM	3,187	0.53
Plus Project PM	3,069	0.49

1 (SR 1)

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	4,083	1.03	4,103	1.03
PM	4,887	1.17	4,955	1.18

1 (SR 1)

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	4,635	1.07	4,635	1.07
PM	2,957	0.70	2,957	0.70

1 (SR 1)

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	4,967	1.24	5,012	1.26
PM	3,124	0.78	3,137	0.78

1 (SR 1)

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	2,172	0.58	2,258	0.60
PM	4,605	1.11	4,629	1.11

1 (SR 1)

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	2,215	0.54	2,215	0.54
PM	5,231	1.28	5,231	1.28

1 (SR 1)

	Without Project Volume	Without Project v/c ratio	Plus Project Volume	Plus Project v/c ratio
AM	3,289	0.81	3,300	0.82
PM	5,595	1.41	5,631	1.42

APPENDIX P.
SR 1 HOV LANE WIDENING PROJECT SUPPLEMENTAL REPORT
(MAY 2010)

05-SCr-1 – PM 13.5/14.9 - EA 05-0C7300
PI # 05-0000-0023
Oversight Unit 06-1449
Program Code 20.XX.075.600 (STIP RIP) &
400.100 (Local)
September 2015

DRAFT PROJECT REPORT

TO AUTHORIZE PUBLIC RELEASE

OF

THE DRAFT ENVIRONMENTAL DOCUMENT

FOR
OPERATIONAL IMPROVEMENTS

On Route 1 in Santa Cruz County in and near Capitola and Santa Cruz

Between 41st Avenue Overcrossing

And Soquel Avenue/Drive Overcrossing

I have reviewed the right-of-way information contained in this Draft Project Report and the R/W Data Sheet attached hereto, and find the data to be complete, current, and accurate:

JAMIE LUPO, CENTRAL REGION DIVISION CHIEF – RIGHT-OF-WAY

APPROVAL RECOMMENDED:

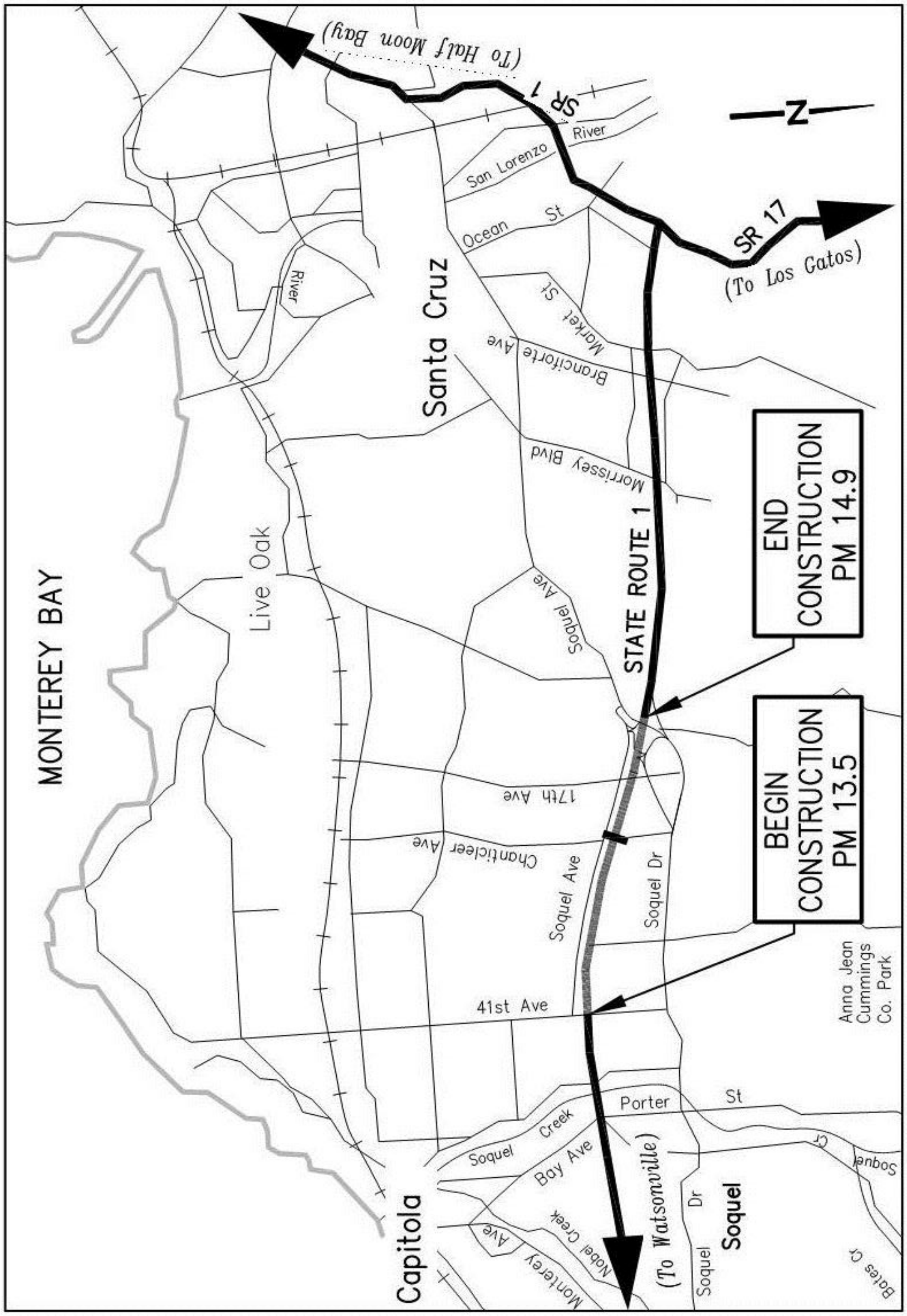
LUIS DUAZO, PROJECT MANAGER

APPROVED:

TIMOTHY M. GUBBINS, DISTRICT 5 DIRECTOR,

10/28/15
DATE

VICINITY MAP



05-SCr-1 – PM 13.5/14.9 - EA 05-0C7300
PI # 05-0000-0023
Program Code 20.XX.075.600 (STIP RIP) &
400.100 (Local)
September 2015

This Draft Project Report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

Parag Mehta

10/30/2015

PARAG MEHTA, REGISTERED CIVIL ENGINEER — *DATE*

Kimley-Horn
6150 Stoneridge Mall Road, Suite 200
Pleasanton, CA 94588

Table of Contents

1. INTRODUCTION 3
2. RECOMMENDATION 4
3. BACKGROUND 4
3.1 Project History 4
3.2 Community Interaction 6
3.3 Existing Facility 7
4. NEED AND PURPOSE 8
4.1 Problem, Deficiencies, Justification 8
4.2 Regional & System Planning 12
4.3 Traffic 15
5. ALTERNATIVES 23
5.1 Viable Alternatives 23
5.1.1 No-Build Alternative 23
5.1.2 Auxiliary Lane Alternative 23
5.2 Non-standard Mandatory and Advisory Design Features 26
5.3 High Occupancy Vehicle (HOV) (Bus and Carpool) Lanes 27
5.4 Ramp Metering 27
5.5 Park and Ride Facilities 28
5.6 Utility and Other Owner Involvement 28
5.7 Highway Planting 28
5.8 Erosion Control 29
5.9 Storm Water Compliance 29
5.10 Noise Barriers 30
5.11 Non-Motorized and Pedestrian features 30
5.12 Needed Roadway Rehabilitation and Upgrading 31
5.13 Needed Structure Rehabilitation and Upgrading 31
5.14 Cost Estimate 31
5.15 Effect of Projects-Funded-by-Others on State Highway 31
5.16 Rejected Alternatives 31
6. CONSIDERATIONS REQUIRING DISCUSSIONS 31
6.1 Hazardous Waste 31
6.2 Value Analysis 32
6.3 Resource Conservation 32
6.4 Right-of-way Issues 33
6.5 Environmental Issues 33
6.6 Air Quality Conformity 40
6.7 Noise Abatement Decision 40
7. OTHER CONSIDERATIONS AS APPROPRIATE 43
7.1 Public Hearing Process 43
7.2 Route Matters 43
7.3 Permits 43
7.4 Cooperative Agreements 43
7.5 Transportation Management Plan for Use During Construction 44
7.6 Stage Construction 44
7.7 Graffiti Control 44
7.8 Oversize Loads 45
7.9 Life Cycle Cost Analysis 45
8. FUNDING/PROGRAMMING 46
9. SCHEDULE 50
10. RISKS 50
11. FHWA COORDINATION 51

12. PROJECT REVIEWS....................51
13. PROJECT PERSONNEL....................51
14. LIST OF ATTACHMENTS....................52

1. INTRODUCTION

The project site extends approximately 1.4 miles along State Route 1 in Santa Cruz County, between the 41st Avenue and Soquel Drive interchanges. The "build" alternative proposes to widen State Route 1 by adding auxiliary lanes to the north and southbound sides between the 41st Avenue and Soquel Drive Interchanges (PM13.5-PM14.9). A new bike and pedestrian overcrossing is proposed at Chanticleer Avenue to improve bicycle and pedestrian access across State Route 1. The estimated construction cost of this alternative, including right-of-way, is $17.9 million. Right-of-way would be acquired for the construction of the bike and pedestrian overcrossing approach ramps. The project is proposed to be funded from the Santa Cruz County Regional Transportation Commission's Regional Surface Transportation Program (RSTP), State Transportation Improvement Program (STIP), and Regional Improvement Program (RIP) funds over 4 years. PS&E for this project will be developed under EA 05-0C732.

This is a Project Development Category 4B type project, because it does not require substantial new right of way and does not substantially increase traffic capacity.

Environmental analysis and documentation for this project is found in the Tier I/Tier II Draft Environmental Impact Report / Environmental Assessment (DEIR/EA) (Attachment G) entitled, "Santa Cruz Route 1 HOV Tier I Corridor Analysis of High Occupancy Vehicle (HOV) Lanes and Transportation System Management (TSM) Alternatives and Tier II Build Project Analysis, 41st Avenue to Soquel Avenue/Drive Auxiliary Lanes and Chanticleer Avenue Pedestrian Overcrossing", which will identify a Tier I preferred alternative for a "program" of future construction projects to be implemented within the 8.9 mile corridor over multiple years. This Project Report is for the Tier II project of the title and is analyzed at a project level in the DEIR/EA. Any additional Tier II projects will be cleared environmentally with their own Project Report and Environmental Document when their scope is determined and funds become available.

The two alternatives under consideration are the No Build Alternative and the Auxiliary Lane Alternative. The No Build alternative assumes no major construction on State Route 1 through the project limits other than continued routine maintenance. If the auxiliary lane project is selected, construction is assumed to begin in July 2019.

Project Limits	05-SCr-1 – PM 13.5/14.9
Number of Alternatives	1 build alternative
Current Capital Outlay Support Estimate	$5.4 million
Current Capital Outlay Construction Estimate	$16.6 million
Current Capital Outlay Right-of-Way Estimate	$1.3 million
Funding Source	Program Code 20.XX.075.600 (STIP RIP) & 400.100 (Local)
Funding Year	2013-2017

Type of Facility	4-lane freeway
Number of Structures	1 bicycle/pedestrian overcrossing
Environmental Determination or Document	Tier I/Tier II Draft Environmental Impact Report / Environmental Assessment (DEIR/EA)
Legal Description	On Route 1 in Santa Cruz County in and near Capitola and Santa Cruz_between 41st Avenue Overcrossing and Soquel Avenue/Drive Overcrossing
Project Development Category	4B

2. RECOMMENDATION

It is recommended that the Draft Environmental Document (DED) be publicly circulated and a public hearing be scheduled.

It is recommended that a cooperative agreement for the Plan, Specifications and Estimate (PS&E) phase be negotiated with Santa Cruz County Regional Transportation Commission (SCCRTC), and that the County/State cooperative storm drain features be approved and an agreement be negotiated with the County of Santa Cruz during PS&E phase.

3. BACKGROUND

3.1 Project History

This project originated as a Santa Cruz County State Route 1 corridor improvement project. The study segment is heavily congested during morning and evening commute times. The congestion has extended the peak operating hours to approximately 4 hours for morning and evening commutes. Summer weekends have been especially impacted as increasing tourist traffic compounds the local congestion.

A Project Study Report - Project Development Support (PSR-PDS) approved August 2002 discussed three “build” alternatives for improvements to the Santa Cruz County State Route 1 corridor between State Park Drive and Morrissey Boulevard:

- High Occupancy Vehicle (HOV) striped/separated lanes with standard median width and braided or collector ramps
- HOV striped/separated lanes with non-standard median width
- Two additional mixed-flow lanes with a standard median and ramp meters with HOV bypass lanes on all ramps

Another Caltrans-prepared PSR-PDS, approved October 2002, and a consultant-prepared Supplemental PSR-PDS, approved April 2006, both focused on operational improvements and neither addressed HOV lanes. One of the alternatives in the April 2006 supplemental PSR-PDS was the Morrissey Boulevard to Soquel Avenue Auxiliary Lanes Project (EA 05-0F650, SR1 14.9/15.9).

The State Route 1/State Route 17 Merge Lane Project and the Morrissey Boulevard to Soquel Avenue Auxiliary Lanes Project are both included as part of this project's "No Build" scenario because both of these projects have been completed.

Between 2003 and 2011, two build alternatives were developed from those proposed in the Caltrans-prepared August 2002 and October 2002 PSR-PDSs, which address this project purpose:

"The purpose of the Highway 1 HOV Lane Widening Project is to reduce congestion, improve safety, and encourage carpooling and use of alternative transportation modes as the means to increase transportation system capacity"

The two build alternatives were developed with intent to gain project approval and proceed with final design, taking into account previous project efforts, potential environmental impacts and early public outreach efforts. Local officials were involved via meetings with individuals, boards, and commissions.

The two "build" alternatives previously on the Project Approval / Environmental Documentation (PAED path) were:

> **HOV Lane Alternative:** This alternative proposes to modify or reconstruct all nine interchanges between Larkin Valley Road and Morrissey Boulevard to improve merging operations and to widen the existing four-lane highway to a six-lane facility by adding an HOV lane next to the median in both the northbound and southbound directions. Existing bridge structures, including the two Santa Cruz Branch Line railroad structures and the Capitola Avenue overcrossing, are proposed to be modified or replaced to accommodate highway widening to match the ultimate six-through-lane concept. New and widened highway crossing structures (including the two Santa Cruz Branch Rail Line crossings) are proposed to include shoulder and sidewalk facilities to accommodate pedestrians and bicycles. The HOV Lane Alternative includes new ramp structures at Soquel Creek and Porter Street/Bay Avenue. The HOV Lane Alternative proposes to include three new bicycle/pedestrian overcrossings of State Route 1 and also include ramp metering, HOV by-pass lanes onramps, auxiliary lanes between interchange ramps, and Transportation Operation Systems (electronic equipment such as changeable message signs and vehicle detection systems). No auxiliary lane is proposed to be constructed northbound between San Andreas Road and Freedom Boulevard, nor between State Park Drive and Park Avenue. Bus pads with pedestrian access to local streets are proposed at Park Avenue, Bay Avenue/ Porter Street, and 41st Avenue to facilitate faster and easier highway access for buses. Retaining walls are proposed to be constructed to minimize right-of-way acquisition, and to minimize or avoid environmental impacts.
>
> **Transportation System Management Alternative**: The Transportation System Management Alternative was developed as a minimum footprint alternative, since this project is subject to formal environmental consideration. This alternative proposes ramp metering and HOV by-pass lanes on all onramps within the limits of the project. Construction of auxiliary lanes is proposed between the following interchanges:

1. Freedom Boulevard and Rio Del Mar Boulevard
2. Rio Del Mar Boulevard and State Park Drive

3. State Park Drive and Park Avenue
4. Park Avenue and Bay Avenue–Porter Street.
5. 41st Avenue and Soquel Avenue–Soquel Drive

The Transportation System Management Alternative also proposes to include Transportation Operation Systems. The north and south Santa Cruz Branch Line railroad structures and the State Park Drive, Capitola Avenue, 41st Avenue and Soquel overcrossings are proposed to be reconstructed to allow for standard geometrics on State Route 1. Ramps at all nine interchanges would be improved. The Aptos Creek bridge is proposed to be widened. Pedestrian/bicycle overcrossings are proposed to be constructed across State Route 1 at Mar Vista Drive, Chanticleer Avenue, and Trevethan Avenue. This alternative does not propose HOV lanes or any additional through lanes on the mainline.

Because neither alternative was likely to be funded in the near-term, the Project Development Team proceeded to lay out a phasing plan that both prioritized the proposed auxiliary lane portion of the projects by their operational benefits and effects, and presented a multi-year possible funding plan. The prioritization study is now a chapter of the project's Traffic Operations Report (TOR). However, in May 2011, Federal Highway Administration (FHWA) officials reported that they could not approve a final environmental document for either of the corridor alternatives under study in the HOV Lanes and Transportation System Management Alternatives project unless a committed source of funding was identified.

In response to FHWA's decision, the project team and FHWA agreed that a transition to a tiered environmental document would allow full disclosure at a planning level of the HOV Lanes and Transportation System Management Alternatives as they had been defined, including the project's impacts, costs, and benefits (Tier I) and also provide environmental documentation of a project deemed financially feasible from existing funding sources (Tier II). The Tier I/Tier II Draft Environmental Impact Report / Environmental Assessment (DEIR/EA) will be used to identify a preferred alternative for a "program" of future construction projects to be implemented within the 8.5 mile corridor over multiple years. As funding becomes available, projects within the program would become Tier II construction-level projects and would be subject to separate environmental review.

To identify an initial Tier II project, the team used the auxiliary lane prioritization study developed as part of the effort to develop a funding plan for the entire corridor. Through this process the project team recommended designating the 41st Avenue/Soquel Avenue/Drive Auxiliary Lanes and the Chanticleer bicycle/pedestrian overcrossing as the Tier II project for environmental analysis and project approval.

3.2 Community Interaction

Local jurisdictions' elected representatives have been kept informed about the progress and design features of the 41st Avenue to Soquel Avenue Auxiliary lanes project by their Santa Cruz County Regional Transportation Commission (SCCRTC) representative, and through project presentations to their councils, boards or commissions. The most recent presentation of the 41st Avenue to Soquel Avenue Auxiliary lanes project to the SCCRTC board (a public meeting) was May 2, 2013.

The Chanticleer Overcrossing was presented to SCCRTC's Bicycle Committee in February, 2012 and March, 2013.Throughout the design development process of the Tier 1 HOV Lanes and Transportation System Management project alternatives, community involvement has been solicited by Santa Cruz County Regional Transportation Commission (SCCRTC) and jurisdictions represented on the Project Development Team (PDT). Upon the initiation of the Tier 1 HOV Lanes and Transportation System Management project study in April 2004, a series of Open Houses were held where the corridor project was presented and comments from the community regarding project scoping were obtained, including discussion of the need for and potential locations of bicycle/pedestrian crossings over State Route 1. Meetings were subsequently held with the public and targeted "special interest" groups on May 19 and 24, 2005, to discuss and refine the design considerations and the locations of three proposed pedestrian/bicycle crossing structures within the Tier 1 HOV Lanes and Transportation System Management, of which only the Chanticleer Avenue overcrossing is part of the Tier II 41st Avenue to Soquel Avenue Auxiliary lanes project. Groups representing cyclists, pedestrians, seniors, neighboring schools, and the disabled were invited to meetings to share their trip routes, their ideas and their concerns.

An SCCRTC representative regularly attends the Bicycle, Interagency, and the Elderly and Disabled Technical Advisory Committees to offer updates on the project.

The CHP is regularly notified of PDT meetings and receives PDT minutes. Discussions occur as-needed between SCCRTC and the CHP, and other emergency response groups.

3.3 Existing Facility

State Route 1 in the project area is a four-lane divided freeway. Lanes are 12-ft wide.

The existing median in the project area is a combination of paved and graded shoulder with a thrie beam or concrete barrier, and varies in width from approximately 37 ft to 21 ft. In the southbound direction, the existing inside paved shoulder width varies from approximately 4 ft to 18 ft and in the northbound direction, the existing inside paved shoulder width varies from 18 ft to 7 ft.

In the southbound direction between the project limits, the outside shoulder width varies from 8 ft to 12 ft. In the northbound direction between the project limits, the outside shoulder width varies from 6 ft to 8 ft.

The interchange configuration between 41st Avenue and Soquel Drive is shown in Figure 5-1.

The posted speed limit in both directions is 65 mph. The segment alignment is straight except for one 1000-ft curve of radius 4000-ft, beginning approximately 1150-ft north of the 41st Avenue overcrossing. The terrain is relatively level, rising from 41st Avenue at a rate of 0.5% to approximately PM 14.4 and gradually sloping down towards Soquel Avenue at a rate of 1.2%. This segment drains to inlets and ditches at the edge of pavement on both sides as well as to the median, and then through pipes and culverts to adjacent County facilities.

North of the project limits in the northbound direction, State Route 1 has two through lanes and an auxiliary lane between Soquel Drive and Morrissey Boulevard. In the southbound direction, State Route 1 has two through lanes and an auxiliary lane from Morrissey Boulevard to Soquel Avenue. South of the project limits, State Route 1 is a four-lane divided freeway, with auxiliary lanes between 41st Avenue and Bay Avenue/Porter Street.

The existing 41st Avenue and Soquel Drive interchanges have single-lane on- and off ramps. The 41st Avenue interchange is a Type L-9. The Soquel Drive interchange is a Type L-9 in the northbound direction. The northbound diagonal off ramp includes an option to exit onto Commercial Way prior to the ramp terminus at a signalized intersection at Soquel Drive. In the southbound direction, the off ramp passes under the Soquel Drive overcrossing to meet Soquel Avenue at a signalized intersection. Traffic turning right onto Soquel Avenue can merge onto Soquel Avenue at a free right turn. At the same signalized intersection is the entrance to the existing hook-onramp to southbound State Route 1.Right-of-way limits vary from148 ft to 255 ft along this portion of State Route 1.

Existing constraints include low-quality wetlands (see project plans, Attachment C) at the existing edges of pavement on the northbound side, Soquel Avenue on the southbound side, and proposed support piers for the bicycle/pedestrian overcrossing in the median and at the outside shoulder on the northbound side.

The arterials and main local streets in the project area vicinity are described below. Each of the arterials described below feeds into State Route 1. In addition, Soquel Drive, Soquel Avenue, and 41st Avenue are striped with Class II bicycle lanes.

Soquel Drive crosses State Route 1 in the project area. It runs south beyond the project area parallel to State Route 1 approximately eight (8) miles, two lanes in each direction, starting at its intersection with Soquel Avenue and ending at Freedom Boulevard.

Soquel Avenue serves the southwestern part of the project area. To the east, it begins at Pacific Avenue and crosses over the San Lorenzo River. Just south of State Route 1, Soquel Avenue turns right and continues along south of the highway to Gross Road. Also at this junction, Soquel Avenue feeds into Soquel Drive, crossing over the highway and paralleling it on the north side. It is a three-and-a-half mile, primarily two-lane road that widens in some sections.

41st Avenue is the most heavily traveled of all of the arterials in the study area. It travels north and south in two directions for two miles between Soquel Drive and East Cliff Drive on the waterfront. It is two lanes in most locations, but it is as wide as six lanes in sections between Soquel Drive and Capitola Road. The City of Capitola’s main retail corridor is comprised of 41st Avenue.

4. NEED AND PURPOSE

4.1 Problem, Deficiencies, Justification

The HOV and Transportation System Management alternatives discussed in the “Background” section of this report include auxiliary lanes between the interchanges along the corridor. In April 2010, a traffic operations analysis was performed to prioritize the auxiliary lane improvements, independent of the HOV lanes and ramp metering, on their potential to relieve congestion and at the same time minimize “hot spots” along the corridor. Each auxiliary lane reach was analyzed independently and ten Measures of Effectiveness were compared. Traffic condition discussion in this section is based upon the April 2010 analysis and Chapter 8 of April 2012 TOR.

The purpose of the 41st Avenue to Soquel Avenue/Drive Auxiliary Lanes and Chanticleer Overcrossing Project is to reduce congestion, improve safety and to promote the use of alternative transportation modes as a means to increase transportation system capacity.

The Tier II project purpose matches that of the Santa Cruz County Route 1 Tier I HOV Lanes and Transportation System Management Alternatives project, that is, reducing congestion and encouraging use of alternative transportation modes as a means to increase system capacity, except that encouraging carpooling is not a part of this Tier II project purpose. State Route 1 in Santa Cruz County is congested in the northbound direction during the AM peak hour, and in the southbound direction during the PM peak hour. During AM peak hour, the mainline segment between the Soquel Drive and 41st Avenue interchanges currently operates at LOS F northbound and LOS C southbound. During the PM peak hour, the segment operates at LOS F in both directions.

The 2010 phased implementation analysis that examined ten Measures of Effectiveness (MOE) for auxiliary lanes between the interchanges in Santa Cruz County prioritized the northbound and southbound auxiliary lanes independently.

There are currently auxiliary lanes in both directions in the segments north and south of this proposed project, (between the 41st and Bay Street/Porter Avenue interchanges and between Soquel Drive to Morrissey Boulevard). The implementation of the proposed auxiliary lane along northbound State Route 1 between 41st Avenue and Soquel Drive interchanges would remove the bottleneck located between westbound 41st Avenue on ramp and Soquel Drive off ramp and would relieve the congestion it causes. While it would not create a new bottleneck between the Park Avenue on ramp and the Bay Avenue/Porter Street off ramp, the project would expose and lengthen in duration the bottleneck now hidden under the long queues formed because of the existing bottleneck located between westbound 41st Avenue on ramp and Soquel Drive off ramp. Although the hidden bottleneck would be exposed, the construction of this auxiliary lane would have operational benefits compared to the No Build scenario during the AM peak period[1]:

- It would remove the bottleneck located between westbound 41st Avenue onramp and Soquel Drive off ramp.
- Of the auxiliary lanes studied, it would provide the most congestion relief in the northbound State Route 1 corridor (Aptos to Santa Cruz) operations by:
  - Reducing the average travel time along the corridor by 22 percent during the AM peak hour and 14 percent during the AM peak period.
  - Increasing the average travel speed along the corridor by 8 mph to 37 mph during the AM peak hour and by 6 mph to 42 mph during the AM peak period.
  - Increasing the overall vehicle and person trips by 5 percent during the AM peak hour and 1 percent during the AM peak period.
  - Improving the LOS of the corridor from LOS F to LOS E during the AM peak period.
  - Reducing the average travel time along the corridor by 1 percent during the PM peak hour and 6 percent during the PM peak period.

[1] Traffic Operations Report, April 2012, Tables 8-1, 8-3, 8-4, 8-5.

- Increasing the average travel speed along the corridor by 3 mph to 56 mph during the PM peak period.

In the northbound direction, LOS would be unchanged. Average travel speed during PM peak hour would stay approximately the same, as would person throughput.

The auxiliary lane between 41st Avenue and Soquel Drive interchanges would provide the most benefit to the operating conditions of northbound State Route 1 of the auxiliary lanes studied.

In the southbound direction, the Soquel Avenue to 41stAvenue auxiliary lane was rated fifth priority. It would not create or expose any bottlenecks.

The study shows that this auxiliary lane would provide negligible improvement in the southbound PM period State Route 1 corridor operations by:

- Reducing the average travel time along the corridor by 8 percent during the PM peak hour and 4 percent during the PM peak period.
- Increasing the overall vehicle and person trips by 1 percent during the PM peak period.

Average speed would be reduced from 15 mph to 14 mph during peak hour and from 25 mph to 24 mph during peak period, and LOS would be the same as No Build: F.

In the northbound direction during the AM peak hour, No-Build travel time along the Santa Cruz County Corridor (Aptos to Santa Cruz) is forecasted be 24 minutes at an average speed of 29 mph.

In the southbound direction during PM peak hour, No-Build travel time is forecasted to be 46 minutes at an average speed of 15 mph, Aptos to Santa Cruz.

Weave analysis results are shown in the table below.

Table 4.1 Weave Analysis

SR 1 Direction	Peak Period	LOCATION		Weave LOS	Composite LOS without Aux Lane	Composite LOS with Aux Lane
		From	To			
Southbound	AM Peak	Soquel Avenue Onramp	41st Avenue off ramp	A	D	B
Southbound	PM Peak	Soquel Avenue Onramp	41st Avenue off ramp	A	F	D
Northbound	AM Peak	41st Avenue Onramp	Soquel Avenue off ramp	A	F	D
Northbound	PM Peak	41st Avenue Onramp	Soquel Avenue off ramp	A	F	D

Within the project limits, there is no opportunity for vehicles, pedestrians, or cyclists to cross State Route 1 except at 41st Avenue and Soquel Interchanges – the busiest interchanges in the County serving the most traveled section of State Route 1 in the County. The Soquel Drive overcrossing, just west of the project, has sidewalk only on the north side. The 41st Avenue overcrossing has sidewalks and bike lanes on both sides. At both interchanges, pedestrians and cyclists use crosswalks to navigate high-speed free right turns as vehicles enter and exit the highway.

The Chanticleer Avenue overcrossing is one of three proposed over State Route 1 between Larkin Valley Road/San Andreas Road and Morrissey Boulevard in response to ongoing community requests for safe and convenient non-motorized crossing of State Route 1, and in support of SCCRTC's goal of promoting alternative transportation modes. The overcrossing locations were initially selected based on input received from local agency and project related agency staff on November 18, 2004, to begin to address the needs of the bicycle and pedestrian community related to crossing SR 1 given current and long-range land use plans. On May 16, 2005, prior to holding public meetings, SCCRTC met with planning and redevelopment staff from the City and County of Santa Cruz who were not able to attend the November 18, 2004 meeting. Meetings were subsequently held with the public and targeted "special interest" groups on May 19 and 24, 2005, to discuss and refine the design concepts and the locations of three proposed pedestrian/bicycle crossing structures at Mar Vista Drive, Chanticleer Avenue, and Trevethan Avenue. Groups representing cyclists, pedestrians, seniors, neighboring schools, and the disabled were invited to meetings to share their trip routes, their ideas and their concerns.

Following local agency, community, and stakeholder interest group meetings the recommended bicycle/pedestrian crossing locations were reviewed and approved by the SCCRTC's Board of Directors in September 2005, following presentation before the SCCRTC's advisory bodies, including: the Interagency Technical Advisory Committee, Bicycle Committee, and the Elderly and Disabled Transportation Advisory Committee.

As previously presented, the area around this section of State Route 1 is currently and will, through long range plans, continue to be to be the highest density urban development in the county served by the highest volume interchanges along State Route 1: 41st Avenue and Soquel Drive. Recognition of the increasing density has led to local interest in establishing in a safe crossing for non-motorized travelers now and into the future as urban development will adapt and adopt to non-motorized modes of travel. Chanticleer Avenue south of State Route 1 currently has pedestrian facilities and a north/south bike lane that connects to a network of east/west bike lanes on Soquel Avenue, Rodriquez Street, Capitola Road, and Brommer Street. Chanticleer Avenue north of the State Route 1has pedestrian facilities proximate to Soquel Drive, which is a major east/west pedestrian and bicycle route that connects medical facilities, located along Chanticleer with those clustered around Dominican Hospital, the regional medical center for Santa Cruz County.

Currently there is no credible source for projecting long term bike and pedestrian traffic across State Route 1 at this location. The Association of Monterey Bay Governments (AMBAG) is preparing a bike model, however the model is not yet calibrated for application in this area.

Throughout this area are residential neighborhoods and schools, commercial and recreational destinations on both sides of State Route 1. Destinations within one-half mile of State Route 1 and between Soquel Avenue/Soquel Drive and 41st Avenue include:

- Good Shepherd School
- Green Acres Elementary
- Tierra Pacifica Charter School
- Ocean Alternative Education Center
- Chanticleer Park
- Sutter Hospital
- Dominican Hospital
- Winkle Farm Park
- Coffee Lane Park

4.2 Regional & System Planning

State Route 1 is a High Emphasis Corridor and serves as the primary route connecting communities in the southern and central areas of Santa Cruz County. As the only continuous route through the County, State Route 1 serves as the commuter spine linking Watsonville, Aptos, Santa Cruz and the University of California at Santa Cruz. Approximately one quarter (1/4) of commuters using State Route 1 continue on State Route 17, also a High Emphasis Corridor, to Santa Clara County job sites. State Route 1 is also the southern terminus for State Routes 9 and 17, both of which bring heavy tourist traffic to coastal destinations in Santa Cruz and Monterey Counties.

The study segment is on the National Highway System (NHS), a national network of routes interconnecting the major urban areas of the nation. In addition to serving as the primary route in Santa Cruz County, State Route 1 is also a High Emphasis Route in the Caltrans Interregional Transportation Strategic Plan, and is part of the Surface Transportation Assistance Act (STAA) National Network (Truck Terminal Access). Within the project area, State Route 1 does not intersect any other truck routes, however, State Route 9 just north of Morrissey Boulevard, is a California Legal Advisory Route.

While the August 2006 Ramp Meter Development Plan (RMDP) identifies State Route 1 from Larkin Valley Road to Morrissey Boulevard for the inclusion of ramp meters, this project does not modify or construct a new interchange and thus would not include ramp meters. Widening of State Route 1 was first introduced as a long-range project in the 1986 Regional Transportation Plan (RTP). The highest priority State Route 1 projects were the Mission Street widening project, which was completed in May 2002, and the State Route 1/17 Merge Lane Project which was completed in December 2008. High occupancy vehicle (HOV) lanes on State Route 1 remain listed on SCCRTC's draft project list for the 2014 RTP. SCCRTC recognizes that the cost of completing the entire HOV Lanes and Transportation System Management Alternatives project on State Route 1 is beyond the amount of discretionary funding that is reasonably expected for the region over the life of the 2014 RTP (22 years). The approach approved by the SCCRTC is to prioritize funding for the initial phases of the project. Before the HOV lanes can be built, the following work must be completed to provide the width necessary for additional lanes and to ensure motorist safety:

- Construction of auxiliary lanes for most of the distance between Morrissey Rd. and Larkin Valley Rd, which includes this project.
- Reconstructing most of the interchanges
- Replacing the railroad bridges in Aptos

The auxiliary lanes between Morrissey and Soquel are built and three more auxiliary lane projects, including the 41st Avenue to Soquel Avenue Auxiliary Lanes project, are on SCCRTC's priority list for completion over the lifespan of the RTP, based on foreseeable funding. From 1994 to 1998, the SCCRTC conducted a Major Transportation Investment Study (MTIS) on the Watsonville- Santa Cruz- University of California Santa Cruz (UCSC) corridor which encompasses State Route 1. Following public hearings on options identified in the MTIS, the SCCRTC Board adopted a program of projects including a project to widen a segment of the highway for High Occupancy Toll (HOT) Lanes. Subsequently, SCCRTC requested Caltrans to prepare a Project Study Report to explore alternatives that would reduce congestion, including HOT Lane alternatives. The 2001 Regional Transportation Plan identified widening State Route 1 as the highest priority project. The April 2006 Transportation Concept Report (TCR) for this segment proposes a six-through-lane facility to obtain a future LOS D within twenty years. Traffic analysis shows that auxiliary lanes are warranted in this segment in addition to the six through lanes in twenty years. The proposed Chanticleer Avenue bicycle/ pedestrian overcrossing and Retaining walls 2, 3 and 4 would be in their future Transportation Concept locations, and would accommodate six standard through lanes and two auxiliary lanes. Retaining wall 1 is considered “throwaway” and in conflict with ultimate improvements, because it would be demolished when the 41st Avenue interchange is rebuilt to accommodate the TCR segment. See Attachment C for location of Retaining Walls 1, 2, 3 and 4.

The operational improvements expected from this project would provide incremental relief for transit, and would not preclude any future transit improvements such as ramp metering, ramp by-pass lanes or HOV lanes.

The District System Management Plan (DSMP) for District 5 is the 20-year vision document for carrying out its responsibilities as owner/operator of the State transportation system. It is a strategic planning document describing how the State corridors will be managed and developed through the year 2025. While the DSMP is essentially an internal document, it has been developed to incorporate local and regional policies and goals, such as those in the RTP and TCR.

The 2006 DSMP describes six key strategies for transportation system management in District 5. This project considers and supports these strategies:

Strategy 1 – Improve safety and security, all modes: This project conforms to the Highway Design Manual (HDM), addresses weaving and merging operations, includes sidewalk along Soquel Avenue and adds a lighted overcrossing for bikes and pedestrians.

Strategy 2 – Maintain and preserve transportation systems: This operational improvement project would maximize use of existing infrastructure, life cycle cost has been considered.

Strategy 3 – Improve mobility through improved multimodal system: The overcrossing proposed with this project would provide a safe crossing of the highway for bikes and pedestrians.

Strategy 4 – Support economic vitality: This project is part of a plan for a comprehensive transportation system capable of meeting the travel and access needs of the general public, including local business access, commuting, tourism and goods movement.

Strategy 5 – Preserve and enhance the environment: This project's development examines environmental impacts, and proposes mitigations such as landscape replacement and aesthetic treatment of structures.

Strategy 6 – Reflect community values: This project is a part of the larger State Route 1 HOV Lanes and Transportation System Management Alternatives Project, whose progress and design features have been presented to and discussed with elected officials, commissions and the public.

Local planning jurisdictions are members of the PDT. Two of the jurisdictions, the City of Capitola and Santa Cruz County, have adopted general plans with which this project is considered compatible, although the adopted plans do not currently show the proposed geometrics. The traffic analysis was based on the balanced traffic forecasts generated by the Year 2030 Association of Monterey Bay Area Governments (AMBAG) Regional Travel Demand Model, which maintains current regional development data. California Coastal Commission staff have been involved in the planning process.

There are Class 2 bike lanes in the project area on Soquel Avenue, west and parallel to State Route 1: on Soquel Drive over the highway; on Chanticleer Avenue, running south of Soquel Avenue to Brommer Street; on 17th Avenue, Commercial Way and Chanticleer Avenue and on 41st Avenue south of and across the interchange. The proposal is compatible with Santa Cruz County's regional bike plan. Section 4.1 discusses community involvement in selecting the location of the Chanticleer Avenue pedestrian and bicycle overcrossing.

4.3 Traffic

A detailed traffic operations report entitled, “State Route 1 HOV Widening Project, from Morrissey Boulevard to San Andreas Drive Traffic Operations Report” was prepared in July 2007 for the SCCRTC. The July 2007 report was supplemented in May 2010 and August 2011, to address proposed design changes at several locations along the corridor and provide traffic operations analysis of potential Tier II projects. These reports include analysis of the State Route 1 within the project limits. The approved traffic operations report is dated April 2012.

Where this document refers to existing traffic volumes or conditions, it refers to traffic data collected in 2001 and 2003. The project team conducted a series of traffic counts within the study corridor, twice in 2001 and once in 2003. The forecast for opening yearwas estimated using the AMBAG travel demand forecasting model, and included the improvements constructed as part of the State Route 1/17 Widening for Merge Lanes Project and the Soquel to Morrissey Auxiliary Lanes Project. The AMBAG model assumes growth in population, housing and employment based on approved jurisdictional plans. The travel demand model synthesized the land use, socioeconomic/demographic, and roadway networks into future travel patterns as well as traffic volumes.

Based on 2012 data from the Department of Transportation's (DOT) website, Annual Average Daily Traffic (AADT) along State Route 1 in this segment is approximately 89,000 vehicles per day.

According to Appendix K of SCCRTC’s 2005 RTP, “Truck Traffic and Vehicle Occupancy Counts” two-axle truck volumes are 3% of morning traffic on State Route 1 in both directions.

An Accident Analysis Summary was generated from the Traffic Accident Surveillance and Analysis System (TASAS) for the highway segment Santa Cruz Route 1, PM 13.5 to 14.9 over the time period of July 1, 2008 to June 30, 2011. 166 collisions were reported during this period. Primary collision factors include: speeding (90), following too closely (21), improper turning (20), driving under the influence of alcohol (12), and 12 were other violations. Types of collisions include: rear ending (113), hitting an object (28), sideswiping (15), overturning (5), broadsiding (1), and 4 were other violations or not stated. 78% of collisions occurred during daylight and 87% occurred in dry conditions. Weave length can be a factor in the incidence of rear-ending and sideswiping, which represent 77% of the collisions in the three years reported. Increasing weave length by adding an auxiliary lane can be expected to reduce the rate of rear-end and sideswipe collisions.

The fatal and injury accident rate is higher than average for facilities of this type based on accident data for the years 2008 through 2011.

Table 4.2: Three-Year Accident Data – State Route 1 PM 13.5 to 14.9 (07/01/2008 – 06/30/2011)(Accidents per Million Vehicle Miles)

	FATAL	FATAL + INJURY	TOTAL
ACTUAL	0.007	0.38	**1.18**
AVERAGE	0.008	0.30	0.82

An Accident Analysis Summary was generated from the Traffic Accident Surveillance and Analysis System (TASAS) for the Santa Cruz Route 1 southbound off ramp to 41st Avenue, PM 13.8 over the time period of July 1, 2008 to June 30, 2011. 14 collisions were reported during this time period. Primary collision factors include: speeding (3), driving under the influence of alcohol (1), and 10 were other violations. Types of collision include: broadsiding (7), sideswiping (4), rear ending (2), and one was not stated. 79% of collisions occurred during daylight and 57% occurred in dry conditions. 11 of these accidents were on 41st Avenue near the ramp terminus, two were at the ramp terminus , and one occurred in the middle of the ramp. The southbound off ramp to 41st Avenue meets the standards specified in the Caltrans Highway Design Manual 6th edition. The project would provide speed-reduction warning signage at this ramp.

The fatal and injury accident rate is higher than average for facilities of this type based on accident data for the years 2008 through 2011.

Table 4.3: Three-Year Accident Data – SB Off Ramp to 41st Ave (07/01/2008 – 06/30/2011)(Accidents per Million Vehicles)

	FATAL	FATAL + INJURY	TOTAL
ACTUAL	0.000	0.30	**1.41**
AVERAGE	0.003	0.35	1.01

An Accident Analysis Summary was generated from the Traffic Accident Surveillance and Analysis System (TASAS) for the Santa Cruz Route 1 northbound off ramp to Soquel Drive, PM 14.7 over the time period of July 1, 2008 to June 30, 2011 and is included in Attachment L. 7 collisions were reported during this time period. Primary collision factors were speeding (6) and one was other violation. Types of collision include: rear ending (3), hitting an object (3), and one was a sideswipe. 86% of collisions occurred during daylight and 43% occurred in dry conditions. Three of these accidents were at the off ramp gore, two were in the middle of the ramp, one was at the ramp terminus, and one was on Soquel Drive near the ramp terminus. The northbound off ramp to Soquel Drive is a non-standard design with a curve beginning at the start of the gore pavement and access to a local street from the ramp. Although ramp realignment is beyond the project scope, the project would provide speed-reduction and curve warning signage at this ramp.

The fatal and injury accident rate is higher than average for facilities of this type based on accident data for the years 2008 through 2011.

Table 4.4: Three-Year Accident Data – NB Offramp to Soquel Drive (07/01/2008 – 06/30/2011)(Accidents per Million Vehicles)

	FATAL	FATAL + INJURY	TOTAL
ACTUAL	0.000	0.10	**0.72**
AVERAGE	0.001	0.17	0.54

The Accident Analysis Summary generated from the Traffic Accident Surveillance and Analysis System (TASAS), over the time period of July 1, 2008 to June 30, 2011 shows collision rates below state average at the following ramp locations: the Santa Cruz Route 1 southbound onramp from Soquel Drive, the Santa Cruz Route 1 northbound onramp from northbound 41st Avenue, and the Santa Cruz Route 1 northbound onramp from southbound 41st Avenue.

Table 4.5: Three-Year Accident Data – SB Onramp from Soquel Drive (07/01/2008 – 06/30/2011)(Accidents per Million Vehicles)

	FATAL	FATAL + INJURY	TOTAL
ACTUAL	0.000	0.13	0.26
AVERAGE	0.001	0.13	0.46

Table 4.6: Three-Year Accident Data – NB Onramp from NB 41st Ave (07/01/2008 – 06/30/2011)(Accidents per Million Vehicles)

	FATAL	FATAL + INJURY	TOTAL
ACTUAL	0.000	0.00	0.15
AVERAGE	0.002	0.21	0.73

Table 4.7: Three-Year Accident Data – NB Onramp from SB 41st Ave (07/01/2008 – 06/30/2011)(Accidents per Million Vehicles)

	FATAL	FATAL + INJURY	TOTAL
ACTUAL	0.000	0.00	0.36
AVERAGE	0.003	0.18	0.57

To improve safety, this project proposes to improve the weave/merge geometry by adding speed reduction signage, auxiliary lanes, and to standardize shoulder widths to 10-ft allowing for evasive movements and better refuge for disabled vehicles.

State Route 1 Design Designations

2008 ADT:	92,000
2035 ADT:	124,300
DHV:	9,950
ESAL:	8,302,900
D:	60%
T:	3%
V:	65 mph
$T1_{20}$:	11.5

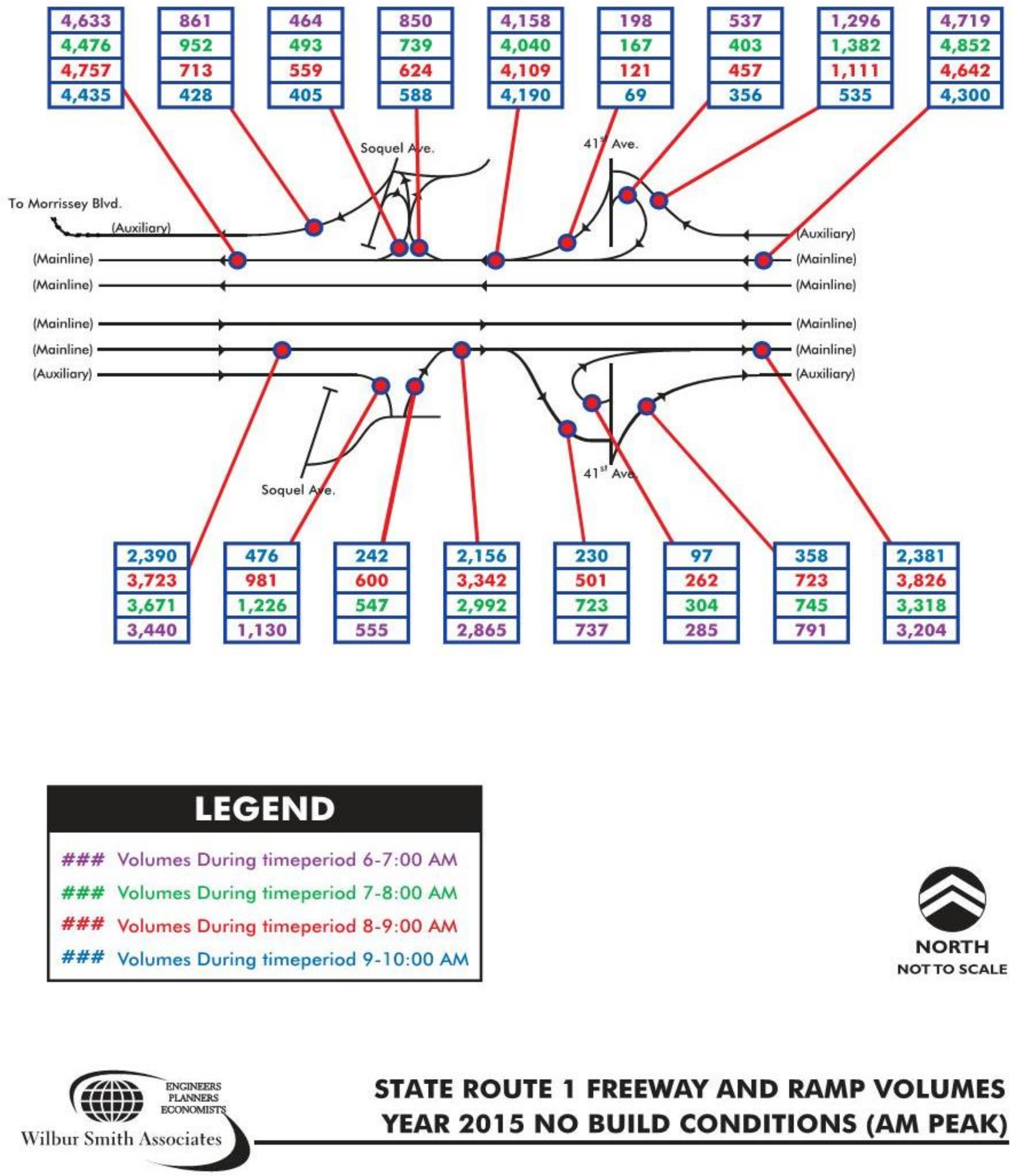


Figure 4-1: State Route 1 Freeway and Ramp Volumes
Year 2015 No Build Conditions (AM Peak)

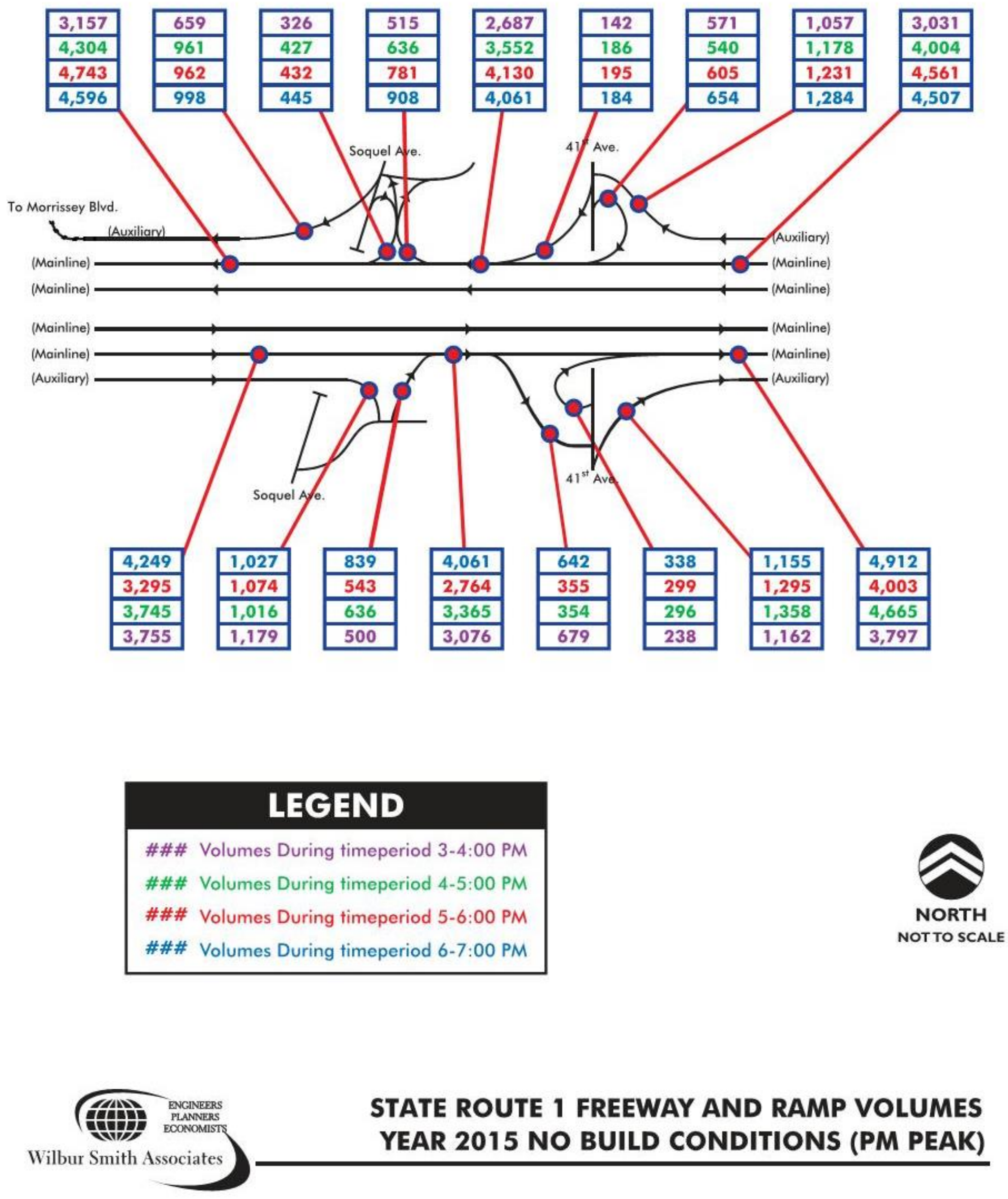


Figure 4-2: State Route 1 Freeway and Ramp Volumes Year 2015 No Build Conditions (PM Peak)

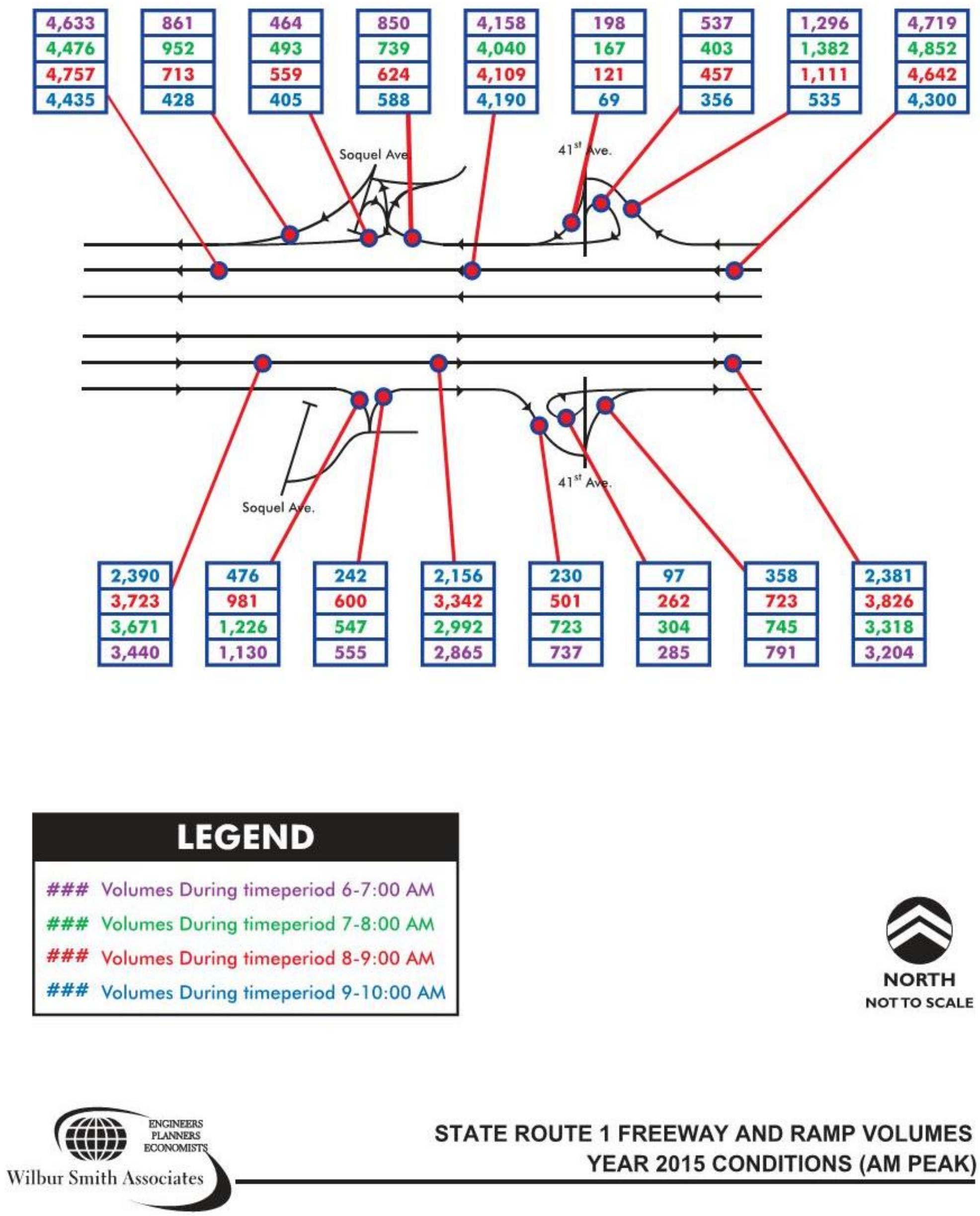


Figure 4-3: State Route 1 Freeway and Ramp Volumes Year 2015 with Project (AM Peak)

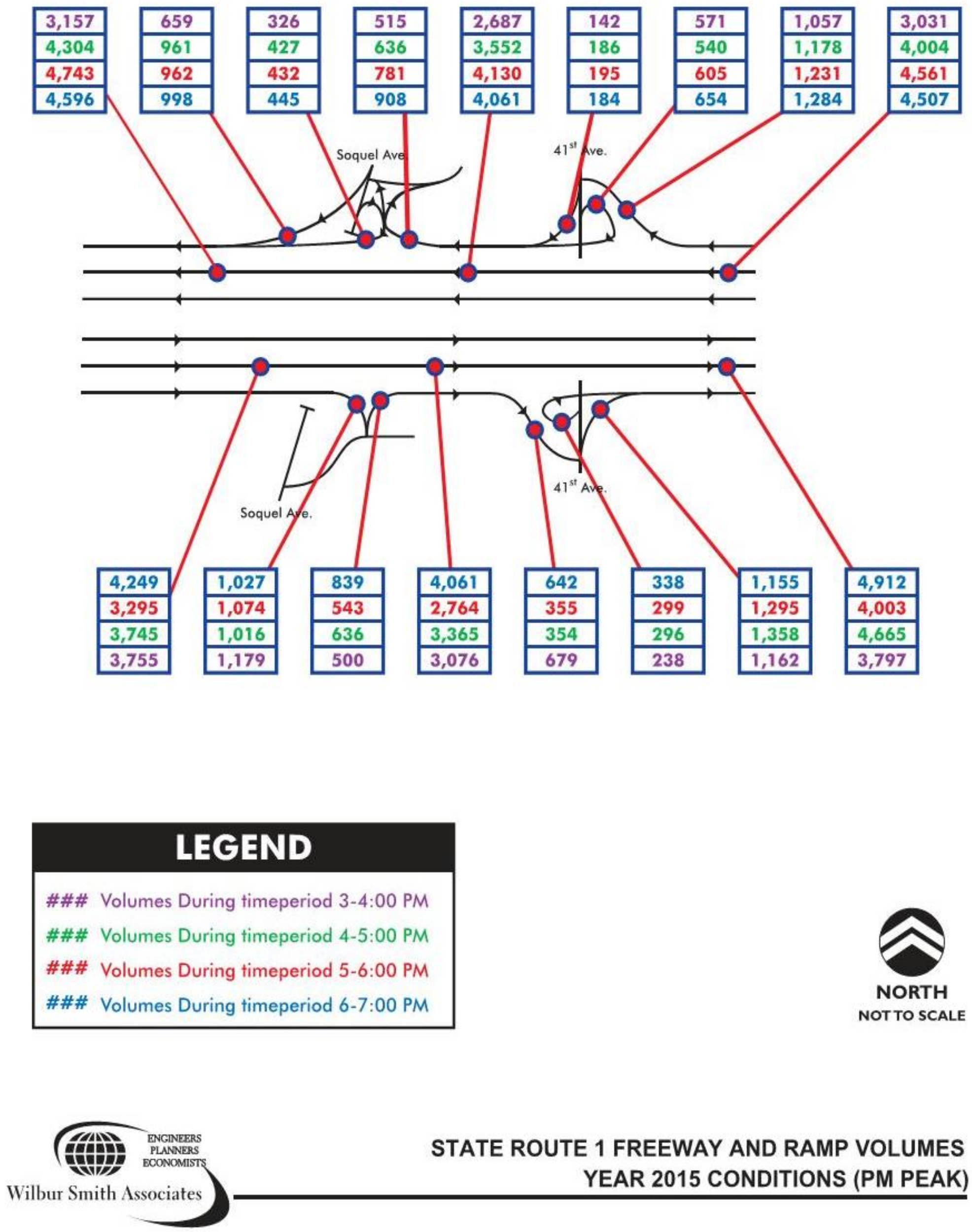


Figure 4-4: State Route 1 Freeway and Ramp Volumes Year 2015 with Project (PM Peak)

5. ALTERNATIVES

5.1 Viable Alternatives

5.1.1 No-Build Alternative

The No-build Alternative would not address the project purpose and need, but offers a basis for comparison with the Build Alternative. It assumes no major construction on Highway 1 through the project limits other than planned and programmed improvements and continued routine maintenance. The only planned and programmed improvements accounted for are the recently completed Soquel to Morrissey Auxiliary Lanes Project and the Highway 1/17 Merge Lanes Project.

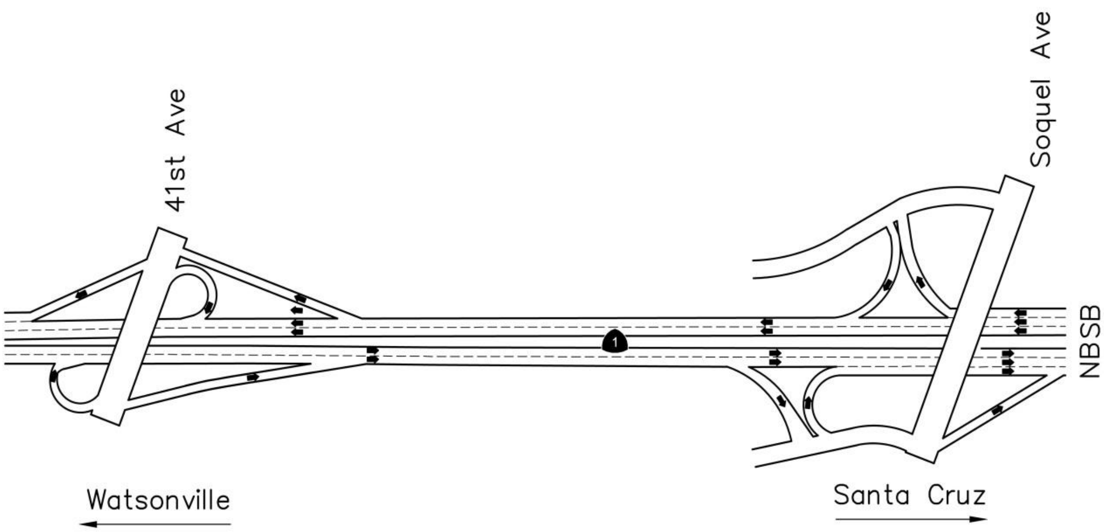


Figure 5-1: No Build Alternative (Existing condition)

5.1.2 Auxiliary Lane Alternative

General Description:

This alternative proposes to add a standard 12-ft auxiliary lane with standard 10-ft shoulders between 41st Avenue and Soquel Avenue/Drive in each direction. Figure 5-2 shows the proposed lane configuration. Attachments B and C show the proposed typical sections and horizontal layout. The southbound auxiliary lane would be 0.9 mile long, and the northbound would be 1.1 mile long. To achieve a standard section of 10-ft median shoulder, 12-ft lanes, and 10-ft outside shoulders, and to allow for three through lanes in each direction per the Transportation Concept Report, the existing centerline of State Route 1 would be shifted 5-ft to the north. The taper of the centerline shift would begin just north of the 41st Avenue interchange and end just south of the Soquel Drive interchange. The balance of the new lane and increased shoulder width would come from widening the northbound side of State Route 1. Except near the on- and off ramps, this alternative would maintain the existing outside shoulder for the majority of the southbound side. The ramps on the southbound side would not be altered; the ramps on the northbound side would be shifted to accommodate a widened State Route 1 alignment. A new concrete median barrier would be constructed.

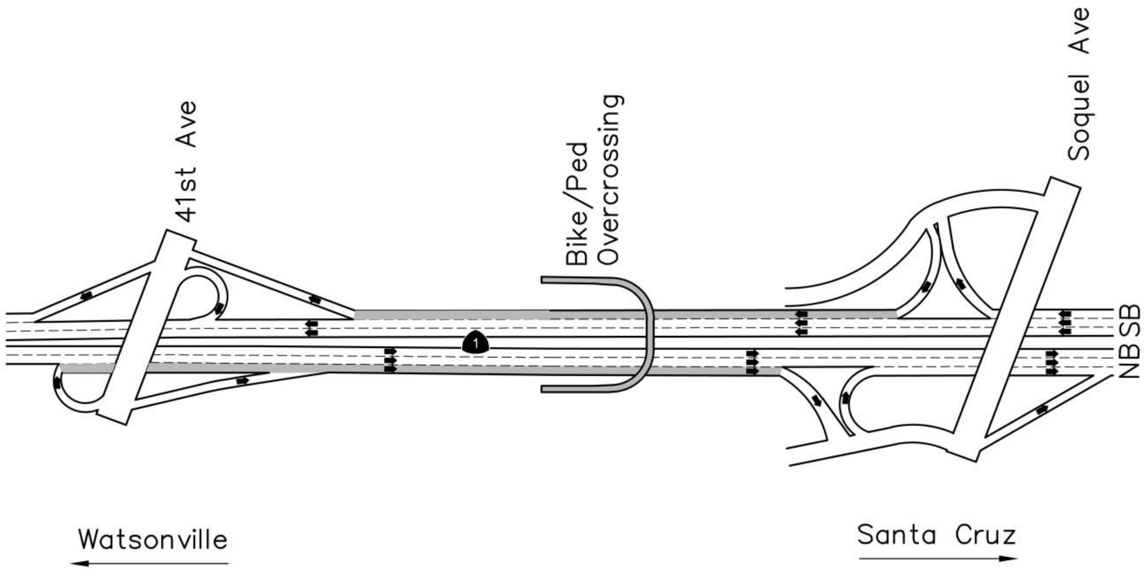


Figure 5-2: 41st Ave to Soquel Drive/Avenue Auxiliary Lane Project Build Alternative

Soquel Avenue frontage road parallels State Route 1 along the southbound side and is separated from the highway by landscaping, elevation grade change, and chain link fence. The separation between the traveled ways varies from 35-ft to 50-ft. Shifting the centerline of State Route 1 five ft to the northbound side would reduce the need for retaining walls and right-of-way acquisition for State Route 1 both for this project and in the future, for the Transportation Concept section.

The existing profile is generally flat and would be maintained. Between access ramps, existing right of way width varies from 150 ft to 210 ft, with the prevailing width approximately 160 ft.

This project is an operational improvement and would not increase capacity. Forecast Levels of Service are discussed in Section 4.1.

Cut slopes for this alternative have been designed at a 2:1 slope to the proposed edge of pavement. Fill slopes for this alternative have been designed at a 4:1 slope with a 3 ft graded shoulder to the edge of pavement.

The widened section would require modification of the existing storm drain system at Sta. 490+00, as well as extension of a 36 in. culvert at Sta. 520+00 and a 4 ft x 4 ft culvert at Sta. 535+00. Treatment BMPs would be installed as part of the project.

Right of way acquisition would be required to accommodate the new overcrossing ramps along the opposite side of Soquel Avenue and at the Chanticleer Avenue cul-de-sac north of State Route 1. Access fencing would be modified at the Chanticleer Avenue cul-de-sac ramp landing.

Retaining walls are proposed at several key locations to reduce the amount of earthwork required, keep the improvements within the existing highway right-of-way and minimize impacts to wetlands and other waters of the U.S. Retaining walls would range in height up to 18-ft above grade in fill sections of the roadway and 5-ft above grade in the cut section. Retaining walls constructed in fill areas would be located to accommodate the Transportation Concept section for State Route 1 in this area. The wall at northbound Sta 493+50 to Sta 495+00 would be demolished along with the 41st/SR 1 interchange for the future Transportation Concept section.

Table 5-1 below shows the wall locations, the slopes behind them, and accompanying descriptions of use.

Table 5-1 Retaining Wall Locations

Wall Number	Location/STA	Length (ft)	Wall Ht	Slope behind wall	Cut/Fill Section	Retaining Wall notes
1	NB Sta 493+50 to Sta 495+00	150	2-5ft	2:1	Cut Section	Throw-away wall
2	NB Sta 504+13 to Sta 507+88	375	2-18ft	na	Fill Section	Minimizes wetland impact at Rodeo Gulch
3	SB Sta. 504+00 to Sta. 507+50	350	2-7ft	na	Fill section	Avoids impact to Soquel Avenue
4	NB Sta. 519+42 to Sta. 523+50	408	2-7ft	na	Fill section	Minimizes wetland impact

NB = northbound; SB = southbound

In addition to improvements on State Route 1, a bicycle and pedestrian overcrossing would be built across State Route 1 and Soquel Avenue connecting Chanticleer Avenue on each side of State Route 1. Right of way acquisition would be required along the south side of Soquel Avenue to accommodate the overcrossing ramp. The horseshoe-shaped bicycle/pedestrian overcrossing outside width would vary from 14 ft along the ramps to 16 ft around the curves(12-14-ft clear path) The ramps grades would be 4.95% with landings, and would be constructed on fill up to a height of approximately 10 ft, beyond which the overcrossing would be supported by columns. On the northbound side of State Route 1, the walls retaining the portion of the ramp on fill and the overcrossing columns would be positioned to accommodate the future Transportation Concept facility width, including a safety-shape barrier at the base of the retaining walls. The footprint of the existing Chanticleer cul-de-sac would be adjusted to accommodate the bicycle/pedestrian overcrossing ramp on the north side of the highway. A new 6-ft sidewalk would be constructed along Soquel Avenue adjacent and parallel to the new bicycle/pedestrian overcrossing, connecting existing sidewalk at the corner of Chanticleer and Soquel Avenues and at the commercial development north of the bicycle/pedestrian overcrossing. A Conceptual Layout of the overcrossing is included in Appendix J.

The structure itself would drain to State drainage facilities via pier and abutment down drains; the ramps would drain to the Santa Cruz County's storm drainage system.

As a part of this project, landscaping would be installed to the extent feasible in unpaved areas where existing vegetation has been removed or disturbed.

As discussed in the Section 8, Programming, SCCRTC may elect to construct the project in three construction contracts: Northbound auxiliary lane, bicycle/pedestrian overcrossing, and southbound auxiliary lanes.

5.2 Non-standard Mandatory and Advisory Design Features

A mandatory design exception is required for the proposed Chanticleer Avenue bicycle/ pedestrian overcrossing stopping sight distance based on a design speed of 10 miles per hour. Section 1003.1(10) states **the minimum stopping sight distance based on design speed shall be 125 feet for 20 miles per hour. The proposed stopping sight distance is 66 ft.**

The non-standard stopping sight distance reduces right of way acquisition, visual impact, and project cost.

An advisory design exception is required for the proposed median width of 22-ft. Section 305.1(1) (a) of the HDM states: <u>Where managed lanes (HOV, Express, etc) or transit facilities are planned, the minimum median width should be 62 feet.</u>

The 22-ft median width minimizes wetland, right-of-way and community impacts and tree removal. A 22 ft wide median would also avoid reconstruction of Soquel Avenue, avoid retaining walls in cut sections and would continue the median width constructed under the 1/17 Merge Lane and Soquel to Morrissey Auxiliary Lane projects.

An advisory design exception is required for proposed Chanticleer Avenue overcrossing columns and retaining walls at the locations in the Table 5-2. Section 309.1(2) of the HDM states that *on freeways and expressways, a Clear Recovery Zone (CRZ) width of 30 - ft is the minimum desirable and that consideration should be given to increasing this width based on traffic volumes, operating speeds, terrain, and cost.*

<u>Fixed objects including bridge piers, abutments, retaining walls, and noise barriers closer to the edge of traveled way than the distances listed above should be eliminated, moved, or redesigned to be made yielding.</u>

The proposed retaining wall locations would avoid impacts to the wetlands, avoid reconstruction of Soquel Avenue, avoid additional right-of-way take and reduce construction costs. Where the CRZ is proposed to be less than 30-ft at columns or retaining walls, concrete barrier at 7-ft from edge of pavement would be included in the project to shield the proposed obstruction and to meet the traffic safety recommendation of a 17 ft CRZ.

A mandatory design exception fact sheet was approved on 2/13/2014 and an advisory design exception fact sheet was approved on 2/13/2014.

Table 5-2 Retaining Wall Location and Clear Recovery Zone Distances

Wall No.	Location	Length (ft)	CRZ Distance	Cut/Fill Section	Comments	Remove for Transportation Concept?
1	NB Sta 493+50 to Sta 495+00	150	10-ft from ETW	Cut Section	Minimizes ROW take. Construction of an additional lane would require removal of this wall.	Yes
2	NB Sta 504+13 to Sta 507+88	375	22-ft from ETW	Fill Section	Inside Rodeo Gulch wetland area. This wall location meets mandatory standards for clearance to fixed objects for the future transportation concept section.	No
3	SB Sta. 504+00 to Sta. 507+50	350	22-ft from ETW	Fill section	Avoids impact to Soquel Avenue. This wall location meets mandatory standards for clearance to fixed objects for the future transportation concept section.	No
4	NB Sta. 519+42 to Sta. 523+50	408	22-ft from ETW	Fill section	Inside wetland area. This wall location meets mandatory standards for clearance to fixed objects for the future transportation concept section.	No

5.3 High Occupancy Vehicle (HOV) (Bus and Carpool) Lanes

There are no special features for bus and carpool lanes proposed in this project. The proposed bicycle/pedestrian overcrossing and retaining walls 2, 3, and 4 are designed to accommodate the future addition of a through lane in each direction and maintain standard lane and shoulder widths. See Table 5-2, above, for a tabulation of which of the walls would be removed if State Route 1 were widened for additional through lanes.

5.4 Ramp Metering

No ramp metering is proposed with this project.

5.5 Park and Ride Facilities

There are no new park and ride facilities proposed as part of this project. There is an existing park and ride lot at Soquel Drive, just north of State Route 1.

5.6 Utility and Other Owner Involvement

There are approximately 19 utility lines within the project area that include overhead electrical and transmission, underground gas, sanitary sewer, storm drain, TV/cable, telephone, and fiber optic lines. Pacific Gas & Electric (PG&E) provides gas and electricity service in the project area. SBC/AT&T maintains the local telephone service and Comcast provides cable service.

No longitudinal encroachments are proposed.

It is expected that the project will impact two 18-in and one 36-in reinforced concrete storm drains, one 48-in box culvert, one 108-in concrete arch culvert, three 10-in sanitary sewer lines, five electrical facilities, including both poles and lines (21kV transmission), one high pressure gas facility (to be potholed and protected in place), and one cable facility. Utility relocation may require scheduled short-term interruption of electrical service. See utility impact plans in Attachment H.

The project would pay only for temporary relocations required for construction phase, if any, and owners would be liable for permanent relocation costs. An example of a temporary relocation would be a pole that would interfere with construction of the Chanticleer Avenue Pedestrian Overcrossing (POC) but that could return to its original location post-construction. Owners would be liable for permanent relocation cost.

The PG&E poles in conflict with the Chanticleer Avenue overcrossing are in Santa Cruz County right of way, and their relocation would follow Santa Cruz County utility protocol. The relocation of the existing underground cable line just south of Chanticleer Avenue that encroaches on State right of way both transversely and longitudinally would follow Caltrans relocation procedures. No cost would be borne by the State.

Project would comply with high/low risk procedures.

5.7 Highway Planting

Highway planting is proposed to be a part of this project. Retaining walls would be used to preserve existing vegetation in fill areas. Native plants that are identified to be beneficial to erosion control would be protected as much as possible. Fencing would also be used during construction to protect native vegetation and wetlands during construction.

All areas with existing vegetation that are disturbed by construction would be replanted, if feasible. Replacement planting would include ground covers, large shrubs and trees, including large plants where immediate size is desired. Wood chip mulch would be included to provide an attractive surface treatment, suppress weed growth and improve soil conditions in landscaped areas. Plant species would be selected that are low maintenance, pest resistant and water thrifty.

An automated irrigation system would be installed to water plants individually, conserving water and discouraging invasive weeds.

Environmentally Sensitive Area (ESA) type fencing would be used during construction to protect native vegetation and wetlands during construction.

5.8 Erosion Control

Cut slopes on the project would be 2:1 or flatter and fill slopes would be 4:1 or flatter. All disturbed areas would be stabilized with fiber rolls, compost and native plant seeding. Existing slopes are generally 2:1 or flatter, and are vegetated. To minimize retaining wall height, slopes behind proposed retaining walls would be regraded at approximately a 2:1 slope. Slope maintenance is discussed in Section 7.9, "Maintenance Issues".

Where concentrated surface flow is expected, hydraulic conveyance systems would be constructed and the outlets of these systems would be treated to provide energy dissipation and to reduce erosion potential. Concentrated flow conveyance systems include ditches, berms, dikes, and swales.

Existing vegetation that is beneficial to erosion prevention would be identified and would be preserved as much as possible. Retaining walls and fences would help preserve vegetation after and during construction.

Erosion control issues are addressed in more detail in the Storm Water Data Report.

5.9 Storm Water Compliance

The project would discharge to Arana Gulch, Rodeo Gulch, and Soquel Creek.

The project's design goal is to treat 95% of water quality volume (WQV)/Water Quality Flow (WQF) of the added impervious area by metering or detaining flow prior to discharge into receiving waters. Increased roadway runoff will be addressed by outlet protection, velocity dissipation devices, and possible peak flow attenuation basins. Most of the runoff flows to Monterey Bay and eventually into the Pacific Ocean.

Disturbed Areas Within Project

Total Disturbed Area	18.5 acres
Additional Impervious Surface	4.9 acres
Estimated Treated Area	4.7 acres

Treatment Best Management Practices(BMPs) are anticipated to include biofiltration swales and strips, Austin sand filters, detention devices and/or infiltration devices.

Construction phase BMPs to be included in plans and specifications are expected to include temporary erosion control (move-in/move-out) and covers, fiber rolls, silt fence, inlet protection, concrete washout facility, gravel construction entrances, dewatering discharge treatment, ESA fencing around jurisdictional areas.

A Stormwater Data Report (SWDR) (see Attachment F for signed cover) was prepared for this project that specifies which Best Management Practices (BMPs) would be incorporated into the project plans and specifications.

Since this project proposes to add more than 1 acre of new impervious surfaces, permanent storm water treatment BMPs will be incorporated into this project to the maximum extent practicable.

A preliminary project risk level assessment, as required by the Construction General Permit Order 2009-0009-DWQ, has determined that this project is a Risk Level 2 project. A final risk level determination will be made at PS&E.

Preliminary calculations of Net New Impervious Surfaces (NNI) have shown that the existing impervious surfaces will be increased 14% by this project. Since the project proposes to add less than 50% of the existing impervious surfaces, all new impervious surfaces will be evaluated for storm water treatment BMPs.

5.10 Noise Barriers

Due to constrained right of way, no berms for reducing noise levels are proposed. The Noise Abatement Decision Report (NADR) under Section 6.8 indicates that there were no reasonable cost effective sound walls within the limits of the project.

Additionally, there is one severe receptor identified within the project that the NADR references. Building acoustic treatment is recommended for this residence preliminarily pending reevaluation of conditions and costs during final design.

5.11 Non-Motorized and Pedestrian features

A bicycle and pedestrian overcrossing would be built across State Route 1 and Soquel Avenue frontage road connecting Chanticleer Avenue on each side of State Route 1. The bicycle/ pedestrian overcrossing would be 12-ft wide (10-ft clear path) on the ramp and two feet wider along the horseshoe curve. The footprint of the existing cul-de-sac would be adjusted to accommodate the bicycle/pedestrian overcrossing ramps on the north side of the highway. 400-ft of 6-ft wide sidewalk would be constructed along Soquel Avenue adjacent and parallel to the new bicycle/pedestrian overcrossing, connecting existing sidewalk at the corner of Chanticleer and Soquel Avenues and at the commercial development north of the bicycle/pedestrian overcrossing. The bicycle/pedestrian overcrossing would require City and State right-of-way acquisition to construct and maintain.

The bicycle/pedestrian overcrossing and new sidewalk would be American with Disability Act (ADA) compliant. An extensive outreach program as well as a bicycle and pedestrian study were performed to identify and prioritize needed and desired facilities within the State Route 1 corridor. As a result of this effort, three bike and pedestrian crossings at Mar Vista Drive, Chanticleer Avenue, and Trevethan Avenue have been identified to provide more bike access for local residents. These new crossings would also serve to mitigate some roadway conflicts by reducing non-motorized volumes traveling through the interchange areas. Only the Chanticleer Avenue bicycle/pedestrian overcrossing is within the Tier II project limits, and is proposed as part of this project.

5.12 Needed Roadway Rehabilitation and Upgrading

The project proposes to determine and correct the cause of the pavement failure at Rodeo Gulch in the northbound direction. It is anticipated that a portion of the subgrade would be replaced at the failure site. Correction of this failure may include a new roadway drainage system at this location. Proposed Retaining Wall 2 will help prevent loss of subgrade.

The proposed widening would use the same roadbed structural section as used in the Soquel to Morrissey Auxiliary Lanes project. The existing pavement was overlaid with asphalt under Caltrans maintenance program in 2007.

An overlay 0.10' thick has been assumed for rehabilitation of existing adjacent lanes. During the design phase, the pavement condition will be assessed to determine the appropriate rehabilitation strategy to be included in the proposed construction.

5.13 Needed Structure Rehabilitation and Upgrading

No significant existing structure rehabilitation or upgrading is anticipated for this project.

5.14 Cost Estimate

The preliminary cost for the Auxiliary Lane alternative is $16.6 million which includes $13.9 million in roadway items, $2.7 million for the bike and pedestrian overcrossing, and $1.3 million in utility relocations and right-of-way acquisitions. The Project Report Cost Estimate is included in Attachment D.

5.15 Effect of Projects-Funded-by-Others on State Highway

Effects of the build alternative on highway operations are discussed in section 4.1. A summary of impacts and mitigations is included in section 6.5.

5.16 Rejected Alternatives

The Tier II build alternative is the only alternative considered by the Project Design Team to be viable for comparison to No Build, and for environmental evaluation. There were no rejected alternatives.

6. CONSIDERATIONS REQUIRING DISCUSSIONS

6.1 Hazardous Waste

A *Phase I Initial Site Assessment* was prepared by Parsons Group for State Route 1 including the project area, in late 2006 and early 2007. No hazardous waste sites with potential to affect the Soquel to Morrissey Auxiliary Lanes project were identified in the Initial Site Assessment.

Aerially deposited lead (ADL) conditions for this project are assumed to be similar to the segment of State Route 1 immediately north of this project, between Soquel Avenue and Morrissey Boulevard. In late 2008, the soil was tested in the Soquel Avenue to Morrissey

Boulevard segment and a Limited Site Investigation Report prepared. Borings indicate that in general, there is ADL contamination extending from the existing edge of pavement to 20-22 - ft out on both sides of the roadway, and up to 4 - ft deep on the northbound side and 2 - ft deep on the southbound side. The ADL material was characterized as reuseable under the terms of the Variance issued to Caltrans by the Department of Toxic Substances Control (DTSC), although it was not reused. Assuming a similar contamination pattern , little ADL-contaminated material would be generated along the southbound side of the project area because most of the excavation is in the median and on the northbound side. Assuming that the median area is also contaminated to a depth of 2-ft along the superelevated curve, there would be approximately 3300 cubic yards of ADL-contaminated roadway excavation. Although the material is likely to be characterized as reusable, there is little fill on the project. The cost estimate assumes that all of the contaminated material must be offhauled at $200 per cubic yard, because as was the case on the adjacent project, much of the required fill would be inside sensitive jurisdictional areas and the Class 1 landfill may be out of state. In the cost estimate, the cost for roadway excavation of ADL-contaminated material is part of the Environmental Mitigation line item.

Additional soil testing would be a part of the Plans, Specifications and Estimate (PS&E) phase, in order to quantify the volume to be removed and determine disposal or reuse requirements. It is expected that additional soil testing would be a part of the construction contract, to verify ADL concentrations and confirm that excavated soil is correctly characterized and disposed of. A lead compliance plan would be required to minimize worker exposure to lead-impacted soil.

All existing paint in the project area, including traffic striping, would be treated as lead-containing, based on the fact that lead was a common paint ingredient in pre-1978 paints. The February 2013 Draft Phase I Initial Site Assessment (Parsons) recommends testing for Asbestos Containing Material in the abandoned house to be demolished to make way for the Chanticleer Avenue Bicycle/pedestrian overcrossing. Such testing would take place during PS&E phase.

If any dewatering is to be performed during project construction activities, then prior consultation with representatives of the Soquel Creek Water District, Santa Cruz Environmental Health Department, and Central Coast Regional Water Quality Control Board is recommended. This consultation would be helpful in determining the degree of water treatment and water disposal options during dewatering activities, as well as groundwater investigation/sampling requirements prior to dewatering activities.

During construction, unknown hazardous materials could be encountered, or materials could be accidentally spilled. Best Management Practices would minimize or avoid these risks.

6.2 Value Analysis

Value analysis of this project will take place as a first order of work following PAED.

6.3 Resource Conservation

The proposed project would minimize the use of energy and nonrenewable resources. No major facilities can be salvaged or relocated from this project. However, whenever possible, existing roadway items such as signs, light standards, guardrails, and other associated hardware would be relocated or stockpiled for future use. Asphalt concrete pavement and concrete removed from existing roadways and structures may be reused as either base material or embankment material on this project. Measures to conserve energy and nonrenewable resources during construction would be assessed during the design phase of the project and would include materials, solar features, views, and construction operations.

The potential for using recycled asphalt concrete would be determined during the design phase. Climatic conditions in Santa Cruz County do not allow successful installation of rubberized asphalt concrete.

The following measures would be investigated and incorporated into the project as much as feasible:

1. Use of reclaimed water—currently 30 percent of the electricity used in California is used for the treatment and delivery of water. Use of reclaimed water helps conserve this energy, which reduces greenhouse gas emissions from electricity production.
2. Landscaping—reduces surface warming and through photosynthesis decreases carbon dioxide. Landscaping concepts for the project are currently being investigated.
3. Use of energy efficient lighting.
4. Idling restrictions for trucks and equipment during construction.

6.4 Right-of-way Issues

The project is in an area of mixed zoning and uses. The predominant uses are low to medium density residential, commercial, and some industrial. There are a total of 5 privately owned and 1 publically owned parcels impacted by the project. No temporary construction easements would be required. The project requires acquisition of a total of 0.31 acres of public and privately owned property. The property would be acquired in fee for the project. The impacted parcels are improved with typical residential and commercial site improvements and one abandoned house would require demolition. This alternative has minimal impact on adjacent properties.

Right-of-way costs include environmental mitigation costs incurred prior to construction, such as off-site compensatory mitigation and permit fees. Right-of-way cost is estimated to be $1,276,000 including utilities, compensatory environmental mitigation and permit fees.

The SCCRTC would fund right-of-way work along with construction and other project support costs.

The Right-of-way Data Sheets, and the Right-of-way Impact and Utility Impact Plans are included in Attachment H.

6.5 Environmental Issues

The TIER I and TIER II Draft Environmental Impact Report / Environmental Assessment has been prepared in accordance with Caltrans' environmental procedures, as well as State and Federal environmental regulations. The attached DEIR/EA is the appropriate document for the proposal. The following table contains a summary of the major environmental impacts of the project.

{This page is left blank intentionally}

Table 6.1: Summary of Environmental Impacts Tier II Auxiliary Lane Alternative

Potential Impact		Tier II Auxiliary Lane Alternative	No Build Alternative
Permanent Impacts			
Land Use		Would convert 0.28-acre of land from one commercial parcel and from one residential parcel to transportation use.	No Impacts.
Consistency with State, Regional, and Local Plans		Project would be consistent with local planning goals and policies.	No Impacts.
Coastal Zone		The Tier II project is located outside of coastal zone jurisdiction; no coastal zone determinations will be required.	No Impacts.
Growth		Proposed project would serve existing growth already planned and projected for the corridor and would not stimulate unplanned residential or related commercial growth.	No Impacts.
Environmental Justice		Tier II Auxiliary Lane Alternative would not cause disproportionately high and adverse effects on any minority or low-income populations per Executive Order 12898 regarding Environmental Justice.	No Impacts.
Relocations	**Business**	One partial acquisition of a commercial parcel would be required.	No Impacts.
	Residential	No relocations.	No Impacts.
Utilities		Fifteen utility lines would likely require relocation. Utility relocations may require short-term, limited interruptions of service. Potential for emergency service delays during construction. Coordination with providers would avoid unscheduled interruptions in service.	No Impacts.
Emergency Services		Would improve the capacity of Route 1 within this segment, allowing emergency service providers to improve response times.	No Impacts.
Traffic and Transportation		The addition of auxiliary lanes on Route 1 between Soquel Avenue and 41st Avenue would improve the ability of Route 1 to meet future demand within the traffic study area. When compared to the No Build Alternative, traffic conditions would improve substantially in the northbound direction during the morning peak hour and marginally in the reverse commute directions (southbound in the morning peak hour and northbound in	No improvements would occur on the facility, resulting in worsening traffic conditions.

	the evening peak hour); however, additional traffic along with the already-congested conditions in the southbound direction during the evening peak hour would lead to a slight decline in traffic operating condition.	
Pedestrian and Bicycle Facilities	The new pedestrian and bicycle overcrossing at Chanticleer Avenue would have a positive impact on multimodal connectivity by providing a new dedicated crossing of the freeway between Soquel Avenue and 41st Avenue.	No improvements would occur on the facility, resulting in worsening traffic conditions.
Parking	No parking impacts.	No Impacts.
Transit	Incremental relief would be provided for transit due to improvement of highway operations under the Tier II Auxiliary Lane Alternative.	The lack of improvements would worsen travel conditions and would depress transit ridership throughout the study area.
Visual/Aesthetics	Substantial visual changes from highway widening/addition of lanes and removal of trees and mature vegetation, as well as increase in hardscape such as pavement, overcrossing structure and walls	No Impacts.
Cultural Resources	No anticipated adverse effect to historic or archaeological resources.	No Impacts.
Hazardous Materials	See construction impact for Tier II Auxiliary Lane Alternative below.	No Impacts.
Air Quality	Would result in reduction in most criteria pollutants and a negligible increase in one criteria pollutant.	Reductions in most criteria pollutants, with a minor increase in PM_{10} and $PM_{2.5}$ emissions.
Hydrology and Floodplain	Portions of the project are located within the fringe of the 100-year floodplain, with resulting unavoidable impacts to the floodplain. Impact is minor with no increase in flood risk.	No Impacts.
Water Quality and Stormwater Runoff	Increase in impervious surfaces.	Permanent water quality impacts from roadway runoff due to worsening congestion, greater deposition of particulates from exhaust and heavy metals from braking.

Paleontology	High potential for fossil remains that could be scientifically important to be uncovered by excavations during project construction.	No Impacts.
Noise	Five receivers approach noise abatement criteria for which it has been determined abatement in the form of soundwalls is feasible, but not reasonable and is therefore not recommended. Abatement in the form of noise insulation is recommended for the one residence that will realize a severe noise increase,	No Impacts.
Natural Communities	Permanent effects to the following natural communities would occur: Riverine/ Freshwater Marsh (0.02-acre), Riparian Forest (0.13-acre), Coast Live Oak Woodland (0.001-acre), Ruderal/Disturbed (0.19-acre) and Landscaped/ Developed communities (5.55 acres). Impact avoidance, minimization, and mitigation measures are proposed.	No Impacts.
Wetlands and other Waters	Project would permanently impact 0.02-acre of United States Army Corps of Engineers other waters at Rodeo Gulch, and 0.13-acre of California Department of Fish and Wildlife jurisdiction wetland area at the Drive-in roadside ditch. Proposed permanent and temporary impact areas at the Drive-in roadside ditch consist of roadway widening and retaining wall construction that would encroach into the active channel of this seasonal roadside ditch. Proposed permanent and temporary impact areas at the Rodeo Gulch consist of roadway widening and retaining wall construction on existing road berm areas directly above and draining into the channel of Rodeo Gulch. No project work is proposed in the active channel.	No Impacts.
Special-Status Species	No impacts on special-status plant species are anticipated; however, there is a potential that special-status species could become established before project construction and additional surveys may be required. Potential impacts to California red-legged frog and tidewater goby could result, as discussed under Threatened and Endangered Species.	No Impacts.
Threatened and Endangered Species	Permanent impacts to California red-legged frog could occur due to habitat loss at Rodeo Gulch and the Drive-in ditch. Potential impacts to tidewater goby would occur due to habitat loss at Rodeo Gulch. Formal consultation with the United States Fish and Wildlife Service will be required for these species.	No Impacts.
Temporary, Construction Phase Impacts		

Traffic and Transportation/ Pedestrian and Bicycle Facilities	Short term and intermittent delays in traffic due to construction. Bicycle and pedestrian access to be maintained.	No Impacts.
Visual/Aesthetics	Construction activities would involve use of equipment, stockpiling of soils and materials, and other visual signs of construction.	No Impacts.
Hydrology, Water Quality and Stormwater Runoff	Construction activities will have a temporary impact on water quality and stormwater runoff.	No Impacts.
Hazardous Waste/ Materials	High potential of encountering aerially deposited lead in soils. Existing structures may have asbestos-containing materials and lead-based paint.	No Impacts.
Air Quality	Standard Caltrans construction management practices will ensure that air quality impacts associated with construction will be minimal. These include requiring emission controls on construction equipment and spraying water on exposed surfaces to minimize dust.	No Impacts.
Emergency Services	Project would have the potential for emergency service delays during construction. Implementation of the Traffic Management Plan in compliance with Caltrans and local policies would involve planning with emergency service providers throughout the project construction to avoid emergency service delays.	No Impacts.
Noise	There would be short-term and intermittent increases in noise levels due to construction activities.	No Impacts.
Natural Communities	Temporary effects to the following natural communities would occur: Riverine/ Freshwater Marsh (0.06-acre), Riparian Forest (0.09-acre), Coast Live Oak Woodland (0.012-acre), Ruderal/Disturbed (0.07-acre) and Landscaped/Developed communities (5.22 acres). Impact avoidance, minimization, and mitigation measures are proposed.	No Impacts.
Wetlands and other Waters	Project would temporarily impact 0.06-acre of United States Army Corps of Engineers other waters at Rodeo Gulch, and 1.5 acres of California Department of Fish and Wildlife jurisdiction wetland area at the Drive-in ditch. Proposed permanent and temporary impact areas at the Drive-in roadside ditch consist of roadway widening and retaining wall construction that would encroach into the active channel of this seasonal roadside ditch. Proposed permanent and temporary impact areas at the Rodeo Gulch consist of roadway widening and retaining wall construction on	No Impacts.

	existing road berm areas directly above and draining into the channel of Rodeo Gulch. No construction work is proposed in the active channel.	
Special-Status Species	Construction noise, movement of workers, and tree/vegetation removal could disturb nesting birds. Construction activities at the Drive-in roadside ditch and Rodeo Gulch have the potential to affect tidewater goby and California red-legged frog.	No Impacts.
Threatened and Endangered Species	Construction noise, movement of workers, and tree/vegetation removal could disturb nesting birds. Construction activities at the Drive-in roadside ditch and Rodeo Gulch have the potential to affect tidewater goby and California red-legged frog. Potential Impacts to the California red legged frog and tidewater goby will require consultation with the United States Fish and Wildlife Service.	No Impacts.

Impact to jurisdictional areas (Rodeo Gulch, STA 504+00 to 508+00 and narrow ditch at Sta 520+00 to 523+00) would be minimized by construction of retaining walls, and ESA fencing would be installed to protect sensitive area during construction.

Visual impacts due to the improvements proposed as part of the Build Alternative include loss of vegetation and increase in hardscape such as pavement, overcrossing structure and walls. Measures recommended for visual impacts, include:

- Developing the specifics of aesthetic enhancements, including texture and color, with community involvement during final design.
- Including architectural treatment, such as texture and/or color, shadow lines for caps, and other aesthetic enhancements on retaining walls and Chanticleer Bicycle/pedestrian overcrossing
- Preserving existing desirable vegetation would be preserved to the greatest extent feasible, and plant new landscaping in all plantable areas.
- Designing treatment features so that they appear to be a natural part of the landscape

Drainage systems would be modified to connect to MS4 areas in order to meter and detain flows so that pre-construction storm water discharge is maintained. Stainless steel markers are proposed for new inlets needing stenciling.

Storm water treatment measures include biofiltration strips, biofiltration swales, and detention devices. Strips and swales filter pollutants via vegetation; they are mainly effective at removing debris and solid particles, and together with Austin sand filters are most feasible for the project. Detention devices are basins or tanks that temporarily detain runoff under quiescent conditions; they are not as cost-effective as strips and swales, but are still being considered until more geotechnical information for the project is obtained.

The attached DEIR/EA detailed mitigation measures for both temporary (construction) and permanent impacts.

6.6 Air Quality Conformity

The project area is in the North Central Coast Air Basin under the jurisdiction of the Monterey Bay Unified Area Air Pollution Control District.

Because the project is located in an attainment/unclassified area for all current federal air quality standards, regional conformity requirements do not apply.

6.7 Noise Abatement Decision

This Noise Abatement Decision Report (NADR) (section 6.7 of the Draft Project Report) is an evaluation of the reasonableness and feasibility of incorporating noise abatement measures into this project; Constitutes the preliminary decision on noise abatement measures to be incorporated into the DED (if applicable); and is required for Caltrans to meet Title 23, Code of Federal Regulation, Part 772 of the Federal Highway Administration noise standards.

The NADR does not present the final decision regarding noise abatement; rather, it presents key information on abatement to be considered throughout the environmental review process, based on the best available information at the time the DED is published. If a project is subject to federal review, but does not have a circulated ED, the NADR section documents the final noise abatement decision.

The NADR does not address noise barriers or other noise-reducing treatments required as mitigation for significant adverse environmental effects identified under the California Environmental Quality Act (CEQA).

The tables included here show the sound walls that have been identified to be acoustically feasible, and whether they are considered to be reasonable to construct as part of the project.

Results of the Noise Study Report

The Noise Study Report for this project was prepared by Parsons Transportation Group in April 2013 and approved by Vladimir Timofet, District 5 Environmental Engineering-Oversight on May 23, 2013.

The Noise Study Report evaluated noise impacts at various frequent outdoor use areas in the project area and identified feasible abatement for noise impacts in two locations. North of Route 1, between Rodeo Gulch Creek and Mattison Lane, two masonry block soundwalls with a combined length of 1145 - ft (soundwalls S154 and S158) would work as a system to provide noise abatement for the outdoor use areas of three single-family residences. South of Route 1, between 17th Avenue and the Soquel interchange, a masonry block soundwall with a length of 178 - ft (soundwall S165) would provide noise abatement for the outdoor use areas of two single-family residences.

Table 6.2 – Summary of Barrier Evaluation from Noise Study Report

Barrier	Location	Station	Height (ft)	Acoustically Feasible?	Number of Benefited Residences	Reasonable Allowance per Residence	Total Reasonable Allowance
S154 & S158	Shoulder & R/W	Sta 506+54 to 520+00	8	Yes	1	$55,000	$55,000
			10	Yes	1	$55,000	$55,000
			12	Yes	2	$57,000	$114,000
			14	Yes	5	$57,000	$285,000
			16	Yes	5	$57,000	$285,000
S165	R/W	Sta 539+50 to 546+06	8	Yes	1	$45,000	$45,000
			10	Yes	2	$45,000	$90,000
			12	Yes	2	$47,000	$94,000
			14	Yes	2	$47,000	$94,000
			16	Yes	2	$47,000	$94,000

Factors in the Noise Abatement Decision Report

Key information used in making the preliminary noise abatement decision is summarized below in Table 2 – Summary of Abatement Key Information.

Table 6.3 – Summary of Abatement Key Information

Barrier	Height (ft)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?
S154 & S158	8	Yes	1	$55,000	$368,000	No
	10	Yes	1	$55,000	$459,000	No
	12	Yes	2	$114,000	$551,000	No
	14	Yes	5	$285,000	$643,000	No
	16	Yes	5	$285,000	$735,000	No
S165	8	Yes	1	$45,000	$210,000	No
	10	Yes	2	$90,000	$262,000	No
	12	Yes	2	$94,000	$314,000	No
	14	Yes	2	$94,000	$367,000	No
	16	Yes	2	$94,000	$419,000	No

Nonacoustical Factors Relating to Feasibility

There are no apparent nonacoustical factors relating to the feasibility of the above mentioned sound walls. The feasible walls are proposed to be located at either the edge of pavement or the right-of-way line and have no effect on the geometry of State Route 1, are under no geotechnical restrictions, and do not affect any utilities.

Preliminary Noise Abatement Decision

There are no reasonable cost effective sound walls within the limits of the project.

Soundwall S158 is feasible, but does not appear to meet reasonableness criteria. Model data indicate that with no barrier, one single-family residence would experience a traffic noise level of 76dBA; therefore, it is considered to be severely impacted. Where severe impacts are identified, unusual and extraordinary abatement must be considered. If a noise barrier is determined to be unreasonable based on cost, or cannot be constructed for some reason, or is unable to provide feasible traffic noise abatement, it should still be considered or alternative noise abatement measures such as building acoustic treatment may be provided. Partial construction of an 8-ft high soundwall from Station 514+90 to 518+00 (310 - ft) would provide feasible noise abatement only for this severely impacted house, but it would be short $44,200 between the estimated construction cost and the total reasonable allowance of Soundwall S158.

Building acoustic treatment is recommended for this residence preliminarily pending re-evaluation of conditions and costs during final design.

The preliminary noise abatement decision presented in this report is based on preliminary project alignments and profiles, which may be subject to change. As such, the physical characteristics of noise abatement described herein also may be subject to change. If pertinent parameters change substantially during the final project design, the preliminary noise abatement decision may be changed or eliminated from the final project design. A final decision to construct noise abatement will be made upon completion of the project design.

The preliminary noise abatement decision presented here will be included in the DED, which will be circulated for public review.

Secondary Effects of Abatement

There are no secondary effects of abatement as no feasible walls within the project limits are reasonable to construct, and thus are not recommended for the project.

7. OTHER CONSIDERATIONS AS APPROPRIATE

7.1 Public Hearing Process

A public hearing shall be scheduled to present the developed viable alternatives for public comment. The SCCRTC has already held multiple public outreach efforts to discuss improvements along the State Route 1 corridor, including open houses in Spring 2004 and Fall 2006.

7.2 Route Matters

A superseding freeway agreement with Santa Cruz County would be required to cover the addition of the Chanticleer Avenue Bicycle/pedestrian overcrossing.

7.3 Permits

Permits from the U.S. Army Corps of Engineers (404), State Department of Fish and Game (1602), and the Regional Water Quality Control Board (401) would be required. Additional permits for the materials site and disposal site may be required.

7.4 Cooperative Agreements

Caltrans and the Regional Transportation Commission have a cooperative agreement for the PA/ED phase for this project, executed in October 2002. This agreement would be updated for future phases of the project and is expected that responsibilities would be assigned similarly to the Soquel to Morrissey Auxiliary Lane project. The PS&E phase agreement would stipulate that:

- SCCRTC or its consultants will prepare project plans, specifications and estimates at SCCRTC’s expense.

- The SCCRTC or its consultants will develop utility relocation plans, perform right-of-way engineering and prepare plats and legal maps and other right-of-way submittals at the SCCRTC's expense.
- The State will prepare the utility relocation agreements and right-of-way appraisals and perform acquisition as required for obtaining the property rights necessary for the construction of this project.
- SCCRTC and Caltrans will share responsibility for coordinating with a resource agency such as Resource Conservation District of Santa Cruz to develop an environmental mitigation plan which SCCRTC will fund.
- SCCRTC will prepare permit applications and pay permit fees.

A separate, future cooperative agreement will be required to cover responsibilities for the construction phase of the project, as well as for maintenance of the Chanticleer Avenue Bicycle/pedestrian overcrossing, its right-of-way, and its drainage facilities.

7.5 Transportation Management Plan for Use During Construction

A Transportation Management Plan (TMP) has been prepared and is included here as Attachment E. The TMP provides advance notice to transportation and emergency service providers of construction activities and durations, detours, and access issues during each stage of construction. The TMP identifies strategies to facilitate safe implementation of traffic handling during construction, such as increased California Highway Patrol presence during critical construction operations, and increased Freeway Service Patrol during peak travel periods. It also includes a public information program to provide motorists with advance notice of construction activities and durations, temporary closures and detours.

7.6 Stage Construction

If completed as one construction contract, the Route 1 41st to Soquel Auxiliary Lane Project would be constructed in three major stages: widening on the northbound side and shifting of the centerline 5-ft to the north; the Chanticleer Avenue Bicycle/pedestrian overcrossing; and the southbound median paving and lane shifting.

Most of the work would be done during the daytime, but some night work is likely, to permit temporary closures for tasks that could interfere with mainline traffic or create safety hazards. Such tasks include placing and removing temporary construction barriers, erecting structure falsework over the mainline or Soquel, striping, or connecting or conforming ramps to the mainline or local streets.

After the bridge work in the median is complete, and when most of the new retaining walls have been installed, traffic in both directions would be shifted toward the median to allow the widening work north and south of the new overcrossing. Four traffic lanes would be open during the day.

7.7 Graffiti Control

State Route 1 in the project area is graffiti-prone. Graffiti abatement is expected to consist of prompt painting-over of graffiti by State maintenance crews, which discourages tagging by demonstrating vigilance and attentive maintenance. Graffiti-resistant coating is considered undesirable because of cost and effort in application, re-application and power-washing. In PS&E phase, access control design would consider graffiti prevention.

7.8 Oversize Loads

The project area is bounded by the 41st Avenue and Soquel Avenue overcrossings, with vertical clearances of 17 ft 6 in and 15 ft 10 in, respectively, which prevent unrestricted height loads from reaching the project area via State Route 1.

The proposed Chanticleer Avenue bicycle/pedestrian overcrossing would have standard vertical clearance. If the POC were constructed, a vehicle approaching State Route 1 from local streets (Soquel Avenue or 41st Avenue) requiring more than standard vertical clearance would have to avoid State Route 1 and travel parallel to State Route 1 along Soquel Avenue through the project area. A vehicle of unrestricted height moving in and out of Santa Cruz County on local roads is likely to require special accommodations such as temporary relocation of overhead utilities to reach the project area.

7.9 Life Cycle Cost Analysis

A Life Cycle Cost Analysis (LCCA) was performed to determine the most cost effective structural section for this project. The LCCA was performed for the 9-mile HOV Lanes and Transportation System Management Alternatives Project, and it was based on Caltrans LCCA Procedures Manual (Updated August 2010) and using RealCost 2.2 software downloaded from Caltrans website.

Because the Tier 2 Auxiliary Lanes Project is encompassed within the limits of the 9-mile HOV Lanes and Transportation System Management Alternatives project, it is assumed that the majority of the assumptions and the overall results of the analysis would be the same. Although the cost estimates for the two projects are different, the relative scale of the estimates will also be the same. Thus, the results of the analyses would match between the two projects.

The LCCA was performed for the auxiliary lane and for the maintenance/rehabilitation on the existing two lanes. A summary of the LCCA for the different pavement structure alternatives considered for the auxiliary lanes and the maintenance/rehabilitation can be seen in Attachment K. The following is a summary of these two different analyses.

Two different pavement structure (PS) alternatives were considered in the analyses:

Alternative 1 consists of 0.65 ft Rubberized Hot Mix Asphalt (RHMA), 0.55 ft Aggregate Base (AB) and 1.15 ft Aggregate Subbase (AS) - 20 year design life.

Alternative 2 consists of 0.10 ft RHMA Open Graded Friction Course (OGFC), 0.50 ft RHMA, 0.50 ft Lean Concrete Base (LCB) and 1.15 ft AS - 20 year design life.

A 40 year design life alternative was not considered as the basis of the analyses was determined from Table 1 of the LCCA Manual (Updated August 2010). For the type of pavement project (Widening) and the document being submitted (Project Report), the analysis was limited to the 20 year design life.

Cost calculations resulted in the following overall life-cycle costs (for HOV Lanes and Transportation System Management Alternatives Project):

Table 7.1-Life-cycle Cost Summary

PS Alternative Number	Total Agency Cost	User Cost	Life-cycle Cost
1	$170,068	$1,431	$171,499
2	$168,806	$8,436	$177,242

Even though PS Alternative #1 has an initial agency cost higher than PS Alternative #2, it is considered the preferred alternative for the following reasons: a) the overall life-cycle cost is lower for Alternative #1, b) the user cost is over 80% lower than Alternative #2 and c) future maintenance costs are lower, minimizing the exposure of maintenance crews to traffic hazards.

8. FUNDING/PROGRAMMING

The Santa Cruz Highway 1 HOV Lanes and Transportation System Management Alternatives Project discussed in the Introduction and Project History section of this report is included in the 2010 Regional Transportation Plan as a financially constrained project, reflecting SCCRTC's commitment to this project as one of the County's highest transportation priorities. A combination of federal, state, and local funds, including a future local tax and/or fee measure dedicated to transportation improvements, is identified in the Regional Transportation Plan to fund the HOV Lanes and Transportation System Management Alternatives project. To facilitate project phasing, the RTP also identifies separate phases that are shown in the Project Implementation Plan. Consistent with this approach the Tiered environmental document allows the SCCRTC to make incremental improvements in the corridor as future funding opportunities allow.

Tier I (EA 05- 0C730) – Funding Scenarios for Incremental Development of the Highway 1 Corridor

Projections of available future funding for transportation projects are difficult to make given uncertainties associated with State and federal legislation and economic conditions. With the Tiered environmental approach, the Tier I environmental document will be used as a planning level study of cumulative impacts from which smaller future projects (Tier II projects, of which the Highway 1 41st/Soquel Auxiliary Lanes and Chanticleer Overcrossing Project is one) may be identified and analyzed within available resources. Following is an overview of potential revenue sources projected over a 25-year period for incremental development of the Tier I improvement program for Highway 1 Corridor.

<u>Existing Revenue Sources</u>

This projection is based on historical revenues from funding sources currently available. California State Transportation Improvement Program (STIP) funds, made up primarily of revenues from the State excise tax on gasoline, are generally considered most appropriate for larger, regional projects on the State highway system. STIP funds are programmed every two years and can vary from approximately $3.0-5.0 million per year, which means that 25 years (approximately 12 STIP cycles) would yield about $75.0-125.00 million (unescalated).

The SCCRTC has also historically received $2.5- 3.0 million annually in federal Regional Surface Transportation (RSTP) funds. These funds are more flexible than STIP funds, and have traditionally been applied to a wide range of project types including local road improvements, bike and pedestrian projects, State highway projects, rail and transit projects. Because the demand on these funds is great and not likely to diminish soon, this scenario assumes that no RSTP funds will be directed to any Tier II projects on the Route 1 corridor.

Local Sales Tax and other Revenue Generating Measures

In November 2004, SCCRTC sponsored a local ½-cent sales tax ballot measure dedicated to certain transportation projects. That measure failed to get the 2/3 majority vote needed to pass. In 2007, SCCRTC sponsored outreach efforts to generate community support for another sales tax measure, but in early 2008, those plans were put on hold due to a weakening economy. The SCCRTC is monitoring legislative proposals to lower the voter threshold to 55 percent for new local revenues, including vehicle registration fees and sales tax measures to address the backlog of transportation needs in Santa Cruz County, as was done successfully for education purposes. For this discussion, it is assumed that this measure will be taken to the voters in 2016. Based on past polling of likely county voters, the expenditure plan for such a measure would include a mix of transportation projects and programs to gain sufficient broad-based voter support. For this analysis only, a future hypothetical expenditure plan would include some funds for Route 1.

A ½-cent sales tax in Santa Cruz County would currently generate approximately $15 million annually. Although this amount might grow with inflation, so would the costs for projects and programs. For simplicity, this analysis does not include inflation in this estimate or assume any economic growth. If one-third of revenues from the measure were dedicated to Route 1, available funds would be $5 million per year, or $125 million over a 25-year period. This revenue is added to the estimated yield from the State Transportation Improvement Program ($75 million to $125 million), resulting in a total of approximately $200 million to $250 million available for incremental development of the Capital Investment Program for the Route 1 corridor.

Other potential local revenue sources include a vehicle registration fee, which might generate approximately $ 2.3 million per year, and a regional traffic impact fee, which might generate $4 million annually.

Other Potential Funding

From time to time opportunities arise to fund projects that are essentially “one time” events. California Proposition 1B passed in 2006 is an example, which provided $4.5 billion in funding for transportation projects statewide that could be delivered quickly, including $13.8 million from the Prop 1B Corridor Mobility Improvement Account (CMIA) for the Highway 1 Soquel-Morrissey Auxiliary Lanes project, now under construction. Another example would include federal sources such as the American Recovery and Reinvestment Act (ARRA) of 2009, which provided over $12.0 million for transportation projects in Santa Cruz county. Additionally, federal earmarks and special grant programs have historically provided funds for highway projects nationwide.

Tier II (EA 05– 0C732) – Funding for Highway 1 41st/Soquel Auxiliary Lanes and Chanticleer Overcrossing Project

In December 2011, the SCCRTC designated $4.0 million of the region's share of 2012 STIP funds for final design and right-of-way phases of the Highway 1 41st Ave/Soquel Ave Auxiliary Lanes and Chanticleer Overcrossing project, subsequently approved by the California Transportation Commission (CTC) in the adopted 2012 State Transportation Improvement Program. Work on the final design and right-of-way phase of the project development process is anticipated to begin in winter 2017, following state and federal approval of the Tiered Environmental Document, and is anticipated to take one year to complete.

Funding the construction phase of the Tier II project will be considered by the SCCRTC in forthcoming funding cycles. Preliminary construction cost estimates for the Tier II project total approximately $23.0 million (including construction management and support). Given the historic level of transportation revenue streams summarized above it may be necessary to build the Tier II project in phases. Below is a breakout of the Tier II project into individual project elements and preliminary cost estimates.

Table 8.1 Highway 1 41st Ave/Soquel Ave Auxiliary Lanes and Chanticleer Overcrossing Project Funding

PROJECT ELEMENTS	**CONSTRUCTION** (includes management & support)
Northbound Auxiliary Lane between 41st Avenue and Soquel Avenue	$11,000,000
Southbound Auxiliary Lane between 41st Avenue and Soquel Avenue	$7,000,000
Bicycle/Pedestrian Overcrossing of Hwy 1 at Chanticleer Avenue	$5,000,000
Estimated Total	**$23,000,000**

The northbound auxiliary lane construction must precede the bicycle/pedestrian overcrossing and the southbound auxiliary lane because the northbound work shifts the route centerline and allows room for the bicycle/pedestrian overcrossing center pier and the southbound widening.

It has been determined that this project is eligible for federal-aid funding.

Table 8.2 Capital Outlay Support and Project Estimates

Fund Source **20.XX.075.600 (STIP RIP)** Component	**Prior**	**FY 16/17**	**FY 18/19**	**Total**
PA&ED Support*	$12,709			$12,709
PS&E Support		$2,538		$2,538
Right-of-Way Support		$133		$133
Construction Support			$3,000	$3,000
Right-of-Way		$1,376		$1,376
Construction			$18,119	$18,119
Total	**$12,709**	**$4,047**	**$21,119**	**$37,875**

**For tiered environmental documentation of entire State Route 1 corridor*
The PS&E, right-of-way, and construction support cost ratios are 14%, 10% and 15%.
Construction cost escalation assumed as 3%.
Note: Project Support and Capital Costs prepared by Consultant

9. SCHEDULE

Project Milestones		Scheduled Delivery Date (Month/Day/Year)
PROGRAM PROJECT	M015	2002
BEGIN ENVIRONMENTAL	M020	June 23, 2003
CIRCULATE DED EXTERNALLY	M120	November, 2015
PA & ED	M200	October , 2016
PROJECT PS&E	M380	October, 2018
RIGHT OF WAY CERTIFICATION	M410	October , 2018
READY TO LIST	M460	December, 2018
AWARD	M495	February, 2019
APPROVE CONTRACT	M500	March1, 2019
CONTRACT ACCEPTANCE	M600	December , 2019
END PROJECT	M800	May 30, 2020

10. RISKS

Project risks are summarized in the Risk Register in Attachment I, and have been collected from PDT members throughout the PAED process. They span the planning, design and construction phases and are of varying impacts. Risk control strategies include transference, acceptance and avoidance. In general the risks would impact project cost and schedule if they were realized.

The only risk with impact rated "high" is related to project funding, and the fact that this project is not fully programmed. RTC's strategies for avoiding this risk are described Section 8 "Programming".

Two "moderate" risks are related to highway maintenance, with acceptance strategies that recommend involvement of maintenance staff early in PS&E phase so that maintenance requirements can be incorporated.

Two "moderate" risks are related to utility relocation, with avoidance strategies that recommend careful adherence to owner notification, involvement and milestones.

While the project cost estimate includes a conservative estimate for ADL-contaminated soil, it is accepted that future testing during PS&E and construction may identify additional contamination. ADL handling costs trends will be tracked, and additional funding or cost-trade-offs would be sought if this risk were realized.

The only risk considered to affect project quality is related to project aesthetics, and the possibility of community input leading to aesthetic treatment that exceeds project budget. RTC plans to control this risk by guiding visual mitigation via an aesthetics review board, formed as part of the HOV Lanes and Transportation System Management Alternatives project planning.

11. FHWA COORDINATION

This project is considered to be a High Profile Project (HPP) in accordance with the current Federal Highway Administration (FHWA) and Department of Transportation (Caltrans) Joint Stewardship and Oversight Agreement.

12. PROJECT REVIEWS

Scoping team field review ____ N/A ____ Date ____
Scoping team field review attendance roster attached.
District Program Advisor ____ N/A ____ Date ____
Headquarters SHOPP Program Advisor ____ N/A ____ Date ____
District Maintenance ____ Tom Barnett ____ Date 2/13/2014
Headquarters Design Coordinator ____ Christine Inouye ____ Date 2/13/2014
Project Manager ____ Luis Duazo ____ Date 08/27/2015
FHWA ____ Gary Sweeten, Dominic Hoang ____ Date 08/27/2015
District Safety Review ____ Scott Morris ____ Date 2/13/2014
Constructability Review ____ Mike Dubin ____ Date 5/25/2012
Other ____ N/A ____ Date ____

13. PROJECT PERSONNEL

Table 10.1: Project Personnel Information

NAME	ROLE	PHONE
Luis Duazo	Caltrans Project Manager	(805) 542-4678
John Fouche	Oversight Design Manager/Oversight Engineer	(805) 549-3330
Matt Fowler	Caltrans Environmental Unit Supervisor	(805) 542-4603
Lara Bertaina	Caltrans Senior Environmental Planner	(805) 542-4610
Nick Dumas	Caltrans Right-of-Way Manager	(559) 445-6195
George Dondero	SCCRTC Executive Director	(831) 460-3202
Kim Shultz	SCCRTC Senior Transportation Planner	(831) 460-3208
Parag Mehta	Kimley-Horn, Project Manager	(925) 965-7703

14. LIST OF ATTACHMENTS

Attachment A – Vicinity Map

Attachment B – Typical Cross Sections

Attachment C – Layouts

Attachment D – Draft Project Report Cost Estimate

Attachment E – TMP and TMP Checklist

Attachment F – SWDR Cover

Attachment G – DED

Attachment H – Right-of-way and Utility Plans

Attachment I – Risk Management Plan

Attachment J – Chanticleer Bicycle/Pedestrian Overcrossing Advance Planning Study

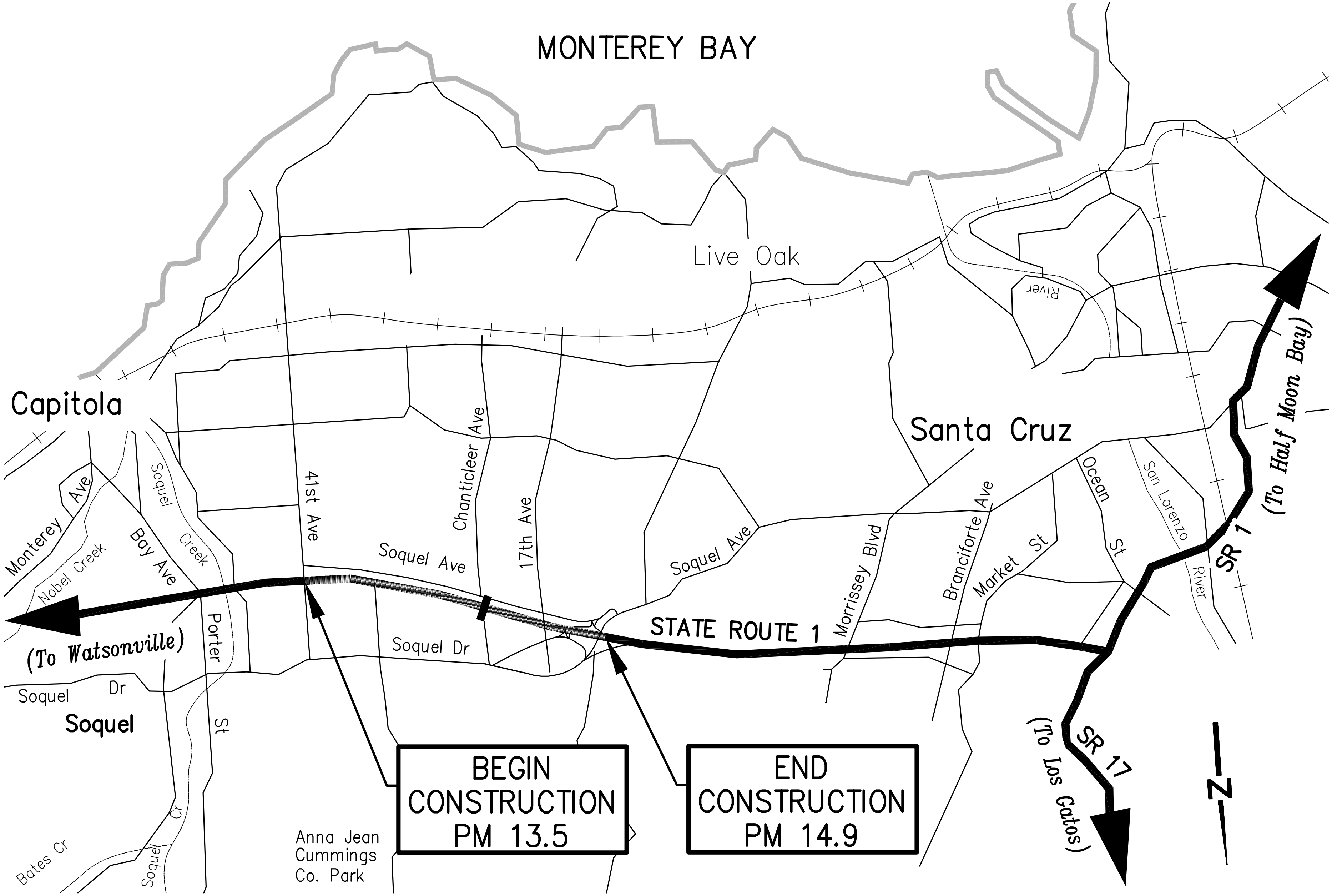
Attachment K – Life Cycle Cost Analysis

Attachment L – Accident Summary

Attachment M – District Distribution List

ATTACHMENT A

VICINITY MAP



ATTACHMENT A
VICINITY MAP
STATE ROUTE 1 41st AVENUE TO SOQUEL DRIVE AUXILIARY LANES PROJECT

NO SCALE

ATTACHMENT B

TYPICAL CROSS SECTIONS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCr	1	13.5/14.9	1	

REGISTERED CIVIL ENGINEER DATE

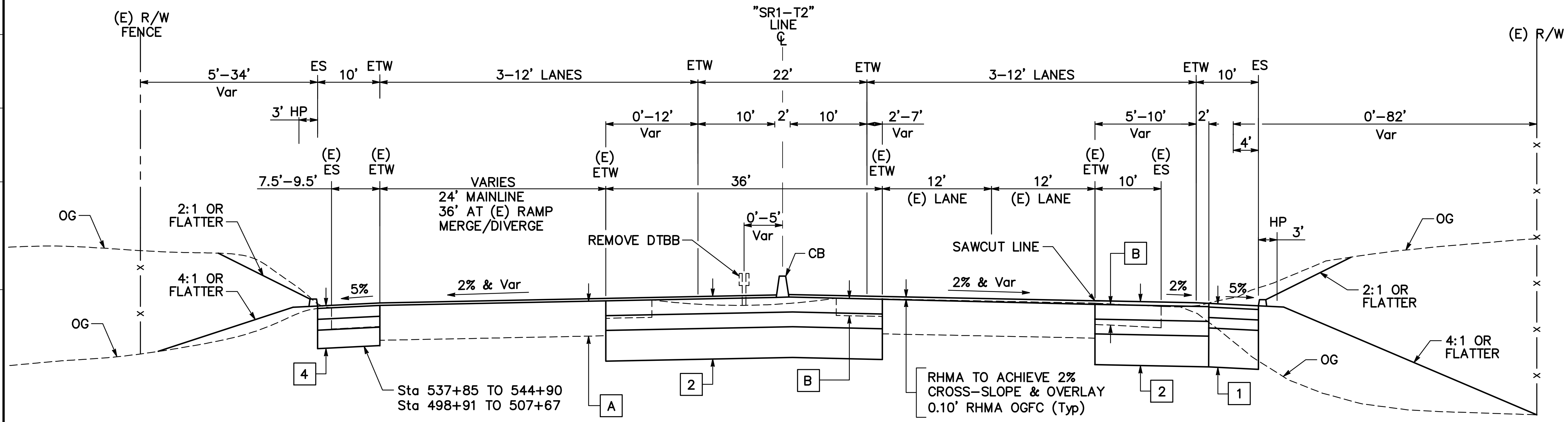
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER PARAG MEHTA No. C 66638 Exp. 6/30/14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NV5
2025 GATEWAY PLACE
SUITE 156
SAN JOSE, CA 95110

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060



ROUTE 1

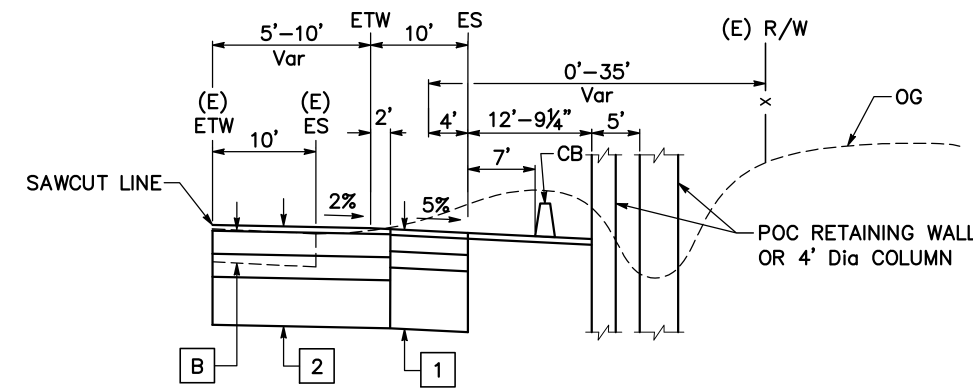
"SR1–T2" Sta 523+50 TO 545+00
"SR1–T2" Sta 507+88 TO 519+42
"SR1–T2" Sta 496+10 TO 503+50

DESIGN DESIGNATION (ROUTE 1)

ADT (2008) = 91,000	D = 60%
ADT (2035) = 124,300	T = 3%
DHV = 9,950	V = 65 mph
ESAL = 8,302,900	TI_{20} = 11.5

NOTE:

A STRUCTURAL SECTION FROM THE ADJACENT SOQUEL–MORRISSEY AUXILIARY LANE PROJECT HAS BEEN ASSUMED FOR USE WITH THIS PROJECT. DURING THE DESIGN PHASE, SPECIFIC STRUCTURAL SECTIONS WILL BE DESIGNED FOR THIS PROJECT FOLLOWING FURTHER GEOTECHNICAL INVESTIGATIONS.



"SR1–T2" Sta 529+00 TO 533+50

TYPICAL STRUCTURAL SECTION (N)

1 — 0.10' RHMA OGFC; 0.35' RHMA (TYPE A); 0.35' Cl 2 AB; 1.45' Cl 1 AS

2 — 0.10' RHMA OGFC; 0.50' RHMA (TYPE A); 0.50' LCB; 1.15' Cl 1 AS

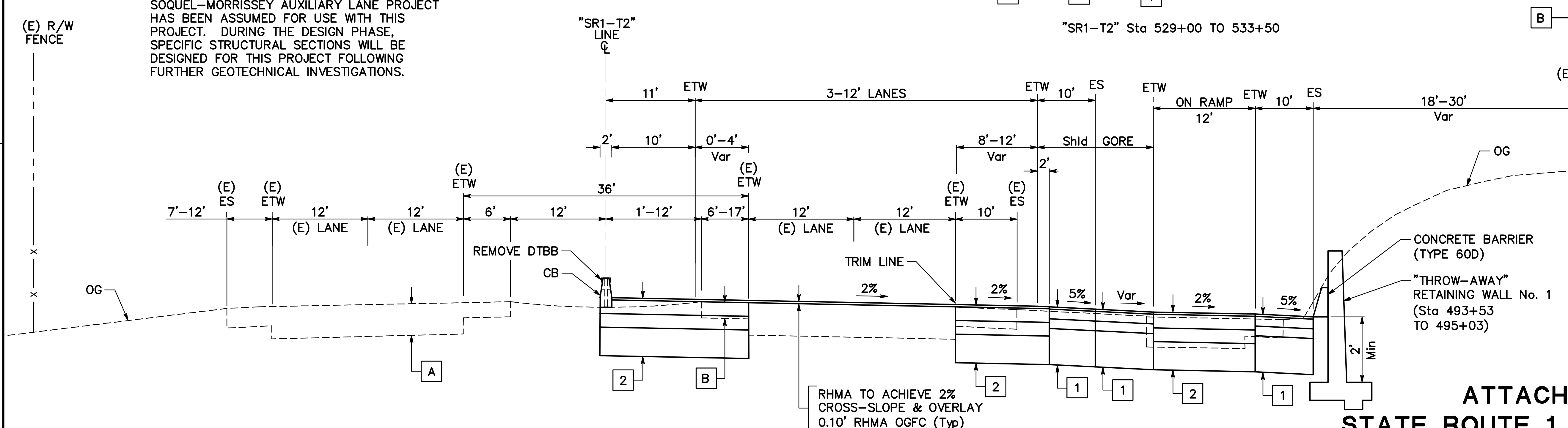
3 — 0.50' NATIVE MATERIAL, 95% RELATIVE COMPACTION

4 — 0.10' RHMA OGFC; 0.35' RHMA (TYPE A); 0.35' Cl 2 AB; 0.55' Cl 1 AS

TYPICAL STRUCTURAL SECTION (E)

A — 0.60' AC (TYPE A); 0.50' AB (CL 2)

B — 0.60' AC (TYPE A)



ROUTE 1

"SR1–T2" Sta 487+85 TO 496+10

ATTACHMENT B
STATE ROUTE 1 HOV/TSM-TIER 2 AUXILIARY LANES PROJECT TYPICAL CROSS SECTIONS

NO SCALE

X-1

DATE PLOTTED => September 21, 2015
TIME PLOTTED => 8:50:29 AM

LAST REVISION XXX

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR | CALCULATED–DESIGNED BY | CHECKED BY | REVISED BY | DATE REVISED

PATH => n:\sj086000\cadd\civil\tier 2\5' median offset

BORDER LAST REVISED 7/2/2010 | USERNAME => charmaine zamora | DGN FILE => x1 | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT xxx | xxxx

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCr	1	13.5/14.9	2	

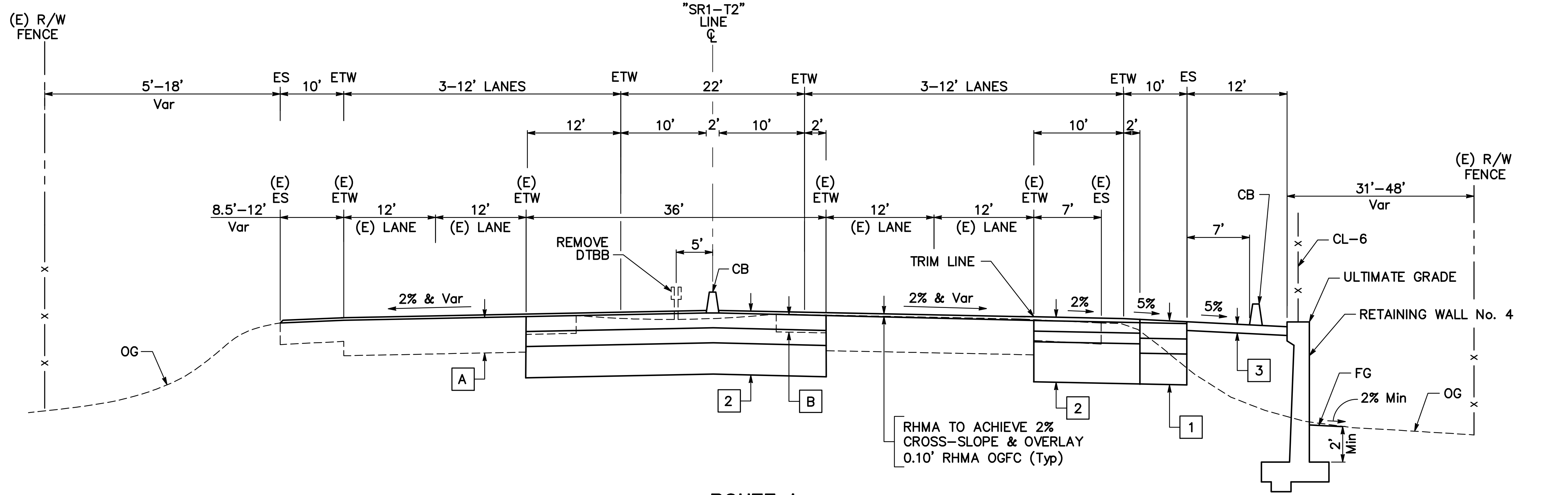
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

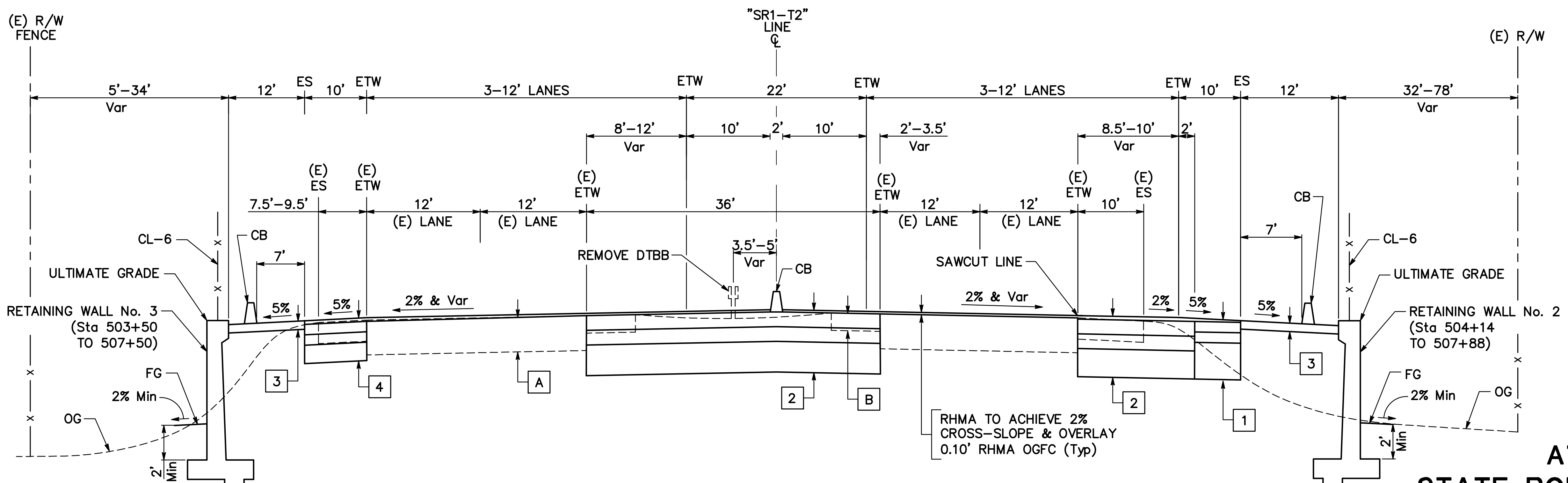
REGISTERED PROFESSIONAL ENGINEER PARAG MEHTA No. C 66638 Exp. 6/30/14 CIVIL STATE OF CALIFORNIA

NV5
2025 GATEWAY PLACE
SUITE 156
SAN JOSE, CA 95110

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060



ROUTE 1
"SR1-T2" Sta 519+42 TO 523+50



ROUTE 1
"SR1-T2" Sta 503+50 TO 507+88

TYPICAL STRUCTURAL SECTION

1 — 0.10' RHMA OGFC; 0.35' RHMA (TYPE A); 0.35' Cl 2 AB; 1.45' Cl 1 AS

2 — 0.10' RHMA OGFC; 0.50' RHMA (TYPE A); 0.50' LCB; 1.15' Cl 1 AS

3 — 0.50' NATIVE MATERIAL, 95% RELATIVE COMPACTION

4 — 0.10' RHMA OGFC; 0.35' RHMA (TYPE A); 0.35' Cl 2 AB; 0.55' Cl 1 AS

A — 0.60' AC (TYPE A); 0.50' AB (CL 2)

B — 0.60' AC (TYPE A)

DESIGN DESIGNATION (ROUTE 1)

ADT (2008)	= 91,000	D	= 60%
ADT (2035)	= 124,300	T_{20}	= 3%
DHV	= 9,950	V	= 65 mph
ESAL	= 8,302,900	TI	= 11.5

ATTACHMENT B
STATE ROUTE 1 HOV/TSM-TIER 2 AUXILIARY LANES PROJECT TYPICAL CROSS SECTIONS

NO SCALE

X-2

REVISED BY | DATE REVISED | CALCULATED-DESIGNED BY | CHECKED BY | CONSULTANT FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

DATE PLOTTED => September 21, 2015
TIME PLOTTED => 8:54:42 AM

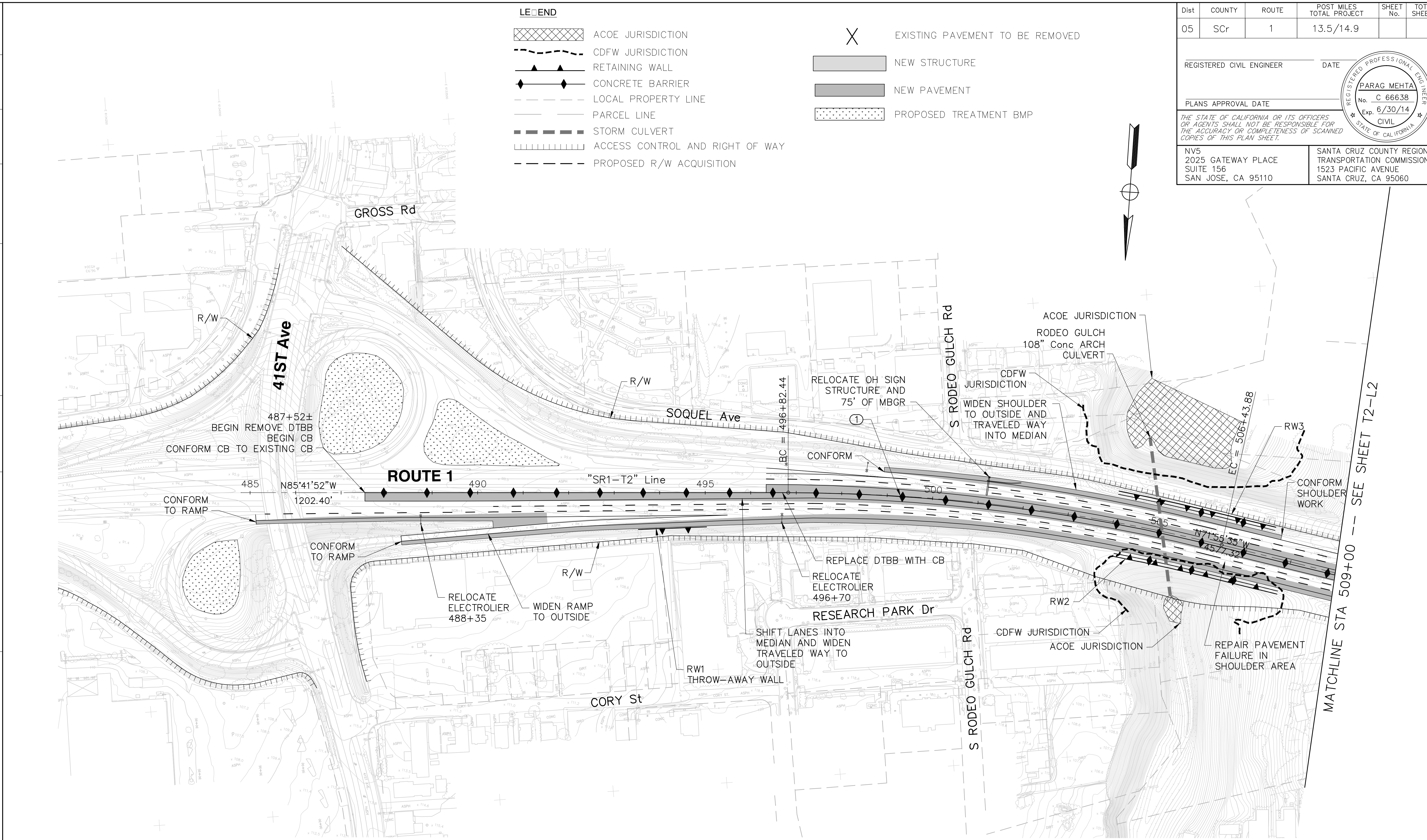
LAST REVISION XXX

PATH => n:\sj086000\cadd\civil\tier 2\5' median offset

BORDER LAST REVISED 7/2/2010 | USERNAME => charmaine zamora | DGN FILE => x2 | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT xxx | xxxx

ATTACHMENT C

LAYOUTS



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCr	1	13.5/14.9		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER PARAG MEHTA No. C 66638 Exp. 6/30/14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NV5
2025 GATEWAY PLACE
SUITE 156
SAN JOSE, CA 95110

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060

CURVE TABLE				
No.	R	Δ	T	L
1	4000'	13°46'18"	483.04'	961.43'

ATTACHMENT C
STATE ROUTE 1 HOV/TSM - TIER 2 AUXILIARY LANES PROJECT LAYOUT PLAN

SCALE 1:100

T2-L1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED

DATE PLOTTED => November 26, 2013
TIME PLOTTED => 3:51:30 PM
LAST REVISION XXX

PATH => n:\sj086000\cadd\civil\tier 2\5' median offset

BORDER LAST REVISED 7/2/2010
USERNAME => stoia, dion
DGN FILE => t2-1
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT xxx
xxxx

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCr	1	13.5/14.9		

REGISTERED CIVIL ENGINEER DATE

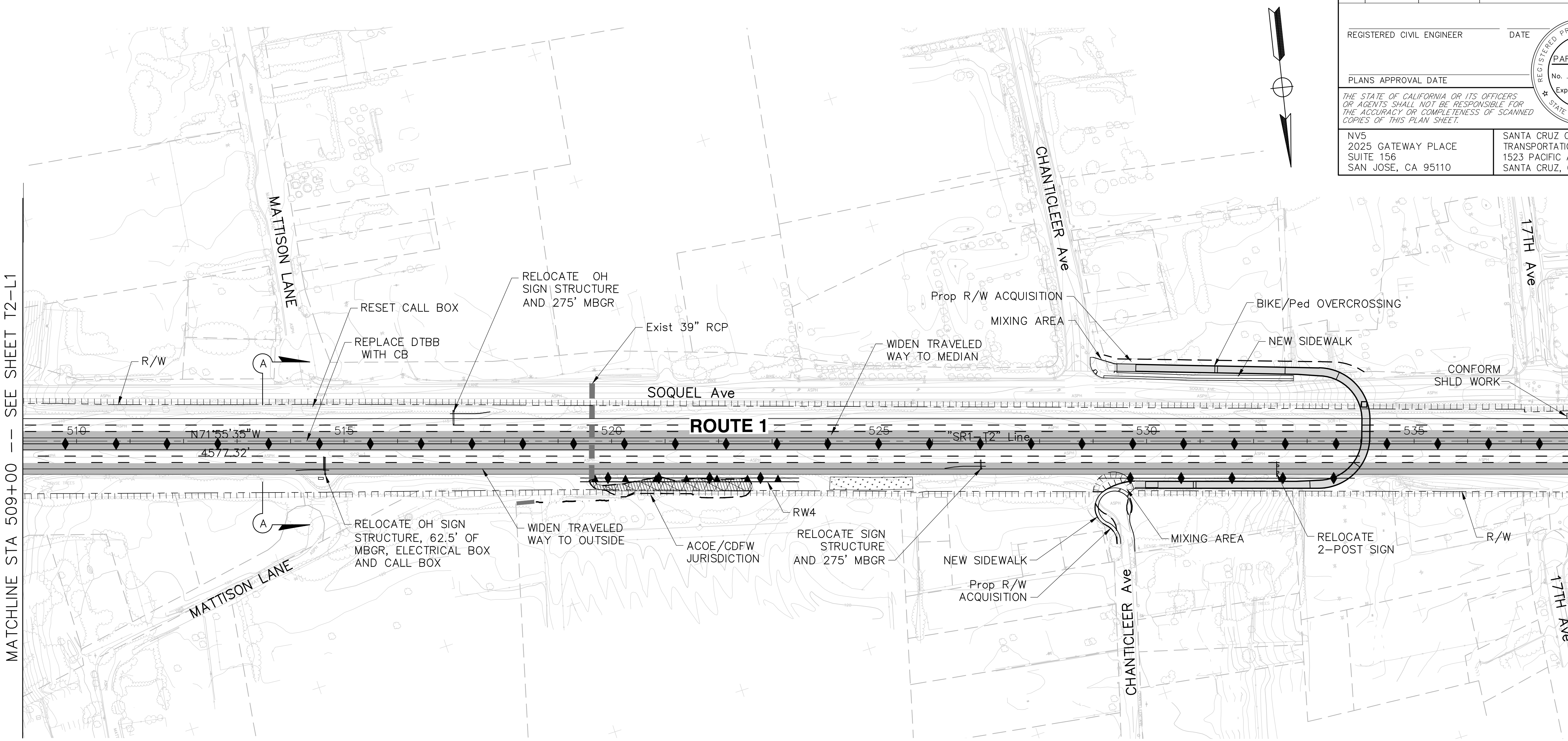
PLANS APPROVAL DATE

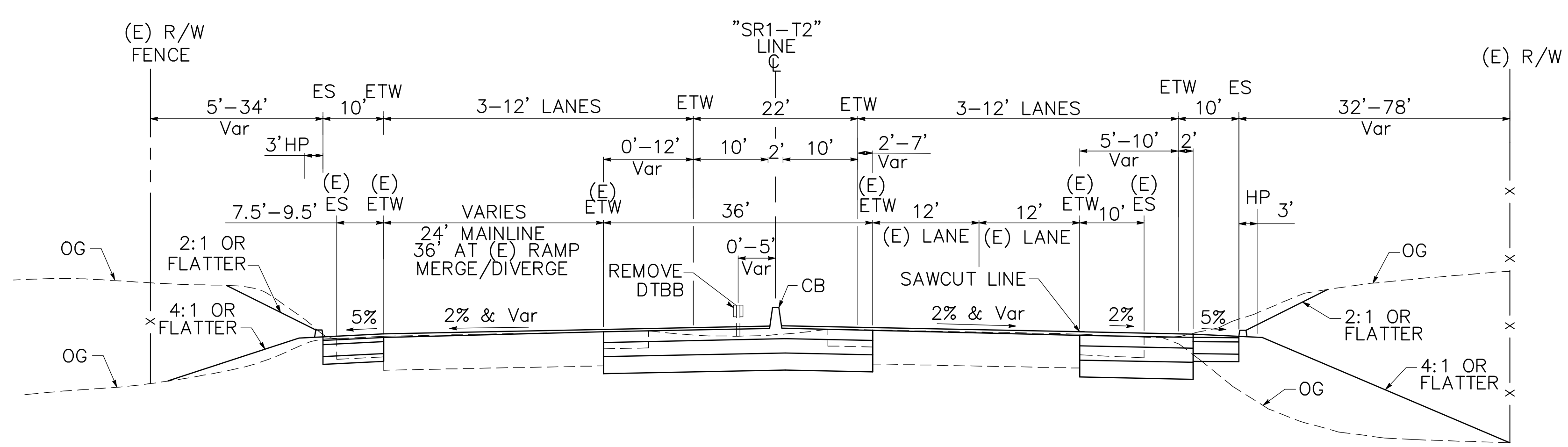
REGISTERED PROFESSIONAL ENGINEER PARAG MEHTA No. C 66638 Exp. 6/30/14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NV5
2025 GATEWAY PLACE
SUITE 156
SAN JOSE, CA 95110

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060





SECTION A-A

NO SCALE

DRAFT

ATTACHMENT C
STATE ROUTE 1 HOV/TSM - TIER 2 AUXILIARY LANES PROJECT
LAYOUT PLAN

SCALE 1:100

T2-L2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

DATE PLOTTED => November 26, 2013
TIME PLOTTED => 3:47:51 PM

LAST REVISION XXX

PATH => n:\sj086000\cadd\civil\tier 2\5' median offset

BORDER LAST REVISED 7/2/2010

USERNAME => stoia, dion
DGN FILE => t2-2

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT xxx

xxxx

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCr	1	13.5/14.9		

REGISTERED CIVIL ENGINEER DATE

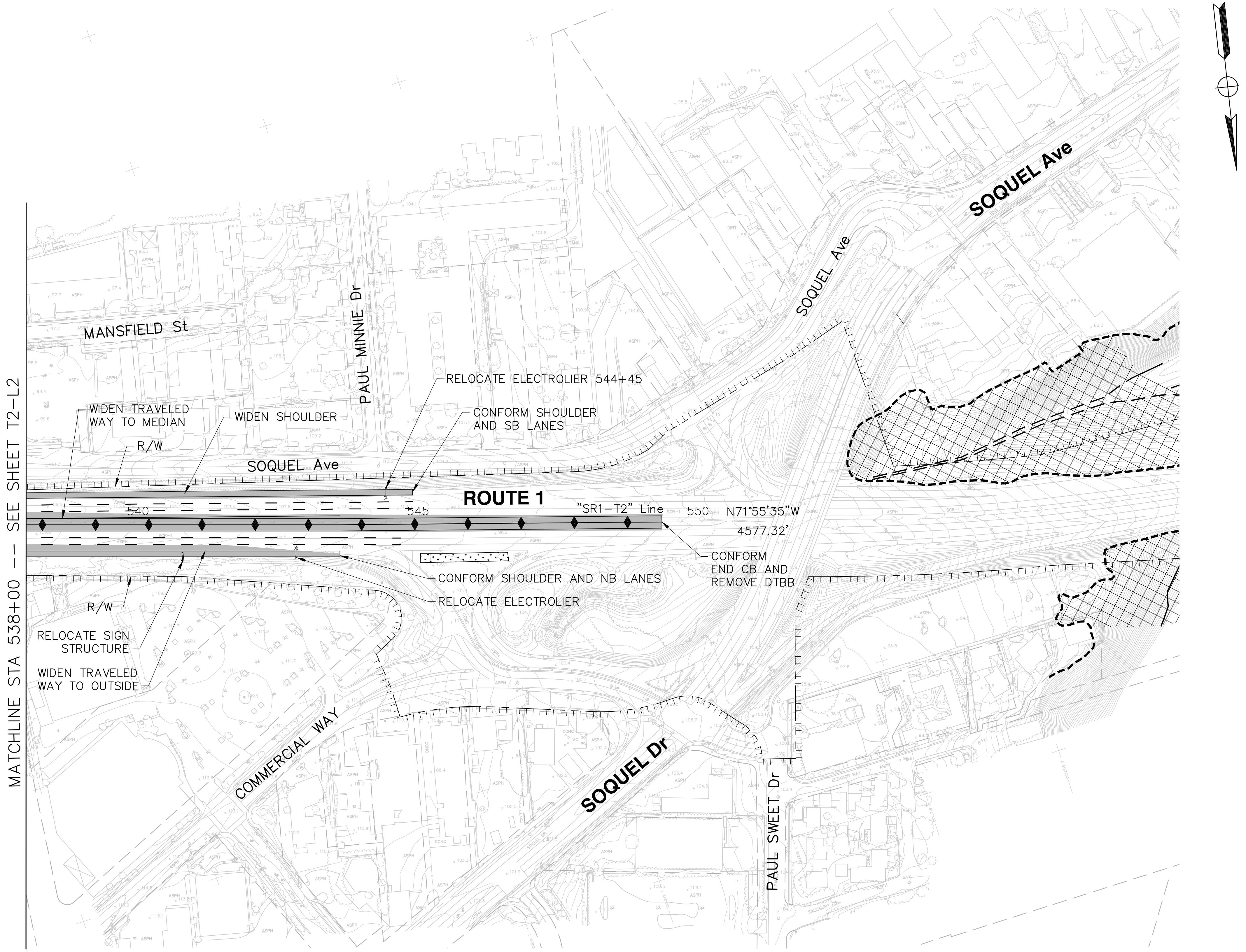
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER PARAG MEHTA No. C 66638 Exp. 6/30/14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NV5
2025 GATEWAY PLACE
SUITE 156
SAN JOSE, CA 95110

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060



DRAFT

ATTACHMENT C
STATE ROUTE 1 HOV/TSM - TIER 2 AUXILIARY LANES PROJECT
LAYOUT PLAN

SCALE 1:100

T2-L3

DATE PLOTTED => November 26, 2013
TIME PLOTTED => 3:52:27 PM

LAST REVISION XXX

REVISED BY
DATE REVISED
CALCULATED-DESIGNED BY
CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

PATH => n:\sj086000\cadd\civil\tier 2\5' median offset

BORDER LAST REVISED 7/2/2010
USERNAME => stoia, dion
DGN FILE => t2-3
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT xxx
xxxx

05-SCr-1 – PM 13.5/14.9 - EA 05-0C7300
PI # 05-0000-0023
Oversight Unit 06-1449
Program Code 20.XX.075.600 (STIP RIP) &
400.100 (Local)
September 2015

ATTACHMENT D

DRAFT PROJECT REPORT COST ESTIMATE

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE	05-SCr-1
PM:	13.5/14.9
EA:	05-0C7300
PROG CODE: 20.XX.075.600 (STIP RIP) & 400.100 (Local)	
PI:	05-0000-0023
OVERSIGHT UNIT:	06-1449

Project Description:

Limits: **In Santa Cruz County, on SR 1, from 41st Avenue IC to Soquel Drive IC**

Proposed Improvement: **Tier 2 Project: Auxiliary Lanes from 41st Avenue to Soquel Drive**
(Scope) Pave median and widen outside to add auxiliary lanes to improve highway operations

SUMMARY OF PROJECT COST ESTIMATE

	2015$
TOTAL ROADWAY ITEMS	$13,911,000
TOTAL STRUCTURE ITEMS	$2,670,000
SUBTOTAL CONSTRUCTION COSTS	$16,581,000
TOTAL RIGHT OF WAY ITEMS	$1,276,000
TOTAL ALTERNATIVE CAPITAL OUTLAY COSTS	**$17,857,000**

Reviewed by Project Engineer	Charmaine Zamora	(408) 392-7200 (Phone)	9/22/2015 (Date)
Approved by Project Manager	Parag Mehta	(925) 965-7703 (Phone)	9/22/2015 (Date)
Approved by SCCRTC	Kim Shultz	831-460-3208 (Phone)	9/23/15 (Date)

Sheet: 1 of 6

Attachment D

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE	05-SCr-1
PM:	13.5/14.9
EA:	05-0C7300
PROG CODE:	20.XX.075.600 (STIP RIP) & 400.100 (Local)
PI:	05-0000-0023
OVERSIGHT UNIT:	06-1449

	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Section 1 - Earthwork					
Roadway Excavation	16,970	CY	$12	$203,640	
Roadway Embankment	6,280	CY	$0	$0	
				Subtotal Earthwork	$203,640
Section 2 - Pavement Structural Section					
Rubberized Hot Mix Asphalt (Type A)	16,800	TON	$105	$1,764,000	
Lean Concrete Base	5,060	CY	$105	$531,300	
Aggregate Base (Class 2)	1,000	CY	$35	$35,000	
Aggregate Subbase (Class 1)	13,100	CY	$35	$458,500	
				Subtotal Pavement Structural Section	$2,788,800
Section 3 - Drainage					
Drainage					
Subtotal Sections 1 - 2, 4, & 5	7,162,840	X	10%	$716,284	
Stormwater management					
Subtotal Sections 1 - 2, 4, 5 & II.	9,832,840	X	9%	$884,956	
				Subtotal Drainage	$1,601,240
				SUBTOTAL SECTIONS 1 - 3:	$4,593,680

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE	05-SCr-1
PM:	13.5/14.9
EA:	05-0C7300
PROG CODE:	20.XX.075.600 (STIP RIP) & 400.100 (Local)
PI:	05-0000-0023
OVERSIGHT UNIT:	06-1449

Section 4 - Specialty Items

Retaining Wall	1,440	SY	$450	$648,000
Concrete Barrier	7,700	LF	$50	$385,000
Temporary Barrier (K-Rail)	25,000	LF	$15	$375,000
Environmental Mitigation (ADL+)	1	LS	$1,009,000	$1,009,000
Noise abatement/building acoustics	1	LS	$5,000	$5,000
Erosion Control	1	LS	$85,000	$85,000
Lead Compliance Plan	1	LS	$5,000	$5,000
Planting/Irrigation	1	LS	$225,000	$225,000
Rodeo Gulch roadway repair	1	LS	$200,000	$200,000

Total Specialty Items $2,937,000

Section 5 - Traffic Items

Pavement Delineation	58,000	LF	$0.50	$29,000
Modify Signals/Lighting	1	LS	$300,000	$300,000
Electrical	1	LS	$175,000	$175,000
TMS Elements	1	LS	$100,000	$100,000
CCTV System	1	LS	$100,000	$100,000
Traffic Management Plan	1	LS	$650,000	$650,000
Traffic Items (5% of Section 2)	1	LS	$139,400	$139,400

Total Traffic Items $1,493,400

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE	05-SCr-1
PM:	13.5/14.9
EA:	05-0C7300
PROG CODE:	20.XX.075.600 (STIP RIP) & 400.100 (Local)
PI:	05-0000-0023
OVERSIGHT UNIT:	06-1449

				Unit Cost	Section Cost
Section 6 - Minor Items					
Subtotal Sections 1 - 5	$9,024,080	X	10%	$902,408	
				Subtotal Minor Items:	$903,000
Section 7 - Roadway Mobilization					
Subtotal Sections 1 - 5	$9,024,080				
Minor Items	$903,000				
	$9,927,080	X	10%	$992,708	
				Subtotal Mobilization:	$993,000
Section 8 - Roadway Additions					
Supplemental Work					
Subtotal Sections 1 - 6	$9,927,080	X	10%	$992,708	
Contingencies					
Subtotal Sections 1 - 6	$9,927,080	X	20%	$1,985,416	
				Subtotal Additions:	$2,979,000
				TOTAL ROADWAY ITEMS (Total of Sections 1 - 6)	$13,911,000

Estimate Prepared by:	Charmaine Zamora	(408) 392-7200	09/22/15
	(Print Name)	(Phone)	(Date)
Estimate Approved by:	Parag Mehta	(925) 965-7703	09/22/15
	(Print Name)	(Phone)	(Date)

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE	05-SCr-1
PM:	13.5/14.9
EA:	05-0C7300
PROG CODE: 20.XX.075.600 (STIP RIP) & 400.100 (Local)	
PI:	05-0000-0023
OVERSIGHT UNIT:	06-1449

II. STRUCTURES ITEMS

Bridge Name	Chanticleer POC (New)
Structure Type	CIP Box
Additional Width (FT)	16.00
Span Lengths (FT)	979.00
Total Area (SQ FT)	15664
Footing Type (pile/spread)	pile
Cost per Sq. Ft.	$170
Including:	
Mobilization: 10%	
Contingency: 25%	
Other*	
Total Cost For Structure	$2,670,000

SUBTOTAL THIS PAGE $2,670,000

COMMENTS:

	(Print Name)	(Phone)	(Date)
Estimate Prepared By:	Charmaine Zamora	(408) 392-7200	09/22/15
Estimate Approved By:	Parag Mehta	(925) 965-7703	9/22/2015

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE	05-SCr-1
PM:	13.5/14.9
EA:	05-0C7300
PROG CODE: 20.XX.075.600 (STIP RIP) & 400.100 (Local)	
PI:	05-0000-0023
OVERSIGHT UNIT:	06-1449

Project Description:

Limits: **In Santa Cruz County, on SR 1, from 41st Avenue IC to Soquel Drive IC**

Proposed Improvement: **Tier 2 Project: Auxiliary Lanes from 41st Avenue to Soquel Drive**
(Scope) Pave median and widen outside to add auxiliary lanes
to improve highway operations

SUMMARY OF PROJECT COST ESTIMATE

	2015$
TOTAL ROADWAY ITEMS	$13,911,000
TOTAL STRUCTURE ITEMS	$2,670,000
SUBTOTAL CONSTRUCTION COSTS	$16,581,000
TOTAL RIGHT OF WAY ITEMS	$1,276,000
TOTAL ALTERNATIVE CAPITAL OUTLAY COSTS	**$17,857,000**

Reviewed by		(408) 392-7200	9/22/2015
Project Engineer	Charmaine Zamora	(Phone)	(Date)
Approved by		(925) 965-7703	9/22/2015
Project Manager	Parag Mehta	(Phone)	(Date)
Approved by		831-460-3208	
SCCRTC	Kim Shultz	(Phone)	(Date)

Sheet: 1 of 6

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE	05-SCr-1
PM:	13.5/14.9
EA:	05-0C7300
PROG CODE:	20.XX.075.600 (STIP RIP) & 400.100 (Local)
PI:	05-0000-0023
OVERSIGHT UNIT:	06-1449

.

III. RIGHT OF WAY

Right-of-Way estimates should consider the probable highest and best use and type and intent of improvements at the time of acquisition. Assume acquisition including utility relocation occurs at the right of way certification milestone as shown in the Funding and Scheduling Section of the PSR. For further guidance see Chapter 1, Caltrans Right of Way Procedural Handbook.

	Current Values (Future Use)	Escalation Rate (%/yr)	Escalated Value *
Acquisition, including excess lands and damages to remainders ***	$824,000	3%	$902,000
Environmental Mitigation & Permit Fees	$200,000	1%	$206,000
Utility Relocation	$176,000	2%	$187,000
Relocation Assistance	$20,000	3%	$22,000
Clearance / Demolition	$25,000	2%	$28,000
Title and Escrow	$6,000	0%	$6,000
SB 1210 Costs	$25,000	0%	$25,000

TOTAL RIGHT OF WAY ** (CURRENT VALUE) $1,276,000

TOTAL ESCALATED RIGHT OF WAY $1,376,000

* - Escalated to assumed year of ROW Acquisition: 2018

** - Current total value for use on sheet 1 of 6, does not include value enhancement cost

	(Print Name)	(Phone)	(Date)
Estimate Prepared by:	Michael Lahodny/Charmaine Zamora	(408) 392-7200	09/22/15
Estimate Approved by:	Parag Mehta	(925) 965-7703	9/22/2015

ATTACHMENT E

TMP

AND

TMP CHECKLIST

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRANSPORTATION MANAGEMENT PLAN

State Route 1
State Route 1 HOV – Tier 2 Project
41st Avenue to Soquel Drive Auxiliary Lanes
Santa Cruz County
(SCr -1 PM 13.5/14.9)
EA No. 05-0C7300

Santa Cruz Regional Transportation Commission
DISTRICT 5

July 2013

Prepared by NV5

Table of Contents

1.0 PROJECT DESCRIPTION 5
1.1 Overview 5
1.2 Proposed Traffic Handling During Stage Construction 5
1.3 Effects on Traffic During Construction 5
2.0 TRANSPORTATION MANAGEMENT PLAN (TMP) SUMMARY 6
2.1 TMP Team: Members, Roles and Responsibilities 6
3.0 TRANSPORTATION MANAGEMENT PLAN STRATEGIES 7
3.1 Public Information 8
3.1.1 Internet Website: PIO 8
3.1.2 Flyers, Mailers or Brochures 8
3.1.3 Press Release 8
3.1.4 Telephone Hotlines 8
3.2 Motorist Information 8
3.2.1 Changeable Message Signs (Portable and Fixed CMS) 8
3.2.2 Ground Mounted Signs 8
3.3 Incident Management 9
3.3.1 Freeway Service Patrol (FSP) 9
3.3.2 Construction Zone Enhanced Enforcement Program (COZEEP) 9
3.3.3 Traffic Monitoring 9
3.4 Contingency Plans 9

List of Attachments

1. Closure Charts ..... PS&E

1.0 PROJECT DESCRIPTION

1.1 Overview

a. Purpose: Improve traffic conditions for weaving and merging movements on Highway 1 (designated State Route 1) between 41st Avenue and Soquel Drive and improve pedestrian and bicycle access and safety.
b. Scope: Add auxiliary lanes for approximately 1.4 mile of Highway 1 from the 41st Avenue Interchange to the Soquel Drive Interchange in the City and County of Santa Cruz; construct a pedestrian overcrossing connecting Chanticleer Avenue on both sides of the highway; construct retaining walls.
c. Process: Construct retaining walls in fill areas; widen roadway to the outside; then construct center column for Chanticleer OC in median and construct new concrete median barrier, shoulders and roadway section in median.
d. Cost: $16.6 million construction cost ($13.9 million in roadway items, $2.7 million for the Chanticleer OC, and $1.3 million in utility relocations
e. Status: Construction to begin no earlier than 2015.
f. Duration: 18 to 24 months

1.2 Proposed Traffic Handling During Stage Construction

a. It is expected that like on the Soquel to Morrissey Auxiliary Lane Project and the 1/17 Merge Lane project, traffic counts would show that traffic volumes are such that two lanes of traffic must be open in both directions all day during construction. Striping operations, traffic control set-up, installation of a storm drain crossing, HMA-OG overlay, and short-term overcrossing falsework erection would occur at night, using lane and mainline closures, as allowed on the closure charts that would be prepared during PS&E.
b. Temporary ramp closures would be limited to hours where traffic volumes show closure is acceptable. Ramp closures are expected during striping operations.
c. Lane and ramp closure charts would be included in the final TMP and in the project specifications..
d. In Stage 1 of construction, the two through lanes would be shifted toward the median barrier, in both directions, and Type K concrete railing would be installed along the edge of the traveled way, around the construction zone. During Stage 1, roadway widening and retaining wall construction would occur, as would clearing and grubbing.
e. In Stage 2 of construction, traffic would be shifted away from the median barrier onto the newly widened Route 1, to allow for construction of the center OC pier and the concrete median barrier, shoulder and roadway section. Type K railing would be installed around the median work zone, but none would be required to the outside. Erection of OC falsework requiring a lane closure would occur at night.
f. At the end of Stage 2, the landscaping work would require shoulder closure.
g. The final HMA-OC overlay would require a nighttime mainline closure.

It is anticipated that project construction would take 18 to 24 months. The planting work would be followed by a 1 to 3 year plant establishment period.

1.3 Effects on Traffic During Construction

a. Traffic volumes would be collected during PS&E for use in refining lane closure charts for the project. It is anticipated that during the day, two lanes in the northbound direction, two lanes in the southbound direction would be open except during nighttime striping, traffic control set-up and short-term bridge construction operations. Ramps are expected to remain open except during striping operations.
b. During lane closures, changeable message signs would display alternate routes on arterials in order to relieve congestion on the mainline. Some delays can be expected due to:

- Narrowed lanes and no shoulders around bridge construction zones - increase in non-recurring congestion from stalls, debris, slow moving vehicles and accidents

- Reduced speed--longer travel time through the project limits
- New lane shifts may cause braking--drivers need time initially to adjust to the temporary traffic condition.

2.0 TRANSPORTATION MANAGEMENT PLAN (TMP) SUMMARY

This plan is a comprehensive strategy for reducing traffic demand and disruption and assuring the safe movement of vehicles through and around the proposed project area during construction. This would be accomplished through public information campaign in advance of construction, and effective signage for the safe passage of the motoring public. Strategies for providing safe passage with minimum delays would include a combination of portable changeable message signs (PCMS), construction area signs, and other appropriate signage and traffic control devices. Lastly, to maintain continuous traffic flow through the project area, the TMP includes a plan for dealing with incidents such as traffic accidents, vehicle stalls, or equipment failure. Establishing a protocol for immediate incident response can be accomplished with construction zone enforcement with CHP (COZEEP) and providing standby personnel to monitor and respond to traffic emergency situations.

2.1 TMP Team: Members, Roles and Responsibilities

The implementation of this plan must be a team effort and its success lies in consensus between Caltrans and Santa Cruz County agencies. Although this TMP proposes various strategies that are independent of each other, no one or two strategies alone would achieve the overall TMP goals. A combination of all TMP measures, along with teamwork and cooperation of member agencies, would help to ensure that the goals of the TMP are met. See Work Plan below for roles and responsibilities for the development and the implementation of this TMP.

a. The TMP Team should develop general working guidelines related to cooperation, communication channels, and coordination;
b. The TMP Team should evaluate the proposed elements under this TMP and agree upon member responsibilities of individual TMP elements;
c. Various proposed TMP elements may already be in place, however, the team should identify the program expansion requirements or provide redirection to meet the needs proposed under this TMP;
d. Prior to actual construction, the TMP Team should verify the need for any refinement to the proposed TMP elements as a result of late changes;
e. At all times, the TMP team should maintain effective communication channels with employers, motorists, residents, public and law enforcement officials;
f. The TMP should be continuously monitored and updated during all stages of construction.

TMP Team Member List:

Project Manager:	Luis Duazo
Construction Resident Engineer:	TBD
District Traffic Manager (DTM):	TBD
Public Information Officer (PIO):	Karena Pushnik, RTC and TBD, Caltrans
Project Engineer:	Parag Mehta
TMP Coordinator:	TBD
Safety and Signing:	TBD
Traffic Reviewer:	TBD
CHP:	TBD
RTC Contact:	Kim Shultz
County of Santa Cruz Contact:	John Presleigh
Traffic Management Center Contact:	TBD
Santa Cruz City Schools (SCCS):	Alvaro Meza

TMP Work Plan
Roles and Responsibilities / Cost Estimate

	Transportation Management Measure	Responsible Party	Action Required	Cost (Est)	Comments
1	Freeway Service Patrol (FSP)	Caltrans/RTC/ CHP	Extended service hours from 6 hours to 15 hours per day	$120K	To supplement existing RTC FSP program.
2	COZEEP	CHP, RE	Increase CHP presence during roadway closures	$150K	RE to contact CHP to request COZEEP
3	Ground Mounted Signs	RE	Provide project and warning information to motorists.	$50K	Included in PS&E
4	Changeable Message Signs	RE	Install portable CMS's announcing reduced speed, delays, detours, and upcoming construction.	$100K	Included in PS&E
5	Traffic Control System	RE	Establish closures, signing, detours	$200K	Included in PS&E
6	Press releases	PIO	Provide project and construction information through media.	$30K	Scope and frequency determined by PIO
7	Telephone Hotline, Website	RE, PIO	Construction provides real time information.	--	Public Affairs provide assistance in setting up hotline.
8	Website	Caltrans PIO	Provide real time traffic information on Caltrans' and RTC's websites.	--	PIO in-house effort
9	Contingency Plan	RE, CHP, PIO, TMC, RTC, SCC, FSP	Incident Response Protocol	--	RE to report Incidents to TMC, CHP and FSP
10	Traffic Monitoring	RE, RTC, SCC, FSP, CHP	Observe traffic, provide travel information feedback and contingency	--	TMP team members to update TMP based on monitoring
	Total Estimated Costs			**$650K**	

3.0 TRANSPORTATION MANAGEMENT PLAN STRATEGIES

The TMP proposes a program of public information, incident management, motorist information, and contingency plans. The public information program would consist of media notification, a telephone hotline, press releases, a website updates and 511 updates for information dissemination and travel time. The incident detection and response program would initiate the COZEEP and a roving tow truck patrol that would promptly remove minor incidents and alert the California Highway Patrol of accidents. The motorist information program would notify drivers of changing conditions ahead using existing changeable message signs (CMS), portable CMS, and construction area signs.

This section describes possible TMP strategies to mitigate construction-related traffic delays and driver safety issues. The TMP strategies proposed here are of a general nature and address the overall concerns caused by construction. The strategies are grouped into four broad transportation management strategies:

A. **Public Information**
B. **Motorist Information Strategies**

C. **Incident Management**
D. **Contingency Plan**

Traffic management strategies that require action by the construction contractor are described briefly in the TMP and presented in detail in the Project Plans and Special Provisions. Traffic management strategies that are to be implemented by Caltrans and Santa Cruz County agencies appear only in the TMP and are not included in the contract specifications.

3.1 Public Information

3.1.1 Internet Website: PIO

a. Post link to construction update on SCCRTC website and keep current.
b. Post links to webpage on Caltrans District 5 website
c. Provide webpage link to local internet site, including 511.org

3.1.2 Flyers, Mailers or Brochures

a. Develop email list
b. Develop and distribute flyers and mailers to public agencies for public distribution.

3.1.3 Press Release

a. Develop press releases and distribute to local media with project and construction information
b. Send updates to media as needed

3.1.4 Telephone Hotlines

At a minimum, hotline recordings should include a brief description of ongoing or imminent construction activity hours of impact and detours. Bilingual recordings should be considered.

Telephone information hotline messages should announce the following events:

a. Start of construction
b. Safe travel tips through project site
c. Ramp or lane closures

3.2 Motorist Information

The motorist information system provides advance warning regarding changing roadway conditions ahead, potential delays and/or available detours during construction. The strategies include two measures: Changeable Message Signs (CMS) and Ground Mounted Signs for contingencies.

3.2.1 Changeable Message Signs (Portable and Fixed CMS)

The function of Changeable Message Signs (CMS) is to alert drivers of changing travel conditions in the construction zone (such as congestion and lane shifts) and to improve their opportunity to stop or adjust travel speeds. CMS can also be used to announce upcoming freeway or ramp closures. Messages should conform to Caltrans guidelines.

- The RE is responsible for monitoring message content and PCMS deployment. At least 3 PCMS would be used in each direction on Route 1 for advance warning of roadway conditions. PCMS may be deployed on 41st or Soquel Ave in advance of Route 1 on-ramps. When traffic is detoured, additional CMS would be provided.

3.2.2 Ground Mounted Signs

Ground mounted construction and warning signs provide information about immediate road hazards to motorists. Plans and specification would include the quantity and type of signs.

3.3 Incident Management

The incident detection and response system includes the Freeway Service Patrol (FSP) and Construction Zone Enhanced Enforcement Program (COZEEP).

3.3.1 Freeway Service Patrol (FSP)

Extend existing service (6-9 AM and 3:30-6:30 PM) from 6 to 15 hours per day (from 6 AM to 9 PM) during the first three days of a new temporary lane shift. Program also proposes to provide weekend service during the summer months (Memorial Day to Labor Day) from 1PM to 7 PM in recognition of out-of- town tourist travelers.

3.3.2 Construction Zone Enhanced Enforcement Program (COZEEP)

This program involves continuous and a more visible presence of the California Highway Patrol (CHP) in the construction zone, provides enforcement of speed restrictions, and faster incident response. It is recommended that a COZEEP program be established for the entire construction period.

3.3.3 Traffic Monitoring

Continuous traffic monitoring would be required even when no roadwork is being done. The RE is to ensure a proper level of personnel is provided to monitor traffic, report incidents to TMC and CHP, and help pick up fallen cones. Santa Cruz County agencies may consider modification of signal timing at adjacent intersections during construction.

3.4 Contingency Plans

The project specifications would require the Contractor to submit a traffic control plan at least one week prior to any ramp or lane closures. The traffic control plan shall contain a detailed contingency plan addressing equipment standby, emergency detours and emergency notification, in the event problems arise in opening the ramp or lane by the designated time. During construction activities requiring lane closures at night or traffic splits, the contractor shall provide appropriate personnel to monitor activities and make decisions regarding activation of contingency plans.

a. The contingency plan shall identify key operational decision points with a schedule listing the expected completion time of each critical path activity. Clearly defined trigger points shall be identified with each critical path activity to establish when the contingency plan would be activated.

b. A communication plan shall include a decision tree with clearly defined lines of communication. The names, telephone numbers and pager numbers of the Contractor's Project Manager, Caltrans TMC, Resident Engineer, Caltrans Permit and/or Construction Inspector, CHP Area Commander, and other applicable personnel shall be provided.

c. When a major lane-blocking incident occurs and severe congestion is about to develop, TMC should receive a report from CHP, Caltrans or the Contractor field personnel. TMC staff shall take the following incident response actions.

Beginning of the Report:

1. Notify Communication Center (DOTCC)
2. Verify details with CCTV or CHP unit
3. Activate CMS
4. Notify Caltrans Traffic Management Team (TMT)
5. Notify media, 511 and management via Sigalert and/or pager notification
6. Notify/coordinate with adjacent districts' TMCs, if applicable
7. Notify/coordinate with local TMCs, if applicable
8. Activate EMS
9. Make an entry on the CHP CAD bulletin board and route to the media, if applicable
10. Coordinate with DTM to have lane closures picked up on alternate routes, if applicable
11. Notify locally affected transit, city police, and traffic engineers for city street congestion, if applicable

During Incident

1. Update incident status notifications, if applicable
2. Update DOTCC and TMT

End of Incident

1. Notify DOTCC and TMT when incident is over
2. Deactivate CMS, and EMS
3. Send final Sigalert and/or pager notification
4. Delete CHP CAD bulletin board entry and route to the media, if applicable
5. Notify adjacent districts' TMCs, local TMCs, Signal Operations, local transit, city police, and city traffic engineers when incident is over, if applicable
6. Update shift briefing binder, if applicable

This Transportation Management Plan has been prepared under the direction of the following registered engineers. The registered Civil Engineers attest to the technical information contained herein and have judged the qualifications of any technical specialists providing engineering data upon which recommendations, conclusions and decisions are based.

Prepared By:

Suzanne Sarro, PE

Nolte Associates, Inc.

ATTACHMENT F

STORM WATER DATA REPORT COVER

Caltrans

Caltrans Metric

Dist-County-Route: 05-SCR-01

Post Mile Limits: Tier I: PM R7.24/16.13 (KP R11.64/25.96); Tier II: PM 13.5/14.9

Project Type: Highway Widening

Project ID (or EA): 05000000230 (05-0C7300)

Program Identification: STIP

Phase: ☐ PID

☒ PA/ED

☐ PS&E

Regional Water Quality Control Board(s): Central Coast (Region 3)

Is the Project required to consider Treatment BMPs? Yes ☒ No ☐

If yes, can Treatment BMPs be incorporated into the project? Yes ☒ No ☐

If No, a Technical Data Report must be submitted to the RWQCB at least 30 days prior to the projects RTL date. List RTL Date:________

Total Disturbed Soil Area: Tier I Project: 250 ac (101 ha) for HOV Lane Alternative and 101 ac (41 ha) for TSM Alternative; Tier II Project: 18.5 ac

Risk Level: 2 & 3

Estimated: Construction Start Date: Tier I Project: TBD; Tier II Project: March 2019

Construction Completion Date: Tier I Project: TBD; Tier II Project: May 2020

Notification of Construction (NOC) Date to be submitted: TBD (At least one month prior to the start of construction)

Erosivity Waiver	Yes ☐	Date:________	No ☒
Notification of ADL reuse (if Yes, provide date)	Yes ☐	Date:________	No ☒
Separate Dewatering Permit (if yes, permit number)	Yes ☐	Permit #________	No ☒

This Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the date upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E.

Analette Ochoa, P.E. Registered Project Engineer — Date: 9/17/15

I have reviewed the storm water quality design issues and find this report to be complete, current and accurate:

Luis Duazo, Project Manager — Date: 9/22/15

Chris Chalk, Designated Maintenance Representative — Date: 9/29/15

Dennis Reeves, Designated Landscape Architect Representative — Date: 9/29/15

[Stamp Required for PS&E only] For James Espinosa, Regional Design SW Coordinator or Designee — Date: 9/29/2015

ATTACHMENT G

DRAFT ENVIRONMENTAL DOCUMENT COVER

ATTACHMENT H

RIGHT OF WAY AND UTILTIY PLANS

[Right of Way Impact and Utility Impact Plans included for reference only]

05-SCr-1 – PM 13.5/14.9 - EA 05-0C7300
PI # 05-0000-0023
Oversight Unit 06-1449
Program Code 20.XX.075.600 (STIP RIP) &
400.100 (Local)

September 22, 2015

RIGHT OF WAY DATA SHEET

Right of Way Cost Estimate

1. Right of Way Cost Estimate	Current Value	Escalation Rate	Escalated Value
Acquisition, including Excess Lands, Damages and Goodwill	$ 824,000	3%	$ 902,000
Environmental Mitigation	$ 200,000	1%	$ 206,000
Utility Relocation (Project share)	$ 176,000	2%	$ 187,000
Relocation Assistance	$ 20,000	3%	$ 22,000
Clearance/Demolition	$ 25,000	3%	$ 28,000
Title and Escrow	$ 6,000		$ 6,000
SB 1210 Costs	$ 25,000		$ 25,000
Total Estimated Cost	**$ 1,276,000**		**$ 1,376,000**
Construction Contract Work	$ 0		

2. Current Date of Right of Way Certification: October 2018

3. Parcel Data:

Type	Number	Dual/Appr	Utilities		RR involvement		Misc. R/W Work	
X			U4-1	0	None	x	RAP Displ	0
A	0		-2	0	C&M Agmt		Clear/Demo	1
B	1		-3	0	Svc Contract		Const Permits	2
C	5		-4	5	Design		Condemnation	1
D	0		U5-7	0	Const.			
			-8	0	Lic/RE/Clauses			
Total	6		-9	5				

Area: In R/W 0.31 Acres

No. of Excess Parcels: 0

BENDER ROSENTHAL, INC.

4. **Are there any major items of construction contract work?**
   During the period of construction, temporary fencing may be required to maintain the integrity and security of some of the parcels.

5. **Provide a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, etc.).**
   The project is in an area of mixed zoning and uses. The predominant uses are low to medium density residential, commercial and some industrial. There are a total of 5 privately owned and 1 publicly owned parcels impacted by the project. Additionally, 1 parcel requires an encroachment permit for work on the city street. The project requires a total of 0.31 acres of public and privately owned property from 6 parcels. The property will be acquired in fee for the project except for the public street area. The acquisition areas are improved with typical residential and commercial site improvements. This alternative has minimal impact on adjacent properties. Abutters' rights will be required from the parcels acquired in fee for the Department of Transportation. Total costs include $200,000 to purchase environmental mitigation credits (if required) and pay for required fees.

6. **Is there an effect on assessed valuation?**
   No significant impact.

7. **Are utility facilities or rights of way affected?**
   Yes, several involvements are anticipated. See Utility Information Sheet for details.

8. **Are Railroad facilities or rights of way affected?**
   No.

9. **Were any previously unidentified sites with hazardous waste and /or material found?**
   None evident.

10. **Are RAP displacements required?**
    Relocation of personal property from storage shed and yard.

11. **Are material or borrow and/or disposal sites required?**
    No.

12. **Are there any potential relinquishments and/or abandonments?**
    No

13. **Are there any existing and/or potential airspace sites?**
    No

BENDER ROSENTHAL, INC.

_______________________ _______________________

14. Indicate the anticipated Right of Way schedule and lead-time requirements.
Right of way lead time should be twenty months.

15. Is it anticipated that Caltrans staff will perform all Right of Way Work.
Yes.

Data for evaluation prepared and revised by:

Right of Way: Michael Lahodny — Date: April 17, 2013, rev Sept 1, 2015
Railroad: Michael Lahodny — Date: April 17, 2013, rev Sept 1, 2015
Utilities: Nolte Associates, Inc.
& Michael Lahodny — Date: February 25, 2013, updated Sept 1, 2015

Recommended for Approval:

Michael E Lahodny — 9-22-2015

Michael E. Lahodny
Bender Rosenthal, Inc.
California Certified General
Appraiser [No. 044258]

Date

05-SCr-1 – PM 13.5/14.9 - EA 05-0C7300
PI # 05-0000-0023
Oversight Unit 06-1449
Program Code 20.XX.075.600 (STIP RIP) &
400.100 (Local)

UTILITY INFORMATION SHEET

1. Name of utility companies involved in Project:
   Pacific Gas and Electric – electricity and natural gas
   County of Santa Cruz – sanitary sewer and storm drain
   Comcast Communications-cable TV

2. Types of facilities and agreements required:
   PG&E 21kv transmission and OH power poles – Notice & Agreement
   PG&E standard/high pressure UG gas lines – Notice & Agreement
   Comcast Communications– OH Cable – Notice & Agreement
   County of Santa Cruz –10 12 inch VCP UG sanitary sewer- Notice & Agreement
   County of Santa Cruz- 18 & 36 inch RCP, 4x4 RCB culvert and 9 foot concrete arch storm drain facilities – Notice & Agreement

2. Is any facility a longitudinal encroachment in existing or proposed access controlled right of way?
   No.

4. Additional Information concerning utility involvements on this project, i.e., long lead time materials, growing or species seasons, customer service seasons:
   None observed.

5. Total estimated cost of State's obligation for utility relocation on this project:
   The nature of the work includes costs to extend, relocate and protect in place existing utilities.
   The total estimated cost (before escalation) to the project is $176,000. A cost to Utility Owners is estimated at $424,000. It is anticipated that when verifications and liability determinations are completed, these costs will need to be adjusted.

Prepared By: Nolte Associates &
Michael Lahodny, Bender Rosenthal Inc.

Right of Way Data Sheet Premise, Assumptions, Limiting Conditions and Extra Ordinary Assumptions

Estimate Premise

1. Estimates are forecasts of anticipated costs for properties that will be acquired at a future date. The Current Value was escalated to the Right of Way Certification date based on market observations.
2. Estimate requires looking into the future and projecting the anticipated highest and best use of the properties at the time they are required for the project. The estimate will not consider increases in real estate value due to changes in land use resulting from anticipation of the proposed project.
3. The estimate will be developed using appraisal principles without the depth of investigation and verification. The estimate may consider indicators of value which may not be acceptable in appraising under USPAP provisions.
4. The estimate will consider costs known as Construction Contract Work (CCW) as severance damages and included as compensation to the owner.
5. The estimator has based the estimate on the highest supported anticipated costs and a "worst case" scenario.
6 When in doubt because of inadequate or marginal requirement information, a full acquisition will be assumed.

Assumptions

1. Estimate mapping is assumed to adequately provided information on which partial acquisition and damages are based.
2. The right of way area calculations are assumed to reflect the needs for the project or alternative. Changes in the areas may dramatically impact the estimated right of way costs.

Limiting Conditions

1. Utility locations and information of property rights have not been fully researched and utility costs are based on field observations and cost information provided by others. More accurate costs will be developed as the project approaches selection of final alignment and design. Rights and obligations of parties will be verified and a liability determination will be established. Master agreements with Utility Companies may establish the costs to the owners and project.

Extraordinary Assumptions

1. A contingency factor was previously applied at the observed rate of 15% then 20%. The Department of Transportation Reviewer cited that it should be at 25% and the value was adjusted. This additional estimated cost provides for possible business goodwill claims, outdoor advertising signs, administrative settlements, condemnation awards, utility overruns and interest payments. This adjustment was applied to the Acquisition and Utility Relocation costs. The Relocation and Demolition costs already reflect an appropriate contingency adjustment around 23%.
2. Environmental permitting fees will also be estimated as they are generally paid at the right of way acquisition phase. The Department of Transportation Reviewer cited that Caltrans Environmental Units require some escalation. The mitigation place holder for this project $200,000 exceeds the current fee requirements for agencies identified as requiring payments. A nominal escalation factor will be used. <u>There are no requirements to purchase land or credits at this time.</u>
3. Lead time has been adjusted from eighteen to twenty months pursuant to Caltrans review.

EXISTING STATE R/W

PROPOSED LOCAL R/W

PROPOSED STATE R/W

TEMPORARY CONSTRUCTION EASEMENT (TCE)

WETLANDS (CDFG)

WETLANDS (ACOE)

WETLANDS (OTHER WATERS)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCr	1	13.5/14.9		

REGISTERED CIVIL ENGINEER DATE

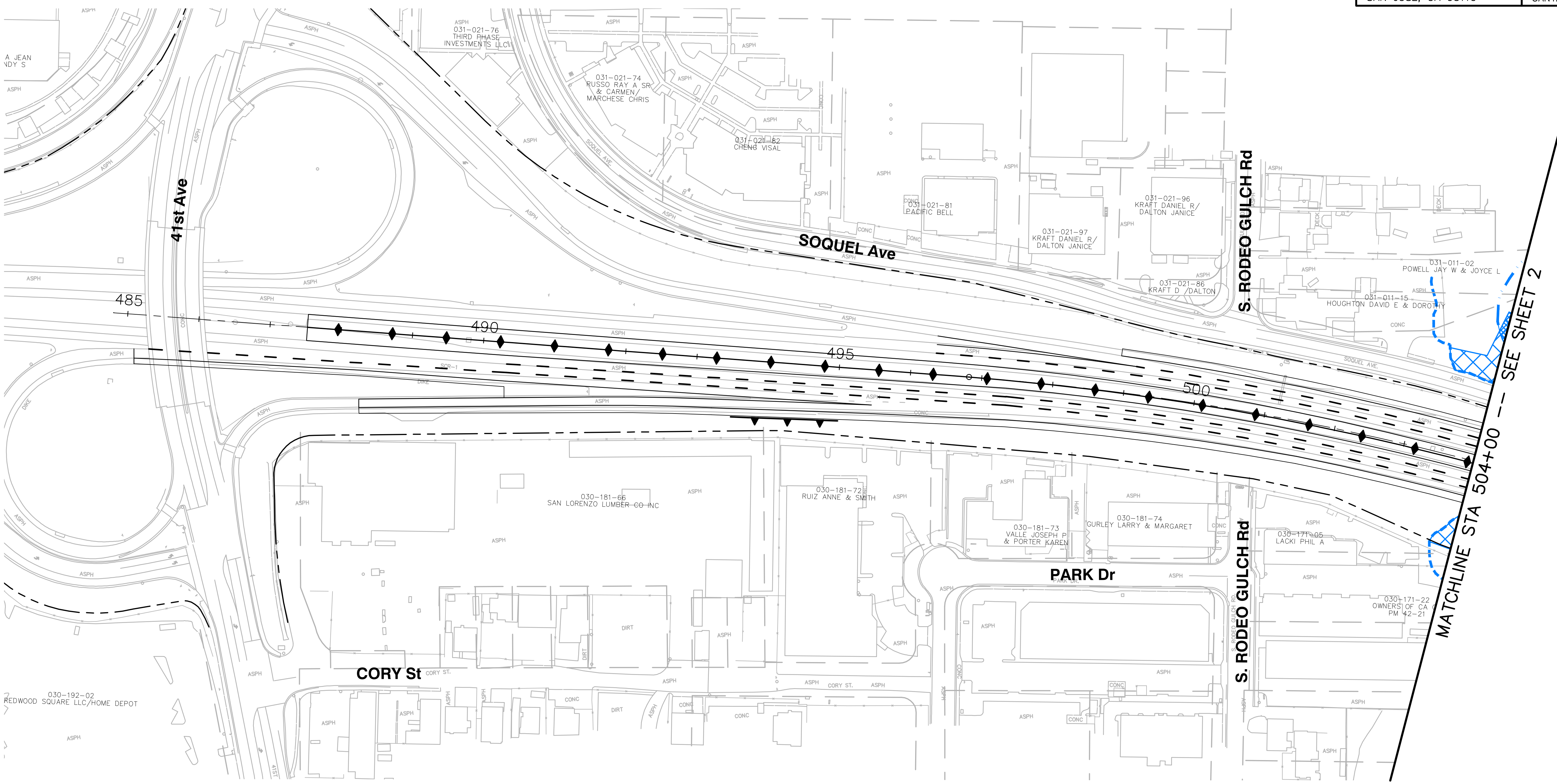
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER PARAG MEHTA No. C 66638 Exp. 6/30/14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NV5
2025 GATEWAY PLACE
SUITE 156
SAN JOSE, CA 95110

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060



ATTACHMENT H
ROUTE 1 HOV - TIER 2
AUXILIARY LANES PROJECT
RIGHT OF WAY IMPACT
SHEET 1 OF 4

SCALE 1:80

STATE OF CALIFORNIA — DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

PATH => n:\sj086000\cadd\civil\tier 2\5' median offset\row_tier 2

DATE PLOTTED => May 28, 2013
TIME PLOTTED => 4:06:30 PM

LAST REVISION XXX

BORDER LAST REVISED 7/2/2010

USERNAME => wong, david
DGN FILE => right of way impact

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT xxx

xxxx

EXISTING STATE R/W

PROPOSED LOCAL R/W

PROPOSED STATE R/W

TEMPORARY CONSTRUCTION EASEMENT (TCE)

WETLANDS (CDFG)

WETLANDS (ACOE)

WETLANDS (OTHER WATERS)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCr	1	13.5/14.9		

REGISTERED CIVIL ENGINEER DATE

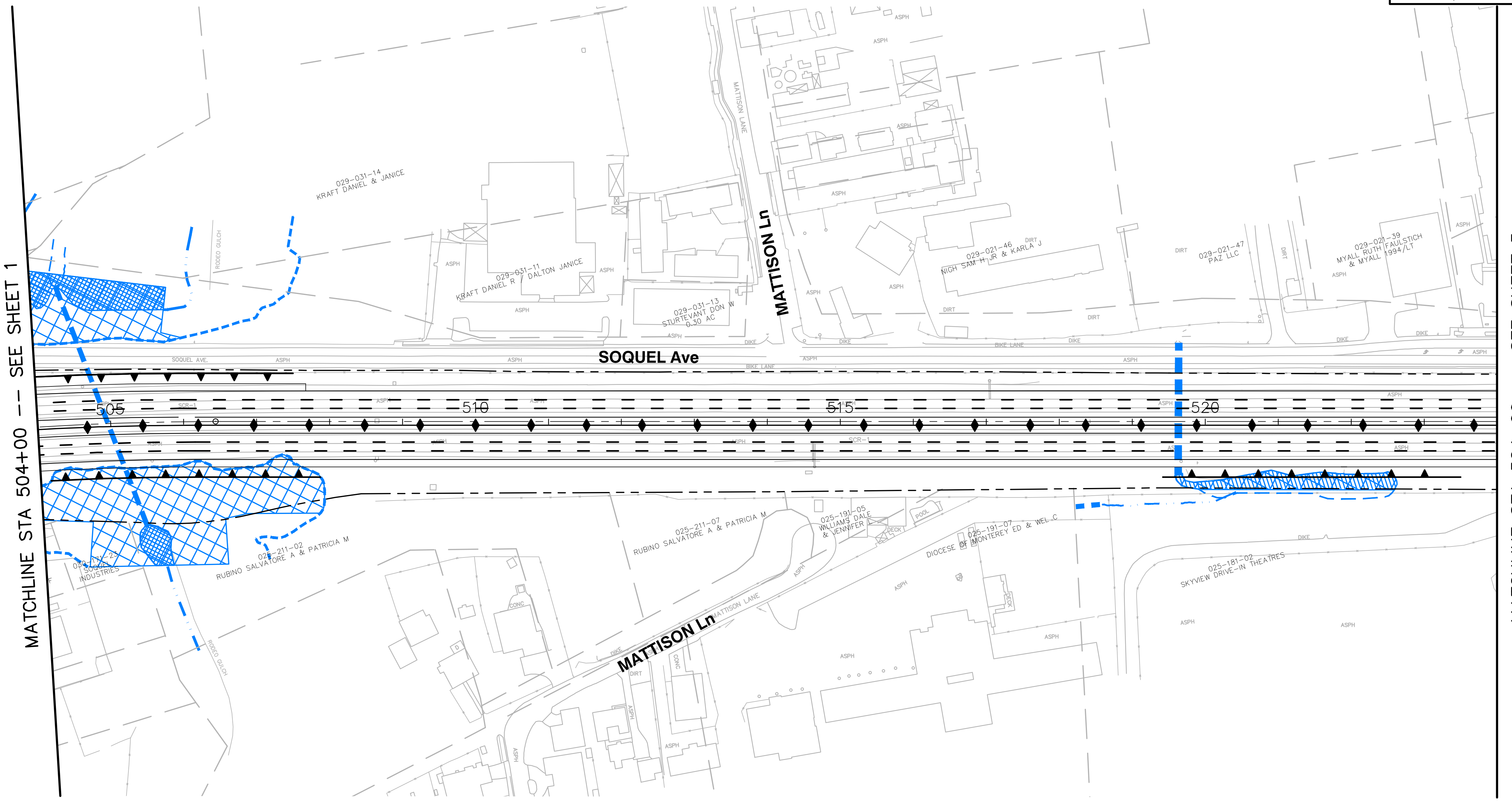
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PARAG MEHTA
No. C 66638
Exp. 6/30/14
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NV5
2025 GATEWAY PLACE
SUITE 156
SAN JOSE, CA 95110

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

ATTACHMENT H
ROUTE 1 HOV - TIER 2 AUXILIARY LANES PROJECT RIGHT OF WAY IMPACT
SHEET 2 OF 4

SCALE 1:80

DATE PLOTTED => May 28, 2013
TIME PLOTTED => 4:08:03 PM

LAST REVISION XXX

PATH => n:\sj086000\cadd\civil\tier 2\5' median offset\row_tier 2

BORDER LAST REVISED 7/2/2010

USERNAME => wong, david
DGN FILE => right of way impact

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT xxx

xxxx

EXISTING STATE R/W

PROPOSED LOCAL R/W

PROPOSED STATE R/W

TEMPORARY CONSTRUCTION EASEMENT (TCE)

WETLANDS (CDFG)

WETLANDS (ACOE)

WETLANDS (OTHER WATERS)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCr	1	13.5/14.9		

REGISTERED CIVIL ENGINEER DATE

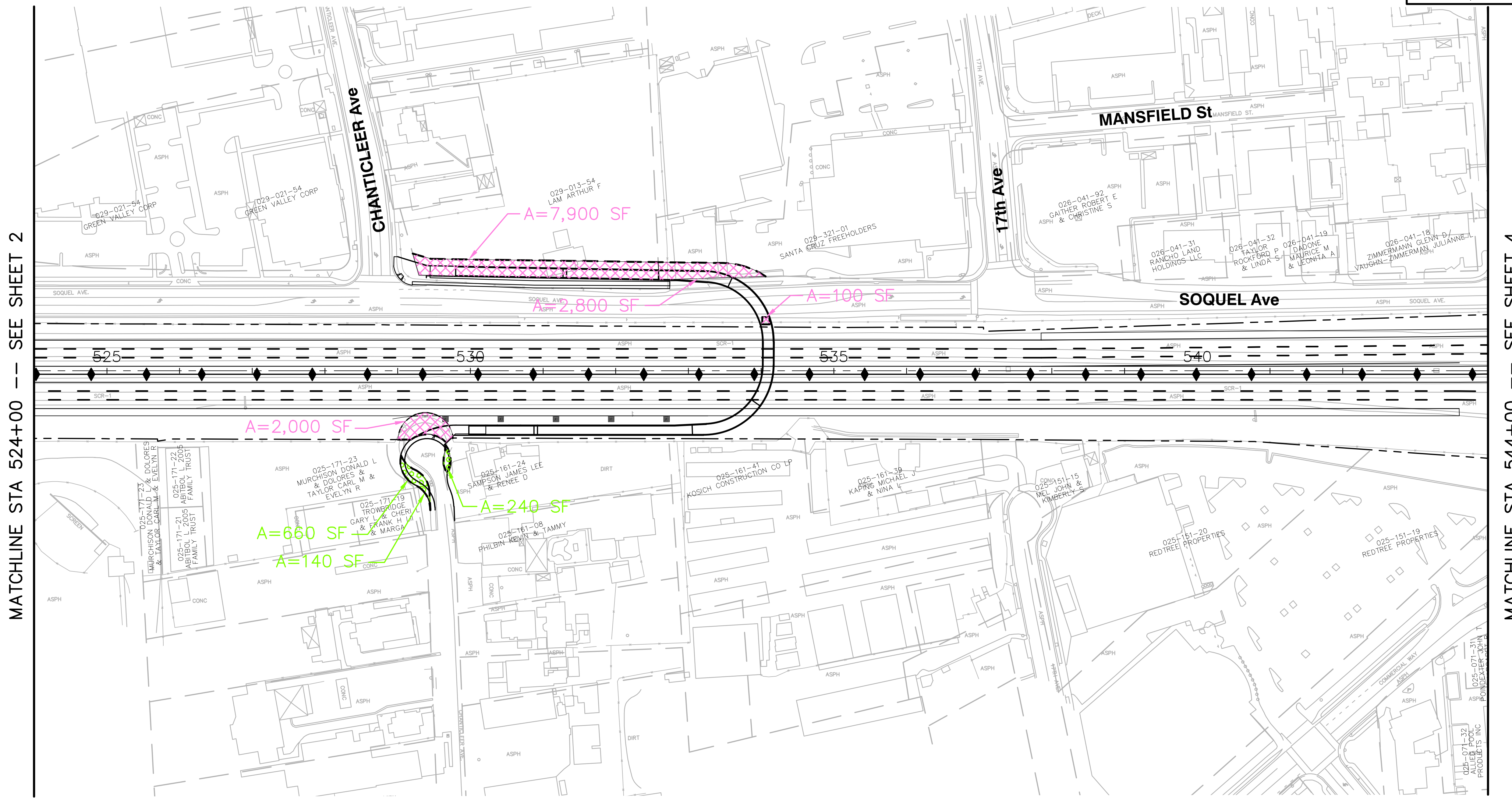
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER PARAG MEHTA No. C 66638 Exp. 6/30/14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NV5
2025 GATEWAY PLACE
SUITE 156
SAN JOSE, CA 95110

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060



ATTACHMENT H
ROUTE 1 HOV - TIER 2 AUXILIARY LANES PROJECT RIGHT OF WAY IMPACT SHEET 3 OF 4

SCALE 1:80

REVISED BY
DATE REVISED
CALCULATED- DESIGNED BY
CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

PATH => n:\sj086000\cadd\civil\tier 2\5' median offset\row_tier 2

DATE PLOTTED => May 29, 2013
TIME PLOTTED => 11:25:37 AM
LAST REVISION XXX

BORDER LAST REVISED 7/2/2010
USERNAME => wong, david
DGN FILE => right of way impact
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT xxx
xxxx

EXISTING STATE R/W

PROPOSED LOCAL R/W

PROPOSED STATE R/W

TEMPORARY CONSTRUCTION EASEMENT (TCE)

WETLANDS (CDFG)

WETLANDS (ACOE)

WETLANDS (OTHER WATERS)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCr	1	13.5/14.9		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

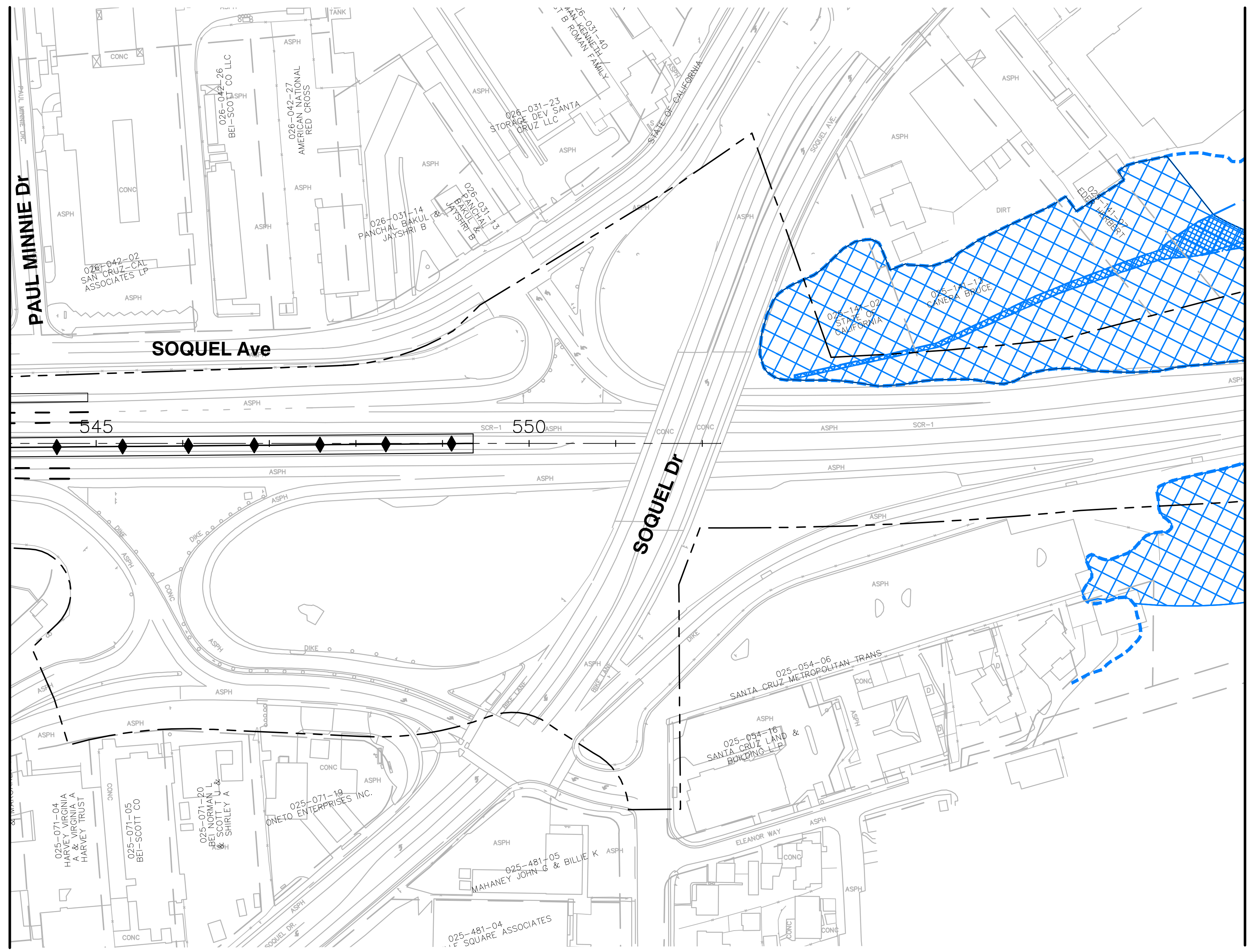
REGISTERED PROFESSIONAL ENGINEER PARAG MEHTA No. C 66638 Exp. 6/30/14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NV5
2025 GATEWAY PLACE
SUITE 156
SAN JOSE, CA 95110

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060

MATCHLINE STA 544+00 -- SEE SHEET 3



ATTACHMENT H
ROUTE 1 HOV - TIER 2
AUXILIARY LANES PROJECT
RIGHT OF WAY IMPACT
SHEET 4 OF 4

SCALE 1:80

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

DATE PLOTTED => May 28, 2013
TIME PLOTTED => 4:09:42 PM

LAST REVISION xxx

PATH => n:\sj086000\cadd\civil\tier 2\5' median offset\row_tier 2

BORDER LAST REVISED 7/2/2010

USERNAME => wong, david
DGN FILE => right of way impact

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT xxx

xxxx

UTILITY OWNER	UTILITY NO.	TYPE OF UTILITY	DIR	DESCRIPTION	LOCATION	RISK HIGH	RISK LOW	RELOCATE/ MODIFY	COMMENTS
CALTRANS	312	UG-STORM DRAIN	LE	60" RCP SD LINE	EAST OF 41ST AVE, SOUTH HWY 1		X	NO	
CALTRANS	313	UG-STORM DRAIN	TR	48" RCP SD LINE	EAST OF 41ST AVE, CROSS HWY 1		X	NO	
CALTRANS	314	UG-STORM DRAIN	LE	60" RCP SD LINE	EAST OF 41ST AVE, NORTH HWY 1		X	NO	
CALTRANS	315	UG-STORM DRAIN	TR	30" RCP SD LINE	EAST OF 41ST AVE, NORTH HWY 1		X	NO	
CALTRANS	316	UG-STORM DRAIN	TR	36" RCP SD LINE	CROSS 41ST AVE, NORTH HWY 1		X	NO	
CALTRANS	317	UG-STORM DRAIN	LE	24" RCP SD LINE	CROSS 41ST AVE, SOUTH HWY 1		X	NO	
CALTRANS	318	UG-STORM DRAIN	TR	18" RCP SD LINE	WEST OF 41ST AVE, SOUTH HWY 1		X	NO	
CALTRANS	319	UG-STORM DRAIN	TR	18" RCP SD LINE	WEST OF 41ST AVE, SOUTH HWY 1		X	NO	
CALTRANS	320	UG-STORM DRAIN	LE	18" RCP SD LINE	WEST OF 41ST AVE, SOUTH HWY 1		X	NO	
CALTRANS	321	UG-STORM DRAIN	LE	18" RCP SD LINE	WEST OF 41ST AVE, SOUTH HWY 1		X	NO	
CALTRANS	322	UG-STORM DRAIN	TR	18" RCP SD LINE	WEST OF 41ST AVE, CROSS HWY 1		X	YES	EXTEND PIPE AND/OR MODIFY INLETS
CALTRANS	323	UG-STORM DRAIN	LE	18" RCP SD LINE	WEST OF 41ST AVE, CROSS HWY 1		X	YES	RELOCATE PIPE AND/OR INLETS
PG&E	324	UG-ELECTRICAL	TR	ELECTRICAL CONDUIT	41ST AVE	UNK	UNK	NO	
PG&E	325	UG-ELECTRICAL	LE	ELECTRICAL CONDUIT	41ST AVE	UNK	UNK	NO	
PG&E	326	UG-GAS	TR	HIGH PRESSURE GAS LINE	41ST AVE	X		NO	
PG&E	327	UG-GAS	TR	HIGH PRESSURE GAS LINE	41ST AVE	X		NO	
PG&E	328	UG-GAS	TR	HIGH PRESSURE GAS LINE	41ST AVE	X		NO	
PG&E	329	UG-GAS	LE	HIGH PRESSURE GAS LINE	41ST AVE	X		NO	
PG&E	330	UG-GAS	TR	HIGH PRESSURE GAS LINE	41ST AVE	X		NO	
PG&E	331	UG-GAS	TR	HIGH PRESSURE GAS LINE	41ST AVE	X		NO	
PG&E	332	UG-GAS	TR	HIGH PRESSURE GAS LINE	41ST AVE	X		NO	
PG&E	333	UG-GAS	PA	HIGH PRESSURE GAS LINE	CORY ST	X		NO	
SBC	334	OH-ELECTRICAL	TR	FIBEROPTIC & CU CABLES	41ST AVE		X	NO	
SBC	335	UG-ELECTRICAL	TR	FIBEROPTIC & CU CABLES	41ST AVE		X	NO	
PG&E	336	OH-ELECTRICAL	TR	21KV TRANSMISSION LINE	41ST AVE		X	NO	
PG&E	337	OH-ELECTRICAL	TR	4KV TRANSMISSION LINE	41ST AVE		X	NO	
PG&E	338	OH-ELECTRICAL PP	TR	POWER POLE	41ST AVE		X	NO	
PG&E	339	OH-ELECTRICAL PP	TR	POWER POLE	41ST AVE		X	NO	
PG&E	340	OH-ELECTRICAL	TR	21KV TRANSMISSION LINE	41ST AVE		X	NO	
PG&E	341	OH-ELECTRICAL	TR	4KV TRANSMISSION LINE	41ST AVE		X	NO	
PG&E	342	OH-ELECTRICAL PP	TR	POWER POLE	41ST AVE		X	NO	

346 – 359 NOT USED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCr	1	13.50/14.9		

REGISTERED CIVIL ENGINEER DATE

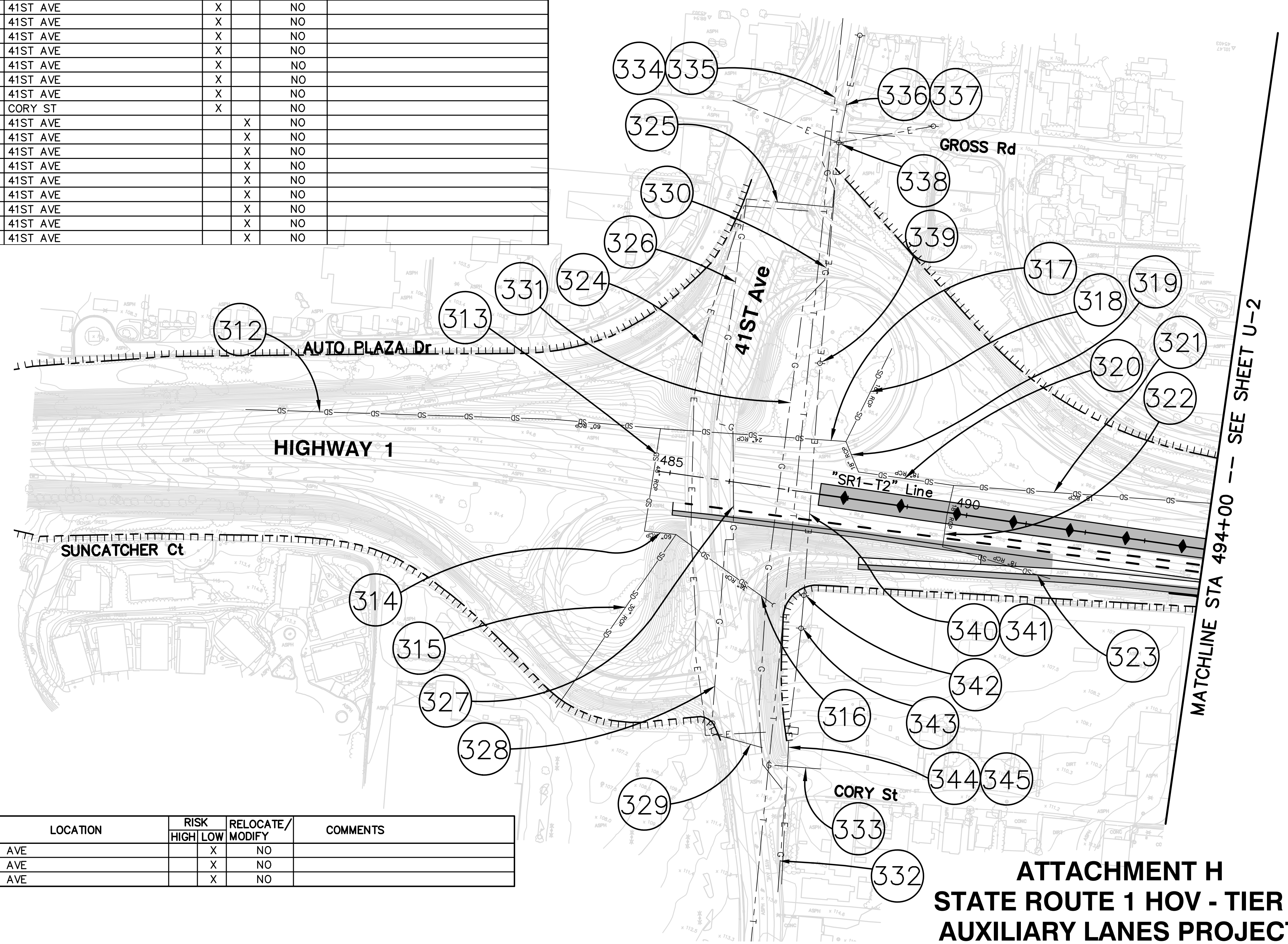
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PARAG MEHTA
No. C 66638
Exp. 6/30/14
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NV5
2025 GATEWAY PLACE
SUITE 156
SAN JOSE, CA 95110

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060



UTILITY OWNER	UTILITY NO.	TYPE OF UTILITY	DIR	DESCRIPTION	LOCATION	RISK HIGH	RISK LOW	RELOCATE/ MODIFY	COMMENTS
PG&E	343	OH-ELECTRICAL PP	TR	POWER POLE	41ST AVE		X	NO	
PG&E	344	OH-ELECTRICAL	TR	21KV TRANSMISSION LINE	41ST AVE		X	NO	
PG&E	345	OH-ELECTRICAL	TR	4KV TRANSMISSION LINE	41ST AVE		X	NO	

ATTACHMENT H
STATE ROUTE 1 HOV - TIER 2 AUXILIARY LANES PROJECT UTILITY PLAN

U-1

REVISED BY | DATE REVISED | CALCULATED-DESIGNED BY | CHECKED BY | CONSULTANT FUNCTIONAL SUPERVISOR | STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | Caltrans

PATH => n:\sj086000\cadd\civil\tier 2\5' median offset\utility

DATE PLOTTED => May 28, 2013
TIME PLOTTED => 3:52:59 PM
LAST REVISION XXX

BORDER LAST REVISED 7/2/2010
USERNAME => wong, david
DGN FILE => t2-u1
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT xxx
xxxx

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCr	1	13.50/14.9		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER PARAG MEHTA No. C 66638 Exp. 6/30/14 CIVIL STATE OF CALIFORNIA

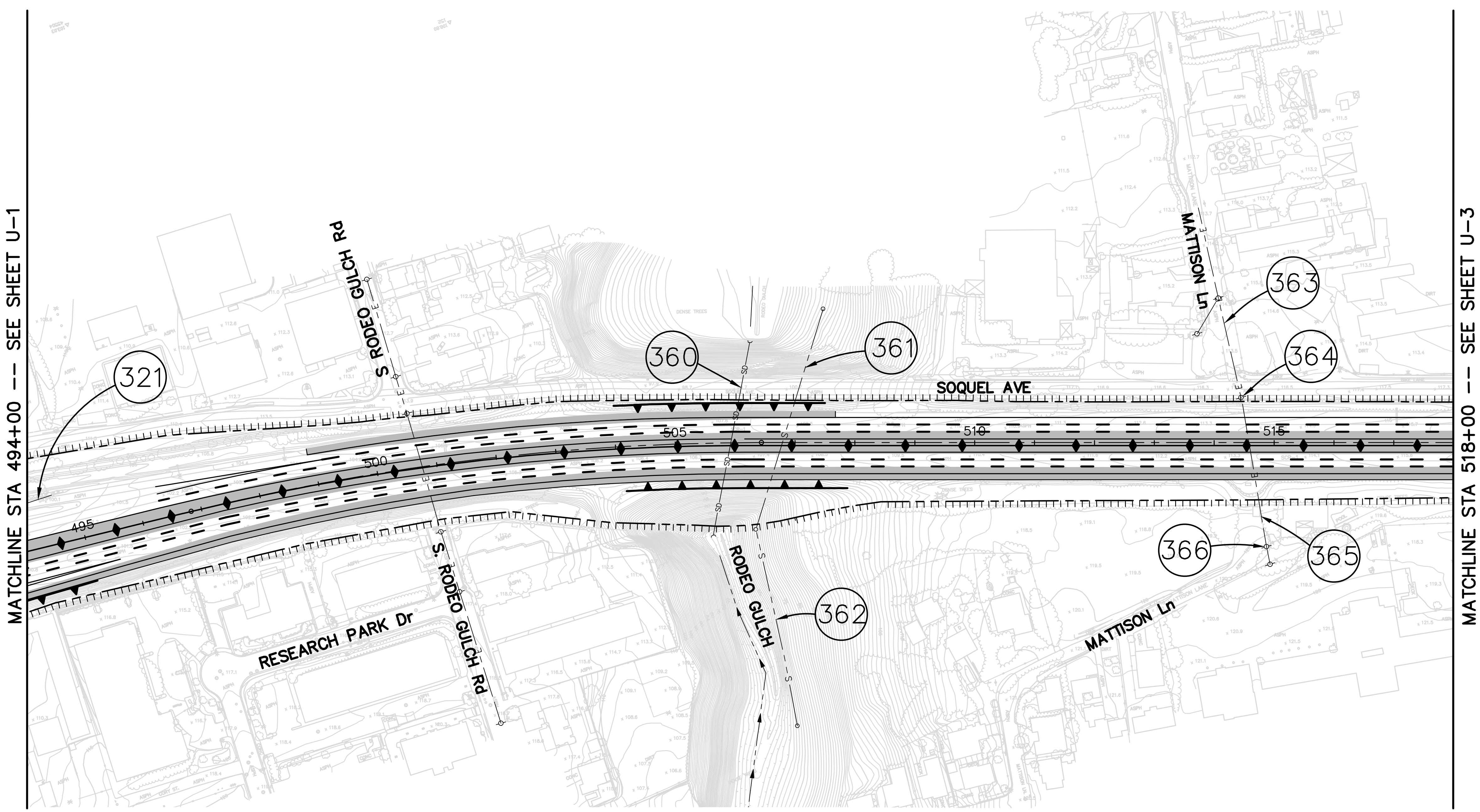
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NV5
2025 GATEWAY PLACE
SUITE 156
SAN JOSE, CA 95110

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060

UTILITY OWNER	UTILITY NO.	TYPE OF UTILITY	DIR	DESCRIPTION	LOCATION	RISK		RELOCATE/ MODIFY	COMMENTS
						HIGH	LOW		
CALTRANS	321	UG-STORM DRAIN	LE	18" RCP SD LINE	WEST OF 41ST AVE, SOUTH HWY 1		X	NO	
CALTRANS	360	UG-STORM DRAIN	TR	9 FT CONCRETE ARCH CULVERT	RODEO GULCH		X	NO	PROTECT IN PLACE
COUNTY OF SANTA CRUZ	361	UG-SANITARY SEWER	TR	10" AC SS	RODEO GULCH, CROSS HWY 1		X	NO	PROTECT IN PLACE
COUNTY OF SANTA CRUZ	362	UG-SANITARY SEWER	TR	10" AC SS	ALONG RODEO GULCH, NORTH		X	NO	
PG&E	363	OH-ELECTRICAL	TR	21KV TRANSMISSION LINE	MATTISON LN		X	NO	
PG&E	364	OH-ELECTRICAL PP	TR	POWER POLE	MATTISON LN		X	NO	
PG&E	365	OH-ELECTRICAL	TR	21KV TRANSMISSION LINE	MATTISON LN		X	NO	
PG&E	366	OH-ELECTRICAL PP	TR	POWER POLE	MATTISON LN		X	NO	

367 – 379 NOT USED



ATTACHMENT H
STATE ROUTE 1 HOV - TIER 2
AUXILIARY LANES PROJECT
UTILITY PLAN

U-2

REVISED BY | DATE REVISED | CALCULATED-DESIGNED BY | CHECKED BY | CONSULTANT FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION Caltrans

PATH => n:\sj086000\cadd\civil\tier 2\5' median offset\utility

DATE PLOTTED => May 28, 2013
TIME PLOTTED => 3:56:47 PM

LAST REVISION XXX

BORDER LAST REVISED 7/2/2010 | USERNAME => wong, david DGN FILE => t2-u2 | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT xxx | xxxx

UTILITY OWNER	UTILITY NO.	TYPE OF UTILITY	DIR	DESCRIPTION	LOCATION	RISK HIGH	RISK LOW	RELOCATE/ MODIFY	COMMENTS
CALTRANS	380	UG-STORM DRAIN	TR	36" RCP SD	EAST OF CHANTICLEER AVE		X	YES	EXTEND NORTH
PG&E	381	OH-ELECTRICAL	TR	POWER POLE	EAST OF CHANTICLEER AVE		X	NO	
COMCAST	382	UG-CABLE TV	LE	CABLE	CHANTICLEER AVE		X	YES	RELOCATE
COMCAST	383	OH-CABLE TV	TR	CABLE	CHANTICLEER AVE		X	NO	
SBC	384	UG-CABLE TV	TR	FIBEROPTIC & CU CABLES	CHANTICLEER AVE		X	NO	
PG&E	385	UG-GAS	TR	HIGH PRESSURE GAS LINE	CHANTICLEER AVE	X		NO	PROTECT IN PLACE
PG&E	386	UG-GAS	PA	HIGH PRESSURE GAS LINE	CHANTICLEER AVE, SOQUEL AVE	X		NO	SIZE TO BE VERIFIED
PG&E	387	UG-GAS	TR	HIGH PRESSURE GAS LINE	CHANTICLEER AVE	X		NO	SIZE TO BE VERIFIED
PG&E	388	OH-ELECTRICAL	TR	21KV TRANSMISSION LINE	CHANTICLEER AVE		X	NO	
PG&E	389	OH-ELECTRICAL	TR	21KV TRANSMISSION LINE & POLE	CHANTICLEER AVE		X	NO	
PG&E	390	OH-ELECTRICAL	TR	21KV TRANSMISSION LINE & POLE	CHANTICLEER AVE		X	NO	
PG&E	391	OH-ELECTRICAL	TR	21KV TRANSMISSION LINE	CHANTICLEER AVE		X	NO	
CALTRANS	392	UG-STORM DRAIN	TR	4FT x 4FT RCB SD CULVERT	EAST OF 17TH AVE		X	YES	EXTEND NORTH
PG&E	393	OH-ELECTRICAL	TR	21KV TRANSMISSION LINE	17TH AVE		X	NO	
COMCAST	394	OH-CABLE TV	TR	CABLE	17TH AVE		X	NO	
PG&E	395	OH-ELECTRICAL	TR	21KV TRANSMISSION LINE & POLE	17TH AVE		X	NO	
COMCAST	396	OH-CABLE TV	TR	CABLE	17TH AVE		X	NO	
PG&E	397	OH-ELECTRICAL	PA	21KV TRANSMISSION LINE	SOQUEL AVE AT 17TH AVE		X	YES	MODIFY OR RELOCATE
PG&E	398	OH-ELECTRICAL	PA	21KV TRANSMISSION LINE & POLE	SOQUEL AVE AT 17TH AVE		X	NO	
COMCAST	399	OH-CABLE TV	PA	CABLE	SOQUEL AVE AT 17TH AVE		X	NO	
COUNTY OF SANTA CRUZ	400	UG-SANITARY SEWER	PA	10" VCP SS	SOQUEL AVE AT 17TH AVE		X	NO	
COUNTY OF SANTA CRUZ	401	UG-SANITARY SEWER	TR	10" VCP SS	17TH AVE, SOUTH OF HWY 1		X	NO	
COUNTY OF SANTA CRUZ	402	UG-SANITARY SEWER	TR	10" VCP SS	17TH AVE, CROSS HWY 1		X	NO	PROTECT IN PLACE
COUNTY OF SANTA CRUZ	403	UG-SANITARY SEWER	TR	10" VCP SS	17TH AVE, NORTH OF HWY 1		X	NO	
COUNTY OF SANTA CRUZ	404	UG-SANITARY SEWER	TR	10" VCP SS	17TH AVE, SOUTH OF HWY 1		X	NO	
COUNTY OF SANTA CRUZ	405	UG-SANITARY SEWER	TR	10" VCP SS	17TH AVE, CROSS HWY 1		X	NO	PROTECT IN PLACE
COUNTY OF SANTA CRUZ	406	UG-SANITARY SEWER	TR	10" VCP SS	17TH AVE, NORTH OF HWY 1		X	NO	
PG&E	407	OH-ELECTRICAL	PA	21KV TRANSMISSION LINE & POLE	SOQUEL AVE		X	YES	RELOCATE LINE & POLE
PG&E	408	OH-ELECTRICAL	PA	21KV TRANSMISSION LINE & POLE	SOQUEL AVE		X	YES	UNDERGROUND LINE 408-409
PG&E	409	OH-ELECTRICAL	PA	21KV TRANSMISSION LINE & POLE	SOQUEL AVE		X	YES	UNDERGROUND LINE 408-409
PG&E	410	OH-ELECTRICAL	PA	21KV TRANSMISSION LINE & POLE	SOQUEL AVE		X	NO	
PG&E	411	OH-ELECTRICAL	PA	21KV TRANSMISSION LINE & POLE	SOQUEL AVE		X	NO	
PG&E	412	OH-ELECTRICAL	PA	21KV TRANSMISSION LINE & POLE	SOQUEL AVE		X	NO	
PG&E	413	OH-ELECTRICAL	PA	21KV TRANSMISSION LINE & POLE	CHANTICLEER AVE		X	YES	RELOCATE LINE & POLE

414 – 419 NOT USED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCr	1	13.50/14.9		

REGISTERED CIVIL ENGINEER DATE

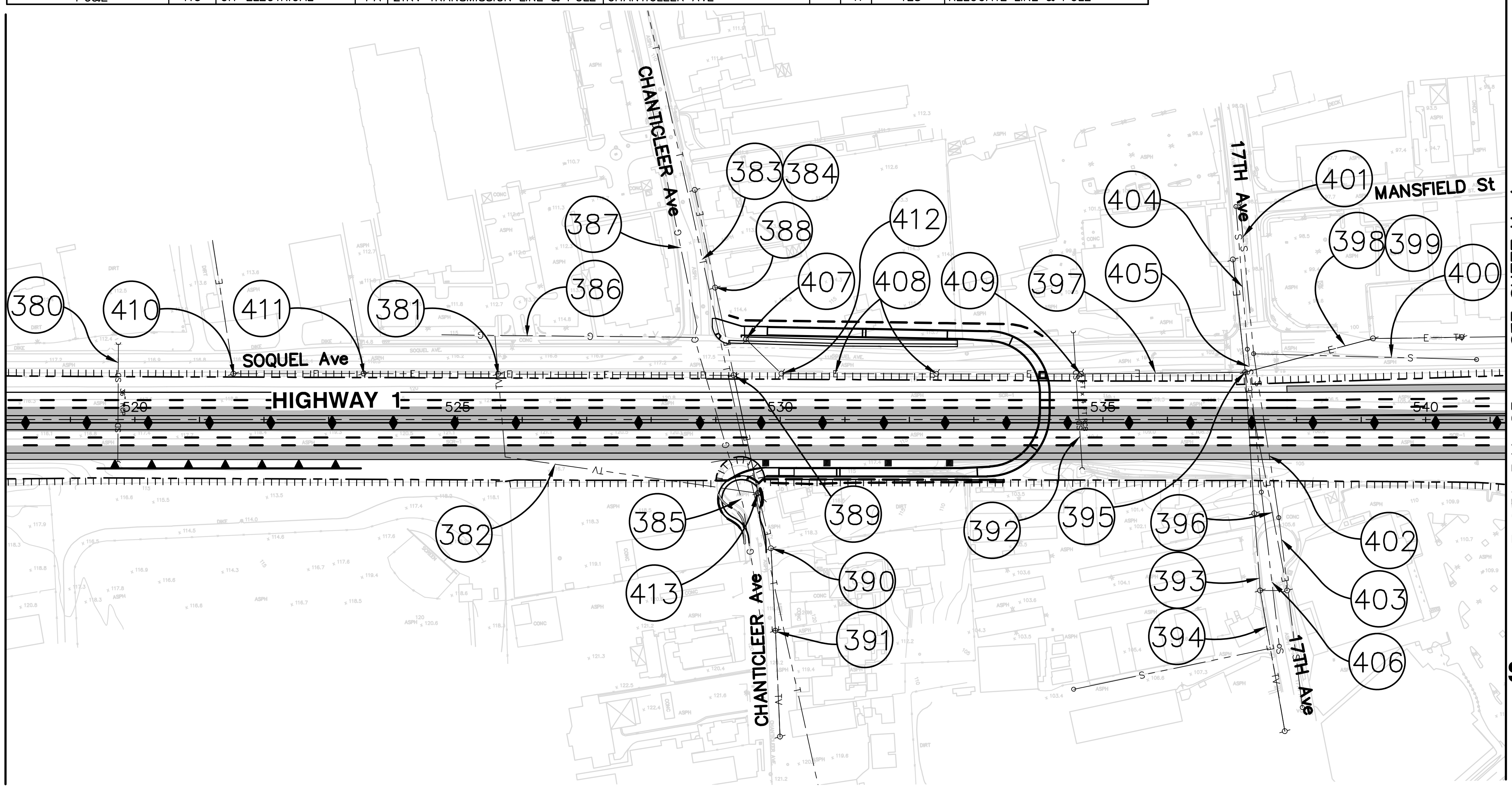
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER PARAG MEHTA No. C 66638 Exp. 6/30/14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NV5
2025 GATEWAY PLACE
SUITE 156
SAN JOSE, CA 95110

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060



ATTACHMENT H
STATE ROUTE 1 HOV - TIER 2 AUXILIARY LANES PROJECT UTILITY PLAN

U-3

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR | CALCULATED-DESIGNED BY | CHECKED BY | REVISED BY | DATE REVISED

PATH => n:\sj086000\cadd\civil\tier 2\5' median offset\utility

DATE PLOTTED => May 28, 2013
TIME PLOTTED => 4:00:33 PM

LAST REVISION XXX

BORDER LAST REVISED 7/2/2010

USERNAME => wong, david
DGN FILE => t2-u3

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT xxx

xxxx

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCr	1	13.50/14.9		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER PARAG MEHTA No. C 66638 Exp. 6/30/14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

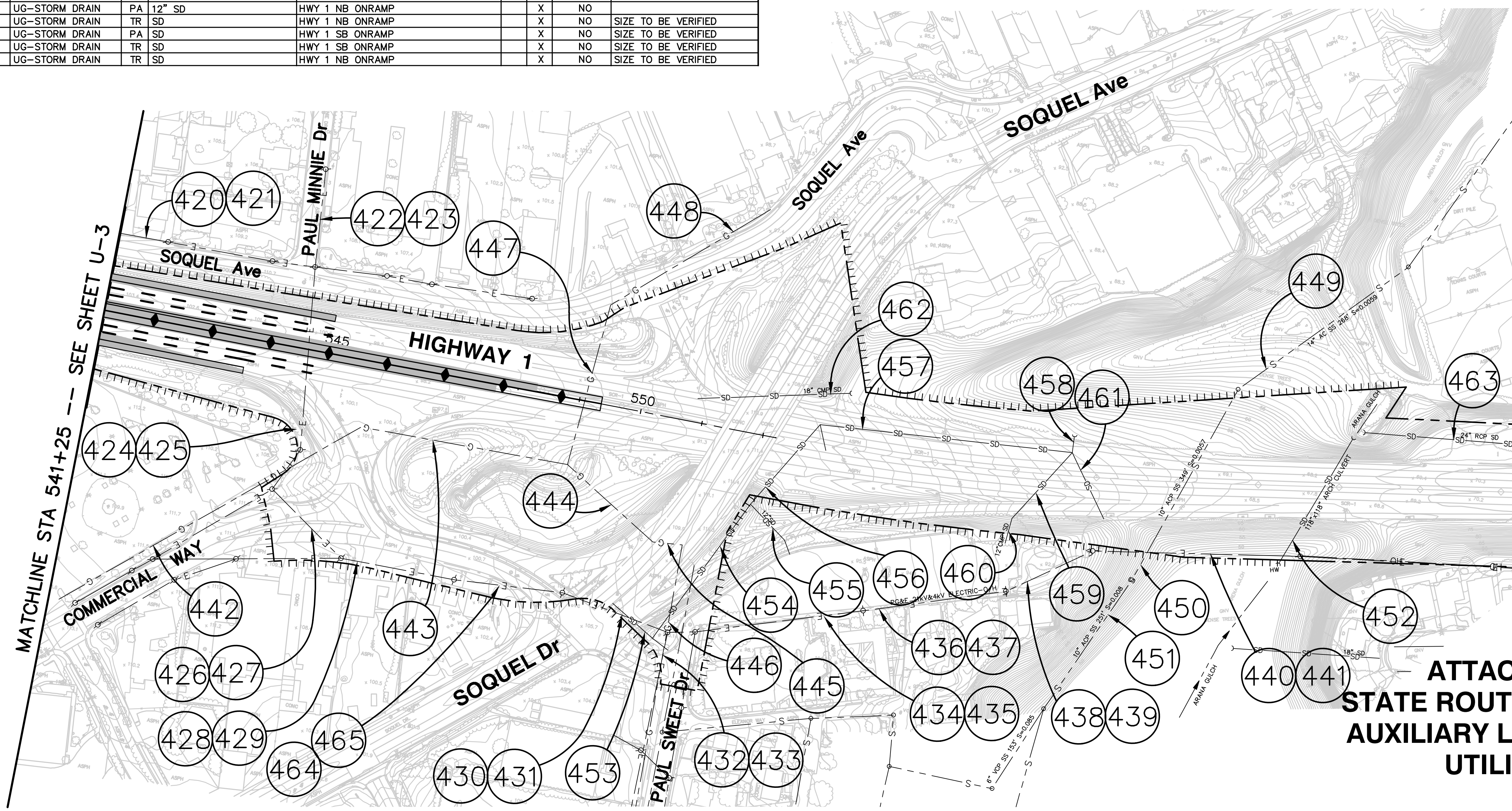
NV5
2025 GATEWAY PLACE
SUITE 156
SAN JOSE, CA 95110

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060

UTILITY OWNER	UTILITY NO.	TYPE OF UTILITY	DIR	DESCRIPTION	LOCATION	RISK HIGH	RISK LOW	RELOCATE/ MODIFY	COMMENTS
PG&E	420	OH-ELECTRICAL	PA	21KV TRANSMISSION LINE	SOQUEL AVE AT PAUL MINNIE AVE		X	NO	
COMCAST	421	OH-CABLE TV	PA	CABLE	SOQUEL AVE AT 17TH AVE		X	NO	
PG&E	422	OH-ELECTRICAL	TR	21KV TRANSMISSION LINE	PAUL MINNIE AVE		X	NO	
PG&E	423	OH-ELECTRICAL	TR	4KV TRANSMISSION LINE	PAUL MINNIE AVE		X	NO	
PG&E	424	OH-ELECTRICAL	TR	21KV TRANSMISSION LINE	PAUL MINNIE AVE - COMMMERCIAL WY		X	NO	
PG&E	425	OH-ELECTRICAL	TR	4KV TRANSMISSION LINE	PAUL MINNIE AVE - COMMMERCIAL WY		X	NO	
PG&E	426	OH-ELECTRICAL	LE	21KV TRANSMISSION LINE	COMMMERCIAL WY		X	NO	
PG&E	427	OH-ELECTRICAL	LE	4KV TRANSMISSION LINE	COMMMERCIAL WY		X	NO	
PG&E	428	OH-ELECTRICAL	LE	21KV TRANSMISSION LINE	COMMMERCIAL WY		X	NO	
PG&E	429	OH-ELECTRICAL	LE	4KV TRANSMISSION LINE	COMMMERCIAL WY		X	NO	
PG&E	430	OH-ELECTRICAL	LE	21KV TRANSMISSION LINE	COMMMERCIAL WY - PAUL SWEET DR		X	NO	
PG&E	431	OH-ELECTRICAL	LE	4KV TRANSMISSION LINE	COMMMERCIAL WY - PAUL SWEET DR		X	NO	
PG&E	432	OH-ELECTRICAL	TR	21KV TRANSMISSION LINE	PAUL SWEET RD		X	NO	
PG&E	433	OH-ELECTRICAL	TR	4KV TRANSMISSION LINE	PAUL SWEET RD		X	NO	
PG&E	434	OH-ELECTRICAL	LE	21KV TRANSMISSION LINE	PAUL SWEET RD		X	NO	
PG&E	435	OH-ELECTRICAL	LE	4KV TRANSMISSION LINE	PAUL SWEET RD		X	NO	
PG&E	436	OH-ELECTRICAL	PA	21KV TRANSMISSION LINE	PAUL SWEET RD		X	NO	
PG&E	437	OH-ELECTRICAL	PA	4KV TRANSMISSION LINE	PAUL SWEET RD		X	NO	
PG&E	438	OH-ELECTRICAL	PA	21KV TRANSMISSION LINE	PAUL SWEET RD - ARANA GULCH		X	NO	
PG&E	439	OH-ELECTRICAL	PA	4KV TRANSMISSION LINE	PAUL SWEET RD - ARANA GULCH		X	NO	
PG&E	440	OH-ELECTRICAL	LE	21KV TRANSMISSION LINE	ARANA GULCH		X	NO	
PG&E	441	OH-ELECTRICAL	LE	4KV TRANSMISSION LINE	ARANA GULCH		X	NO	
PG&E	442	UG-GAS	TR	HIGH PRESSURE GAS LINE	COMMERCIAL WY	X		NO	SIZE TO BE VERIFIED
PG&E	443	UG-GAS	LE	HIGH PRESSURE GAS LINE	COMMERCIAL WY	X		NO	SIZE TO BE VERIFIED
PG&E	444	UG-GAS	LE	HIGH PRESSURE GAS LINE	SOQUEL DR	X		NO	SIZE TO BE VERIFIED
PG&E	445	UG-GAS	LE	HIGH PRESSURE GAS LINE	SOQUEL DR	X		NO	SIZE TO BE VERIFIED
PG&E	446	UG-GAS	TR	HIGH PRESSURE GAS LINE	SOQUEL DR - PAUL SWEET RD	X		NO	SIZE TO BE VERIFIED
PG&E	447	UG-GAS	TR	HIGH PRESSURE GAS LINE	EAST OF SOQUEL DR, CROSS HWY 1	X		NO	SIZE TO BE VERIFIED
PG&E	448	UG-GAS	TR	HIGH PRESSURE GAS LINE	SOQUEL AVE	X		NO	SIZE TO BE VERIFIED
COUNTY OF SANTA CRUZ	449	UG-SANITARY SEWER	PA	14" AC SS	SOUTH OF HWY 1 AT ARANA GULCH		X	NO	
COUNTY OF SANTA CRUZ	450	UG-SANITARY SEWER	TR	14" AC SS	SOUTH OF HWY 1 - PAUL SWEET RD		X	NO	
COUNTY OF SANTA CRUZ	451	UG-SANITARY SEWER	TR	14" AC SS	NORTH OF HWY 1 AT PAUL SWEET RD		X	NO	
CALTRANS	452	UG-STORM DRAIN	TR	118"x118" SD CULVERT	ARANA GULCH		X	NO	VERIFY SIZE
CALTRANS	453	UG-STORM DRAIN	PA	SD	NORTH OF HWY 1 AT PAUL SWEET RD		X	NO	SIZE TO BE VERIFIED
CALTRANS	454	UG-STORM DRAIN	TR	SD	HWY 1 NB ONRAMP		X	NO	SIZE TO BE VERIFIED
CALTRANS	455	UG-STORM DRAIN	PA	12" SD	HWY 1 NB ONRAMP		X	NO	
CALTRANS	456	UG-STORM DRAIN	TR	SD	HWY 1 NB ONRAMP		X	NO	SIZE TO BE VERIFIED
CALTRANS	457	UG-STORM DRAIN	PA	SD	HWY 1 SB ONRAMP		X	NO	SIZE TO BE VERIFIED
CALTRANS	458	UG-STORM DRAIN	TR	SD	HWY 1 SB ONRAMP		X	NO	SIZE TO BE VERIFIED
CALTRANS	459	UG-STORM DRAIN	TR	SD	HWY 1 NB ONRAMP		X	NO	SIZE TO BE VERIFIED

466 - 469 NOT USED

UTILITY OWNER	UTILITY NO.	TYPE OF UTILITY	DIR	DESCRIPTION	LOCATION	RISK HIGH	RISK LOW	RELOCATE/ MODIFY	COMMENTS
CALTRANS	460	UG-STORM DRAIN	TR	12" CMP SD	HWY 1 NB ONRAMP		X	NO	
CALTRANS	461	UG-STORM DRAIN	TR	SD	HWY 1 NB ONRAMP		X	NO	SIZE TO BE VERIFIED
CALTRANS	462	UG-STORM DRAIN	PA	18" CMP SD	HWY 1 SB ONRAMP		X	NO	
CALTRANS	463	UG-STORM DRAIN	PA	24" RCP SD	HWY 1 SB OFFRAMP		X	NO	
PG&E	464	OH-ELECTRICAL	PA	21KV TRANSMISSION LINE	COMMMERCIAL WY		X	NO	
PG&E	465	OH-ELECTRICAL	PA	4KV TRANSMISSION LINE	COMMMERCIAL WY		X	NO	



ATTACHMENT H
STATE ROUTE 1 HOV - TIER 2 AUXILIARY LANES PROJECT
UTILITY PLAN

U-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED

DATE PLOTTED => May 28, 2013
TIME PLOTTED => 4:02:31 PM
LAST REVISION XXX

PATH => n:\sj086000\cadd\civil\tier 2\5' median offset\utility

BORDER LAST REVISED 7/2/2010
USERNAME => wong, david
DGN FILE => t2-u4
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT xxx
xxxx

ATTACHMENT I

RISK MANAGEMENT PLAN

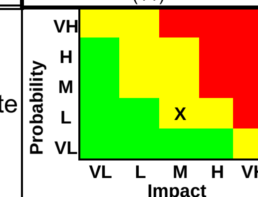
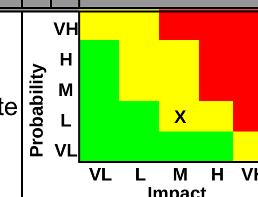
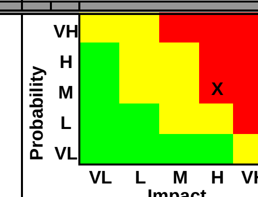
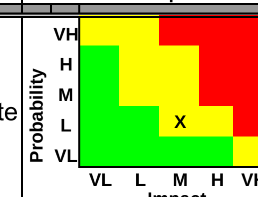
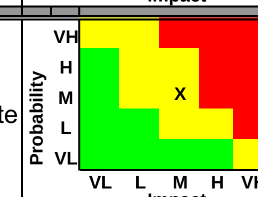
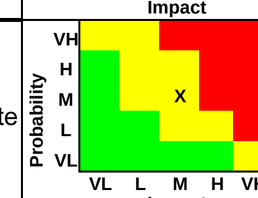
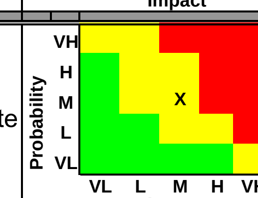
Dist - E.A 05-0C7300 **Project Name** 41st Ave to Soquel Ave/Dr Aux Lanes

Co-Rte-PM (SCr -1 PM 13.5/14.9)

Date 9/23/2015

Proj Mngr Parag Mehta **Telephone Number** 408-392-7200

PROJECT RISK MANAGEMENT PLAN

Priority	Identification						Qualitative Analysis				Response Strategy		Monitoring and Control	
Priority	Status	ID #	Date Identified Project Phase	Functional Assignment	Threat/Opportunity Event	Risk Trigger	Type	Probability	Impact	Risk Matrix	Strategy	Response Actions including advantages and disadvantages	Responsibilty (Task Manager)	Last date changes made to risk and Comments
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(15)	(16)	(17)	(18)
	Active		9/15/2011 PA&ED	Design	Aesthetic Features identified by community exceed scope or monetary allocation of visual impact mitigation	Preliminary Cost Estimate of desirable features shows cost significantly exceeds cost budgeted	**Quality**	Low	Moderate		Transference	An Aesthetics Review Board, to be formed as part of the HOV Project, will prepare a visual plan for the corridor, including Aux Area. Cost is in HOV Prjct.	Parag Mehta	10/1/2411
	Active		9/15/2011 PA&ED	Design	ADL removal budget exceeds estimate	Additional ADL testing during PS&E shows more ADL to be removed than budget allows	**Cost**	Low	Moderate		Acceptance	Track cost impact; adjust budget up to programmed amount. Look for other funding or cost trade-offs if ADL estimate exceeds expectations.	Parag Mehta	10/1/2411
	Active		9/15/2011 PA&ED	Planning	Project Funding not identified, delaying project	SCCRTC CIP does not identify Tier 2 project construction funding	**Schedule**	Moderate	High		Avoidance	Identify possible construction funding in next few years' CIP	SCCRTC	10/25/2011
	Active		9/15/2011 PA&ED	Design	Caltrans maintenance requirements increase project costs	Maintenance review of PS&E	**Cost**	Low	Moderate		Acceptance	Get early review by Caltrans Maintenance	Parag Mehta	10/25/2011
	Active		3/24/2012 PA&ED	Design	Caltrans maintenance requirements conflict with stormwater treatment commitments	Maintenance disallows retention	**Schedule**	Moderate	Moderate		Acceptance	Get early review by Caltrans Maintenance	Parag Mehta	4/5/2012
	Dormant		6/20/2012 PA&ED	Construction	Utility relocation delays construction	Utility relocation lags schedule	**Schedule**	Moderate	Moderate		Avoidance	Work with PG&E to keep schedule--confirm early the PG&E has what it needs to move forward-correct forms, agreements, letters, etc.	Parag Mehta	5/30/2013
	Dormant		6/20/2012 PA&ED	Design	Utility agreements fall behind schedule	Utility agreements not finished for RTL checklist	**Schedule**	Moderate	Moderate		Avoidance	Work with PG&E to keep schedule--confirm early the PG&E has what it needs to move forward-correct forms, agreements, letters, etc.	Parag Mehta	5/30/2013

ATTACHMENT J

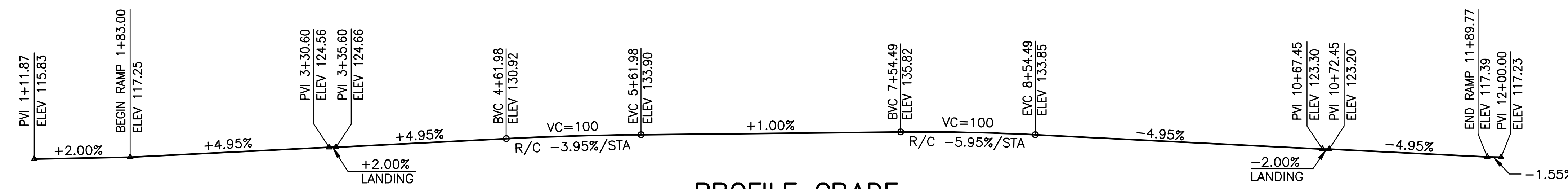
CHANTICLEER BIKE/PED OVERCROSSING ADVANCE PLANNING STUDY

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT
05	SCr	1	21.7/24.0

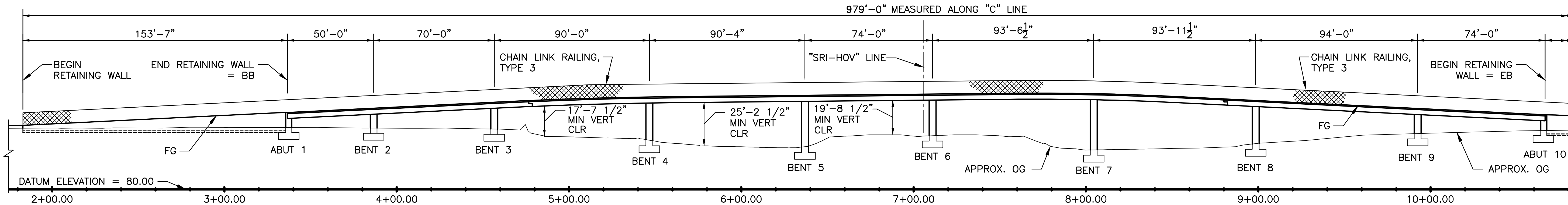
Santa Cruz County Regional Transportation Commission
1523 Pacific Avenue
Santa Cruz, CA. 95060

HNTB Corporation
1735 Technology Drive, Suite 650
San Jose, CA. 95110



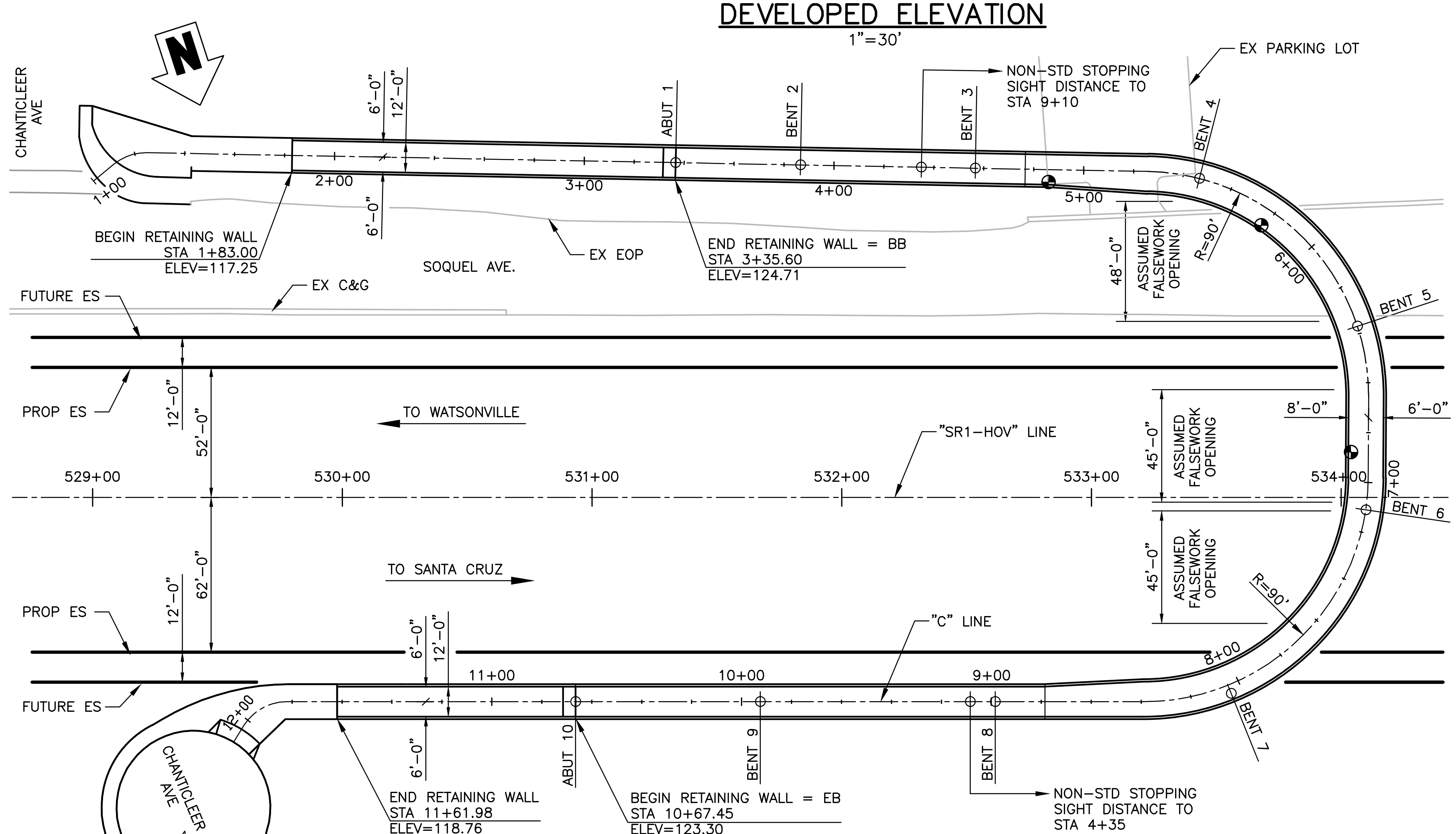
PROFILE GRADE

NO SCALE



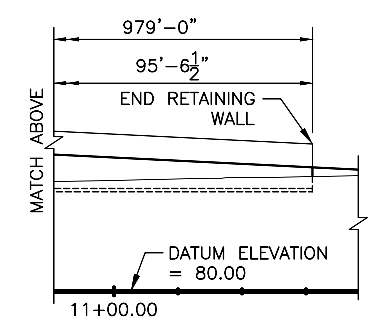
DEVELOPED ELEVATION

1"=30'



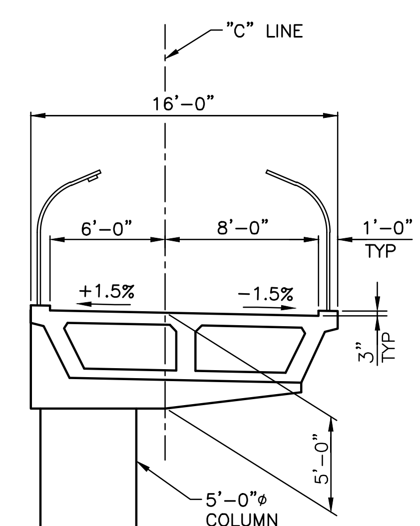
PLAN

1"=30'



DEVELOPED ELEVATION

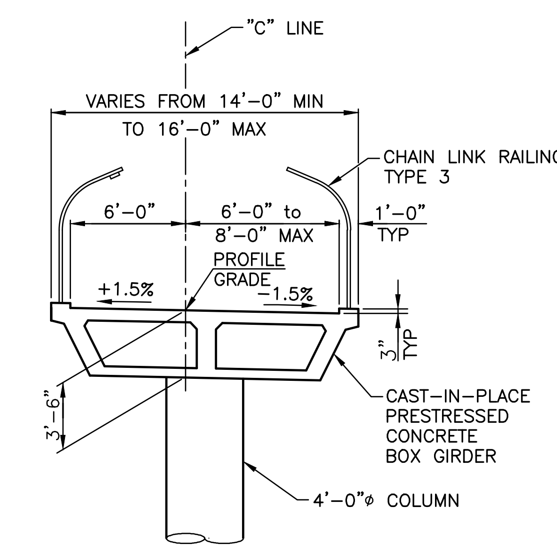
1"=30'



TYPICAL SECTION

1"=5'

(BENT 7)



TYPICAL SECTION

1"=5'

(BENTS 2 THRU 6, 8 & 9)

QUANTITIES

DATE OF ESTIMATE	= 1−29−13
STR. DEPTH	= 3.5 ft
LENGTH	= 979.0 ft
WIDTH	= 16.0 ft
AREA	= 15,664 sq ft
COST/sq ft INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	= $170.46
TOTAL COST	= $2,670,000.00

NOTES:

1. TRAFFIC WILL PASS THROUGH CONSTRUCTION SITE ALONG ROUTE 1 AND SOQUEL AVENUE. FALSEWORK OPENING REQUIRED.
2. ⊕ INDICATES POINT OF MINIMUM VERTICAL CLEARANCE.
3. FINAL DESIGN GRADE OF POC RAMPS WILL BE EVALUATED DURING PS&E TO ASSURE THAT AS−BUILT RAMP GRADE WILL BE FLATTER THEN 5%, AND ADA COMPLIANT.

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGNED BY	R. DAVIS	DATE	1−29−13
DRAWN BY	K. HOLCOMB	DATE	1−29−13
CHECKED BY	K. GO	DATE	1−29−13
APPROVED		DATE	

K. GO
PROJECT ENGINEER

PLANNING STUDY

CHANTICLEER POC

BRIDGE NO.	36−xxxx	CU	
SCALE:	1/4"=1'−0"	EA	05−0C7300

USERNAME => $USER DATE PLOTTED => $DATE TIME PLOTTED => $TIME

ATTACHMENT K

LIFECYCLE COST ANALYSIS

ROUTE 1 HOV PROJECT
6-Lane Alternatives

Life Cycle Cost Analysis Form

Alternative 1 (Pavement-alternative-identified-to-program-project cost):

6-lane, 20 year Flexible – Option 3: 0.10' HMA OGFC, 0.50' HMA, 0.50' LCB, 1.15' AS

Pavement Design Life: 20 Years

Initial Construction Costs:	$ 134,664	
Initial Project Support Costs:	$ 33,666	
Future Maintenance & Rehabilitation Costs:**	$ 1,738	
TOTAL AGENCY COSTS:		$ 170,068
USER COSTS:		$ 1,431
TOTAL LIFE-CYCLE COSTS:		$ 171,499

Alternative 2:*

6-lane, 20 year Flexible - Option 2: 0.65' HMA, 0.55' AB, 1.15' AS

Pavement Design Life: 20 Years

	$ 133,093	
Initial Project Support Costs:	$ 33,273	
Future Maintenance & Rehabilitation Costs:**	$ 2,440	
TOTAL AGENCY COSTS:		$ 168,806
USER COSTS:		$ 8,436
TOTAL LIFE-CYCLE COSTS:		$ 177,242

Reason that this is not Alternative 1:

This alternative has total Life-Cycle Costs 3.35% greater than Alternative 1. Alternative 2 has lower initial construction and project support costs but the overall life-cycle cost is larger.

* Repeat as often as needed, with appropriate numbering, to cover all pavement alternatives investigated.

** Includes both future maintenance, construction, and project support costs.

RealCost Input Data

1. Economic Variables	
Value of Time for Passenger Cars ($/hour)	$11.51
Value of Time for Single Unit Trucks ($/hour)	$27.83
Value of Time for Combination Trucks ($/hour)	$27.83

2. Analysis Options	
Include User Costs in Analysis	Yes
Include User Cost Remaining Service Life Value	Yes
Use Differential User Costs	Yes
User Cost Computation Method	Calculated
Include Agency Cost Remaining Service Life Value	Yes
Traffic Direction	Both
Analysis Period (Years)	35
Beginning of Analysis Period	2015
Discount Rate (%)	4.0

3. Project Details and Quantity Calculations	
State Route	Route 1
Project Name	Route 1 HOV Project
Region	Central Coast
County	Santa Cruz
Analyzed By	CZ
Mileposts	
Begin	7.30
End	16.20
Length of Project (miles)	8.90
Comments	Compare Flexible Pavement Sections - 20 year design life (3 lanes in each direction)

4. Traffic Data	
AADT Construction Year (total for both directions)	97,000
Cars as Percentage of AADT (%)	96.6
Single Unit Trucks as Percentage of AADT (%)	2.2
Combination Trucks as Percentage of AADT (%)	1.2
Annual Growth Rate of Traffic (%)	2.3
Speed Limit Under Normal Operating Conditions (mph)	65
No of Lanes in Each Direction During Normal Conditions	3
Free Flow Capacity (vphpl)	1950
Rural or Urban Hourly Traffic Distribution	Urban
Queue Dissipation Capacity (vphpl)	1530
Maximum AADT (total for both directions)	289,830
Maximum Queue Length (miles)	5.0

Alternative 1

Initial Construction	Construct Hot Mix AC HOV Lane/Aux Lane	
Agency Construction Cost ($1000)	$166,367.00	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	400	
No of Lanes Open in Each Direction During Work Zone	3	
Activity Service Life (years)	20.0	
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	35.4	
Work Zone Length (miles)	1.25	
Work Zone Speed Limit (mph)	55	
Work Zone Capacity (vphpl)	1360	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		
Outbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		

Rehabilitation #1	Year 20 - 5 year CapM HMA	
Agency Construction Cost ($1000)	$1,508.10	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	40	
No of Lanes Open in Each Direction During Work Zone	2	
Activity Service Life (years)	5.0	
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	11.8	
Work Zone Length (miles)	1.25	
Work Zone Speed Limit (mph)	55	
Work Zone Capacity (vphpl)	1360	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure	0	5
Second period of lane closure	22	24
Third period of lane closure		
Outbound	Start	End
First period of lane closure	0	5
Second period of lane closure	22	24
Third period of lane closure		

Rehabilitation #2	Year 25 - 20 year Rehab HMA	
Agency Construction Cost ($1000)	$4,749.90	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	43	
No of Lanes Open in Each Direction During Work Zone	2	
Activity Service Life (years)	20.0	
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	31.1	
Work Zone Length (miles)	1.25	
Work Zone Speed Limit (mph)	55	
Work Zone Capacity (vphpl)	1360	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure	0	24
Second period of lane closure		
Third period of lane closure		
Outbound	Start	End
First period of lane closure	0	24
Second period of lane closure		
Third period of lane closure		

Rehabilitation #3	Year 45 - 5 year CapM HMA	
Agency Construction Cost ($1000)	$1,508.10	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	40	
No of Lanes Open in Each Direction During Work Zone	2	
Activity Service Life (years)	5.0	
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	11.8	
Work Zone Length (miles)	1.25	
Work Zone Speed Limit (mph)	55	
Work Zone Capacity (vphpl)	1360	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure	0	5
Second period of lane closure	22	24
Third period of lane closure		
Outbound	Start	End
First period of lane closure	0	5
Second period of lane closure	22	24
Third period of lane closure		

Rehabilitation #4	Year 50 - 20 year Rehab HMA	
Agency Construction Cost ($1000)	$4,749.90	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	43	
No of Lanes Open in Each Direction During Work Zone	2	
Activity Service Life (years)	20.0	
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	31.1	
Work Zone Length (miles)	1.25	
Work Zone Speed Limit (mph)	55	
Work Zone Capacity (vphpl)	1360	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure	0	24
Second period of lane closure		
Third period of lane closure		
Outbound	Start	End
First period of lane closure	0	24
Second period of lane closure		
Third period of lane closure		

Rehabilitation #5		
Agency Construction Cost ($1000)	$0.00	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	0	
No of Lanes Open in Each Direction During Work Zone	3	
Activity Service Life (years)	1.0	
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	0	
Work Zone Length (miles)	1.25	
Work Zone Speed Limit (mph)	55	
Work Zone Capacity (vphpl)	1360	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		
Outbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		

Rehabilitation #6		
Agency Construction Cost ($1000)	$0.00	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	0	
No of Lanes Open in Each Direction During Work Zone	3	
Activity Service Life (years)	1.0	
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	0	
Work Zone Length (miles)	1.25	
Work Zone Speed Limit (mph)	55	
Work Zone Capacity (vphpl)	1360	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		
Outbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		

Alternative 2

Initial Construction	Construct Hot Mix AC HOV Lane/Aux Lane w/ OGFC	
Agency Construction Cost ($1000)	$168,330.00	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	400	
No of Lanes Open in Each Direction During Work Zone	3	
Activity Service Life (years)	22.0	
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	24.7	
Work Zone Length (miles)	1.25	
Work Zone Speed Limit (mph)	55	
Work Zone Capacity (vphpl)	1360	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		
Outbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		

Rehabilitation #1	Year 22 - 10 year CapM HMA w/ OGFC	
Agency Construction Cost ($1000)	$2,108.80	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	49	
No of Lanes Open in Each Direction During Work Zone	2	
Activity Service Life (years)	10.0	
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	39.7	
Work Zone Length (miles)	1.25	
Work Zone Speed Limit (mph)	55	
Work Zone Capacity (vphpl)	1360	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure	0	5
Second period of lane closure	22	24
Third period of lane closure		
Outbound	Start	End
First period of lane closure	0	5
Second period of lane closure	22	24
Third period of lane closure		

Rehabilitation #2	Year 32 - 22 year Rehab HMA w/ OGFC	
Agency Construction Cost ($1000)	$5,385.90	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	27	
No of Lanes Open in Each Direction During Work Zone	2	
Activity Service Life (years)	22.0	
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	38.7	
Work Zone Length (miles)	1.25	
Work Zone Speed Limit (mph)	55	
Work Zone Capacity (vphpl)	1360	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure	0	24
Second period of lane closure		
Third period of lane closure		
Outbound	Start	End
First period of lane closure	0	24
Second period of lane closure		
Third period of lane closure		

Rehabilitation #3	Year 54 - 10 year CapM HMA w/ OGFC	
Agency Construction Cost ($1000)	$2,108.80	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	49	
No of Lanes Open in Each Direction During Work Zone	2	
Activity Service Life (years)	10.0	
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	39.7	
Work Zone Length (miles)	1.25	
Work Zone Speed Limit (mph)	55	
Work Zone Capacity (vphpl)	1360	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure	0	5
Second period of lane closure	22	24
Third period of lane closure		
Outbound	Start	End
First period of lane closure	0	5
Second period of lane closure	22	24
Third period of lane closure		

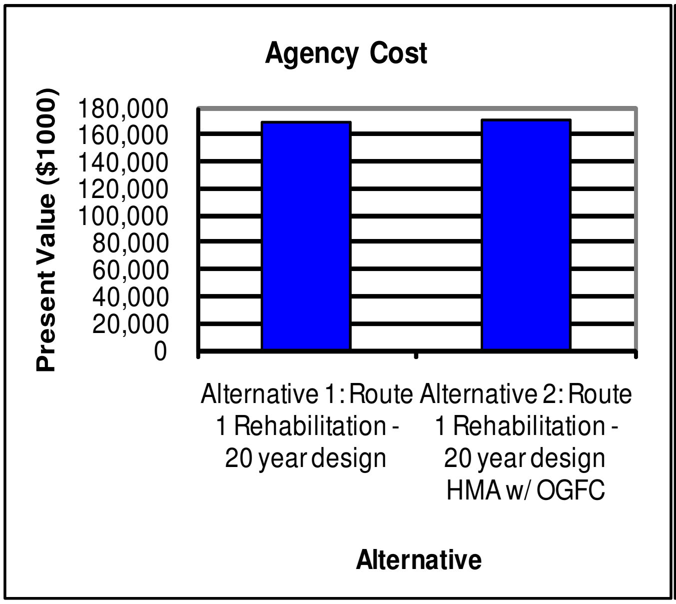
Rehabilitation #4		
Agency Construction Cost ($1000)	$0.00	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	0	
No of Lanes Open in Each Direction During Work Zone	3	
Activity Service Life (years)	1.0	
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	0	
Work Zone Length (miles)	1.25	
Work Zone Speed Limit (mph)	55	
Work Zone Capacity (vphpl)	1360	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		
Outbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		

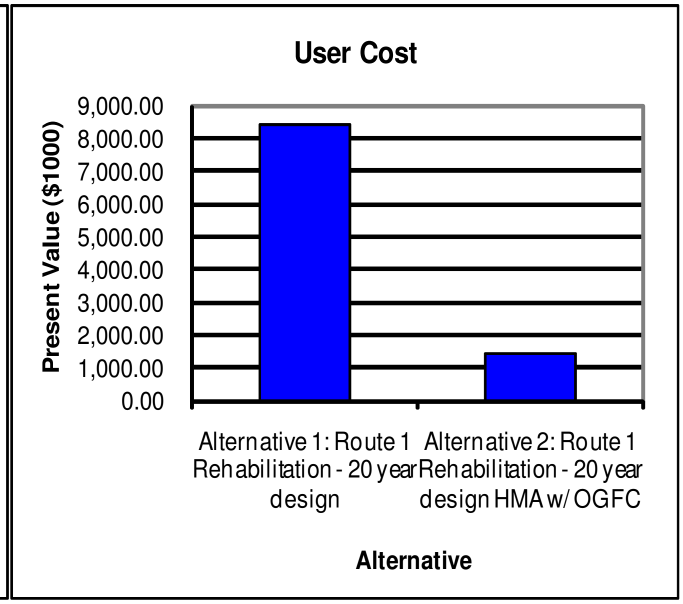
Rehabilitation #5		
Agency Construction Cost ($1000)	$0.00	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	0	
No of Lanes Open in Each Direction During Work Zone	3	
Activity Service Life (years)	1.0	
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	0	
Work Zone Length (miles)	1.25	
Work Zone Speed Limit (mph)	55	
Work Zone Capacity (vphpl)	1360	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		
Outbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		

Rehabilitation #6		
Agency Construction Cost ($1000)	$0.00	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	0	
No of Lanes Open in Each Direction During Work Zone	3	
Activity Service Life (years)	1.0	
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	0	
Work Zone Length (miles)	1.25	
Work Zone Speed Limit (mph)	55	
Work Zone Capacity (vphpl)	1360	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		
Outbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		

Deterministic Results

Total Cost	Alternative 1: Route 1 Rehabilitation - 20 year design		Alternative 2: Route 1 Rehabilitation - 20 year design HMA w/ OGFC	
	Agency Cost ($1000)	User Cost ($1000)	Agency Cost ($1000)	User Cost ($1000)
Undiscounted Sum	$171,249.80	$16,983.79	$172,126.75	$2,955.73
Present Value	$168,806.45	$8,436.13	$170,068.20	$1,431.42
EUAC	$9,044.20	$451.99	$9,111.80	$76.69





ROUTE 1 - HOV PROJECT
Pavement Design for 20 year life
Pavement Area for 6-Lane Roadway = 62,208 m2 = 669,600 SF

ITEM NO.	DESCRIPTION	TOTAL QUANTITY	UNIT	UNIT COST	AMOUNT /$1,000
	20 Year Flexible - Option 2 (0.65' HMA, 0.55' AB, 1.15' AS)				
1	HMA OGFC (0.1')	0	TON	95	-
2	HOT MIX ASPHALT	32,643	TON	80	2,611
3	AGGREGATE BASE	13,640	CY	35	477
4	LEAN CONCRETE BASE	0	CY	140	-
5	AGGREGATE SUBBASE	28,520	CY	20	570
TOTAL					3,659
				TOTAL DIRECT CONSTRUCTION COST =	96,027
				CONSTRUCTION + MOBILIZATION (10%), TRO (5%) & CONTINGENCY (20%) COST =	133,093
				INITIAL SUPPORT COST (25%) =	**33,273**
				TOTAL INITIAL AGENCY COST =	**166,367**
	20 Year Flexible - Option 3 (0.10' HMA OGFC, 0.50' HMA, 0.50' LCB, 1.15' AS)				
1	HMA OGFC (0.1')	5,022	TON	95	477
2	HOT MIX ASPHALT	25,110	TON	80	2,009
3	AGGREGATE BASE	0	CY	35	-
4	LEAN CONCRETE BASE	12,400	CY	140	1,736
5	AGGREGATE SUBBASE	28,520	CY	20	570
TOTAL					4,792
				TOTAL DIRECT CONSTRUCTION COST =	97,160
				CONSTRUCTION + MOBILIZATION (10%), TRO (5%) & CONTINGENCY (20%) COST =	134,664
				INITIAL SUPPORT COST (25%) =	**33,666**
				TOTAL INITIAL AGENCY COST =	**168,330**

ROUTE 1 - HOV PROJECT
Alternatives for 6-Lane Roadway, 20 year design life

Work Zone Length (miles) =	**1.25**	Total Lane-Miles =	**10.74**

20 Year Flexible - Option 2, Maintenance Service Level = 1 (HMA)									
Initial Cost, $1000 =	$166,367	Service Life = 20							
Initial Maint, $1000 =	$35.4								
			Table 4 Rehab Cost, $	Multiplier Table 3	**Total Future Cost, in $1000**	Maintenance Cost	**Future Maintenance Cost, in $1000**	Productivity Estimate, Table 8	**Work Zone Duration, Days**	**Time of Day of Lane Closure**
Rehab 1 =	Year 20	5 yr CapM HMA	$1,267,320	0.19	**$1,508.1**	$1,100	**$11.8**	0.27	**40**	0-5 22-24
Rehab 2 =	Year 25	20 yr Rehab HMA	$3,769,740	0.26	**$4,749.9**	$2,900	**$31.1**	0.25	**43**	0-24
Rehab 3 =	Year 45	5 yr CapM HMA	$1,267,320	0.19	**$1,508.1**	$1,100	**$11.8**	0.27	**40**	0-5 22-24
Rehab 4 =	Year 50	20 yr Rehab HMA	$3,769,740	0.26	**$4,749.9**	$2,900	**$31.1**	0.25	**43**	0-24

20 Year Flexible - Option 3, Maintenance Service Level = 1 (HMA w/ OGFC)										
Initial Cost, $1000 =	$168,330	Service Life = 22								
Initial Maint, $1000 =	$24.7									
			Rehab Cost, $	Multiplier	**Total Future Cost, in $1000**	Maintenance Cost	**Future Maintenance Cost, in $1000**	Productivity Estimate, Table 8	**Work Zone Duration, Days**	Time of Day of Lane Closure
Rehab 1 =	Year 22	10 yr CapM HMA w/ OGFC	$1,772,100	0.19	**$2,108.8**	$3,700	**$39.7**	0.22	**49**	0-5 22-24
Rehab 2 =	Year 32	22 yr Rehab HMA w/ OGFC	$4,274,520	0.26	**$5,385.9**	$3,600	**$38.7**	0.4	**27**	0-24
Rehab 3 =	Year 54	10 yr CapM HMA w/ OGFC	$1,772,100	0.19	**$2,108.8**	$3,700	**$39.7**	0.22	**49**	0-5 22-24

ATTACHMENT L

ACCIDENT SUMMARY

California Department of Transportation

OTM22130

Table B - Selective Accident Rate Calculation

Policy controlling the use of Traffic Accident Surveillance and Analysis System (TASAS) - Transportation Systems Network (TSN) Reports

1. TASAS - TSN has officially replaced the TASAS - "Legacy" database.

2. Reports from TSN are to be used and interpreted by the California Department of Transportation (Caltrans) officials or authorized representative.

3. Electronic versions of these reports may be emailed between Caltrans' employees only using the State computer system.

4. The contents of these reports shall be considered confidential and may be privileged pursuant to 23 U.S.C. Section 409, and are for the sole use of the intended recipient(s). Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message. Do not print, copy or forward.

OTM22130

Table B - Selective Accident Rate Calculation

Report Parameters-

Event ID: 3510554

Request Name: 0c730

Ref Date: 01/29/2013

Request- & Line	L O C	D I R	L S C	Route/Location	Begin Date	End Date	Rate Type	Out Seq	Override Rates: Rate	Override Rates: Inj%	Override Rates: Fat%	Override ADT: Main	Override ADT: Cross	Req. Type	Com- bine?	Excl Ramp?
1 1	H	T	I	05 SCR 001 013.500 - 05 SCR 001 014.900	01-JUL-08	30-JUN-11	N	L						N	N	Y
1 2	R	T	I	05 SCR 001 013.801 - 05 SCR 001 013.802	01-JUL-08	30-JUN-11	N	L						N	N	N
1 3	R	T	I	05 SCR 001 014.734 - 05 SCR 001 014.735	01-JUL-08	30-JUN-11	N	L						N	N	N
1 4	R	T	I	05 SCR 001 014.821 - 05 SCR 001 014.822	01-JUL-08	30-JUN-11	N	L						N	N	N
1 5	R	T	I	05 SCR 001 013.594 - 05 SCR 001 013.595	01-JUL-08	30-JUN-11	N	L						N	N	N
1 6	R	T	I	05 SCR 001 013.774 - 05 SCR 001 013.775	01-JUL-08	30-JUN-11	N	L						N	N	N

Event Log:

Job id is : 487135 Accidents Table B Request 0c730 Submitted by T5SCADEN
05 SCR 001 13.5 - 05 SCR 001 14.9 07/01/2008 TO 06/30/2011
05 SCR 001 13.801 - 05 SCR 001 13.802 07/01/2008 TO 06/30/2011
05 SCR 001 14.734 - 05 SCR 001 14.735 07/01/2008 TO 06/30/2011
05 SCR 001 14.821 - 05 SCR 001 14.822 07/01/2008 TO 06/30/2011
05 SCR 001 13.594 - 05 SCR 001 13.595 07/01/2008 TO 06/30/2011
05 SCR 001 13.774 - 05 SCR 001 13.775 07/01/2008 TO 06/30/2011

OTM22130
01/29/2013
10:53 AM

California Department of Transportation
Table B - Selective Accident Rate Calculation

Event ID: 3510554

Location Description	Rate Group (RUS)	No. of Accidents / Significance: Tot	Fat	Inj	F+I	Multi Veh	Wet	Dark	Pers Kld Inj	ADT Main X-St	Total MV+ or MVM	Accident Rates Actual: Fat	F+I	Tot	Average: Fat	F+I	Tot
05 SCR 001 013.500 - 05 SCR 001 014.899 **1.400 MI**	H	166	1	53	54	137	21	34	1	91.6	140.38	0.007	.38	1.18	0.008	.30	.82
0001-0001 2008-07-01 2011-06-30 *36 mo.*	NA	**H99**		**H95**	**H95**				76								
05 SCR 001 013.801 001/SB OFF TO 41ST AVE	R 10	14	0	3	3	14	6	3	0	9.1	9.96 +	0.000	.30	1.41	0.003	.35	1.01
0001-0002 2008-07-01 2011-06-30 *36 mo.*	U						**H97**		3	.0							
05 SCR 001 014.734 001/NB OFF TO SOQUEL/COMMER	R 30	7	0	1	1	4	4	1	0	8.9	9.71 +	0.000	.10	.72	0.001	.17	.54
0001-0003 2008-07-01 2011-06-30 *36 mo.*	U						**H95**		1	.0							
05 SCR 001 014.821 001/SB ON FR SOQUEL DR	R 28	2	0	1	1	2	0	1	0	7.1	7.81 +	0.000	.13	.26	0.001	.13	.46
0001-0004 2008-07-01 2011-06-30 *36 mo.*	U								1	.0							
05 SCR 001 013.594 001/NB ON FR NB 41ST AVE	R 40	1	0	0	0	1	0	0	0	6.2	6.79 +	0.000	.00	.15	0.002	.21	.73
0001-0005 2008-07-01 2011-06-30 *36 mo.*	U								0	.0							
05 SCR 001 013.774 001/NB ON FR SB 41ST AVE	R 20	1	0	0	0	0	1	0	0	2.6	2.79 +	0.000	.00	.36	0.003	.18	.57
0001-0006 2008-07-01 2011-06-30 *36 mo.*	U								0	.0							

Accident Rates expressed as: **# of accidents / Million vehicle miles**

+ denotes that **Million Vehicles** (MV) used in accident rates instead (for intersections and ramps).

For Ramps RUS only considers R(Rural) U(Urban)

ATTACHMENT M

DISTRICT DISTRIBUTION LIST

PR DISTRIBUTION LIST

Division / Program / Office	Project Type	D5	
FHWA		Gary Sweeten/Dominic Hoang	1
HQ Division of Design	All Projects	Design Report Routing	1
HQ Division of Engineering Serv	All Projects	Division of Engineering Services (electronic copy OK)	1
HQ Environmental	All Projects	Chris Flynn	1
HQ Maintenance	STIP	Patti-jo Dickinson	1
Project Manager	All Projects	Luis Duazo	1
Design Manager	All Projects	John Fouche	2
Resident Engineer	All Projects	Jennifer Wilson	1
District Maintenance	All Projects	Lance Gorman	1
District Traffic Management	All Projects	Jacques Van Zeventer	1
District Traffic Safety	Mon/SCr	Scott Morris	1
Region Materials	All Projects	Doug Lambert	1
Region Environmental	All Projects	Susan Schilder	1
Region Right of Way	All Projects	Marshall Garcia	1
District Planning	All Projects	Claudia Espino	1
District SFP	All Projects	No Copy	0
PPM	All Projects	Linda Araujo	1
District Surveys	All Projects	Hanna Kassis (electronic copy only)	0
	All Projects	Jeremy Villegas	1
HQ DES/OPPM	Proj w/ Structures	Andrew T S Tan	1
District Records (send electronic copy only)	All Projects	Kristina Jaime	0
	TOTAL COPIES	**District 5 =**	**19**

ATTACHMENT M

APPENDIX Q.
SIMILAR KAISER MEDICAL OFFICE TRIP GENERATION COUNT DATA

Kimley»Horn

MEMORANDUM

From: Frederik Venter, P.E., Kimley-Horn and Associates

Jacob Mirabella, Kimley-Horn and Associates

To: Matt Machado, P.E., L.S., Public Works, County of Santa Cruz

Rodolfo Rivas, P.E., Public Works, County of Santa Cruz

Kathleen Molloy, P.E., Planning Department, County of Santa Cruz

Date: January 20, 2020

Re: Kaiser Medical Office Building Similar Sites Trip Generation Summary

---

This memorandum summarizes the results of a trip generation data collection effort at the driveways of four medical facilities and calculates trip generation rates for each site. This memo then compares these observed trip generation rates to the rate used for a proposed Kaiser Medical Office Building (MOB) in Santa Cruz County, California.

As requested by Santa Cruz County, traffic at four similar medical sites were observed to determine their existing trip generation. The following two (non-Kaiser) medical facilities (located in Santa Cruz County), and two existing Kaiser medical facilities (located in San Jose and Dublin, California) were selected in consultation with Santa Cruz County staff:

- Sutter Health Palo Alto Medical Foundation (PAMF) Urgent Care: Located at 2025 Soquel Ave, Santa Cruz, CA, this facility is a 67,000 square foot medical clinic and urgent care.
- Sutter Health Maternity and Surgery Center: Located at 2900 Chanticleer Avenue Santa Cruz CA, this 63,306 square foot facility has no emergency room supporting only scheduled and walk-in patients
- Kaiser Permanente Skyport Medical Offices: Located at 1721 Technology Drive, San Jose CA, this 143,700 square foot facility is a similar medical office building to the proposed MOB in Santa Cruz.
- Kaiser Permanente Dublin Medical Offices and Cancer Center: Located at 3100 Dublin Boulevard, Dublin CA, this 215,000 square foot facility provides a full suite of medical offices housed in a central building including emergency medical personnel.

Driveway counts (attached) at each of these four similar sites was collected on Tuesday October 22, 2019 to determine the daily and peak hours of trip generation for each location. The proposed new Kaiser MOB will be constructed in the southwest quadrant of the intersection of Soquel Avenue & Mattison Lane in Santa Cruz County, California. The MOB will have approximately 160,000 square feet of gross floor area and is anticipated to construct one driveway onto Soquel Avenue, at the north side of the site. Table 1 shows the assumed trip generation of the proposed project (based on data from the *ITE Trip Generation Manual 10th Edition*) as well as the observed trip generation of the four similar sites.

Table 1: Trip Generation Rate Comparison for the Medical Office Buildings

		Independent Variable		Daily Trips		AM PEAK HOUR TRIPS						PM PEAK HOUR TRIPS					
Development	Data Source	Size[4]	Unit	Rate	TOTAL DAILY	Rate	% Entering	% Exiting	Trips Entering	Trips Exiting	TOTAL AM	Rate	% Entering	% Exiting	Trips Entering	Trips Exiting	TOTAL PM
Proposed Project																	
Kaiser MOB	ITE LUC 630 (Clinic)[1]	160.000	KSF	38.16	6,106	3.69	78%	22%	461	130	591	3.28	29%	71%	152	373	525
	ITE LUC 720 (MOB)[2]	160.000	KSF	34.80	5,568	2.78	78%	22%	347	98	445	4.10	39%	61%	256	400	656
Similar Sites (2019)[3]																	
Sutter/PAMF (Urgent Care)	Counts	67.000	KSF	46.03	3,084	4.51	57%	43%	172	130	302	3.51	36%	64%	84	151	235
Sutter/PAMF (OB Office)	Counts	63.306	KSF	16.85	1,067	1.04	50%	50%	33	33	66	1.44	32%	68%	29	62	91
Skyport MOB (Kaiser)	Counts	143.700	KSF	17.65	2,537	1.54	68%	32%	150	71	221	1.52	23%	77%	51	167	218
Dublin MOB (Kaiser)	Counts	215.000	KSF	16.28	3,501	1.41	83%	17%	251	53	304	1.46	30%	70%	93	220	313
Similar Sites Average:		*122.252*	*KSF*	*24.21*	--	*2.13*	*64%*	*36%*	--	--	--	*1.98*	*30%*	*70%*	--	--	--

Notes:
1. ITE Land Use Code 630 (Clinic) was used in the Santa Cruz SMOB study at County Guidance base on ITE 10th Edition Data.
2. ITE Land Use Code 720 (Medical Office Building) was used in the Santa Cruz Assumptions Memo based on ITE 10th Edition Data.
3. Similar sites driveway counts were performed on October 22, 2019 and used to determine trip generation characteristics.
4. Building size information provided by developer.

Findings

Based on average trip generation rates for ITE 10th Edition LUC 630 (Clinic), the proposed Kaiser MOB generates 38.16 daily trips per 1,000 square feet, 3.69 AM peak hour trips per 1,000 square feet, and 3.28 PM peak hour trips per 1,000 square feet. Based on LUC 720 (Medical Office Building), the proposed Kaiser MOB generates 34.80, 2.78, and 4.1 daily, AM peak hour, and PM peak hour trips per 1,000 square feet respectively.

The average size of the similar sites counted is 122,252 square feet compared to the proposed Kaiser MOB size of 160,000 square feet. The average daily trip generation rate for the similar sites is 24.21 trips per 1,000 square feet, AM peak hour trip generation rate is 2.13 trips per 1,000 square feet, and PM peak hour trip generation rate is 1.98 trips per 1,000 square feet.

These observed generation rates are significantly smaller (ranging from 23% to 52% smaller) than the ITE LUC 630 and LUC 720 trip generation rates. As a result, the trip generation rates used in the Santa Cruz Kaiser MOB present a conservative estimate of trip generation for the proposed MOB.

IDAX Data Solutions
Project: 19464 - Bay Area - MOB Driveway Counts
Date: 10/22/2019
Driveway In/Out @ Bay Area Driveways

APPENDIX

	UC Dwy 1						UC Dwy 2					
	IN			OUT			IN			OUT		
	EB Left	NB Thru	WB Right	SB Right	SB Thru	SB Left	NB Right	WB Thru	SB Left	WB Right	EB Thru	WB Left
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	1	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	1	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	1	0	1	1	3	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	1	0	0	1
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	1	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	1	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	1	0	0	0	1	0	0	1	0	0
6:00 AM	0	0	2	0	0	1	0	0	0	0	0	0
6:15 AM	2	0	2	1	0	2	5	0	1	0	0	1
6:30 AM	0	2	7	1	0	1	1	0	0	0	0	2
6:45 AM	5	1	11	0	1	2	0	0	2	1	0	2
7:00 AM	4	2	9	1	0	3	4	0	2	0	0	1
7:15 AM	1	4	9	3	1	8	2	0	3	0	0	2
7:30 AM	4	6	7	1	2	2	5	0	4	0	0	4
7:45 AM	3	11	12	6	1	3	5	0	6	0	0	4
8:00 AM	3	5	16	2	3	4	6	0	4	1	0	5
8:15 AM	3	11	22	3	1	8	3	0	5	2	0	2
8:30 AM	7	10	18	7	6	5	5	0	7	4	0	5
8:45 AM	6	7	24	9	5	7	6	0	2	2	0	6
9:00 AM	8	9	18	2	3	9	7	0	6	0	0	8
9:15 AM	6	8	22	8	9	5	7	0	1	3	0	7
9:30 AM	4	7	15	8	3	8	6	0	3	0	0	15
9:45 AM	5	4	25	10	12	12	7	0	4	5	0	3
10:00 AM	2	7	19	8	6	15	6	0	3	3	0	11
10:15 AM	3	7	21	7	7	10	7	0	4	3	0	12
10:30 AM	8	4	27	13	6	14	8	0	3	3	0	10
10:45 AM	10	5	19	11	4	14	4	0	1	4	0	13
11:00 AM	1	5	18	4	2	16	6	0	5	2	0	10
11:15 AM	3	3	14	9	7	19	9	0	6	2	0	6
11:30 AM	6	9	11	8	4	13	7	0	7	1	0	10
11:45 AM	4	5	14	11	6	19	3	0	3	2	0	9
12:00 PM	7	5	10	5	7	7	6	0	3	3	0	5
12:15 PM	4	5	9	5	6	13	7	0	3	2	0	11
12:30 PM	5	1	8	7	7	17	3	0	2	1	0	13
12:45 PM	2	7	17	9	4	7	6	0	2	1	1	6
1:00 PM	7	2	13	5	3	7	4	0	2	1	0	5
1:15 PM	6	7	13	5	3	9	5	0	3	3	0	6
1:30 PM	9	6	14	6	2	10	7	0	3	2	0	5
1:45 PM	5	11	10	4	4	13	6	0	3	1	0	7
2:00 PM	8	4	13	1	10	10	9	0	3	1	0	8
2:15 PM	5	4	19	9	8	16	7	0	6	2	0	6
2:30 PM	3	5	17	4	4	9	4	0	1	2	0	10
2:45 PM	1	4	17	6	9	16	5	0	4	1	0	4
3:00 PM	11	4	18	3	6	15	6	0	8	1	0	15
3:15 PM	3	5	16	6	10	14	5	0	9	2	0	6
3:30 PM	4	7	6	3	5	12	5	0	3	3	0	9
3:45 PM	8	3	14	4	12	16	1	0	5	2	0	2
4:00 PM	4	1	15	5	11	15	3	0	3	3	0	12
4:15 PM	2	6	7	7	6	8	6	0	6	3	0	5
4:30 PM	1	0	8	7	7	16	3	0	6	2	1	7
4:45 PM	2	1	6	6	5	16	1	0	3	3	0	6
5:00 PM	0	4	10	5	9	15	3	0	4	2	0	4
5:15 PM	3	5	6	5	4	9	3	0	5	2	0	5
5:30 PM	1	1	7	9	7	13	5	0	1	4	0	2
5:45 PM	0	1	4	1	4	7	2	0	5	3	0	4
6:00 PM	4	3	4	2	1	9	1	0	1	0	0	3

6:15 PM	0	1	3	0	4	12	1	0	3	0	0	0
6:30 PM	2	1	1	0	1	0	1	0	1	1	0	1
6:45 PM	1	1	4	2	4	2	1	0	0	1	0	3
7:00 PM	1	1	3	3	1	2	0	0	0	0	0	2
7:15 PM	1	0	6	0	0	5	0	0	1	0	0	0
7:30 PM	1	1	3	1	1	3	0	0	0	1	0	3
7:45 PM	0	1	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	1	3	0	3	0	0	0	0	0	1
8:15 PM	0	0	1	5	0	3	2	0	0	1	0	0
8:30 PM	0	0	0	1	0	0	0	0	0	0	0	1
8:45 PM	1	0	2	1	0	7	1	0	0	0	0	0
9:00 PM	0	0	1	1	2	2	0	0	0	0	0	1
9:15 PM	1	0	0	4	0	4	0	0	1	0	0	1
9:30 PM	0	0	2	4	1	3	0	0	0	0	0	0
9:45 PM	0	0	0	1	1	5	0	0	1	0	0	1
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	1	0	1	0	1	0	0	0	1	0	1
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	1	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	1	0	0	1	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	1	0	0	0	0	0	0	0	0	0	0	0
Total	212	243	673	290	260	557	239	0	184	94	2	330

OB Dwy 1						OB Dwy 2						OB Dwy 3					
IN			OUT			IN			OUT			IN			OUT		
EB Right	SB Thru	NB Right	NB Left	NB Thru	WB Left	NB Right	WB Thru	SB Left	WB Right	EB Thru	WB Left	NB Right	WB Thru	SB Left	WB Right	EB Thru	WB Left
0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	1	0	0
0	0	0	1	0	0	0	0	1	2	1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0
2	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	2	0	0	4	0	0	0	0	0	0	0	0	0
3	0	1	0	0	2	0	0	2	0	0	0	0	0	2	1	0	0
4	0	1	0	0	3	0	0	1	1	0	0	0	0	2	0	0	0
6	0	0	0	0	2	0	0	1	0	0	0	0	0	5	2	0	1
5	0	0	0	0	3	0	0	7	3	0	0	1	0	4	1	0	0
1	0	0	0	0	0	0	0	1	2	0	0	0	0	4	2	0	0
1	0	0	0	0	2	0	0	2	2	0	0	0	0	7	1	0	0
3	0	0	0	0	2	0	1	1	1	0	0	0	0	3	1	0	1
0	0	0	0	0	2	0	0	2	4	0	0	1	0	3	3	0	0
1	0	0	0	0	1	0	0	5	1	0	0	0	0	3	1	0	0
2	0	0	0	0	2	0	0	2	2	0	0	0	0	1	0	0	0
0	0	0	1	0	1	0	0	4	3	0	0	1	0	3	0	0	1
0	0	0	0	0	3	0	0	6	5	1	0	0	0	7	2	0	1
2	0	1	0	0	0	0	0	4	4	0	0	0	0	1	2	0	0
0	0	0	0	0	2	0	0	3	2	0	0	0	0	2	1	0	1
1	0	0	0	0	0	1	0	5	4	1	0	0	0	0	3	0	1
1	0	1	0	0	0	0	0	3	7	0	1	1	0	5	6	0	0
1	0	2	0	0	1	1	0	7	2	0	0	2	0	3	6	0	2
0	0	1	0	0	1	0	0	4	6	0	0	0	0	1	1	0	0
0	0	1	0	0	0	0	0	3	3	0	0	1	0	2	5	0	0
0	0	0	0	0	0	0	0	8	4	0	0	0	0	0	2	0	0
0	0	0	0	0	0	1	0	10	5	0	0	0	0	1	0	0	0
0	0	0	0	0	1	0	1	5	4	0	0	0	0	0	2	0	0
1	0	1	0	0	0	0	2	2	4	3	0	0	0	1	3	0	0
2	0	0	1	0	1	0	1	2	0	0	0	0	0	0	7	0	1
0	0	0	0	0	2	0	0	4	3	1	0	1	0	0	4	0	1
0	0	1	0	0	0	1	0	8	7	0	0	0	0	1	1	0	2
1	0	1	0	0	2	0	1	6	2	0	0	0	0	2	4	0	0
1	0	0	2	0	2	0	0	8	6	0	0	0	0	2	2	0	0
2	0	0	2	0	1	0	0	10	3	0	0	0	0	2	2	0	0
0	0	2	1	0	4	0	1	11	6	0	0	0	0	4	4	0	0
1	0	1	3	0	2	1	0	7	6	0	0	0	0	4	3	0	0
2	0	1	0	0	0	0	0	5	9	0	0	0	0	6	3	0	0
1	0	4	1	0	0	0	0	7	4	2	0	0	0	3	5	0	1
0	0	2	1	0	0	0	1	4	4	0	0	0	0	0	4	0	0
3	0	2	4	0	0	0	0	3	3	0	0	0	0	1	2	0	0
2	0	3	1	0	1	0	0	3	4	0	0	0	0	2	4	0	0
0	0	3	1	0	0	0	1	6	6	0	0	1	0	1	11	0	2
2	0	3	2	0	2	0	0	4	1	0	0	0	0	0	6	0	0
0	0	1	2	0	1	1	0	3	1	0	0	0	0	1	4	0	1
1	0	1	0	0	0	0	0	2	1	1	0	0	0	1	3	0	0
1	0	1	1	0	0	0	0	8	3	0	0	0	0	1	10	0	0
0	0	0	1	0	1	0	1	3	2	0	0	1	0	0	5	0	1
4	0	6	0	0	1	0	0	4	4	1	0	0	0	0	4	0	0
0	0	0	2	0	0	0	0	1	0	0	0	0	0	2	5	0	0
0	0	2	0	0	0	0	0	4	6	0	1	1	0	4	18	0	0
0	0	0	0	0	0	0	0	4	7	0	0	0	0	0	6	0	0
0	0	7	0	0	0	0	0	3	3	0	0	0	0	2	8	0	0
1	0	0	1	0	0	0	0	0	4	0	0	0	0	1	8	0	0
0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	5	0	0

0	0	0	1	0	2	0	0	4	1	0	0	0	0	0	2	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4	0	0
1	0	0	0	0	0	0	0	3	1	0	0	0	0	0	2	0	0
0	0	4	0	0	1	0	0	1	1	0	0	0	0	1	2	0	0
0	0	0	1	0	1	0	0	1	4	0	0	0	0	1	3	0	0
1	0	1	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0
0	0	2	0	0	1	0	0	1	3	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0
1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0
0	0	4	3	0	2	0	0	1	1	0	0	0	0	0	0	0	0
0	0	1	3	0	0	0	0	1	0	0	0	0	0	1	0	0	0
1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
2	0	2	1	0	0	0	0	3	1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
1	0	0	3	0	0	0	0	0	1	0	0	0	0	0	3	0	0
0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
79	0	74	50	0	60	6	10	239	190	11	3	11	1	107	209	0	17

KS Dwy 1						KS Dwy 2					
IN			OUT			IN			OUT		
NB Left	WB Thru	SB Right	EB Right	EB Thru	EB Left	SB Right	WB Thru	NB Left	EB Left	EB Thru	EB Right
0	0	0	1	0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	0	0	0	0	0
0	0	0	2	0	0	0	0	0	0	0	0
0	0	0	2	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	1	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	1	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	8	0	0	0	0	0	0	2	0	0
0	0	6	0	0	0	2	0	0	0	0	0
0	0	17	0	0	0	9	0	0	1	0	0
0	0	18	0	0	1	8	0	0	5	1	0
0	0	39	0	0	0	6	0	0	3	0	0
0	0	40	0	0	0	7	0	1	3	1	0
0	0	35	0	0	0	7	0	0	9	0	0
0	0	46	0	0	0	6	0	0	10	0	1
0	0	33	1	0	0	2	0	0	16	0	1
0	0	28	0	0	0	2	0	0	17	0	0
1	0	31	0	0	0	1	0	0	25	0	0
0	1	33	0	0	0	3	0	0	23	0	1
0	0	39	1	0	0	1	0	0	32	1	1
0	1	32	0	0	0	3	0	0	28	0	0
0	0	40	1	0	0	2	0	0	32	0	0
0	0	37	0	0	0	2	0	0	33	0	1
1	0	27	0	0	0	0	0	0	35	0	0
0	0	33	0	0	0	1	0	0	56	0	0
0	0	25	0	0	0	1	0	0	43	0	1
0	0	24	0	0	0	1	0	0	40	0	0
0	0	16	0	0	0	2	0	0	36	0	0
0	0	24	0	0	0	1	0	0	41	1	0
1	0	22	0	0	0	1	0	0	39	0	1
0	0	13	0	0	0	1	1	0	28	0	0
0	0	24	0	0	0	3	0	1	16	0	1
0	0	34	0	0	0	5	0	0	15	1	0
0	1	37	0	0	0	1	1	0	18	2	0
0	0	25	0	0	0	1	0	0	17	1	0
0	0	25	0	0	0	3	0	1	25	0	0
0	0	31	0	0	0	3	0	0	30	0	0
0	0	32	1	0	0	2	0	0	35	0	1
0	0	37	0	0	0	2	0	0	27	0	0
0	0	30	0	0	0	1	0	0	35	0	0
0	0	30	0	0	0	1	0	0	41	0	0
0	0	35	0	0	0	2	0	0	37	1	0
0	1	33	1	0	0	0	0	0	33	0	0
0	0	18	0	0	0	0	0	0	30	0	0
0	0	15	0	0	0	1	0	0	40	0	0
0	0	21	0	0	0	0	0	0	43	1	1
0	0	7	0	0	0	0	0	1	39	0	0
0	0	6	0	0	0	0	0	0	42	1	0
0	0	6	0	0	0	0	0	0	32	0	1
0	1	3	0	0	0	1	0	0	30	1	0
0	0	6	0	0	0	1	0	0	24	0	0
0	0	5	1	0	0	0	0	0	13	0	0

1	0	6	1	0	0	1	0	0	5	0	0
0	0	2	0	0	0	0	0	0	14	0	0
2	0	3	0	0	0	0	0	0	8	0	0
0	0	0	0	0	0	0	0	0	3	0	0
0	0	0	0	0	0	0	0	0	1	0	0
0	0	1	0	0	0	0	0	0	2	0	0
0	0	0	0	0	0	0	0	0	1	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	3	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	3	0	0	0	0	0	0	1	0	0
0	0	1	0	0	0	0	0	0	2	0	0
0	0	1	1	0	0	0	0	0	1	0	0
0	0	1	0	0	0	0	0	0	0	0	0
0	1	1	1	0	0	0	0	1	2	0	0
0	0	0	1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	2	0	0
0	0	1	0	0	0	0	0	0	1	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0
6	6	1151	17	0	1	98	2	6	1226	12	12

KD Dwy 1						KD Dwy 2					
IN			OUT			IN			OUT		
EB Right	SB Thru	WB Left	NB Right	NB Thru	NB Left	EB Right	SB Thru	WB Left	NB Right	NB Thru	NB Left
0	0	0	0	0	2	0	0	0	2	0	0
0	0	0	0	0	0	0	0	1	0	0	0
1	0	0	0	0	3	0	0	0	2	0	0
1	0	0	0	0	2	0	0	0	1	0	0
0	0	0	1	0	1	0	0	0	1	0	0
0	0	0	1	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	1	0	0	0	0	1	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	0	0	0
0	0	0	0	0	0	0	0	0	1	0	0
0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0
1	0	0	2	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	1	0	0	0	0	0
1	0	0	0	0	1	0	0	0	1	0	0
1	0	2	0	0	0	1	0	3	0	0	0
6	0	0	0	0	0	1	0	6	0	0	0
1	0	0	0	0	0	1	0	3	3	0	0
8	0	0	0	0	1	2	0	7	1	0	0
8	0	0	0	0	2	0	0	10	1	0	0
6	0	1	0	0	2	3	1	11	0	0	0
16	0	1	1	1	0	2	0	10	0	0	1
18	0	0	2	0	2	8	0	7	0	0	0
21	0	1	1	1	3	0	0	25	3	0	1
26	0	1	0	1	4	4	0	30	4	0	2
23	0	2	4	0	6	4	0	26	2	0	1
37	1	1	1	0	3	8	0	32	3	0	0
30	0	0	1	0	12	5	2	19	6	0	3
24	0	2	2	2	13	7	0	14	4	0	2
20	1	3	1	0	12	2	1	13	8	0	4
13	1	0	3	0	9	3	1	15	8	0	4
15	0	1	3	0	15	9	0	20	10	0	3
22	1	1	1	0	16	2	0	23	13	0	3
19	1	0	3	0	10	7	0	16	14	0	1
17	0	1	2	2	15	4	0	17	7	0	6
15	0	1	2	0	9	5	0	13	10	0	5
16	0	2	2	0	25	4	0	16	16	0	6
10	1	1	3	0	8	2	0	15	10	2	2
9	0	2	5	0	17	2	1	12	15	0	4
9	0	1	2	0	14	2	0	15	16	0	9
22	0	0	2	0	8	2	1	6	13	0	6
9	0	0	6	0	18	2	0	4	22	1	6
13	0	1	0	0	20	1	0	8	36	0	4
11	1	0	5	1	15	2	0	14	29	0	1
16	0	1	1	1	4	2	0	18	14	0	6
16	0	2	1	0	10	2	0	17	11	0	2
26	1	2	2	1	7	4	0	35	7	0	0
30	0	0	4	0	16	2	2	18	6	0	0
25	1	0	8	0	15	4	0	11	10	0	0
16	0	0	1	0	16	1	1	10	14	0	2
27	0	2	6	2	21	3	0	14	14	1	4
17	0	1	4	0	13	2	0	11	17	0	2
18	0	2	4	0	15	4	0	7	17	0	4
16	0	1	3	1	16	6	0	7	22	0	3
17	0	3	5	0	25	5	1	14	17	0	3
16	2	0	3	1	14	4	2	8	29	1	2
15	0	1	3	0	15	4	2	8	22	0	5
10	1	0	3	2	22	2	0	10	23	1	3
17	0	1	2	0	16	0	3	12	23	0	3
16	0	0	2	0	21	3	1	4	37	1	3
9	0	1	2	1	18	0	0	3	31	0	6
5	0	0	0	1	26	1	0	4	32	1	7
5	0	0	1	0	17	0	1	4	20	1	4
13	0	0	3	1	21	1	0	3	16	1	3
8	0	0	0	0	11	1	0	2	16	0	0
5	1	0	0	0	7	2	0	3	19	0	0

6	0	0	3	1	3	0	0	2	6	1	1
3	0	0	0	0	8	1	0	4	16	0	1
5	0	0	1	0	6	1	0	5	6	0	0
4	0	1	2	0	5	1	0	2	3	0	1
2	0	0	0	0	5	4	0	2	5	0	1
3	0	0	0	0	4	0	1	2	3	0	0
2	0	1	2	0	6	2	0	2	2	0	0
3	0	0	1	0	0	0	0	2	1	0	2
3	0	0	0	0	1	1	0	3	5	0	0
2	0	0	1	0	8	2	1	1	8	0	1
0	0	0	1	0	0	1	0	5	1	1	0
0	0	0	0	0	1	0	0	1	5	0	0
2	0	0	0	0	0	0	0	0	2	0	0
0	0	0	1	0	1	1	1	0	1	0	0
0	0	0	0	0	3	0	0	1	3	0	0
1	0	0	1	0	2	0	0	1	1	0	0
1	0	0	0	0	0	0	0	0	2	0	0
1	0	0	0	0	1	1	0	2	3	0	1
2	0	0	0	0	0	0	0	1	0	0	0
0	0	0	0	0	1	0	0	0	2	0	0
1	0	0	0	0	1	0	0	2	2	0	1
3	0	0	0	0	3	0	0	0	4	0	0
1	0	0	0	0	1	0	0	2	0	0	0
841	13	44	127	21	675	164	23	675	761	12	145

APPENDIX R.
PIVOTAL MARKET DATA

Provider			Other Healthcare System A													
Location			Dignity Health Medical Group	Dignity Health Medical Group	Dominican 1595 Center	Dominican Family Practice	Dominican Family Practice - Aptos	Dominican Family Practice - Boulder Creek	Dominican Family Practice - Capitola	Dominican Family Practice - Dominican Way	Dominican Family Practice - Westside	Dominican Hospital	Dominican Obstretrics & Gynecology	Dominican Pediatrics & Urgent Care	Dominican Urology	Frederick St
Location Letter	Distribution of Total Visits	Total Visits	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Address			1066 South Green Valley Road	575 Auto Center Dr	1595 Soquel Drive	4700 Soquel Dr	9515 Soquel Drive	13350 Big Basin Way	528 Capitola Ave	1779 Dominican Way	2018 Mission Street	1555 Soquel Drive	1505 Soquel Drive	1820 41st Ave	1667 Dominican Way	700 Frederick Street
City			Watsonville	Watsonville	Santa Cruz	Soquel	Aptos	Boulder Creek	Capitola	Santa Cruz	Santa Cruz	Santa Cruz	Santa Cruz	Capitola	Santa Cruz	Santa Cruz
Zip Code			95076	95076	95065	95073	95003	95006	95010	95065	95060	95065	95065	95010	95065	95062
Weighted Distance			15.2	16.6	10.8	10.8	11.8	23.8	11	11.1	12.6	10.6	10.5	10.8	11	11.1
Pivotal Service																
Cardiology - Outpatient	**2.80%**	**16,074**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4,292**	**0**	**0**	**0**	**0**
Cosmetic Procedures - Outpatient	**0.22%**	**1,263**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**33**	**0**	**0**	**0**	**0**
Dermatology - Outpatient	**2.80%**	**16,098**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**573**	**0**	**0**	**0**	**0**
Endocrinology - Outpatient	**0.29%**	**1,638**	**0**	**0**	**76**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ENT - Outpatient	**1.22%**	**6,980**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**835**	**0**	**0**	**0**	**0**
Evaluation and Management - Outpatient	**49.80%**	**286,044**	**981**	**2,856**	**25,708**	**2,474**	**243**	**1,123**	**2,192**	**1,434**	**2,449**	**0**	**0**	**3,244**	**0**	**2,285**
Gastroenterology - Outpatient	**1.36%**	**7,784**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,136**	**0**	**0**	**0**	**0**
General Surgery - Outpatient	**0.50%**	**2,845**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**117**	**0**	**0**	**0**	**0**
Gynecology & Obstetrics	**1.84%**	**10,544**	**0**	**0**	**260**	**0**	**0**	**0**	**521**	**0**	**0**	**260**	**521**	**0**	**0**	**0**
Lab - Outpatient	**4.08%**	**23,410**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8,832**	**0**	**0**	**0**	**0**
Miscellaneous Services - Outpatient	**5.61%**	**32,206**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6,941**	**0**	**0**	**0**	**0**
Nephrology - Outpatient	**0.25%**	**1,432**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**0**	**0**	**0**	**0**
Neurology - Outpatient	**0.62%**	**3,567**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**113**	**0**	**0**	**0**	**0**
Neurosurgery - Outpatient	**0.06%**	**316**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**0**	**0**	**0**	**0**
Oncology - Outpatient	**0.73%**	**4,183**	**0**	**0**	**225**	**0**	**0**	**0**	**0**	**0**	**0**	**225**	**0**	**0**	**0**	**0**
Ophthalmology - Outpatient	**2.58%**	**14,846**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**469**	**0**	**0**	**0**	**0**
Orthopedics - Outpatient	**1.81%**	**10,389**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**697**	**0**	**0**	**0**	**0**
Pain Management - Outpatient	**0.71%**	**4,106**	**0**	**0**	**207**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Physical Therapy/Rehabilitation - Outpatient	**3.09%**	**17,769**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2,547**	**0**	**0**	**0**	**0**
Podiatry - Outpatient	**0.34%**	**1,936**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**32**	**0**	**0**	**0**	**0**
Psychiatry - Outpatient	**4.00%**	**22,970**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**
Pulmonology - Outpatient	**0.39%**	**2,259**	**0**	**0**	**870**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Radiology - Outpatient	**10.65%**	**61,187**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4,965**	**0**	**0**	**0**	**0**
Spine - Outpatient	**0.09%**	**490**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**81**	**0**	**0**	**0**	**0**
Thoracic Surgery - Outpatient	**0.01%**	**69**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**23**	**0**	**0**	**0**	**0**
Trauma - Outpatient	**2.80%**	**16,105**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**905**	**0**	**0**	**0**	**0**
Urology - Outpatient	**1.05%**	**6,055**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**508**	**0**	**0**	**508**	**0**
Vascular - Outpatient	**0.32%**	**1,843**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**610**	**0**	**0**	**0**	**0**
	100%	574,408	*981*	*2,856*	*27,346*	*2,474*	*243*	*1,123*	*2,713*	*1,434*	*2,449*	*34,234*	*521*	*3,244*	*508*	*2,285*

		Other Healthcare System B																		
Primary Care in your Neighborhood	***Total***	Aptos Center	Aptos Walk-In Care	Capitola Center Lab	Commercial Crossing Center	Freedom PAMF	Santa Cruz Allergy	Santa Cruz Cardiothoracic Surgery	Santa Cruz Center	Santa Cruz Chanticleer Center (2907)	Santa Cruz Chanticleer Center (2911)	Santa Cruz Gastroenterology	Santa Cruz Neurology	Santa Cruz Physical Therapy	Scotts Valley Center	Scotts Valley El Rancho Drive Center	Soquel Center	Watsonville PAMF	Westside Center	***Total***
O		P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	
223 Mt. Hermon Road		7600 Old Dominion Court	26 Rancho Del Mar	815 Bay Ave	2850 Commercial Crossing	160 Green Valley Road	3035 North Main Street	1575 Soquel Drive	2025 Soquel Ave	2907 Chanticleer Ave	2911 Chanticleer Ave	1662 Dominican Way	1661 Soquel Drive	1529 Seabright Ave	4663 Scotts Valley Drive	2980 El Rancho Drive	2950 Research Park Drive	550 S Green Valley Rd	1301 Mission Street	
Scotts Valley		Aptos	Aptos	Capitola	Santa Cruz	Freedom	Soquel	Santa Cruz	Santa Cruz	Santa Cruz	Santa Cruz	Santa Cruz	Santa Cruz	Santa Cruz	95066	95060	95073	95076	Santa Cruz	
95066		95003	95003	95010	95065	94539	95073	95065	95062	95065	95065	95065	95065	95062	AC	AD	AE	AF	95060	
15.3		11.4	11.3	10.6	10.7	16.5	11	10.7	10.7	11	11	11.1	11	11.1	14.1	12.9	10.9	15.5	12	
0	4,292	15	0	0	0	1,269	4	46	7,077	7	48	4	4	0	4	4	0	30	16	8,528
0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92	0	0	92
0	573	70	0	0	0	6	0	0	425	96	32	0	0	0	78	139	10,430	157	244	11,677
0	76	0	0	869	0	40	0	0	6	0	0	0	0	0	2	2	0	219	0	1,138
0	835	145	0	0	0	0	8	0	307	0	75	27	102	0	107	10	3,674	104	62	4,621
1,825	46,814	15,582	243	4,543	9,462	2,467	723	705	59,532	10,339	16,880	4,328	5,019	0	11,052	6,888	13,772	9,763	10,002	181,300
0	1,136	36	0	0	4	0	0	0	88	0	40	5,784	0	0	41	2	3	0	6	6,004
0	117	0	0	0	15	2	0	0	133	9	1,046	12	0	0	4	0	108	0	3	1,332
0	1,562	53	0	0	0	111	0	0	6	1,043	12	0	0	0	17	23	0	28	51	1,344
0	8,832	749	0	696	707	97	57	33	4,558	898	1,478	2,197	178	0	393	242	148	592	619	13,642
0	6,941	2,227	0	553	3,338	67	2,334	26	7,433	134	418	56	119	0	2,146	758	5	1,619	1,849	23,082
0	15	0	0	0	0	0	0	0	1,244	0	0	0	0	0	0	0	0	0	0	1,244
0	113	12	0	0	0	0	0	0	87	0	9	0	835	0	12	6	73	27	6	1,067
0	20	0	0	0	0	0	0	0	0	4	268	0	0	0	0	4	12	0	0	288
0	450	0	0	0	1,396	0	0	0	4	0	109	13	0	0	0	0	0	0	0	1,522
0	469	92	0	0	0	0	0	0	7,448	0	0	0	0	0	30	25	14	205	22	7,836
0	697	6	0	0	0	0	13	8	485	3,579	69	0	13	0	25	20	1,350	27	71	5,666
0	207	6	0	0	0	0	0	0	0	11	1,757	0	17	0	6	0	0	6	44	1,847
0	2,547	586	0	0	123	0	33	0	824	333	321	4	477	9,525	195	156	405	221	585	13,788
0	32	0	0	0	0	0	0	0	0	422	0	0	0	0	0	6	0	0	18	446
0	5	380	0	0	0	0	0	0	7,358	0	0	0	0	0	0	0	0	690	0	8,428
0	870	57	0	0	0	3	160	39	722	0	5	0	0	0	0	93	6	55	12	1,152
0	4,965	102	0	17	111	24	19	165	46,592	419	476	24	81	0	39	13	14	252	52	48,400
0	81	0	0	0	0	0	126	4	0	0	0	0	147	0	0	0	0	0	0	277
0	23	0	0	0	6	2	0	21	14	0	3	0	0	0	0	0	0	0	0	46
0	905	0	0	0	0	0	0	0	3	375	0	0	0	0	0	0	54	3	6	441
0	1,016	3	0	0	26	3	0	0	23	26	4,065	0	0	0	0	6	0	6	0	4,158
0	610	14	0	0	36	0	0	13	849	4	103	19	0	0	0	4	5	0	0	1,047
1,825	***84,236***	***20,135***	***243***	***6,678***	***15,224***	***4,091***	***3,477***	***1,060***	***145,218***	***17,699***	***27,214***	***12,468***	***6,992***	***9,525***	***14,151***	***8,401***	***30,165***	***14,004***	***13,668***	***350,413***

Kaiser Santa Cruz County					Total	Potential Kaiser Redistributed Visits as a Result of the Project							Total
Downtown Santa Cruz Facility	Scotts Valley	Scotts Valley	Watsonville	Watsonville		Watsonville	Santa Clara	Gilroy	San Jose	Dominican Hospital	Campbell	Skyport	
AH	AI	AJ	AK	AL		AM	AN	AO	AP	AS	AU	AV	
110 Locust St	5615 Scotts Valley Dr	5617 Scotts Valley Dr	1927-1951 Main St	180 Westgate Dr		75 Nielson St	700 Lawrence Expy	7520 Arroyo Cir	250 Hospital Pkwy	1555 Soquel Dr	200 E. Hacienda Ave	1721 Technology Dr	
Santa Cruz	Scotts Valley	Scotts Valley	Watsonville	Watsonville		Watsonville	Santa Clara	Gilroy	San Jose	Santa Cruz	Campbell	San Jose	
95060	95066	95066	95035	95076		95076	95051	95020	95119	95065	95008	95110	
11.7	14.8	14.7	15.2	15		14.8	37.8	43.4	40	10.6	31.9	39	
189	**1,125**	**0**	**500**	**0**	**1,827**	**13**	**490**	**29**	**860**	**0**	**46**	**2**	**1,427**
0	**195**	**0**	**0**	**0**	**195**	**0**	**246**	**0**	**453**	**0**	**244**	**0**	**943**
0	**1,953**	**0**	**834**	**0**	**2,787**	**0**	**312**	**67**	**597**	**0**	**0**	**85**	**1,061**
0	**310**	**0**	**0**	**0**	**310**	**0**	**48**	**0**	**63**	**0**	**0**	**3**	**114**
0	**628**	**0**	**354**	**0**	**1,025**	**43**	**296**	**0**	**203**	**0**	**0**	**0**	**499**
14,212	**18,906**	**0**	**16,607**	**0**	**49,725**	**0**	**3,250**	**1,015**	**2,660**	**0**	**1,007**	**273**	**8,205**
0	**0**	**0**	**0**	**0**	**436**	**436**	**83**	**0**	**123**	**0**	**0**	**2**	**208**
0	**123**	**0**	**117**	**0**	**300**	**60**	**321**	**0**	**772**	**0**	**0**	**3**	**1,096**
1,741	**1,789**	**0**	**1,956**	**0**	**5,539**	**53**	**535**	**144**	**902**	**0**	**410**	**108**	**2,099**
0	**334**	**0**	**260**	**0**	**597**	**3**	**149**	**10**	**102**	**0**	**69**	**9**	**339**
0	**1,718**	**0**	**0**	**0**	**1,718**	**0**	**152**	**12**	**301**	**0**	**0**	**0**	**465**
0	**32**	**0**	**35**	**0**	**67**	**0**	**39**	**0**	**65**	**0**	**0**	**2**	**106**
0	**1,295**	**0**	**0**	**0**	**1,295**	**0**	**322**	**0**	**766**	**0**	**0**	**4**	**1,092**
0	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**8**
0	**0**	**0**	**0**	**0**	**0**	**0**	**1,188**	**0**	**1,023**	**0**	**0**	**0**	**2,211**
28	**2,418**	**0**	**1,826**	**0**	**4,272**	**0**	**1,422**	**141**	**641**	**0**	**0**	**65**	**2,269**
0	**1,617**	**0**	**779**	**0**	**2,504**	**108**	**513**	**0**	**993**	**0**	**0**	**16**	**1,522**
0	**423**	**0**	**233**	**0**	**1,168**	**512**	**251**	**0**	**617**	**16**	**0**	**0**	**884**
0	**0**	**0**	**0**	**0**	**0**	**0**	**581**	**67**	**688**	**0**	**0**	**98**	**1,434**
0	**677**	**0**	**234**	**0**	**911**	**0**	**171**	**3**	**364**	**0**	**0**	**9**	**547**
5	**7,545**	**0**	**2,371**	**0**	**9,922**	**1**	**3,009**	**69**	**1,280**	**0**	**257**	**0**	**4,615**
0	**48**	**0**	**18**	**0**	**66**	**0**	**93**	**0**	**76**	**0**	**0**	**2**	**171**
0	**10**	**0**	**8**	**0**	**437**	**419**	**1,565**	**0**	**5,806**	**1**	**13**	**0**	**7,385**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**132**	**0**	**0**	**0**	**132**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
0	**10,934**	**0**	**3,532**	**0**	**14,466**	**0**	**0**	**0**	**293**	**0**	**0**	**0**	**293**
0	**95**	**0**	**86**	**0**	**182**	**1**	**298**	**0**	**394**	**0**	**0**	**7**	**699**
0	**36**	**0**	**0**	**0**	**36**	**0**	**34**	**0**	**116**	**0**	**0**	**0**	**150**
16,175	***52,211***	***0***	***29,750***	***0***	***99,785***	***1,649***	***15,376***	***1,557***	***20,290***	***17***	***2,046***	***688***	***39,974***

Provider			Kaiser Santa Cruz County							Potential Kaiser Redistributed Visits as a Result of the Project							
Location			Downtown Santa Cruz Facility	Scotts Valley	Scotts Valley	Watsonville	Watsonville	Kaiser Santa Cruz County		Watsonville	Santa Clara	Gilroy	San Jose	Dominican Hospital	Campbell	Skyport	
Location Letter			AW	AI	AJ	AK	AL	AQ		AM	AN	AO	AP	AS	AU	AV	
Address	Distribution of Total Visits	Total Visits	110 Cooper St	5615 Scotts Valley Dr	5617 Scotts Valley Dr	1927-1951 Main St	180 Westgate Dr	5940 Soquel Ave	***Total***	75 Nielson St	700 Lawrence Expy	7520 Arroyo Cir	250 Hospital Pkwy	1555 Soquel Dr	200 E. Hacienda Ave	1721 Technology Dr	***Total***
City			Santa Cruz	Scotts Valley	Scotts Valley	Watsonville	Watsonville	Capitola		Watsonville	Santa Clara	Gilroy	San Jose	Santa Cruz	Campbell	San Jose	
Zip Code			95060	95066	95066	95035	95076	95062		95076	95051	95020	95119	95065	95008	95110	
Weighted Distance			8.4	14.8	14.7	15.2	15	10.6		14.8	37.8	43.4	40	10.6	31.9	39	
Pivotal Service																	
Cardiology - Outpatient	2.35%	3,254	0	0	0	0	0	3,239	3,239	0	3	0	12	0	0	0	15
Cosmetic Procedures - Outpatient	0.82%	1,138	0	0	0	0	0	894	894	0	0	0	0	0	244	0	244
Dermatology - Outpatient	2.78%	3,848	0	0	0	0	0	3,848	3,848	0	0	0	0	0	0	0	0
Endocrinology - Outpatient	0.31%	424	0	0	0	0	0	424	424	0	0	0	0	0	0	0	0
ENT - Outpatient	1.10%	1,524	0	0	0	0	0	1,524	1,524	0	0	0	0	0	0	0	0
Evaluation and Management - Outpatient	41.19%	57,931	22,806	17,185	0	15,095	0	797	55,883	0	932	28	1,024	0	52	12	2,048
Gastroenterology - Outpatient	0.46%	644	0	0	0	0	0	644	644	0	0	0	0	0	0	0	0
General Surgery - Outpatient	1.01%	1,396	0	0	0	0	0	1,396	1,396	0	0	0	0	0	0	0	0
Gynecology & Obstetrics	5.43%	7,637	3,416	1,629	0	2,455	0	53	7,553	0	12	0	72	0	0	0	84
Lab - Outpatient	0.68%	936	0	0	0	0	0	936	936	0	0	0	0	0	0	0	0
Miscellaneous Services - Outpatient	1.57%	2,183	0	0	0	0	0	2,183	2,183	0	0	0	0	0	0	0	0
Nephrology - Outpatient	0.12%	173	0	0	0	0	0	173	173	0	0	0	0	0	0	0	0
Neurology - Outpatient	1.72%	2,387	0	0	0	0	0	2,285	2,285	0	33	0	69	0	0	0	102
Neurosurgery - Outpatient	0.01%	8	0	0	0	0	0	8	8	0	0	0	0	0	0	0	0
Oncology - Outpatient	1.60%	2,211	0	0	0	0	0	2,107	2,107	0	21	0	83	0	0	0	104
Ophthalmology - Outpatient	4.72%	6,541	0	0	0	0	0	6,302	6,302	0	173	0	66	0	0	0	239
Orthopedics - Outpatient	2.90%	4,026	0	0	0	0	0	4,026	4,026	0	0	0	0	0	0	0	0
Pain Management - Outpatient	1.48%	2,052	0	0	0	0	0	1,660	1,660	0	47	0	345	0	0	0	392
Physical Therapy/Rehabilitation - Outpatient	1.03%	1,434	0	0	0	0	0	1,434	1,434	0	0	0	0	0	0	0	0
Podiatry - Outpatient	1.05%	1,458	0	0	0	0	0	1,458	1,458	0	0	0	0	0	0	0	0
Psychiatry - Outpatient	10.35%	14,537	6,389	0	3,115	3,369	1,638	21	14,532	0	0	0	5	0	0	0	5
Pulmonology - Outpatient	0.17%	237	0	0	0	0	0	237	237	0	0	0	0	0	0	0	0
Radiology - Outpatient	5.64%	7,822	0	0	0	0	0	7,822	7,822	0	0	0	0	0	0	0	0
Spine - Outpatient	0.10%	132	0	0	0	0	0	132	132	0	0	0	0	0	0	0	0
Thoracic Surgery - Outpatient	0.00%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trauma - Outpatient	10.65%	14,759	0	0	0	0	0	14,759	14,759	0	0	0	0	0	0	0	0
Urology - Outpatient	0.64%	881	0	0	0	0	0	881	881	0	0	0	0	0	0	0	0
Vascular - Outpatient	0.13%	186	0	0	0	0	0	182	182	0	4	0	0	0	0	0	4
	100%	139,759	*32,611*	*18,814*	*3,115*	*20,919*	*1,638*	*59,425*	*136,522*	*0*	*1,225*	*28*	*1,676*	*0*	*296*	*12*	*3,237*

APPENDIX S.
PROPOSED TENANT MEMBERSHIP FORECASTS

Santa Cruz Residence Area Membership Long Range Forecast and Projection

2020-2034 Forecast
2035-2041 Projection

			Membership Long Range Forecast															Projection						
CSA	**MAJOR**	**FACAREA**	**_2020**	**_2021**	**_2022**	**_2023**	**_2024**	**_2025**	**_2026**	**_2027**	**_2028**	**_2029**	**_2030**	**_2031**	**_2032**	**_2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**
SAN JOSE	SANTA CRUZ	**SANTA CRUZ**	18,353	19,281	20,589	22,657	25,165	27,428	29,126	30,382	31,400	32,367	33,489	34,636	35,798	36,989	38,187	39,424	40,701	42,019	43,380	44,785	46,236	47,733
SAN JOSE	SANTA CRUZ	**WATSONVILLE**	8,115	8,492	9,106	10,078	11,259	12,328	13,126	13,713	14,190	14,646	15,172	15,712	16,267	16,833	17,421	18,030	18,659	19,311	19,986	20,684	21,406	22,154
SAN JOSE	SANTA CRUZ	**SCOTTS VALLEY**	8,603	9,028	9,603	10,512	11,615	12,608	13,345	13,884	14,317	14,726	15,194	15,656	16,119	16,575	17,037	17,511	17,998	18,499	19,014	19,543	20,086	20,645
		Total	35,071	36,801	39,298	43,247	48,039	52,364	55,597	57,978	59,907	61,739	63,855	66,003	68,184	70,398	72,645	74,965	77,359	79,829	82,380	85,012	87,729	

Kimley»Horn

APPENDIX T.
PROJECT AND NO PROJECT MEMBERSHIP BASIS

Project Membership Basis

Plus Project		
Member Type	**Members**	**Member Share**
Existing Members	35,071	40.0%
Organic Growth	4,394	5.0%
Other Members	48,264	55.0%
Total Members	**87,729**	**100.0%**

APPENDIX U.

SOUTHBOUND HIGHWAY 1 & SOQUEL AVENUE IMPROVEMENTS SYNCHRO OUTPUT SHEETS

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	364	229	565	167	308	588
Future Volume (veh/h)	364	229	565	167	308	588
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	375	236	582	172	318	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	498	1407	1435	627	445	
Arrive On Green	0.28	0.75	0.40	0.40	0.13	0.00
Sat Flow, veh/h	1795	1885	3647	1552	3483	1598
Grp Volume(v), veh/h	375	236	582	172	318	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1777	1552	1742	1598
Q Serve(g_s), s	13.4	2.5	8.2	5.2	6.1	0.0
Cycle Q Clear(g_c), s	13.4	2.5	8.2	5.2	6.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	498	1407	1435	627	445	
V/C Ratio(X)	0.75	0.17	0.41	0.27	0.71	
Avail Cap(c_a), veh/h	498	1407	1435	627	911	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.1	2.6	14.9	14.0	29.3	0.0
Incr Delay (d2), s/veh	8.1	0.2	0.9	1.1	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	0.7	3.3	1.9	2.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.3	2.8	15.7	15.1	31.5	0.0
LnGrp LOS	C	A	B	B	C	
Approach Vol, veh/h		611	754		318	A
Approach Delay, s/veh		20.3	15.6		31.5	
Approach LOS		C	B		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		56.9		13.1	24.0	32.9
Change Period (Y+Rc), s		4.6		* 4.2	4.6	4.6
Max Green Setting (Gmax), s		42.9		* 18	19.4	18.9
Max Q Clear Time (g_c+I1), s		4.5		8.1	15.4	10.2
Green Ext Time (p_c), s		1.6		0.8	0.5	3.1

Intersection Summary						
HCM 6th Ctrl Delay			20.3			
HCM 6th LOS			C			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	332	518	445	53	612	406
Future Volume (veh/h)	332	518	445	53	612	406
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	342	534	459	55	631	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	472	1237	1164	508	760	
Arrive On Green	0.26	0.66	0.33	0.33	0.22	0.00
Sat Flow, veh/h	1795	1885	3647	1552	3483	1598
Grp Volume(v), veh/h	342	534	459	55	631	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1777	1552	1742	1598
Q Serve(g_s), s	12.1	9.5	7.0	1.7	12.1	0.0
Cycle Q Clear(g_c), s	12.1	9.5	7.0	1.7	12.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	472	1237	1164	508	760	
V/C Ratio(X)	0.72	0.43	0.39	0.11	0.83	
Avail Cap(c_a), veh/h	472	1237	1164	508	935	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.5	5.8	18.2	16.4	26.1	0.0
Incr Delay (d2), s/veh	5.8	0.7	1.0	0.4	5.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	3.2	2.9	0.7	5.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.3	6.4	19.2	16.8	31.4	0.0
LnGrp LOS	C	A	B	B	C	
Approach Vol, veh/h		876	514		631	A
Approach Delay, s/veh		15.4	18.9		31.4	
Approach LOS		B	B		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		50.5		19.5	23.0	27.5
Change Period (Y+Rc), s		4.6		* 4.2	4.6	4.6
Max Green Setting (Gmax), s		42.4		* 19	18.4	19.4
Max Q Clear Time (g_c+I1), s		11.5		14.1	14.1	9.0
Green Ext Time (p_c), s		4.1		1.2	0.5	2.4

Intersection Summary		
HCM 6th Ctrl Delay		21.3
HCM 6th LOS		C

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	364	289	604	167	393	588
Future Volume (veh/h)	364	289	604	167	393	588
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	375	298	623	172	405	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	498	1358	1341	585	537	
Arrive On Green	0.28	0.72	0.38	0.38	0.15	0.00
Sat Flow, veh/h	1795	1885	3647	1552	3483	1598
Grp Volume(v), veh/h	375	298	623	172	405	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1777	1552	1742	1598
Q Serve(g_s), s	13.4	3.7	9.3	5.4	7.8	0.0
Cycle Q Clear(g_c), s	13.4	3.7	9.3	5.4	7.8	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	498	1358	1341	585	537	
V/C Ratio(X)	0.75	0.22	0.46	0.29	0.75	
Avail Cap(c_a), veh/h	498	1358	1341	585	911	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.1	3.3	16.5	15.3	28.3	0.0
Incr Delay (d2), s/veh	7.5	0.3	1.2	1.3	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	1.1	3.8	2.0	3.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.6	3.5	17.6	16.5	30.5	0.0
LnGrp LOS	C	A	B	B	C	
Approach Vol, veh/h		673	795		405	A
Approach Delay, s/veh		18.6	17.4		30.5	
Approach LOS		B	B		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		55.0		15.0	24.0	31.0
Change Period (Y+Rc), s		4.6		* 4.2	4.6	4.6
Max Green Setting (Gmax), s		42.9		* 18	19.4	18.9
Max Q Clear Time (g_c+I1), s		5.7		9.8	15.4	11.3
Green Ext Time (p_c), s		2.0		1.0	0.5	3.0

Intersection Summary		
HCM 6th Ctrl Delay		20.7
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	332	538	564	53	640	406
Future Volume (veh/h)	332	538	564	53	640	406
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	342	555	581	55	660	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	472	1223	1138	497	785	
Arrive On Green	0.26	0.65	0.32	0.32	0.23	0.00
Sat Flow, veh/h	1795	1885	3647	1552	3483	1598
Grp Volume(v), veh/h	342	555	581	55	660	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1777	1552	1742	1598
Q Serve(g_s), s	12.1	10.3	9.3	1.7	12.7	0.0
Cycle Q Clear(g_c), s	12.1	10.3	9.3	1.7	12.7	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	472	1223	1138	497	785	
V/C Ratio(X)	0.72	0.45	0.51	0.11	0.84	
Avail Cap(c_a), veh/h	472	1223	1138	497	935	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.5	6.1	19.3	16.8	25.9	0.0
Incr Delay (d2), s/veh	5.1	0.6	1.6	0.5	6.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	3.5	3.9	0.7	5.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.6	6.8	21.0	17.2	31.9	0.0
LnGrp LOS	C	A	C	B	C	
Approach Vol, veh/h		897	636		660	A
Approach Delay, s/veh		15.1	20.6		31.9	
Approach LOS		B	C		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		50.0		20.0	23.0	27.0
Change Period (Y+Rc), s		4.6		* 4.2	4.6	4.6
Max Green Setting (Gmax), s		42.4		* 19	18.4	19.4
Max Q Clear Time (g_c+I1), s		12.3		14.7	14.1	11.3
Green Ext Time (p_c), s		4.3		1.1	0.5	2.6

Intersection Summary			
HCM 6th Ctrl Delay			21.8
HCM 6th LOS			C

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	374	240	565	167	308	589
Future Volume (veh/h)	374	240	565	167	308	589
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	386	247	582	172	318	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	498	1407	1435	627	445	
Arrive On Green	0.28	0.75	0.40	0.40	0.13	0.00
Sat Flow, veh/h	1795	1885	3647	1552	3483	1598
Grp Volume(v), veh/h	386	247	582	172	318	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1777	1552	1742	1598
Q Serve(g_s), s	13.9	2.7	8.2	5.2	6.1	0.0
Cycle Q Clear(g_c), s	13.9	2.7	8.2	5.2	6.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	498	1407	1435	627	445	
V/C Ratio(X)	0.78	0.18	0.41	0.27	0.71	
Avail Cap(c_a), veh/h	498	1407	1435	627	911	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.3	2.6	14.9	14.0	29.3	0.0
Incr Delay (d2), s/veh	8.9	0.2	0.9	1.1	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.7	3.3	1.9	2.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.2	2.8	15.7	15.1	31.5	0.0
LnGrp LOS	C	A	B	B	C	
Approach Vol, veh/h		633	754		318	A
Approach Delay, s/veh		20.7	15.6		31.5	
Approach LOS		C	B		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		56.9		13.1	24.0	32.9
Change Period (Y+Rc), s		4.6		* 4.2	4.6	4.6
Max Green Setting (Gmax), s		42.9		* 18	19.4	18.9
Max Q Clear Time (g_c+I1), s		4.7		8.1	15.9	10.2
Green Ext Time (p_c), s		1.6		0.8	0.5	3.1
Intersection Summary						
HCM 6th Ctrl Delay			20.4			
HCM 6th LOS			C			

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	340	544	447	51	602	416
Future Volume (veh/h)	340	544	447	51	602	416
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	351	561	461	53	621	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	472	1242	1173	512	751	
Arrive On Green	0.26	0.66	0.33	0.33	0.22	0.00
Sat Flow, veh/h	1795	1885	3647	1552	3483	1598
Grp Volume(v), veh/h	351	561	461	53	621	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1777	1552	1742	1598
Q Serve(g_s), s	12.5	10.1	7.0	1.7	11.9	0.0
Cycle Q Clear(g_c), s	12.5	10.1	7.0	1.7	11.9	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	472	1242	1173	512	751	
V/C Ratio(X)	0.74	0.45	0.39	0.10	0.83	
Avail Cap(c_a), veh/h	472	1242	1173	512	935	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.6	5.8	18.0	16.3	26.2	0.0
Incr Delay (d2), s/veh	6.0	0.7	1.0	0.4	5.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	3.4	2.9	0.6	5.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.6	6.5	19.0	16.7	31.3	0.0
LnGrp LOS	C	A	B	B	C	
Approach Vol, veh/h		912	514		621	A
Approach Delay, s/veh		15.4	18.8		31.3	
Approach LOS		B	B		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		50.7		19.3	23.0	27.7
Change Period (Y+Rc), s		4.6		* 4.2	4.6	4.6
Max Green Setting (Gmax), s		42.4		* 19	18.4	19.4
Max Q Clear Time (g_c+I1), s		12.1		13.9	14.5	9.0
Green Ext Time (p_c), s		4.3		1.2	0.4	2.4
Intersection Summary						
HCM 6th Ctrl Delay			21.1			
HCM 6th LOS			C			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	374	300	604	167	393	589
Future Volume (veh/h)	374	300	604	167	393	589
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	386	309	623	172	405	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	498	1358	1341	585	537	
Arrive On Green	0.28	0.72	0.38	0.38	0.15	0.00
Sat Flow, veh/h	1795	1885	3647	1552	3483	1598
Grp Volume(v), veh/h	386	309	623	172	405	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1777	1552	1742	1598
Q Serve(g_s), s	13.9	3.8	9.3	5.4	7.8	0.0
Cycle Q Clear(g_c), s	13.9	3.8	9.3	5.4	7.8	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	498	1358	1341	585	537	
V/C Ratio(X)	0.78	0.23	0.46	0.29	0.75	
Avail Cap(c_a), veh/h	498	1358	1341	585	911	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.3	3.3	16.5	15.3	28.3	0.0
Incr Delay (d2), s/veh	8.0	0.3	1.2	1.3	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	1.1	3.8	2.0	3.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.3	3.5	17.6	16.5	30.5	0.0
LnGrp LOS	C	A	B	B	C	
Approach Vol, veh/h		695	795		405	A
Approach Delay, s/veh		19.0	17.4		30.5	
Approach LOS		B	B		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		55.0		15.0	24.0	31.0
Change Period (Y+Rc), s		4.6		* 4.2	4.6	4.6
Max Green Setting (Gmax), s		42.9		* 18	19.4	18.9
Max Q Clear Time (g_c+I1), s		5.8		9.8	15.9	11.3
Green Ext Time (p_c), s		2.1		1.0	0.5	3.0

Intersection Summary						
HCM 6th Ctrl Delay			20.8			
HCM 6th LOS			C			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	340	564	566	51	630	416
Future Volume (veh/h)	340	564	566	51	630	416
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	351	581	584	53	649	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	472	1228	1148	501	776	
Arrive On Green	0.26	0.65	0.32	0.32	0.22	0.00
Sat Flow, veh/h	1795	1885	3647	1552	3483	1598
Grp Volume(v), veh/h	351	581	584	53	649	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1777	1552	1742	1598
Q Serve(g_s), s	12.5	10.9	9.3	1.7	12.5	0.0
Cycle Q Clear(g_c), s	12.5	10.9	9.3	1.7	12.5	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	472	1228	1148	501	776	
V/C Ratio(X)	0.74	0.47	0.51	0.11	0.84	
Avail Cap(c_a), veh/h	472	1228	1148	501	935	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.49	0.49	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.6	6.1	19.2	16.6	26.0	0.0
Incr Delay (d2), s/veh	5.2	0.6	1.6	0.4	5.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	3.7	3.9	0.6	5.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.8	6.8	20.8	17.0	31.7	0.0
LnGrp LOS	C	A	C	B	C	
Approach Vol, veh/h		932	637		649	A
Approach Delay, s/veh		15.1	20.5		31.7	
Approach LOS		B	C		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		50.2		19.8	23.0	27.2
Change Period (Y+Rc), s		4.6		* 4.2	4.6	4.6
Max Green Setting (Gmax), s		42.4		* 19	18.4	19.4
Max Q Clear Time (g_c+I1), s		12.9		14.5	14.5	11.3
Green Ext Time (p_c), s		4.5		1.1	0.4	2.7

Intersection Summary						
HCM 6th Ctrl Delay			21.5			
HCM 6th LOS			C			

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	438	306	568	167	308	594
Future Volume (veh/h)	438	306	568	167	308	594
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	452	315	586	172	318	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	498	1407	1435	627	445	
Arrive On Green	0.28	0.75	0.40	0.40	0.13	0.00
Sat Flow, veh/h	1795	1885	3647	1552	3483	1598
Grp Volume(v), veh/h	452	315	586	172	318	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1777	1552	1742	1598
Q Serve(g_s), s	17.0	3.6	8.2	5.2	6.1	0.0
Cycle Q Clear(g_c), s	17.0	3.6	8.2	5.2	6.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	498	1407	1435	627	445	
V/C Ratio(X)	0.91	0.22	0.41	0.27	0.71	
Avail Cap(c_a), veh/h	498	1407	1435	627	911	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.4	2.7	14.9	14.0	29.3	0.0
Incr Delay (d2), s/veh	14.8	0.2	0.9	1.1	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	0.9	3.3	1.9	2.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	39.2	2.9	15.8	15.1	31.5	0.0
LnGrp LOS	D	A	B	B	C	
Approach Vol, veh/h		767	758		318	A
Approach Delay, s/veh		24.3	15.6		31.5	
Approach LOS		C	B		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		56.9		13.1	24.0	32.9
Change Period (Y+Rc), s		4.6		* 4.2	4.6	4.6
Max Green Setting (Gmax), s		42.9		* 18	19.4	18.9
Max Q Clear Time (g_c+I1), s		5.6		8.1	19.0	10.2
Green Ext Time (p_c), s		2.2		0.8	0.1	3.1

Intersection Summary	
HCM 6th Ctrl Delay	22.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	390	706	463	35	542	477
Future Volume (veh/h)	390	706	463	35	542	477
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	402	728	477	36	559	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	472	1273	1232	538	693	
Arrive On Green	0.26	0.68	0.35	0.35	0.20	0.00
Sat Flow, veh/h	1795	1885	3647	1552	3483	1598
Grp Volume(v), veh/h	402	728	477	36	559	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1777	1552	1742	1598
Q Serve(g_s), s	14.9	14.3	7.1	1.1	10.7	0.0
Cycle Q Clear(g_c), s	14.9	14.3	7.1	1.1	10.7	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	472	1273	1232	538	693	
V/C Ratio(X)	0.85	0.57	0.39	0.07	0.81	
Avail Cap(c_a), veh/h	472	1273	1232	538	935	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.16	0.16	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.5	6.0	17.2	15.3	26.8	0.0
Incr Delay (d2), s/veh	3.3	0.3	0.9	0.2	3.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	4.5	2.9	0.4	4.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.8	6.3	18.2	15.5	30.6	0.0
LnGrp LOS	C	A	B	B	C	
Approach Vol, veh/h		1130	513		559	A
Approach Delay, s/veh		14.0	18.0		30.6	
Approach LOS		B	B		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		51.9		18.1	23.0	28.9
Change Period (Y+Rc), s		4.6		* 4.2	4.6	4.6
Max Green Setting (Gmax), s		42.4		* 19	18.4	19.4
Max Q Clear Time (g_c+I1), s		16.3		12.7	16.9	9.1
Green Ext Time (p_c), s		6.0		1.2	0.2	2.5
Intersection Summary						
HCM 6th Ctrl Delay			19.1			
HCM 6th LOS			B			
Notes						

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	438	368	604	167	394	594
Future Volume (veh/h)	438	368	604	167	394	594
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	452	379	623	172	406	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	498	1357	1340	585	538	
Arrive On Green	0.28	0.72	0.38	0.38	0.15	0.00
Sat Flow, veh/h	1795	1885	3647	1552	3483	1598
Grp Volume(v), veh/h	452	379	623	172	406	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1777	1552	1742	1598
Q Serve(g_s), s	17.0	4.9	9.3	5.4	7.8	0.0
Cycle Q Clear(g_c), s	17.0	4.9	9.3	5.4	7.8	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	498	1357	1340	585	538	
V/C Ratio(X)	0.91	0.28	0.47	0.29	0.75	
Avail Cap(c_a), veh/h	498	1357	1340	585	911	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.43	0.43	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.4	3.4	16.5	15.3	28.3	0.0
Incr Delay (d2), s/veh	12.0	0.2	1.2	1.3	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	1.4	3.8	2.0	3.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.4	3.7	17.6	16.6	30.5	0.0
LnGrp LOS	D	A	B	B	C	
Approach Vol, veh/h		831	795		406	A
Approach Delay, s/veh		21.5	17.4		30.5	
Approach LOS		C	B		C	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	55.0	15.0	24.0	31.0
Change Period (Y+Rc), s	4.6	* 4.2	4.6	4.6
Max Green Setting (Gmax), s	42.9	* 18	19.4	18.9
Max Q Clear Time (g_c+I1), s	6.9	9.8	19.0	11.3
Green Ext Time (p_c), s	2.7	1.0	0.1	3.0

Intersection Summary	
HCM 6th Ctrl Delay	21.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	390	723	579	35	567	477
Future Volume (veh/h)	390	723	579	35	567	477
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	402	745	597	36	585	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	472	1260	1207	527	717	
Arrive On Green	0.26	0.67	0.34	0.34	0.21	0.00
Sat Flow, veh/h	1795	1885	3647	1552	3483	1598
Grp Volume(v), veh/h	402	745	597	36	585	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1777	1552	1742	1598
Q Serve(g_s), s	14.9	15.2	9.3	1.1	11.2	0.0
Cycle Q Clear(g_c), s	14.9	15.2	9.3	1.1	11.2	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	472	1260	1207	527	717	
V/C Ratio(X)	0.85	0.59	0.49	0.07	0.82	
Avail Cap(c_a), veh/h	472	1260	1207	527	935	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.5	6.4	18.3	15.6	26.5	0.0
Incr Delay (d2), s/veh	1.9	0.2	1.4	0.3	4.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	4.7	3.9	0.4	4.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.4	6.6	19.8	15.9	30.9	0.0
LnGrp LOS	C	A	B	B	C	
Approach Vol, veh/h		1147	633		585	A
Approach Delay, s/veh		13.5	19.6		30.9	
Approach LOS		B	B		C	

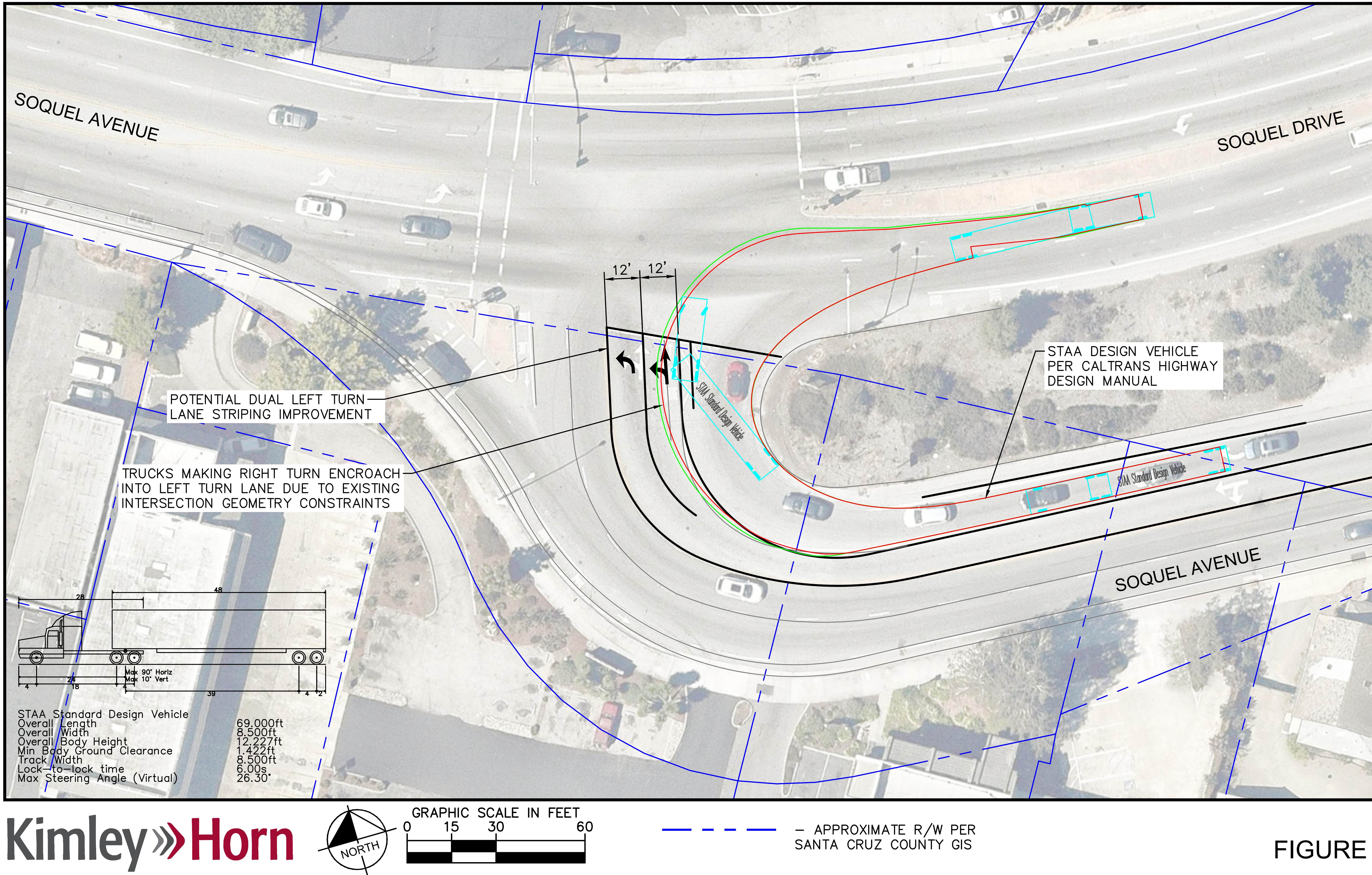
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		51.4		18.6	23.0	28.4
Change Period (Y+Rc), s		4.6		* 4.2	4.6	4.6
Max Green Setting (Gmax), s		42.4		* 19	18.4	19.4
Max Q Clear Time (g_c+I1), s		17.2		13.2	16.9	11.3
Green Ext Time (p_c), s		6.2		1.2	0.2	2.7

Intersection Summary						
HCM 6th Ctrl Delay			19.4			
HCM 6th LOS			B			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

APPENDIX V.
TRUCK TURNING TEMPLATE



Kimley»Horn

FIGURE 1

XX-097XXXXXX JUNE 2020

SANTA CRUZ COUNTY - STRIPING CONCEPT ON SOQUEL AVENUE

APPENDIX W.
VIRTUAL CARE BACKUP

KP Santa Cruz County Virtual Care back up

Santa Cruz County

Exam Room Visits

2017-2019

AGE2GRP	(All)
REGULAR_APPT_HOUR	Y
MEMFL	(All)
PROV	(All)
CLASS	(All)
PROCEDURE	(All)
GROUP	(All)
FAC_ID	(Multiple Items)

SERVICE TYPE	VISIT TYPE	DEPARTMENTS	2017	2018	2019
PRIMARY CARE	IN PERSON	MEDICINE PRIMARY	33,219	51,076	64,661
PRIMARY CARE	IN PERSON	PEDIATRICS	4,812	6,915	7,330
PRIMARY CARE	IN PERSON	OB/GYN	3,459	5,653	6,506
PRIMARY CARE	IN PERSON Total		41,490	63,644	78,497
PRIMARY CARE	VIRTUAL	MEDICINE PRIMARY	11,237	20,801	21,524
PRIMARY CARE	VIRTUAL	PEDIATRICS	470	759	1,035
PRIMARY CARE	VIRTUAL	OB/GYN	608	1,016	1,069
PRIMARY CARE	VIRTUAL Total		12,315	22,576	23,628
PRIMARY CARE Sum			53,805	86,220	102,125
SPECIALTY CARE	IN PERSON	ALLERGY	471	1,136	1,800
SPECIALTY CARE	IN PERSON	DERMATOLOGY	576	1,121	3,157
SPECIALTY CARE	IN PERSON	HEAD/NECK SUR	670	1,000	1,205
SPECIALTY CARE	IN PERSON	MEDICINE SPECIALTY	690	2,033	2,555
SPECIALTY CARE	IN PERSON	NEUROLOGY	120	84	
SPECIALTY CARE	IN PERSON	OPHTHALMOLOGY	978	1,470	1,673
SPECIALTY CARE	IN PERSON	OPTOMETRY	1,420	1,797	2,445
SPECIALTY CARE	IN PERSON	ORTHOPEDICS	2,165	3,634	4,369
SPECIALTY CARE	IN PERSON	SURGERY	208	380	514
SPECIALTY CARE	IN PERSON	UROLOGY	62	191	217
SPECIALTY CARE	IN PERSON Total		7,360	12,846	17,935
SPECIALTY CARE	VIRTUAL	ALLERGY	55	229	277
SPECIALTY CARE	VIRTUAL	DERMATOLOGY		41	434
SPECIALTY CARE	VIRTUAL	HEAD/NECK SUR	31	40	67
SPECIALTY CARE	VIRTUAL	MEDICINE SPECIALTY	410	462	753
SPECIALTY CARE	VIRTUAL	NEUROLOGY	12	11	
SPECIALTY CARE	VIRTUAL	OPHTHALMOLOGY		3	1
SPECIALTY CARE	VIRTUAL	ORTHOPEDICS	186	453	449
SPECIALTY CARE	VIRTUAL	SURGERY	86	106	101
SPECIALTY CARE	VIRTUAL	UROLOGY	104	189	312
SPECIALTY CARE	VIRTUAL Total		884	1,534	2,394
SPECIALTY CARE Sum			8,244	14,380	20,329
Grand Total			62,049	100,600	122,454

Primary Care	2017	2018	2019
In Person	77%	74%	77%
Virtual	23%	26%	23%

Specialty Care	2017	2018	2019
In Person	89%	89%	88%
Virtual	11%	11%	12%

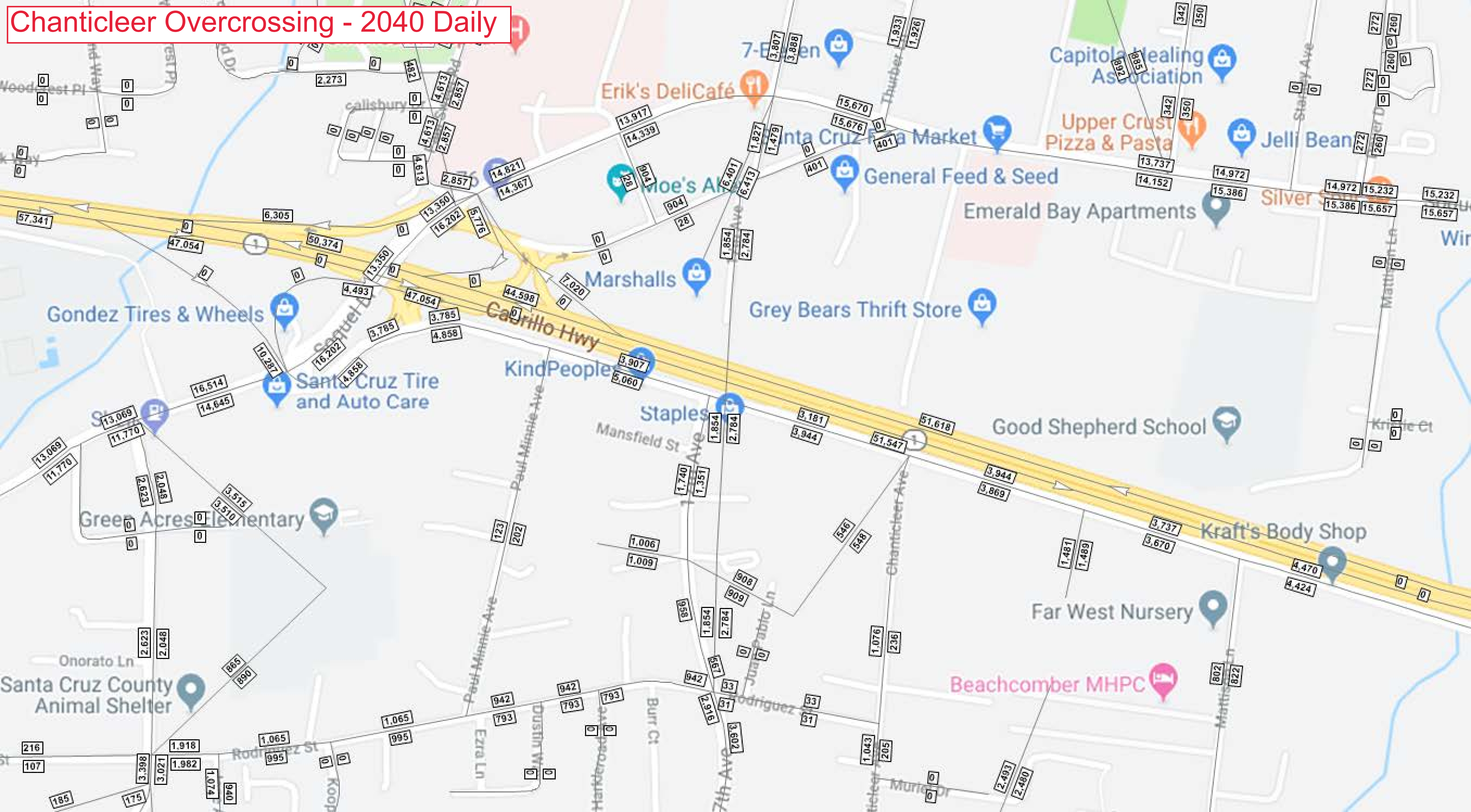
ALL SERVICE TYPES	2017	2018	2019
In Person	79%	76%	79%
Virtual	21%	24%	21%

Notes:

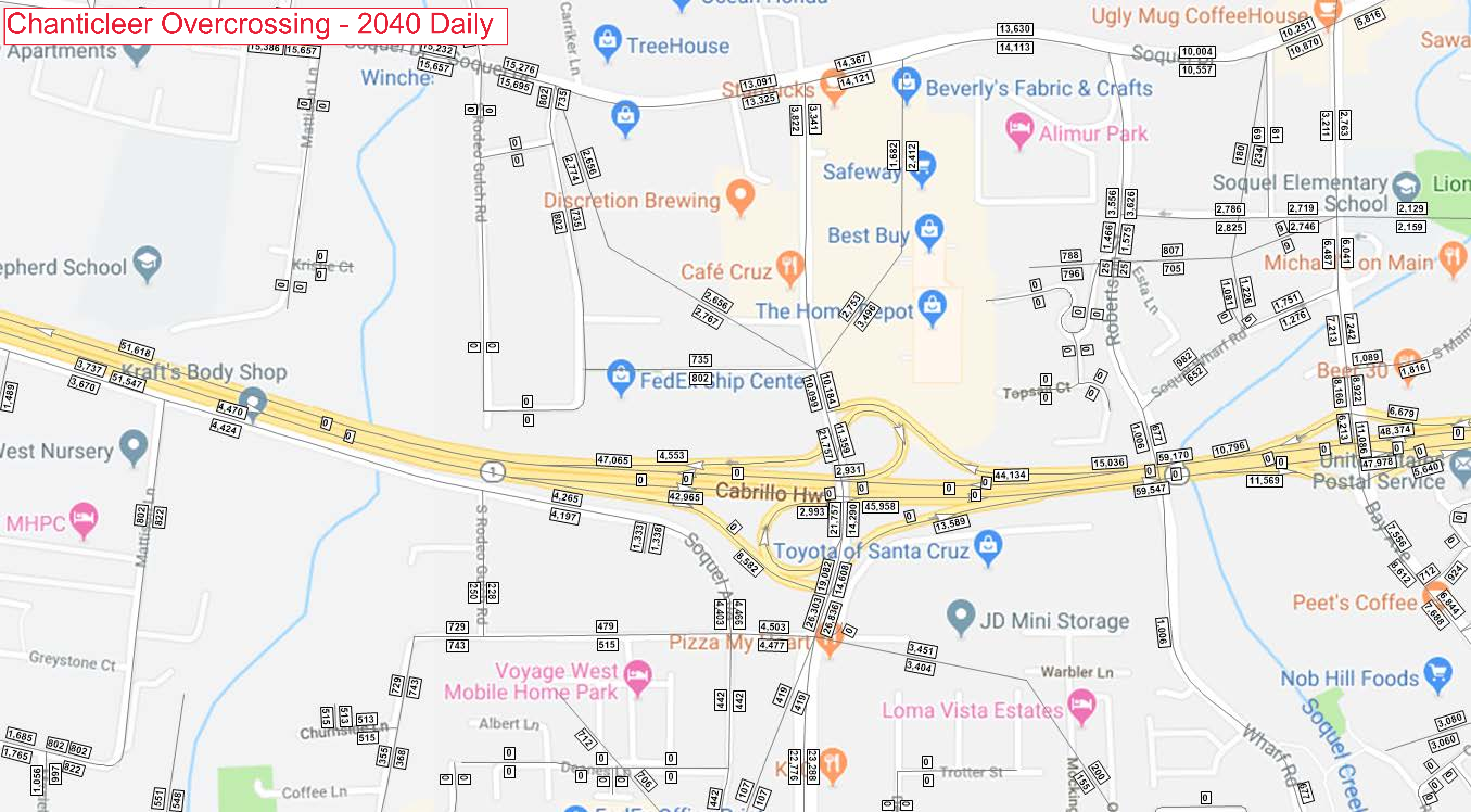
1) It is expected that more visits will be offered virtually with social distancing due to COVID 19

APPENDIX X.
17TH AVENUE OVERCROSSING MODEL RESULTS

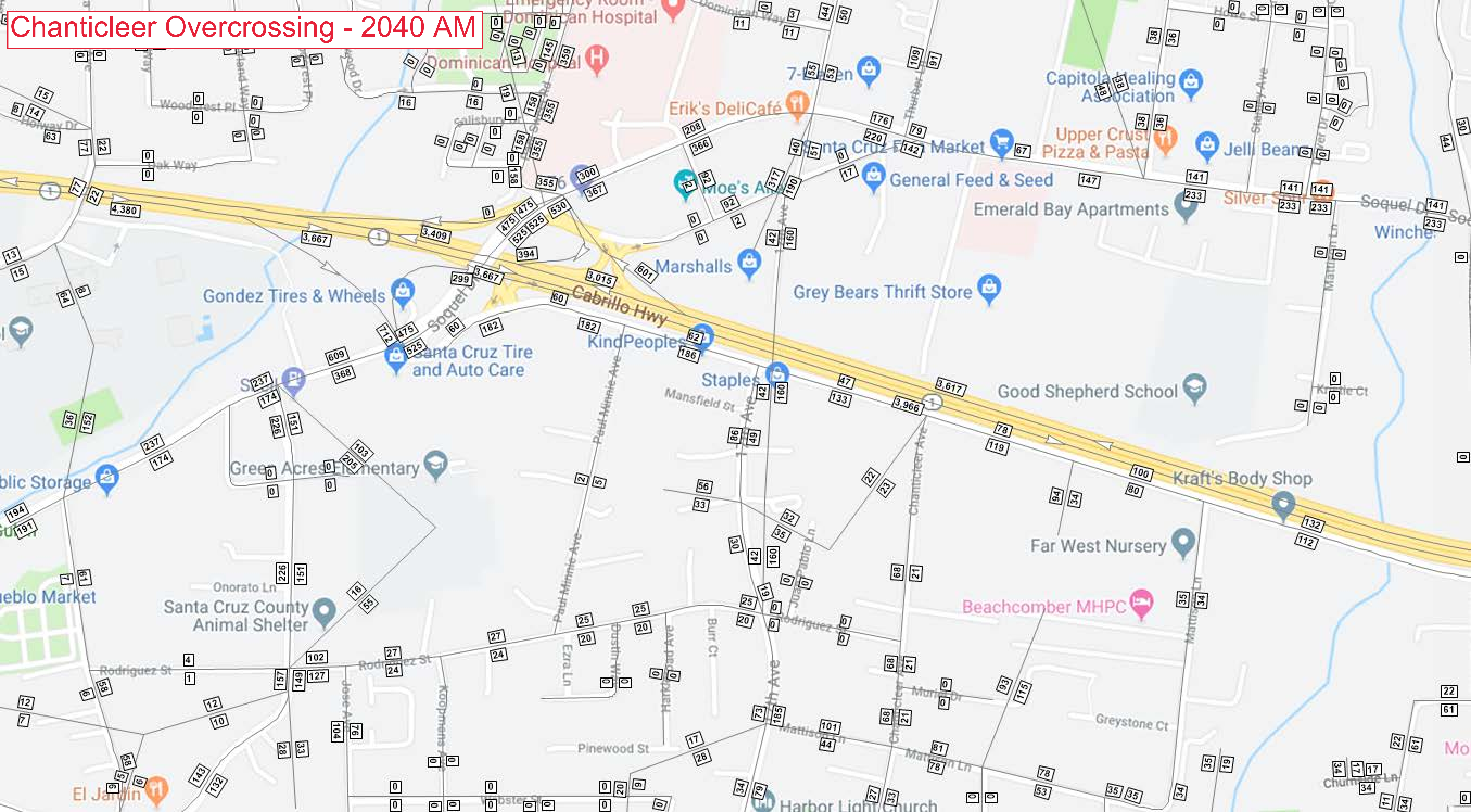
Chanticleer Overcrossing - 2040 Daily



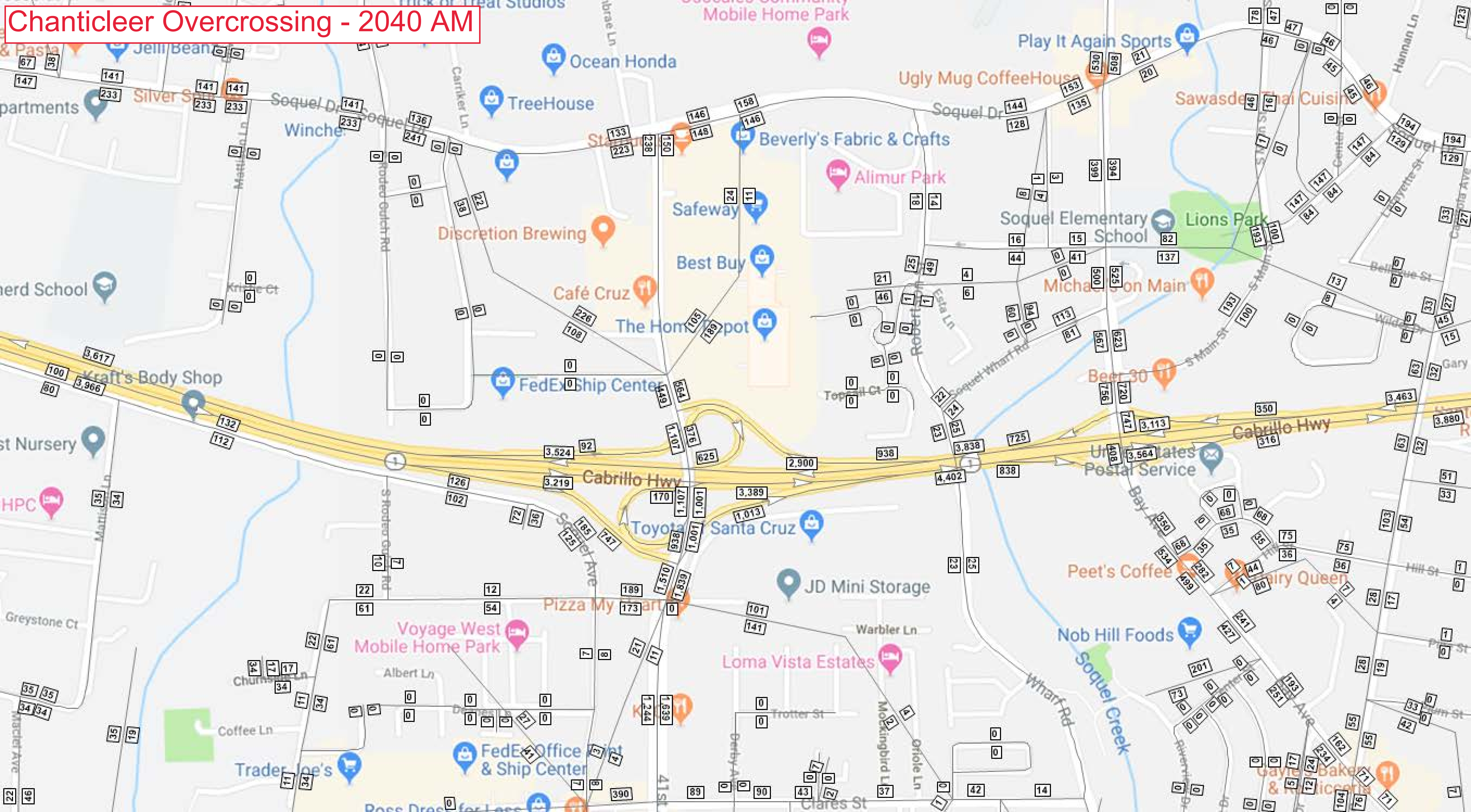
Chanticleer Overcrossing - 2040 Daily



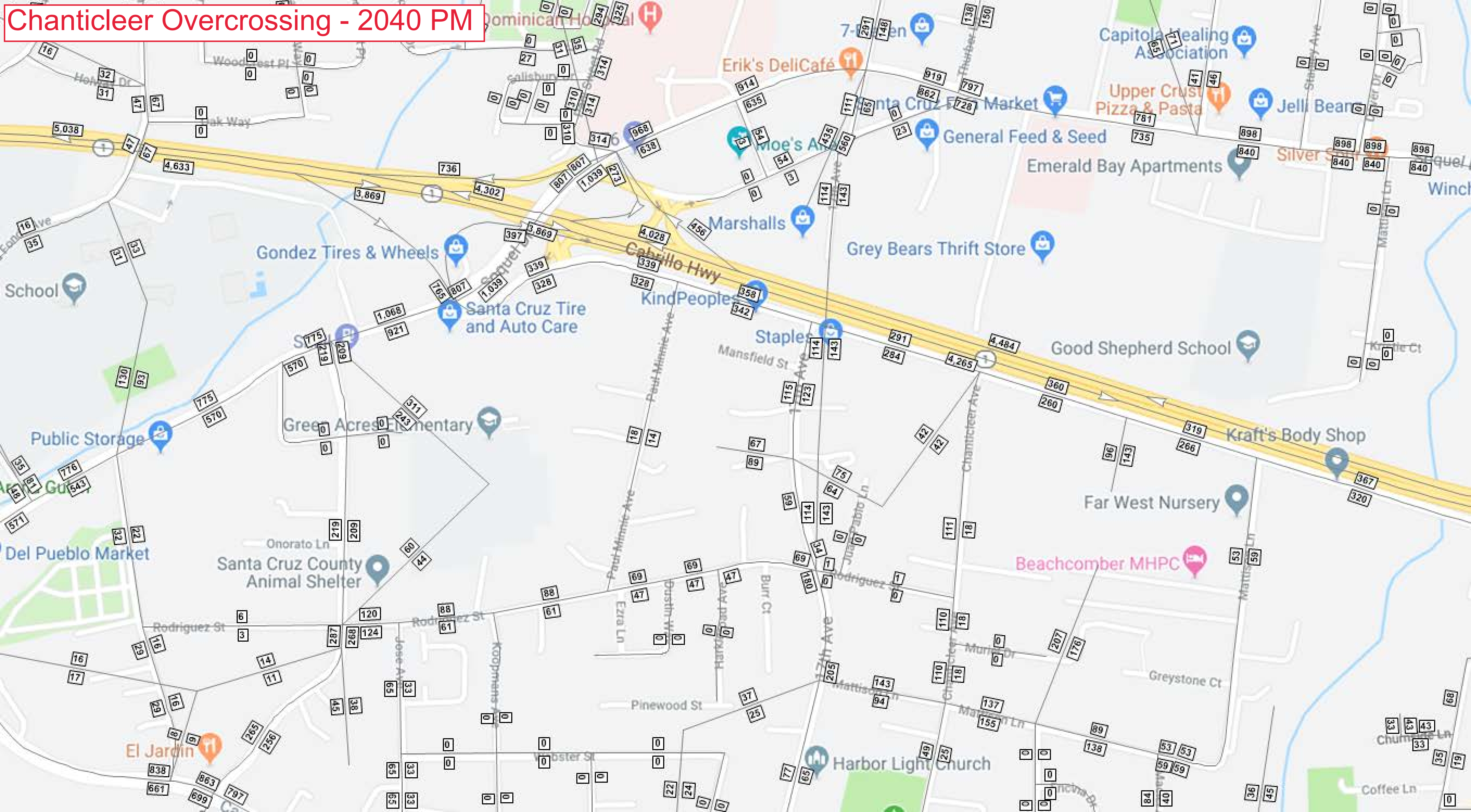
Chanticleer Overcrossing - 2040 AM



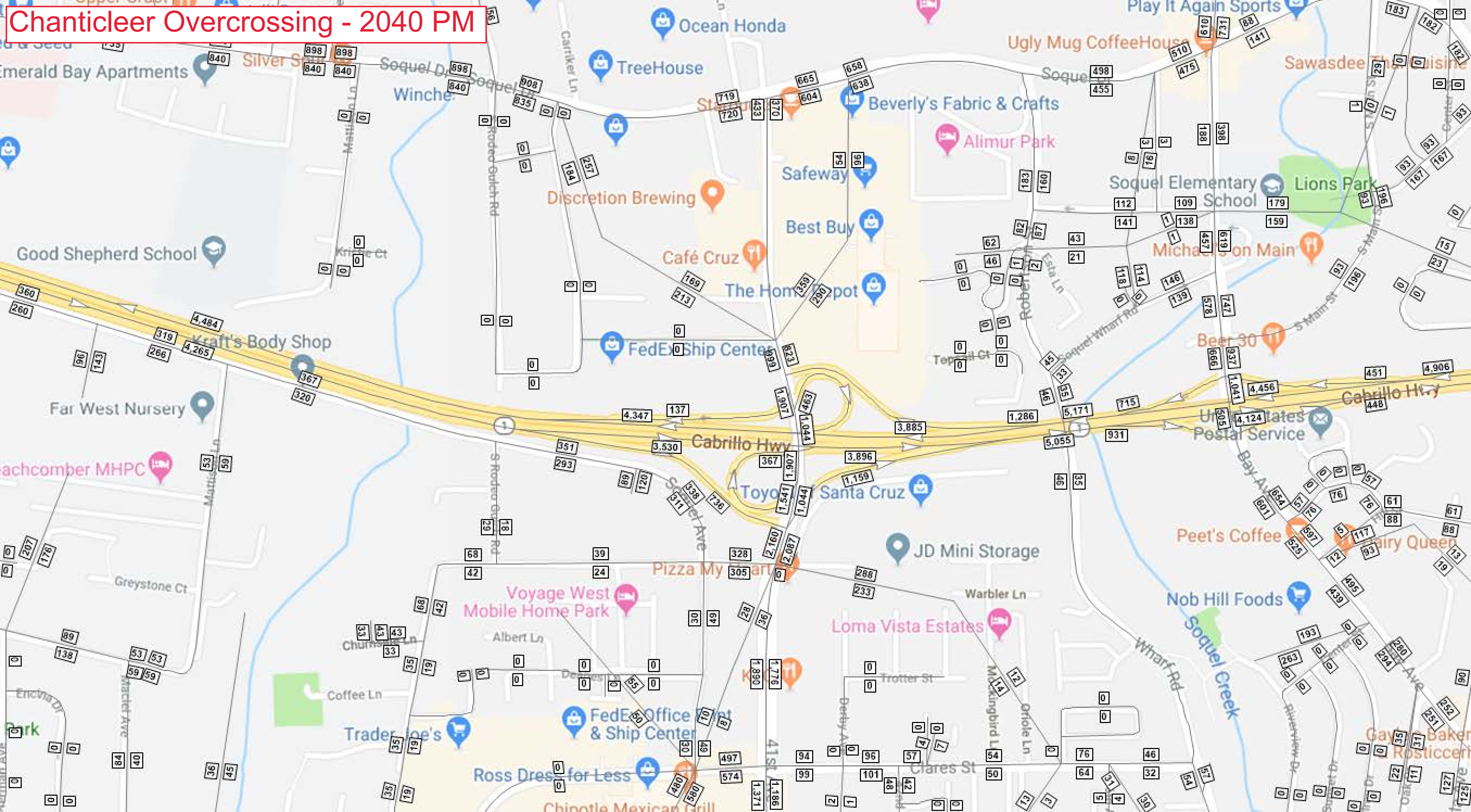
Chanticleer Overcrossing - 2040 AM



Chanticleer Overcrossing - 2040 PM



Chanticleer Overcrossing - 2040 PM



APPENDIX Y.
COUNTY OF SANTA CRUZ VMT/TDM POLICY

Santa Cruz County
CA

Agenda Item
DOC-2020-520

Approved
Jun 16, 2020 9:00 AM

Adopt resolution establishing vehicle miles traveled thresholds as the new metric for measuring transportation impacts for the purposes of meeting requirements of Senate Bill 743 (2013) relating to the California Environmental Quality Act, as recommended by the Planning Director

Information

Department:	Planning: Sustainability and Special Projects	**Sponsors:**	Planning Director Kathleen Molloy
Category:	PLN SSP - Board Letter	**Functions:**	General Government

Links

Reference DOC-2020-151 : Ratify approval of and authorization to sign a Memorandum of Understanding between the County of Santa Cruz and the cities of Capitola, Santa Cruz, Scotts Valley and Watsonville regarding Senate Bill (SB) 743 analysis and tool development; and adopt resolution accepting unanticipated revenue in the amount of $45,491 from the four cities for implementation of SB 743, relating to Transportation Impacts of CEQA requirements, as recommended by the Planning Director

Attachments

Board Memo
Resolution 146-2020 Vehicle Mileage Threshold (eSign)

Board Letter

Recommended Action(s):
Adopt resolution establishing vehicle miles traveled (VMT) thresholds as the new metric for measuring transportation impacts of proposed development projects, for the purposes of meeting Senate Bill (SB) 743 and the California Environmental Quality Act, as recommended by the Planning Director.

Executive Summary
California Environmental Quality Act (CEQA) law now requires that Vehicle Miles Traveled (VMT) instead of Level of Service (LOS) be used for determining the significance of transportation impacts in CEQA documents. All lead agencies must implement SB 743 by July 1, 2020. The County, in coordination with local municipalities, has developed the data and tools needed to implement SB 743 and recommends that the Board adopt the following VMT thresholds as recommended by the California Office of Planning and Research (OPR) and as supported by local analysis: 15% below the countywide VMT per employee average for office and service related land uses, 15% below the countywide VMT per capita average for residential, and no net increase in VMT for retail.

Background
Governor Brown signed SB 743 (Steinberg) in 2013, which changed the way transportation impacts were to be analyzed under CEQA. Lead agencies had historically used LOS (a measure of vehicle delay) as the metric for determining transportation impacts. Calculated LOS impacts of a project then influenced the type of CEQA document and/or mitigations required for a proposed project (exemption, negative declaration with or without mitigations, or environmental impact report). Mitigation measures needed to address LOS impacts are often capacity-increasing, and the resultant transportation improvements typically facilitate increases in driving by residents and employees, but do not address improvements needed to support alternate modes such as transit, walking, and biking.

Using VMT as a measure of impacts will require project applicants to address impacts of development projects in a manner that improves the entirety of the multi-modal transportation network. The VMT approach will incentivize projects in areas that are more accessible by all of these modes (i.e. urban areas), thereby over time urban areas will be emphasized as acceptable for development to accommodate growth as it may occur, which will reducing the needs of residents and workers to drive, reducing distances traveled (VMT), and reducing greenhouse gas emissions.

In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package, implementing SB 743 by replacing LOS with VMT (§ 15064.3). Simultaneously, OPR released a Technical Advisory on Evaluating Transportation Impacts in CEQA (Advisory). The Advisory includes recommendations for thresholds of significance for evaluating impacts of office, residential and retail developments, as well as screening criteria that can identify the types of projects that can be presumed to have a less than significant impact.

OPR's recommendations for the threshold-setting process and for the methodology to screen projects required an analysis of VMT by land use type at a local level. Working with a transportation consultant, and in conjunction with the four cities in Santa Cruz County, County staff completed that analysis and now recommends adopting VMT thresholds. All lead agencies must be in compliance with SB 743 by July 1, 2020.

Analysis
In January 2020, the Board of Supervisors approved a contract and scope of work to use the recently updated countywide travel demand model to create screening maps, calculate the per capita/employee average VMT, and develop a tool for project traffic studies to determine project VMT, as well as to calculate potential ways for reducing the project's VMT. Since it was more cost efficient to extract the data and develop the VMT tools for all of the jurisdictions within the County at one time, County staff coordinated a cost-sharing arrangement with the cities to fund a coordinated consultant study. The consultant hired for the project met with representatives from each city and the County to ensure that the unique needs of each agency were addressed. The work has now been completed, and County staff now recommends adopting the following thresholds for use in CEQA determinations and documents in order to meet the requirements of SB 743:

- Residential Projects: 15% below the countywide per capita average VMT
- Office and Service Projects: 15% below the countywide per employee average VMT
- Retail: no net increase in the countywide average
- All other land uses: no net increase in VMT

Currently, the per capita average VMT for residents is 16 miles, the per employee average for office and service-related land uses is 8.8 miles, and the retail VMT average is 14.5 miles. While the percent reduction used for the VMT thresholds will remain constant (either 15% or no net increase), there will be periodic updates to the VMT averages based on updated information regarding driving behavior such as mode share and distances traveled, improvements to the countywide travel demand modeling, new best practice methods for calculating VMT, and the availability of new data.

Adopting VMT thresholds of significance for CEQA determinations will allow the County to comply with SB 743 and is also consistent with the goals and policies in the County's Climate Action Strategy and General Plan. However, the County will still require analysis of and will use LOS information for the purposes of identifying operational deficiencies on the roadway network, determining the effects and requirements of projects, and for updating and applying the County's impact fee program. Project-level traffic studies will still be required to identify improvements to vehicular and multimodal infrastructure, as well as to identify improvements that maintain the operational efficiency and service levels of the transportation network. The difference under SB 743 is that the impacts to operations identified through LOS analysis and the related improvements will not be used for identifying significant impacts for CEQA purposes, and thus the type of CEQA documentation required of projects will change.

The adoption of the proposed CEQA thresholds of significance is not a "project" as defined in CEQA Guidelines section 15378, and is therefore not subject to CEQA. The new thresholds are adopted in compliance with state law, and therefore are categorically exempt pursuant to CEQA Guidelines section 15308: Actions by Regulatory Agencies for Protection of the Environment.

Financial Impact
There is no financial impact due to adopting updated CEQA thresholds of significance; impact fees and project mitigation measures will continue to be required as determined by traffic studies accepted by the County that are prepared for proposed development projects.

Body

Strategic Plan Element(s)
This action supports Strategic Plan Elements of Reliable Transportation and Sustainable Environment, specifically meeting the goals of Community Mobility and Climate Change.

Meeting History

Jun 16, 2020 9:00 AM Video	**Board of Supervisors**	**Regular Meeting**	**Draft**

Resolution No. 146-2020

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	John Leopold, First District Supervisor
SECONDER:	Ryan Coonerty, Third District Supervisor
AYES:	John Leopold, Zach Friend, Ryan Coonerty, Greg Caput, Bruce McPherson

Discussion

Add Comment

BEFORE THE BOARD OF SUPERVISORS OF THE COUNTY OF SANTA CRUZ,
STATE OF CALIFORNIA

RESOLUTION NO. 146-2020

On the motion of Supervisor: Coonerty
Duly seconded by Supervisor: Friend
The following Resolution is adopted:

RESOLUTION ADOPTING THE USE OF VEHICLE MILES TRAVELED AS THE NEW TRANSPORTATION MEASURE OF ENVIRONMENTAL IMPACTS FOR THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

WHEREAS, Governor Edmund G. Brown signed Senate Bill (SB) 743 in 2013, which directed the Office of Planning and Research (OPR) to develop updated criteria for measuring transportation impacts using alternative metrics that promote a reduction in greenhouse gases, the development of multimodal transportation, and a diversity of land uses; and

WHEREAS, in November 2017, OPR released its proposed updates to California Environmental Quality Act (CEQA) Guidelines that stated vehicle miles traveled (VMT) shall be the new metric for measuring transportation impacts instead of using the level of service metric; and

WHEREAS, in November 2018, the California Natural Resources Agency released its Final Statement of Reasons for Regulatory Action that amended the State CEQA Guidelines; and

WHEREAS, on December 28, 2018, the Office of Administrative Law approved the amended CEQA Guidelines; and

WHEREAS, all lead agencies are required to comply with the updated CEQA Guidelines, which means using VMT to measure transportation impacts by July 1, 2020; and

WHEREAS, CEQA Guidelines Section 15064.7(b) allows lead agencies to adopt thresholds of significance for the lead agency's general use in its environmental review process; and

WHEREAS, the County of Santa Cruz intends to update VMT thresholds of significance, based on a data-driven evaluation, to meet the intent of SB 743.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors for the County of Santa Cruz adopts VMT as the County's thresholds of significance for transportation-related environmental impacts pursuant to CEQA as follows:

- Residential Projects: 15% below the countywide per capita average VMT;
- Office and Service Projects: 15% below the countywide per employee average VMT;
- Retail: no net increase in the countywide average; and
- All other land uses: no net increase in VMT.

BE IT FURTHER RESOLVED that the Board of Supervisors authorizes the Planning Director to update the VMT thresholds of significance for land use projects and plans, as necessary and appropriate to reflect current conditions, provided any update is consistent with the intent of SB 743 and in compliance with procedural and substantive requirements of CEQA and all other applicable state and local laws.

PASSED AND ADOPTED by the Board of Supervisors of the County of Santa Cruz, State of California, this 16th day of June, 2020 by the following vote:

AYES:	SUPERVISORS	Leopold, Friend, Coonerty, McPherson, Caput
NOES:	SUPERVISORS	None
ABSENT:	SUPERVISORS	None
ABSTAIN:	SUPERVISORS	None

DocuSigned by:
8FA3502FBE7F43C...
Greg Caput
Chairperson, Board of Supervisors

DocuSigned by:
5F3EB32A693849D...
ATTEST: Susan Galloway
Clerk of the Board

DocuSigned by:
Clerk of the Board of Supervisors
F2707B2E5811438...

APPROVED AS TO FORM:

DocuSigned by:
EE22601B55E6434... 6/2/2020 (AMS# 9103)
COUNTY COUNSEL

cc: County Counsel
Planning Department

Certificate Of Completion

Envelope Id: DAFD32CF2D4B461C8D861E11587C90B8 | Status: Completed

Subject: Resolution 146-2020 adopted Jun 16 BOS (DOC-2020-520) eSignature

Source Envelope:

Document Pages: 2	Signatures: 4	Envelope Originator:
Certificate Pages: 2	Initials: 0	Susan Galloway
AutoNav: Enabled		2633 Camino Ramon Ste 500
EnvelopeId Stamping: Enabled		San Ramon, CA 94583
Time Zone: (UTC-08:00) Pacific Time (US & Canada)		susan.galloway@co.santa-cruz.ca.us
		IP Address: 69.5.90.9

Record Tracking

Status: Original 7/13/2020 4:07:12 PM	Holder: Susan Galloway susan.galloway@co.santa-cruz.ca.us	Location: DocuSign

Signer Events	Signature	Timestamp
Daniel Zazueta Daniel.Zazueta@co.santa-cruz.ca.us eSign Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	DocuSigned by: EE22601B55E6434... Signature Adoption: Drawn on Device Using IP Address: 63.194.190.100	Sent: 7/13/2020 4:07:13 PM Viewed: 7/13/2020 4:44:49 PM Signed: 7/13/2020 4:44:59 PM
Greg Caput Greg.Caput@co.santa-cruz.ca.us eSign Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	DocuSigned by: 8FA3502FBE7F43C... Signature Adoption: Drawn on Device Using IP Address: 63.194.190.100	Sent: 7/13/2020 4:45:00 PM Viewed: 7/14/2020 9:00:30 AM Signed: 7/14/2020 9:00:41 AM
Susan Galloway Susan.Galloway@co.santa-cruz.ca.us Chief Deputy, Clerk of the Board of Supervisors County of Santa Cruz Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	DocuSigned by: 5F3EB32A693849D... Signature Adoption: Drawn on Device Using IP Address: 75.6.224.149	Sent: 7/14/2020 9:00:42 AM Viewed: 7/14/2020 2:38:34 PM Signed: 7/14/2020 2:38:46 PM
CBD eSignature CBD.eSignature@co.santa-cruz.ca.us Clerk of the Board of Supervisors County of Santa Cruz Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	DocuSigned by: Clerk of the Board of Supervisors F2707B2E5811438... Signature Adoption: Drawn on Device Using IP Address: 75.6.224.149	Sent: 7/14/2020 2:38:47 PM Viewed: 7/14/2020 2:49:13 PM Signed: 7/14/2020 2:49:31 PM Freeform Signing

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp
Planning Department bernice.shawver@santacruzcounty.us Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	COPIED	Sent: 7/14/2020 2:49:32 PM

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	7/14/2020 2:49:32 PM
Certified Delivered	Security Checked	7/14/2020 2:49:32 PM
Signing Complete	Security Checked	7/14/2020 2:49:32 PM
Completed	Security Checked	7/14/2020 2:49:32 PM

Payment Events	Status	Timestamps

APPENDIX Z.
DETAILED VMT ANALYSIS METHODOLOGY

Appendix Z

To determine the distance each Member travels to the closest facility, the Geographical Information System ("GIS") and Planning functions in the TransCAD software modeling package were used. TransCAD is the most used travel demand modeling/routing software package by Metropolitan Planning Organizations ("MPOs") in the United States. As part of this analysis, each Traffic Analysis Zone ("TAZ") within the model was converted to a centroid, which was subsequently associated to the nearest point feature on the closest roadway as the basis of its start point. TAZs are the smallest spatial area that a Travel Demand Model represents and are used as the basis for aggregating localized household and employment data for analysis purposes.

Subsequently, this dataset was used as the basis for a multi-path analysis utilizing TransCAD to identify logical paths and estimate trip lengths for calculating VMT. The roadway network used for this analysis is the statewide streets layer provided by Caltrans that contains functional classification (e.g. freeway, arterial, local) and speed information for the roadways throughout California. The speed and length information were converted into time in minutes it takes a vehicle to travel the length of the roadway segment, which was then used as the basis of impedance for route choices. It should be noted that many trips will not occur during the peak periods of daily travel within the region because medical services are provided predominantly throughout the day, and as a result, individual travel times on roadway segments will be closer to this calculation than during peak commute times. The resultant shortest path to each facility, both inside and outside of the County from each TAZ, was summarized in a matrix for use in subsequent analysis steps.

To determine the VMT for each of the Scenario A and Scenario B No Project and Plus Project conditions (Existing and 2040), the distribution of visits to each facility were separated into twenty-eight distinct services, as shown in **Appendix R**. 'The distribution was apportioned among the services as not all services are provided at every facility and to provide the most accurate analysis. The distribution of visits is based on both information provided by the Proposed Tenant and a market analysis produced by Pivotal Analytics for specific medical services. The market analysis is based on Healthcare Consumer information for the County, while the information provided by the Proposed Tenant is for facilities located inside and outside of the County operated by the Proposed Tenant used by Members located within the County. The data provided by the Proposed Tenant was used for the facilities it operates as it is the best available resource for the travel patterns of the Proposed Tenant's Members. Pivotal insurance claims visit data was used as the best available data to analyze Other Healthcare System's patient travel distribution. The data provided by the Proposed Tenant covers January 1, 2019 to December 31, 2019 while the data provided by Pivotal Analytics covers April 1, 2019 to March 31, 2020. The 2020 Membership is estimated to be 35,071, while the 2040 Membership is projected to be 87,729, for a 20-year growth of 52,658 Members as shown in **Appendix S**. For Cumulative plus Project conditions (Scenario B2) conditions assume that Membership is made up of 40-percent Existing Members, 5-percent Population Growth Members, and 55-percent Transferee Members as shown in **Appendix T**.

Once the distribution of visits was split among the services, a production-attraction (PA) table was created where visits to facilities were summed by service and used as attractions and the productions were distributed into the TAZs within the County based on the 2019 and 2040 population distribution in the SCC TDM. TransCAD was used to convert the PA table into twenty-eight PA matrices, one for each service to balance the production and attractions based on the shortest path matrix. These matrices were summed to mimic a single origin-destination (OD) matrix that is used as an input to assign Member visits along the roadway network. TransCAD was again used to assign the visits within the OD matrix using an all or nothing assignment (i.e. all visits from each origin location that end at the same facility are assigned to a single shortest path regardless of capacity) that optimized travel time along the roadway segments. Based on information provided by the Proposed Tenant it is understood that for the No Project scenario, nearly 29-percent of Member trips include facilities outside of the County, while only 2.4-percent of member trips include facilities outside of the County in the Plus Project scenario.

The visits along each roadway segment were converted to trips using a conversion factor developed using information regarding the size of a facility in square-feet, number of visitors to each facility, and the trip generation rate for Clinics, which is the same as the TIOA rate, in the *Trip Generation Manual, 10th Edition* published by the Institute of Transportation Engineers (ITE). The visitor to trip ratio was calculated based on the facilities where both the square footage and number of visitors were known. The total square footage was multiplied by the ITE rate and then divided by the total number of visitors. Based on the information provided, the trips per visitor ratio was calculated to be 0.01462 daily trips per annual visitor. The number of total daily trips per scenario and facility type were calculated by multiplying the total visitors by the daily trips per annual visitor ratio. Trips were then factored up on a standard factor based on the ratio of calculated total trips to and from the Project and the total number of trips calculated based on the ITE trip gen rate for the Project, 6,106 daily trips. The trips were then reduced by 10-percent to account for employee trips (based on a ratio developed using the Project of approximately 600 daily trips for 300 employees) whose trip length were calculated separately. The Member trips were then multiplied by the roadway segment length to calculate the total Member VMT. The VMT was then totaled to determine the Member VMT for either No Project or Plus Project scenarios in both Existing and 2040 conditions.

The total VMT for employees was developed by multiplying the employee trips (10-percent of the total trips) by the average employee trip length by facility based on Longitudinal Employer-Household Dynamics (“LEHD”) data. The employee VMT is added to the total Member VMT to determine the No Project and Project VMT (for both Existing Conditions and 2040 conditions in Scenario A and for Cumulative conditions in Scenario B).